



Acadia National Park Final Transportation Plan / Environmental Impact Statement



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EXECUTIVE SUMMARY

Acadia National Park preserves approximately 35,000 acres in Hancock and Knox Counties in the northeastern United States along the mid-section of the Maine coast. Acadia National Park was established in 1916 as Sieur de Monts National Monument and redesignated as Lafayette National Park in 1919. In 1929, Congress authorized the National Park Service (NPS) to accept a donation of land on the Schoodic Peninsula and the park's current name was adopted. The park now consists of parts of Mount Desert Island plus a part of Isle au Haut to the southwest of Mount Desert Island, the tip of the Schoodic Peninsula on the mainland to the east, and most of (or parts of) 16 smaller islands. The park also preserves almost 13,000 acres in conservation easements within its legislated boundary, which runs from the Penobscot River ship channel to just east of the Schoodic Peninsula.

Annual visitation to Acadia National Park grew by 59% between 2007 and 2017, with 3.5 million visits recorded in 2017. Most visitation occurs from June through October. The most popular destinations include Cadillac Mountain, sites along the Ocean Drive corridor, and Jordan Pond. Resource-based recreational activities include viewing the scenery, walking, hiking, bicycling, camping, horseback and carriage riding, sea kayaking, and canoeing. The park provides opportunities for educating visitors about its resources and values through a variety of interpretive activities including guided walks, amphitheater presentations, education programs, and outreach activities.

The popularity of Acadia National Park is growing, as revealed by the regular increase in visitation each year. One of the many reasons to visit the park is to experience the scenic and historic transportation corridors—the historic motor roads, hiking paths, or carriage roads. Regardless of the ultimate destination in the park, most visitors arrive via motor vehicle and must access their desired destination via the park's historic roads. The park's transportation infrastructure was constructed in the early 20th century and consists of narrow, twisting historic roads and low, narrow historic bridges that were designed for automobile types, speeds, and volumes different than those of today. In addition, the number of designated parking spaces along Park Loop Road and elsewhere in the park is not sufficient to meet visitor demand. With over 3.5 million visits concentrated in a short season, it is impossible to meet demand for accessing park features (especially parking spaces) without significant adverse impacts to resources, safety, and the visitor experience. Today's increased automobile traffic volumes and speeds—combined with an increasing number of visitors choosing to travel the park roads on foot or by bicycle, recreational vehicle (RV), or commercial bus—have created safety issues, resource protection concerns, and adverse impacts to visitor enjoyment of the park.

The purpose of the transportation plan is to outline a comprehensive approach to providing safe and efficient transportation to visitors to Acadia National Park while ensuring that park resources and values are protected and visitors are able to enjoy a variety of high-quality experiences. This planning process examines current and potential visitor transportation and access opportunities and develops long-term strategies for providing access, connecting visitors to important experiences and places, and managing visitor use. Many of the park's planning and management documents do not reflect current visitor magnitude or needs, so this plan provides updated guidance for addressing current and future visitor transportation strategies, management techniques, and resource protection concerns.

ALTERNATIVES CONSIDERED

To address the issues described above, the park has developed three action alternatives (or “alternatives”) and a no-action alternative for transportation management in the park. These alternatives are designed as three distinctly different approaches that address how and when visitors would access different popular destinations in the park, and how and when the capacity of the transportation corridors and parking lots would be limited to ensure protection of natural and cultural resources and the visitor experience. The action alternatives all include variations on a reservation system that would involve fees designed to support plan actions. For a full description of these alternatives, see “Chapter 2: The Alternatives.”

The National Park Service has identified alternative C as the NPS-preferred alternative. This alternative would best accomplish the purpose and need of this plan while protecting cultural resources, providing visitor access to park resources, and ensuring high-quality visitor experiences. The NPS-preferred alternative provides strategies that give the National Park Service the tools needed to more effectively manage high levels of visitation while achieving plan goals. It also includes the greatest level of flexibility and provides adaptive management of future shifting visitor transportation needs and stresses on park resources. The preferred alternative is also the most responsive to values, issues, and suggestions made by the public during engagement efforts.

Alternative A (No Action)

The no-action alternative would continue current management (as outlined in the park’s general management plan) and provides a basis for comparing the other alternatives. There would be no major changes from current operations, and changes that did occur would be on a reactionary, not proactive, basis. The park’s transportation system would continue to support mobility and access on foot and by bicycle, Island Explorer bus, and private and commercial motor vehicles. Management of visitor access to key areas would continue to vary seasonally as visitor demand and needs change, with many management strategies focusing on the peak season between mid-June and mid-October. Throughout the park, the physical capacity of roads and designated parking lots would be generally unchanged. Parking would remain available to all users on a first-come, first-served basis and right-lane parking would continue to occur, but restrictions and prohibitions may be implemented when needed. Physical changes to roads and parking would be limited and related to safety, accessibility, resource protection, and accommodating alternative transportation—not to capacity. Temporary or permanent closures of roads and parking areas would occur when necessary to address safety and security concerns or to ensure the financial sustainability of the overall transportation system.

Additional key actions include the following:

- The Hulls Cove Visitor Center would continue to accommodate current uses with no expansion of parking or other site amenities. The Acadia Gateway Center would be developed and operated as described in the Acadia Gateway Center Environmental Assessment and Finding of No Significant Impact (FONSI).
- Development of the Acadia Gateway Center into a regional tourism hub with expanded parking and public transit opportunities would continue to be supported by the park and park partners.

- The park's transportation system on the Schoodic Peninsula would continue to be managed to support low-density recreational use and provide alternatives to the use of private vehicles.
- Island Explorer would continue to be provided during the peak season to the degree funding allows. Designated parking for Island Explorer would continue to be provided.

Actions Common to the Action Alternatives

A number of management actions and strategies would be implemented under all of the action alternatives (B, C, and D). Many of these strategies are practical, common-sense approaches to managing transportation in Acadia National Park and therefore do not vary by alternative. The following list focuses on the key actions and strategies being proposed. For more details please see chapter 2.

- **Reservation Systems:** Each of the alternatives propose different types of reservation systems to manage parking availability. The reservation systems in all of the action alternatives would apply only to motor vehicles, not to pedestrians or bicycles. The number of reservations available would correspond with management actions needed to manage within the desired resource and experiential conditions and the identified visitor capacities. A percentage of reservations would be held aside for short-term purchase. Reservations could be made online and at automated reservation kiosks in key locations.
- **Indicators, Thresholds, and Visitor Capacities:** All of the action alternatives would establish park visitor capacities and resource and traffic indicators and thresholds. These indicators would be monitored after the reservation system is implemented to ensure that the maximum visitor use that can be accommodated is not exceeded. If these indicators approach their respective thresholds, then additional management action would be taken, such as expanding the reservation system.
- **Public Transit:** Expanding Island Explorer to meet visitor access is a critical component of all action alternatives. Under all of the action alternatives, Island Explorer service inside the park would be expanded as necessary up to the park's visitor capacity and, as funding allows, would facilitate access for those unable to secure a vehicle reservation during their desired entry time. The operating season of Island Explorer service would be expanded to coincide with that of the reservation system.
- **Visitor Information, Orientation, Enforcement, and Safety:** Increased information would be provided to visitors, both before they arrive at the park and upon arrival. Visitors would be provided with enhanced trip-planning tools, advice on vehicle/bicycle safety, and information about car-free options to access and explore the Mount Desert Island District. Information about congestion and parking availability would be monitored and disseminated. Park staff would also work with cellular communication providers and local communities to improve cellular service in the park to provide better visitor information and orientation and to increase safety.
- **Management of Other Park Attractions and Trailheads:** At the Acadia Mountain trailhead, park staff would work with local governments, the Maine Department of Transportation (MDOT), and other stakeholders to identify an alternative, off-highway option for trailhead parking. For all of the other attractions and trailheads not directly covered by the action alternatives, park managers would take incremental actions to address existing and anticipated parking-related traffic congestion and unsafe instances

of roadside parking. A memorandum of understanding would be developed with state, local, and county departments of transportation and law enforcement to improve safety through enforcement of roadside parking restrictions near these and other trailheads along state highways and local and county roads.

- **Vehicle Size Requirements:** To improve safety and the historic character of Park Loop Road, only vehicles that fit the geometry of the road and heights of the bridge underpasses would be permitted. This requirement would apply to all passenger and commercial vehicles and would be phased in over several years. Passengers of vehicles that do not meet bridge height and/or road geometry restrictions would need to transfer to an alternate mode of transportation such as an authorized commercial tour or the Island Explorer public transit service.
- **Commercial Visitor Services:** During the active reservation season, the number of oversize commercial vehicles allowed at key locations (or in the case of alternative D, on Park Loop Road) at one time would be managed to ensure desired conditions are maintained and visitor capacities at the park's primary attractions are not exceeded. The total number of visitors arriving by oversize commercial vehicle would be allocated between concessions and commercial use authorizations in a manner that best achieves desired conditions for the visitor experience and resource protection. All park-approved activity-based experience (e.g., step-on guides, tour operators, nature guides, biking tours, art/photography workshops, climbing schools, summer camps, water activities) operating under a commercial use authorization would be required to use vehicles that fit in a standard parking space. Access to standard parking spaces under the reservation system for these commercial operators would be managed within the private vehicle allocations and regulated through the operating requirements specified in their operating agreements.
- **Schoodic Transportation Management:** The Schoodic Peninsula would continue to be managed as outlined in the 2005 Schoodic General Management Plan Amendment. Parking would continue to be allowed in designated areas on a first-come, first-served basis. The speed limit on the Schoodic Loop Road would be reduced. Visitors would be provided with enhanced trip-planning information and tools about car-free options to access and explore the Schoodic District. Park managers would work with partners to improve bicycle connections to the park and to enhance safety for those biking the circular route, including Schoodic Loop Road and State Route (SR) 186. An accessible pedestrian trail would be installed between the Schoodic Institute campus and Schoodic Point. The overall amount of designated parking in the Schoodic District would not be increased. Any changes to parking lots and parking locations would be made to improve circulation, enhance safety, provide accessible parking, or protect resources, rather than to increase the number of parking spaces. Historic roadside pullouts on Schoodic Loop Road would be maintained, but expansion of informal pullouts would not be permitted. Public transit opportunities would remain as they are today, and park managers would continue to support use of the Island Explorer service to access popular destinations.

Alternative B

This alternative would address transportation and congestion issues by establishing a reservation system for parking at five of the primary attractions and trailheads along Park Loop Road during peak times and seasons, and eliminating right-lane parking to improve transit safety and ease. Parking reservations would be required at Cadillac Mountain, Sand Beach,

Thunder Hole, Jordan Pond House, and Sieur de Monts. Gates and queuing lanes would be constructed, where needed, to validate reservations and to control access on some first-come, first-served lots.

Additional key actions include the following:

- The existing parking lot at Eagle Lake initially would remain as a first-come, first-served parking lot with the addition of an automated gate to restrict access when the lot is full.
- Additional parking would be provided at Hulls Cove, and the visitor center would be redesigned and relocated.
- Visitor services at the Thompson Island Information Center (on the west side of SR 3) would no longer be needed after construction of the Acadia Gateway Center in Trenton, Maine. These services would be relocated to the Gateway Center and the structures would be repurposed for other uses.

Alternative C (Preferred Alternative and Proposed Action)

This alternative would address transportation and congestion issues by establishing a timed-entry reservation system for the Ocean Drive corridor, Cadillac Summit Road, and the Jordan Pond House North Lot during the peak season. During initial implementation of the plan, all other parking lots in the park would continue to be managed on a first-come, first-served basis; however, the alternative includes an adaptive management strategy that directs park managers to monitor traffic and resource conditions elsewhere in the park. If monitoring indicates traffic or resource conditions are worsening beyond acceptable thresholds (discussed in detail in chapter 2 and appendix A), access to Island Explorer routes entering the park, vehicle access to other parking lots, or vehicle access to the entire Park Loop Road may be added to the reservation system.

Additional key actions include the following:

- Right-lane parking would be retained in the near term but eventually phased out as other options, such as expanded Island Explorer service and additional parking areas at Hulls Cove and the Acadia Gateway Center, become available.
- The existing parking lot and restroom on the north side of SR 233 at Eagle Lake would be removed and a new larger parking lot would be constructed south of the highway at an NPS maintenance storage yard known as Liscomb Pit.
- Additional parking would be provided at Hulls Cove, and the visitor center would be redesigned and relocated on site, but on grade with the parking lot.
- Visitor services at the Thompson Island Information Center (on the west side of SR 3) would no longer be needed after construction of the Acadia Gateway Center in Trenton, Maine. These services would be relocated to the Gateway Center and the structures would be removed so the area could be restored to natural conditions.

Alternative D

This alternative emphasizes management of the entire Park Loop Road. It would provide a systemwide approach to manage vehicle volumes on Park Loop Road during the peak use season. Exit-only gates would be installed at most access points to Park Loop Road and

automated exit and entry gates would be installed at SR 233, Otter Cliff Road, Sieur de Monts, and Schooner Head Road. Two new entry stations—near Wildwood Stables and on Paradise Hill Road—would become the primary access for private vehicles holding reservations to enter Park Loop Road. A timed-entry reservation system would be established for vehicle access to Park Loop Road during the peak use season. Once a visitor passes through an entrance station or automated gate during their reserved entry window, all parking lots on Park Loop Road would be available on a first-come, first-served basis. Under this alternative, most of Park Loop Road, including Lower Mountain Road, would be one way in a counterclockwise direction. The counterclockwise flow would be a reversal of direction on the current one-way sections of the road.

Additional key actions include the following:

- Most right-lane parking would be eliminated.
- Most entrances to Park Loop Road would be converted to exit-only, new entrance stations would be built at Wildwood Stables and Paradise Hill Road, and the Sand Beach entrance station would be removed.
- The existing parking lot and restroom on the north side of SR 233 at Eagle Lake would be removed and a new larger parking lot would be constructed south of the highway along an abandoned section of SR 233.
- A new parking lot accommodating approximately 40 vehicles would be established within the footprint of an existing NPS administrative storage area known as Satterlee Pit near the south end of Schooner Head Road.
- At Hulls Cove, the existing visitor center would be removed and a small visitor contact station would be rebuilt closer to an expanded Hulls Cove parking lot.
- The Acadia Gateway Center would serve as the park’s primary visitor center.
- Visitor services at the Thompson Island Information Center (on the west side of SR 3) would no longer be needed after construction of the Acadia Gateway Center in Trenton, Maine. These services would be relocated to the gateway center and the structures would be repurposed for other uses.

ENVIRONMENTAL ANALYSIS OF ALTERNATIVES

Each of these alternatives has positive and negative impacts for park resources and visitor experience. These trade-offs are described as “environmental consequences.” The potential environmental consequences of implementing any of the alternatives are addressed for visitor use and visitor experience, cultural resources, and socioeconomics. For a full description and analysis of the environmental consequences, see “Chapter 4: Environmental Consequences.”

Alternative A (No Action)

Overall, this alternative would cause mostly adverse impacts on visitor access and the visitor experience resulting from unconstrained access that results in congestion and parking challenges. This alternative would result in adverse impacts on the historic motor road and cultural landscapes. The park’s historic motor road system and cultural landscapes can be expected to deteriorate at an increased rate as visitation and congestion continue to increase during peak times. Existing contributions to the local and regional economies would continue to

be beneficial; however, the actions in alternative A would be inadequate to support the long-term regional efforts in enhancing tourism and increasing visitor access in the area.

Alternative B

Both beneficial and adverse impacts would occur to visitor access and the visitor experience; however, these adverse impacts would be less than in alternative A. The beneficial impacts would mostly focus on the ability of visitors with reservations to find parking at the few managed locations and the opportunity for continued spontaneity in accessing Park Loop Road. Alternative B, however, would also result in adverse impacts on the visitor experience because the alternative does not proactively address competition for parking at most of the parking lots and does not directly manage the most congested road corridors. It is likely there would still be high levels of congestion in parking lots and along roadways during most days of the summer, which would adversely impact the visitor experience. This alternative would result in beneficial effects to the historic character of Park Loop Road by eliminating right-lane parking, though some adverse impacts would occur to historic character and integrity of the road and to the park's cultural landscapes by installing gates and entry stations to control parking lot access. Restricting vehicle sizes to those appropriate for the historic roads is another beneficial impact on cultural resources and would also improve the visitor experience. Continuing to allow spontaneity in pass-through traffic under alternative B would result in both beneficial and adverse impacts on the socioeconomic environment. Beneficial impacts would result from the wide range of recreational opportunities and visitor access being provided under the alternative; adverse socioeconomic impacts would occur from the persistence of some congestion issues and visitors' perceptions of limited access.

Alternative C (Preferred Alternative and Proposed Action)

Under this alternative, both beneficial and adverse impacts would occur on visitor access and the visitor experience, although overall most would be beneficial. This alternative provides visitors who obtain a corridor reservation more opportunity for spontaneity than alternative B, while still allowing access to most of Park Loop Road to visitors who do not have reservations. This alternative also enhances the quality of the experience along these key corridors and at key destinations. These actions have both beneficial and adverse impacts on visitor experience and access and the local economies that are tied to those aspects of park visitation. The activities described in alternative C result in a significant adverse impact on the historic character of Park Loop Road because it creates a segmented driving experience counter to its historic design. It also involves some construction of modern infrastructure that detracts from the historic character of the road and cultural landscapes. It ultimately eliminates right-lane parking (though initially retaining it), a major beneficial impact on the road's historic character. This alternative would result in improvements in visitor experience and access, a long-term beneficial impact on the local and regional tourism industry.

Alternative D

Under this alternative, both beneficial and adverse impacts on visitor experience would be realized. Overall, this alternative provides the highest degree of flexibility and opportunity for spontaneity for visitors who have access to the Park Loop Road system. In addition, because the entire road is managed, visitors with access can expect the experience to be mostly free of congestion, though parking at the most popular destinations may not be available at all times. This alternative also enhances the quality of the experience along these key corridors and at key destinations. These actions have both beneficial and adverse impacts on visitor experience and

access and the local economies that are tied to those aspects of park visitation. Conversely, full management of Park Loop Road by reservation means that visitors without reservations would not be able to engage in a scenic drive via personal vehicle. Overall, this alternative provides the most beneficial impacts on cultural and scenic resources in the park. Full management of the historic Park Loop Road would eliminate congestion and restore the historic character by creating conditions for free-flowing traffic. Adverse impacts on cultural and scenic resources include formalization of some right-lane parking, addition of two new entrance stations and other modern infrastructure, the expansion of one-way travel counter to the historic design of the road, and driver exposure to fewer historic vistas and more negative views because of counterclockwise flow on Park Loop Road. Under alternative D, fewer visitors would be able to access the park via private vehicle at one time; however, issues with vehicle congestion would be significantly improved resulting in a higher-quality visitor experience and an increased likelihood of return visits to the region.

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Chapter 1

Purpose and Need



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CHAPTER 1: PURPOSE AND NEED

INTRODUCTION

The National Park Service (NPS) is proposing to implement a transportation plan for Acadia National Park to improve the visitor experience and protect resources on the transportation network itself and at the park attractions accessed by the transportation network.

This transportation plan/environmental impact statement evaluates several management options (alternatives) to meet the purpose of and need for the plan. The plan will also serve as an amendment to the park's general management plan (GMP). It has been prepared in accordance with the National Environmental Policy Act of 1969 (NEPA); regulations of the Council on Environmental Quality (40 *Code of Federal Regulations* [CFR] 1500–1508) (CEQ); NPS Director's Order 12: *Conservation Planning, Environmental Impact Analysis, and Decision-making*, DO-12, 2011; and the NPS *NEPA Handbook* (NPS 2015). The general planning process used for this plan is consistent with guidance developed by the Interagency Visitor Use Management Council (IVUMC, <http://www.visitorusemanagement.nps.gov>).

PURPOSE AND NEED FOR THE TRANSPORTATION PLAN

The purpose of the transportation plan is to outline a comprehensive approach to providing safe and efficient transportation to visitors to Acadia National Park while ensuring that park resources and values are protected and visitors are able to enjoy a variety of high-quality experiences. The environmental impact statement presents and analyzes several management options to satisfy the need to improve safety on park roads; reduce conflicts among oversized vehicles (e.g., buses, recreational vehicles [RVs], campers), motorcycles, bicyclists, and passenger cars; address visitors walking along park roads; reduce crowding and congestion at key visitor destinations, access points, and travel corridors; identify transportation infrastructure improvements to increase safety and enhance resource stewardship; preserve the historic roadway and its intended design for touring by private vehicles; and provide guidance on managing commercial services. The transportation plan would apply to all NPS-managed transportation corridors on Mount Desert Island and the Schoodic Peninsula over the next 10 to 15 years. The plan does not include Isle au Haut because a visitor use management plan was previously developed to address visitor use/transportation issues for this island.

The park's historic transportation infrastructure was constructed in the early 20th century and consists of narrow, twisting roads and low, narrow bridges that were designed for automobile types, speeds, and volumes different than those of today. With over 3.5 million visits concentrated in a short season, it is impossible to meet demand for visitor access to park features (especially parking spaces) without substantial adverse impacts to resources, safety, and the visitor experience. Because Park Loop Road is a nationally significant historic resource and high-quality visitor experiences are tied to more moderate vehicle volumes on that historic resource, there are limited options for altering infrastructure to manage congestion issues.

Transportation issues at the park are diverse and complex. Typical traffic includes private vehicles, concession tour buses, commercial motor coaches, limousines, taxis, vans, the Island Explorer (a regional public transit system that also serves destinations in the park), bicycles, and pedestrians. The high volumes of visitors accessing popular visitor destinations during peak times are causing gridlock, crowding, emergency response delays, cultural and natural resource damage, and safety concerns, and are overwhelming visitor facilities. Heavy traffic and

congestion diminishes the quality of the visitor experience during peak times and at popular destinations, creating a demand for parking and road access that exceeds the capabilities of the historic transportation-related infrastructure. Furthermore, modern vehicles too large for the narrow character and alignment of the park's historic roads leads to unsafe conditions and increased conflicts among user groups, particularly pedestrians, cyclists, and drivers of large vehicles.

The checkerboard nature of the park boundary on Mount Desert Island and the multiple access points to park roads cause safety, congestion, and management issues. A network of state highways bisects the park and provides access to many popular park locations. Parking congestion along the shoulders of these highways, combined with bicyclists and pedestrians immediately adjacent to vehicles traveling at highway speeds, and people unfamiliar with the potential road hazards all combine to create safety threats that, because of multiple jurisdictions and authorities, must be addressed by state, local, and NPS managers working together for solutions.

In addition to increasingly high levels of visitor use on Mount Desert Island, use is expected to increase in the Schoodic District of the park. New recreational facilities on the Schoodic Peninsula and anticipated increases in visitation may require NPS staff to more actively manage use to protect resources and protect opportunities for low-density recreation, solitude, and quiet experiences.

The park's general management plan (NPS 1992) and Schoodic general management plan amendment (NPS 2005) identified management actions to reduce crowding and vehicle congestion in high-density use areas by reducing reliance on automobiles by providing nonmotorized mobility options and by establishing a public transportation system. This public transportation system (the Island Explorer) was established in 1999 to provide public transit service from feeder routes near visitor accommodations and a hub in downtown Bar Harbor to destinations throughout the park. The Island Explorer service now plays a key role in providing alternative transportation throughout much of the park, but demand for popular transit routes occasionally exceeds system capacity.

All segments of the historic motor road system on Mount Desert Island and the Schoodic Peninsula are identified in the general management plan as the "Park Loop Road" and are considered a key historic property. One of the numerous resource planning directives articulated in the general management plan is to "Protect the Aesthetic and Historic Values of the Park Loop Road and Other Auto Roads." Specifically, the general management plan states that the park will "protect and enhance the original design intent of the historic Park Loop Road" and develop and implement guidelines "for the management of the road and its landscape corridor to protect the overall design." The general management plan also states that

- new construction will be minimized and will use materials harmonious with those already used;
- existing additions or alterations to the system will be evaluated for compatibility and possible removal;
- no new parking will be added, except at Wildwood Stables; and
- a new more universally accessible visitor center will be constructed at Hulls Cove.

Lastly, the narrow historic roads and low bridges were not designed for the large vehicles that currently use park roads, many under commercial use authorizations (CUAs). Managing these commercial enterprises, nonprofit organizations, and groups within the context of a crowded park presents a significant challenge for park managers, which will be addressed with this transportation plan and subsequent commercial services planning.

PLAN GOALS

This transportation plan seeks to achieve the following goals:

- State desired conditions for natural and cultural resources and visitor experience at destinations and travel corridors throughout the park.
- Address parking and roadway capacity limitations and associated impacts on resources, safety, and visitor experience.
- Establish guidance to improve safety and reduce conflicts among oversize vehicles (e.g., buses, RVs, campers), motorcycles, bicyclists, and passenger cars operating on park roads.
- Enact potential improvements to transportation infrastructure to increase safety and enhance resource stewardship, sustainability, and NPS operational efficiency, while maintaining the integrity of the historic character.
- Clarify how the scale, design, and function of the Acadia Gateway Center and Hulls Cove Visitor Center can help mitigate crowding and congestion, improve visitor orientation, increase compliance with park entrance passes, manage road-based commercial tours, and support the Island Explorer public transit service.
- Partner with local communities and the State of Maine to address local and regional transportation-related issues, sustainable public transit service, and enhanced cultural and natural resource protection.
- Incorporate the park's transportation planning efforts with those of neighboring communities with regard to Island Explorer service enhancements and potential projects such as reuse of the Bar Harbor ferry terminal and the proposed parking solutions in downtown Bar Harbor.

DESCRIPTION OF THE PARK

Acadia National Park preserves approximately 35,000 acres in Hancock and Knox Counties in the northeastern United States along the mid-section of the Maine coast (see figure 1). Acadia National Park was established in 1916 as Sieur de Monts National Monument and redesignated as Lafayette National Park in 1919. In 1929, Congress authorized the National Park Service to accept a donation of land on the Schoodic Peninsula and the park's current name was adopted. The park now consists of parts of Mount Desert Island plus a part of Isle au Haut to the southwest of Mount Desert Island, the tip of the Schoodic Peninsula on the mainland to the east, and most of (or parts of) 16 smaller islands. The park also preserves almost 13,000 acres in conservation easements across its legislated boundary, which runs from the Penobscot River ship channel to just east of the Schoodic Peninsula.

Annual visitation to Acadia National Park grew by 59% between 2007 and 2017, with 3.5 million visits recorded in 2017. Most visitation occurs from June through October. The most popular destinations include Cadillac Mountain, Sand Beach, and Jordan Pond. Resource-based recreational activities include viewing the scenery, walking, hiking, bicycling, camping, horseback and carriage riding, sea kayaking, and canoeing. The park provides opportunities for educating visitors about its resources and values through a variety of interpretive activities including guided walks, amphitheater presentations, education programs, and outreach activities.

BACKGROUND

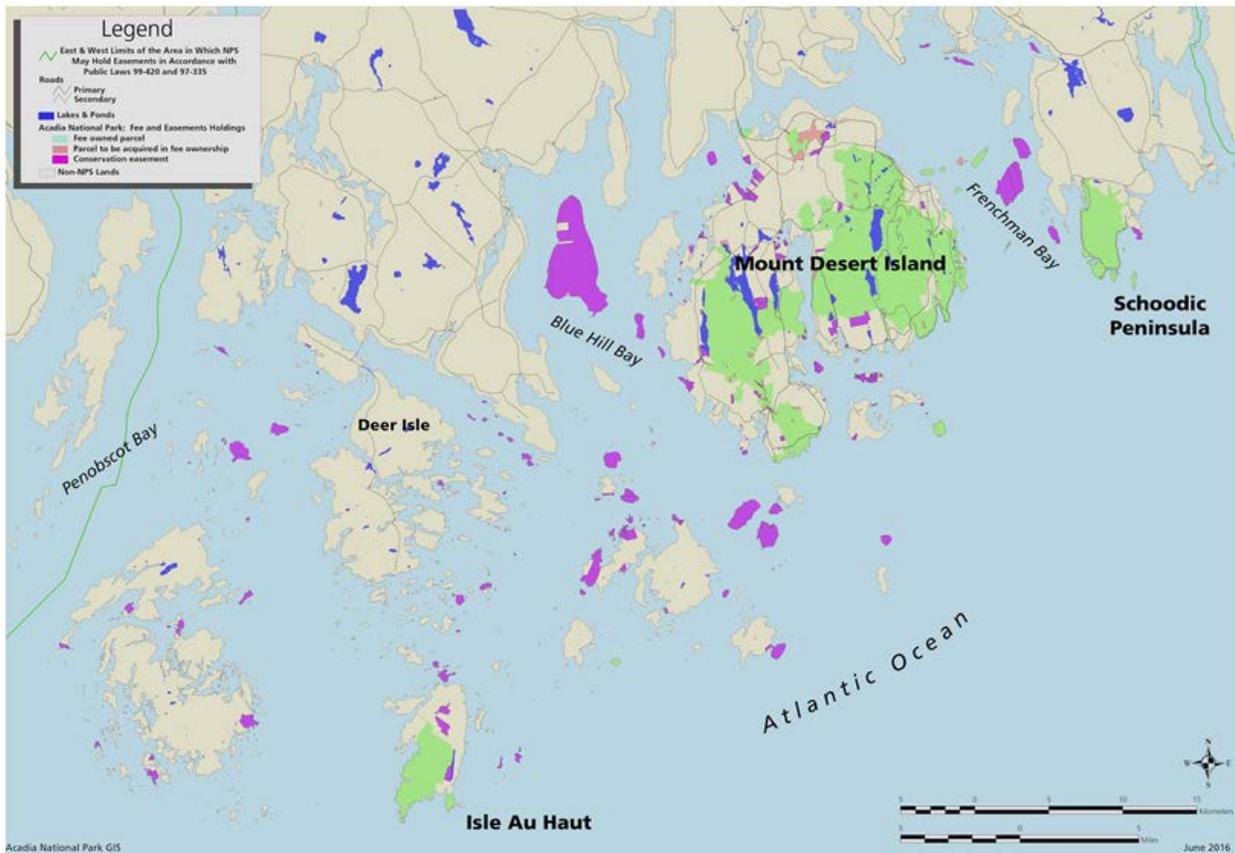
The 1992 general management plan for Acadia National Park and the 2005 Schoodic general management plan amendment recognized the growing issue with congestion associated with transportation within park districts. Both documents discuss development of alternative transportation system approaches to minimize the use of motor vehicles in the park with the goal of “implementing a transportation system as an alternative to or replacement for private automobile access” (NPS 1992).

In 2016, park staff developed a foundation document that provides the underlying principles that guide development of this plan. The foundation document identifies what is most important about Acadia National Park (including the park’s purpose and significance), notes special mandates and administrative commitments that affect management of the park, and identifies fundamental resources and values in the park. This plan was designed to be consistent with the park’s purpose and significance and ensures protection of the park’s fundamental resources and values. The fundamental resources and values related to this planning effort are as follows:

- Range of Visitor Experience
- Network of Historic Roads, Historic Carriage Roads, and Trails
- Cultural Landscapes, Ethnographic Resources and Values
- Mosaic of Habitats Supporting Diverse Flora and Fauna
- Clean Air and Water
- Scenic Resources and Values

The 1992 general management plan recognized that congestion and overcrowding were having a negative impact on the visitor experience and park resources and prescribed broad actions that would reduce these impacts. This transportation plan identifies the specific implementation level actions needed to achieve the goals of the 1992 general management plan. The 1992 plan called for managing access to specific locations to reduce resource damage and perceptions of overcrowding including “the summits of Cadillac, Penobscot, Sargent, Champlain, and Pemetic Mountains; Little Moose Island; and Big Heath. Parking for these areas will be confined to existing lots with no overflow and no right lane parking on Park Loop Road.” The 1992 plan also identified actions to “retain opportunities for low-density recreation on the west side of Mount Desert Island and Schoodic Peninsula.”

FIGURE 1. LOCATION OF ACADIA NATIONAL PARK AND PRIMARY LOCATIONS REFERENCED IN THIS PLAN



These actions included enforcing visitor capacity limits on the existing parking lots on Mount Desert Island and the Schoodic Peninsula with the intent to “retain current use levels and the existing naturalness and solitude of these parts of the park.” Furthermore, the 1992 plan identified limiting parking along Park Loop Road as a means of reducing congestion and overcrowding impacts. The plan described eliminating parking “from the right lane of the Park Loop Road wherever road geometry poses a safety hazard.” The action was described as appropriate for enhancing the

... scenic driving by removing the safety concerns, traffic flow restrictions, and visual impact of right-lane parking. Parking will be permitted only in designated spaces in established lots, and vehicle size will be restricted in lots where turning space is limited. The cooperation of the state and towns will be sought to eliminate overflow parking along state highways. . . No new parking areas will be constructed along the Park Loop Road, and no existing parking areas will be expanded except at Wildwood Stables. Additional parking will be provided at Eagle Lake and at the head of Valley Cove Road (to replace existing parking at Valley Cove). Visitors will be encouraged to travel the Park Loop Road as a scenic drive-through and to use alternative access – including the alternative transportation system, trail links, carriage roads, and bicycle routes – for destination travel.

It was recognized in that plan that establishment of the alternate transportation system would occur before the enforcement of new parking restrictions.

Even before the 1992 general management plan established management direction to deal with congestion and overcrowding, previous park planning efforts had tackled the issue. In 1988, the National Park Service published an environmental assessment (EA) and finding of no significant impact (FONSI) in association with establishing one-way traffic along Kebo Mountain Road, adding it to the already established 12-mile portion of one-way Ocean Drive. The change to one-way travel was made to address problems with safety, parking, and shared access for bicyclists, pedestrians, and motorists. It also established the limited use of right-lane parking to ease pressure on overfilled lots. When considering alternatives for the plan laid out in the 1988 environmental assessment, the park used several studies on traffic volume and visitor preferences (based on the perception of safety and preference of views by direction) that helped them reach a preferred alternative to establish over half of Park Loop Road as one-way travel in a clockwise direction.

In 1999, a three-phase transportation strategy was developed with the assistance of an interagency team of transportation, community, and Acadia National Park managers. This strategy was an effort to reduce traffic on local roads, primarily State Route (SR) 3, the primary access route to Mount Desert Island and the park. Phase 1 of the transportation strategy established the Island Explorer transit system operated by Downeast Transportation, Inc., and developed a transit hub at Village Green in Bar Harbor. Phase 2 expanded the Island Explorer fleet, extended the season and routes, and increased the frequency of service as the limited availability of drivers would allow. Since its inception in 1999, the Island Explorer transit system has carried over 7 million passengers. The Island Explorer is supported by donations from the local communities and organizations, local private businesses, and Acadia National Park.

Phase 3 of the transportation strategy included creating the Acadia Gateway Center along SR 3 in the town of Trenton, Maine, outside the park's boundary and approximately 2.0 miles north of the Hancock County Bar Harbor Airport. In addition to providing a more convenient location to fuel Island Explorer buses and establishing a bus maintenance facility, this site is strategically located to intercept traffic on SR 3 before it reaches Mount Desert Island. As the facility would be developed, visitors who stop at the Acadia Gateway Center would find information about the National Park Service and area chambers of commerce, purchase park entrance passes, learn about commercially operated tours, learn about the park through historical and informational displays, park their vehicles, and ride Island Explorer buses.

In 2007, the National Park Service adopted the *Acadia Gateway Center Environmental Assessment* prepared by the Maine Department of Transportation and Federal Transit Administration, concurring with their decision to build the Acadia Gateway Center in Trenton, Maine, off SR 3. The assessment called for build-out of the center in four phases. Phases 1 and 2 involved construction of the now-existing Acadia Gateway Center facilities and establishment of the Downeast Transportation office and maintenance facilities. Phases 3 and 4 would involve construction of an expanded NPS welcome center and theater, and establishment of an NPS staff presence at the Acadia Gateway Center. Phases 3 and 4 have not yet been completed.

The National Park Service continues to support full completion, including phases 3 and 4 (subject to implementation funding) of the Acadia Gateway Center. Under the current planning effort, the alternatives that involve reservation-only vehicle access to popular park destinations would result in increased need for parking outside the park and increased use of alternative transportation for visitor access. The fully developed Acadia Gateway Center will help serve that need.

As mandated for all units in the national park system, concessions contracts or commercial use authorizations are required for all commercial visitor services operators including nonprofits that receive monetary gain for activities where park resources are used for recreational purposes (i.e., shore excursions, step-on guides, wholesale tour operators, nature guides, biking tours, art/photography workshops, climbing schools, summer camps, water activities). The park developed a commercial services plan in 2000 that provides guidance for the management of commercial uses in the park, including the types and levels of transportation-related commercial services that are appropriate. This transportation plan is consistent with and supports the objectives of the commercial services plan (2000).

VISITOR USE MANAGEMENT

Visitor use management is the proactive and adaptive process of planning for and managing characteristics of visitor use and its physical and social setting; it implements a variety of strategies and tools to sustain desired resource conditions and visitor experience. Visitor use management is important because the National Park Service strives to maximize access, opportunities, and benefits for visitors in a particular area while achieving and maintaining desired conditions for resources and visitor experience. Managing visitor access, a component of visitor use management, is inherently complex. It requires that NPS managers analyze not only the number of visitors but also where they go, what they do, their impacts on resources and visitor experience, and the underlying causes of those impacts. Managers must acknowledge the dynamic nature of visitor use, the vulnerabilities of natural and cultural resources, and the need to be responsive to changing conditions.

This plan applies the visitor use management framework (IVUMC 2016) to ensure that decisions about transportation and visitor access to the park are consistent with protecting and maintaining desired conditions for resources and experiences. This planning process is described below and is consistent with guidance outlined by the Interagency Visitor Use Management Council (www.visitorusemanagement.nps.gov). For details on where you can find each element of the VUM framework in this plan, see table 1.

Visitor capacity (a component of visitor use management) must be identified for those areas connected to decisions in this plan to meet the requirements of the National Parks and Recreation Act of 1978 (Public Law 95-625, Section 604), which mandates that all parks address visitor capacity. These visitor capacities will define the maximum allowable types and amount of use for key areas along the road corridors that still support attainment of desired resource conditions and visitor experience consistent with the park's purposes. The indicators and thresholds established in this plan also help with the long-term monitoring and management of the desired conditions and visitor capacities in this plan. The indicators, thresholds, and visitor capacities can be found in appendix A.

TABLE 1. VISITOR USE MANAGEMENT AND THE PLANNING PROCESS

Visitor Use Management Framework Elements	Framework Steps and Alignment with the Planning Process and Corresponding Chapter Location
<p><i>Element 1: Build the Foundation</i></p> <p>Building the foundation is the first of the four elements of the visitor use management framework. The purpose of this element is to help managers understand what needs to be done, how to organize the plan, and how to define the resources needed to complete the plan.</p>	<ol style="list-style-type: none"> 1. Clarify the plan purpose and need (chapter 1). 2. Review the area’s purpose and applicable legislation, agency policies, and other management direction (chapter 1). 3. Assess and summarize existing information and current conditions (e.g., current conditions of natural, cultural, and recreation resources and visitor experience opportunities in the area) (chapter 3). 4. Develop a plan strategy (chapter 1).
<p><i>Element 2: Define Visitor Use Management Direction</i></p> <p>The purpose of this element is to answer critical questions about what the planning effort is trying to achieve and the acceptable levels of impacts from visitor use.</p>	<ol style="list-style-type: none"> 5. Define desired conditions for the planning area (chapter 1). 6. Define appropriate visitor activities, facilities, and services (chapter 2). 7. Select indicators and establish thresholds (chapter 2; appendix A).
<p><i>Element 3: Identify Management Strategies</i></p> <p>This element is intended to help managers identify management strategies and actions to achieve and maintain the desired conditions of the plan area. This element also identifies visitor capacity. The goal of element 3 is to define how visitor use would be managed to achieve desired conditions.</p>	<ol style="list-style-type: none"> 8. Compare and document the differences between existing and desired conditions; for visitor use-related impacts, clarify the specific links with visitor use characteristics (chapter 3). 9. Identify visitor use management strategies and actions to achieve desired conditions (chapter 2). 10. Where necessary, identify visitor capacities and strategies to manage use levels within capacities (appendix A). 11. Develop a monitoring strategy (chapter 2; appendix A).
<p><i>Element 4: Implement, Monitor, Evaluate, and Adjust</i></p> <p>This element focuses on implementing management actions, monitoring, evaluating monitoring results, and making adjustments to management strategies and actions based on monitoring results. This phase of the planning process focuses on making progress toward meeting desired conditions as well as evaluating potential unintended consequences of the actions for visitors or resources.</p>	<ol style="list-style-type: none"> 12. Implement management actions. 13. Conduct and document ongoing monitoring and evaluate the effectiveness of management actions in achieving desired conditions. 14. Adjust management actions if needed to achieve desired conditions and document rationale.

DESIRED CONDITIONS FOR SELECTED FUNDAMENTAL RESOURCES AND VALUES

The park’s fundamental resources and values are those features, systems, processes, experiences, stories, scenes, sounds, or other attributes determined to warrant primary consideration during planning and management processes because they are essential to achieving the purpose of the park and maintaining its significance. The fundamental resources

and values are also an integral part of how visitors experience Acadia National Park and its network of roads, parking lots, and transportation routes, which help the visitor to experience those resources and share in the values. Desired conditions were developed for these fundamental resources and values as part of this comprehensive planning effort. Please refer to the park's foundation document for descriptions of the fundamental resources and values associated with transportation planning in the park. The desired conditions are defined as statements of aspiration that describe resource conditions (including fundamental resources and values), visitor experience and opportunities, and facilities and services that an agency strives to achieve and maintain in a particular area. Goals provide an overarching statement capturing the broad intent of the stated desired conditions. Desired conditions describe what conditions, outcomes, and opportunities are to be achieved and maintained in the future, not necessarily what exists today. Desired condition descriptions describe what the particular area will look like, feel like, sound like, and function like in the future. The desired conditions guide the development of indicators and thresholds needed for monitoring and adaptive management. They also provide basic criteria to evaluate the appropriate types and levels of management, development, and access needed to achieve those conditions.

Definition of Desired Conditions: Desired conditions are defined as “a park’s natural and cultural resource conditions that the National Park Service aspires to achieve and maintain over time, and the conditions necessary for visitors to understand, enjoy, and appreciate those resources.” NPS Management Policies 2006

Each alternative was developed to be compatible with attaining these desired conditions, as well as meeting the purpose and need for the plan. Please refer to “Appendix A: Visitor Capacity Determination” for a discussion of how these desired conditions inform visitor capacity for each of the key locations within the park’s transportation network.

Range of Visitor Experiences

Goal: Provide for a range of opportunities to experience the landscape that provide a high-quality, resource-related visitor experience while ensuring a safe and positive social environment.

Desired Conditions.

Visitors are provided with safe, convenient, conflict-free, and sustainable access to park resources and experiences using a variety of means including private automobile, commercial transportation, Island Explorer buses, or by foot or bicycle.

The transportation system facilitates access to high-quality programs, services, and facilities that are accessible and usable by all people.

Visitors are informed about their transportation options, know what to expect, and have planned their visit before they arrive at the park.

High-quality experiences are provided in settings with a range of visitor densities (high to low) that are not dominated or degraded by crowding or congestion of vehicles or visitors. These settings are characterized by high-quality natural and cultural resources, natural soundscapes, and dark night skies. The number of visitors to key park attractions is managed in a way that prevents conflicts over available parking spaces and between different activity participants, and provides access for a variety of activities.

The Western Mountain roads and the surrounding areas and trails are managed for low-density use and solitude.

Management of traffic and transportation facilitates visitors' understanding of the historic significance of the park's cultural resources, including the motor roads.

Traffic is predominantly free flowing with occasional congestion at acceptable levels that will usually abate on its own and does not compromise safety or emergency response. Visitors in private vehicles are able to find parking spaces at destinations most of the time but with acceptable delays. The Island Explorer buses can easily circulate throughout the park. Dead-end roads (located at Great Head, Duck Brook, Beech Mountain, Echo Lake, Bass Harbor Light, Lower Hadlock Pond, Long Pond, and other places) are managed to avoid congestion and ensure emergency access at all times.

Transportation facilities support key visitor experiences related to fundamental resources or values.

Visitors with disabilities have equitable opportunities to access all park facilities where possible.

Views from Cadillac Mountain summit are dominated by a natural landscape with minimum visual intrusion of vehicles or transportation infrastructure such as roads and parking areas.

Vehicles and traffic in the Sieur de Monts area are consistent with the quiet, contemplative nature of this place. Large vehicles do not park in the area.

Entrance facilities have adequate capacity to accommodate a variety of transportation modes. Specific locations provide a high-quality, seamless transition among various transportation modes.

Uncrowded, more primitive experiences are available along the Western Mountain roads and Long Pond Fire Road and their associated parking lots and trails. There are ample opportunities for solitude and limited developed recreational facilities and limited services.

Network of Historic Roads and Trails

Goal: Protect the aesthetic and historic values of historic roads, historic carriage roads, and trails in the park. (Note: see appendix C for specific goals and preservation standards expected for this resource.)

Desired Conditions.

- The park's historic road and trail networks retain their overall design, character-defining features, and intended historic uses, including private automobile touring.
- Transportation-related development beyond the existing footprint is minimized and designed in accordance with other rustic designs and is sustainable and adaptive to a changing climate.
- Infrastructure is resilient to the effects of climate change.
- Future transportation infrastructure design and construction is sustainable relative to sea level rise, increasing storm intensities, and other climate-related future conditions.
- To ensure visitor safety and avoid conflicts, the number and size of all vehicles accessing key areas does not exceed the road's design or parking capacity.

- Visitors experience driving the motor roads as originally intended for low-speed vehicle touring.

Cultural Landscapes, Ethnographic Resources and Values

Goal: Protect, preserve, and rehabilitate the cultural heritage and landscapes of the park.

Desired Conditions.

- The historic attributes and uses contributing to the park's cultural landscapes are protected from transportation-related impacts.
- The character, integrity, and significance of the cultural landscape embodied in the historic motor road system are maintained.
- The integrity of ethnographic resources and values is safeguarded from transportation-related impacts to preserve significant attributes and uses that contribute to historical significance.
- Development blends with and supports the character, integrity, and historic significance embodied in the park's cultural landscapes, including the historic motor road system.

Mosaic of Habitats Supporting Diverse Flora and Fauna

Goal: Protect and preserve the park's natural resources, giving priority to those that are exceptionally fragile or significant.

Desired Conditions.

- Visitor-related impacts such as loss of soil and vegetation along roadsides from parked cars and along trails from high volumes of hikers are minimal.
- The park's transportation system is designed and constructed to ensure the protection of rare and special status species and habitats. Natural processes are safeguarded to preserve natural ecosystem integrity. The natural processes that connect the hydrologic and other natural features and systems of the park are unhindered by transportation-related use, management, and infrastructure.

Clean Air and Water

Goal: Maintain or improve air and water quality.

Desired Conditions.

- Transportation activities and systems continue to be managed in accordance with the park's classification as a class I area under the Clean Air Act of 1977.
- The physical, chemical, and hydrological properties of the park's streams, rivers, lakes, and other water bodies reflect natural water quality conditions that meet or exceed applicable water quality standards and drinking water values. These standards and values are not degraded by transportation-related impacts.

Scenic Resources and Values

Goal: Preserve opportunities for visitors to enjoy the park's scenery.

Desired Conditions¹.

Vehicles do not dominate visitor views and experiences at key attractions.

SCOPE OF THE TRANSPORTATION PLAN/ENVIRONMENTAL IMPACT STATEMENT

Issues and Impact Topics Retained For Detailed Analysis

The National Park Service conducted scoping to confirm the purpose of and need for the project, identify potential management alternatives, and identify the issues relevant to analysis of those alternatives. The National Park Service conducted scoping with federal, state, and local agencies with jurisdiction by law or special expertise, nongovernmental entities, other interested and affected parties, and the general public.

Through scoping, the National Park Service developed a list of issues associated with transportation management in the park. These issues are “problems, concerns, conflicts, obstacles, or benefits that would result if the proposed action or alternatives, including the no-action alternative, are implemented” (NPS 2015a, section 4.2). Issues identified during scoping and retained for detailed analysis are described below.

Issue: Changes to Visitor Access and Use Patterns

Visitor experiences on park roads allow for recreational opportunities, such as viewing remarkable and unique scenery and driving on roads that have national significance for their character and construction. Park roads bring visitors to a variety of experiences, including hiking the summits, combing the shoreline, and enjoying vistas. Acadia National Park receives approximately 3.5 million annual visits. These visitors are affected by management of the Acadia transportation system. During the park’s peak season and hours, visitors have degraded experiences (both on roadways themselves and while attempting to access park resources and experiences) due to vehicle congestion on roads, parking lots, and transit systems; overcrowding on trails and other key attractions; blocked vistas; and compromised wayfinding.

Furthermore, congestion associated with high volumes of people accessing parklands during peak season causes safety concerns and a reduced level of service along those roads. In some cases, congestion can limit the ability of first responders to reach an emergency situation promptly. Motor coach heights exceed bridge underpass heights on the Park Loop Road and on SR 233, requiring coaches to cross the center line to pass under bridges. Additionally, Cadillac Mountain is accessible via a narrow, twisting historic road constructed in 1932 that serves visitors in private vehicles, 45-foot-long commercial buses, and on bicycles. There are no shoulders or other accommodations for bicycle use along this roadway; drivers who want to pass bicyclists do not have room to do so without crossing the center line. Visitors also walk along the side of the road to the summit.

The action alternatives consider potentially significant changes and restrictions on how visitors access, move about, and experience the park. These changes could impact the timing and

¹ Additional desired conditions for this FRV can be found in the Motor Road Vista Management Plan (2016).

distribution of visitor use in many areas of the park. These changes could also impact the experience quality in parking lots, at attraction sites, and along roadways. These were primary concerns in the planning process.

Associated impact topics

- visitor use and experience
- socioeconomics
- visitor and user safety

Issue: Protecting Historic Resources and Historic Character

The park's motor road system is a historic resource and cultural landscape. In addition, the park includes a number of other cultural landscapes and associated historic structures, all of them accessed by the historic motor road system. The park's historic Park Loop Road, built between 1922 and 1958, encompasses a unique historic design that was established to provide an unbroken scenic automobile tour throughout all natural settings of the park. The road system became the primary means of accessing the most popular destinations in the park, themselves historic cultural landscapes with unique design characteristics that include access points to the historic road and designed vehicle circulation patterns and parking lots. Development of the historic motor roads and associated cultural landscapes followed a picturesque design style and became one of the nation's most comprehensive examples of NPS rustic design, a style that blends human-built infrastructure into the physical environment to complement the natural world. The historic character of the nationally significant Park Loop Road and associated landscapes is dependent upon its historic fabric and design, and its interaction with the surrounding landscape—including viewsheds into and out of landscapes and scenic vistas along the intended tour of the motor road. Experiencing the scenic views provided by the historic motor road system is a fundamental resource and value for Acadia National Park and a defining historic characteristic of Park Loop Road.

Current congestion in the historic road corridor and at popular destinations in historic cultural landscapes creates situations that threaten the historic fabric of the road and associated landscapes. Driving and parking beyond the road surface, as well as associated ad hoc solutions to congestion and overcrowding, threaten to adversely affect the historic character of park roads and their eligibility for listing in the National Register of Historic Places (NRHP). Proposed changes in access points to control congestion, and their associated modern infrastructure improvements, threaten the historic fabric and character-defining design of the road and associated cultural landscapes along the road. Proposed changes in circulation and methods of transport affect the historic character-defining experience of touring Park Loop Road and access to relevant viewsheds and vistas. Proposed changes to the ways in which visitors access individual cultural landscapes (both through physical modification of the landscapes and via adjustments that increase or decrease visitor density and vehicle sizes) could affect the intended use of the landscapes and their historic character. Physical and operational changes to park transportation systems could significantly impact the park's historic resources and their design characteristics, and could threaten their eligibility for listing in the National Register of Historic Places.

Associated impact topics

- historic motor road, character and condition
- cultural landscapes, character and condition

Issue: Changes to Commercial and Local Use

Recreation-related tourism plays an important role in the local and regional economy. The alternatives included in this plan propose varying levels of recreational access, opportunities, and changes in commercial uses that may affect the local community’s travel and tourism sectors. New transportation access management systems may affect local residents’ ability to spontaneously visit certain areas of the park, the size and number of buses in the area, as well as the traffic in and around Acadia. Local businesses that use park roads and parking lots to access resources outside the transportation corridor—including road-based commercial tour operators, commercial guides, and nature tours—may also be affected. The proposed action alternatives consider potentially significant changes to commercial visitor services and visitor access to the park that may affect local communities’ social and economic systems and their enjoyment of natural and cultural resources.

Associated impact topics

- visitor use and experience
- socioeconomics

Issues and Impact Topics Considered but Dismissed from Further Analysis

Through the scoping process, the following issues were initially raised during scoping but were eliminated from further consideration for the reasons below.

Archeological Resources. Acadia National Park contains significant prehistoric and historic archeological resources dating back at least 5,000 years. The entire park has been evaluated for the potential for buried archeological resources and over 220 sites are known to park managers. The proposed actions associated with this transportation plan do not take place in the vicinity of any of these known resources, and the plan is not expected to affect archeological resources known to exist in the park. However, various components of the action alternatives presented in chapter 2 do propose ground-disturbing activities in areas that have not been fully surveyed to identify the presence of archeological resources. These actions include expanded parking and visitor center infrastructure at Hulls Cove, demolition and site restoration at Thompson Island, construction of a parking lot and access road at Eagle Lake, and establishment of parking facilities at Acadia Mountain and the Satterlee Pit site. If they were to be undertaken, full archeological survey of project areas would be completed, along with inventory and evaluation of the historic significance of any archeological resources encountered, in advance of any ground-disturbing activities. These investigations would be carried out in consultation with the Maine Historic Preservation Commission (MHPC) (the state historic preservation officer) and the park’s associated tribal governments. If significant archeological resources were discovered and determined to be threatened by any proposed projects, the park would employ best practices for their preservation and consult with the MHPC, tribal governments, the Advisory Council on Historic Preservation, and other stakeholders on their ultimate treatment. Therefore, the topic of archeological resources was dismissed from further analysis.

Winter Recreational Use. Most park visitors are accommodated during the peak and shoulder seasons between May and October. The proposed reservation systems in this plan would only apply during the peak season in the park, currently between mid-June through mid-October. During the off-peak season, many park roads are closed and issues with congestion, conflicts between visitor use and resource protection, and visitor experience are rarely experienced and are managed in the park on a case-by-case basis. The alternatives described in this plan relate to strategies for transportation management during the peak season only, and the ability of the National Park Service to manage transportation for winter use would continue as under the no-action alternative. Therefore, consideration of the transportation system in winter would not direct or inform this planning effort. However, park managers may choose to adaptively manage the time periods during which the reservation systems are in place. As the climate warms, use during spring and fall months has increased. If these trends continue to expand the peak season of use, dates during which the reservation and public transit systems operate may extend earlier and/or later into the year.

Natural Resources. Acadia National Park supports a wide diversity of ecological community types, as well as hundreds of species of plants and animals including some that are globally, federally, and locally rare. The park's ecosystems and natural wildlife communities are a fundamental resource and value of Acadia. Periodic high volumes of visitors and traffic congestion can lead to resource trampling at popular destinations and damage associated with shoulder driving and out-of-bounds parking. Each of the action alternatives in this plan proposes options to avoid or alleviate these impacts. In addition, all action alternatives seek to avoid resource damage associated with visitor use by minimizing significant infrastructure, which could variably impact natural resources, depending on the scale of construction. Under any of the action alternatives considered, there would be some adverse impacts on natural resources primarily because of installation of infrastructure needed to support a reservation system and relocate parking and visitor services to more sustainable locations. The adverse impacts are expected to be minimal because most areas where construction would take place are already developed or previously disturbed. The beneficial impacts on natural resources varies between alternatives, depending on whether the alternative prescribes removal of infrastructure and restoration of such areas to natural conditions. For example, at Eagle Lake, the preferred alternative would result in some disturbance and loss of vegetation, wildlife, wetlands, and soil, primarily due to widening the access road and construction of a new connector trail. However, less than 1 acre would be altered, and impacts would be minimal with the application of best management practices. The preferred alternative also includes restoration of a wetland at the existing Eagle Lark parking area equal in size to the area of disturbance at the new lot, offsetting the wetland disturbance. Additionally, no special or unique vegetation, soil, or wildlife would be lost and the abundance and distribution of vegetation and wildlife in the area would not substantially change. The preferred alternative also proposes future development at the Jordan Pond, Acadia Mountain, Hulls Cove, and Liscomb Pit areas, but without additional details on these developments it is not possible to analyze the impacts on vegetation, soil, and wildlife in these areas. Site-specific planning and applicable compliance will be needed for these areas when additional details on the proposed developments are known. Based on best available information, no known federal or state listed species are known to occur in the above-described construction areas with the possible exception of the federally threatened northern long-eared bat. Surveys would need to be done prior to construction to determine if rare or sensitive species are present and, if so, whether impacts can be avoided. Because northern long-eared bats may be present, the National Park Service would consult with the US Fish and Wildlife

Service (USFWS) prior to any construction to ensure that adverse impacts to this species are avoided. Under all of the action alternatives, park managers would be working to improve the condition of fundamental resources and values related to natural resources.

Air Quality. Emissions from vehicles in the park affect local air quality. Although the park is not in a nonattainment area (as defined under the Clean Air Act), changes in transportation management could affect local air quality and emissions. However, because all action proposals of this transportation plan seek to eliminate or reduce instances of traffic congestion and idling (and subsequent impacts on air quality from excess vehicle emissions), any action taken would similarly benefit air quality. While implementing vehicle size restrictions (shifting from a relatively small number of large commercial vehicles to more smaller vehicles) and expanding Island Explorer service would increase the number of buses on the roadway, requiring private vehicles to obtain a parking reservation is likely to result in an increase in the number visitors choosing to take Island Explorer or other commercial transit instead of their personal vehicle to access popular destination in the park during peak times. Because one Island Explorer or commercial bus offsets several private vehicles, this mode shift from private vehicle to transit would not likely result in a net gain to the number of vehicles and associated emissions on the roadway.

Water Quality. Vehicle use and road maintenance can introduce environmental pollutants into park ecosystems and waterways. Vehicle fluid leaks, accidental fuel discharges, and solid waste contamination (litter and vehicle parts) are all associated with active roadways. In addition, road maintenance activities such as paving projects, striping, and wintertime salting, all have the potential to negatively impact water quality. These issues are typically considered and impacts minimized on a case-by-case basis. None of the alternatives considered in this plan would affect the park's ability to manage these impacts, nor would any alternative change the frequency or intensity of these impacts. No new developments or actions are being proposed in this plan that would degrade the water quality of lakes or ponds that serve as drinking water for local residents. Under alternatives C and D, parking lots are proposed within the Eagle Lake watershed; however, design of those parking lots would incorporate best practices for stormwater management, and when considered in context with existing uses and the proposed revegetation efforts, the proposals are likely to result in a net improvement to water quality.

Environmental Justice. Although local residents include minority and low-income populations, these populations would not be particularly or disproportionately affected by activities associated with construction or implementing the alternatives. The park staff and planning team solicited public participation as part of the planning process and gave equal consideration to all input from persons regardless of age, race, income status, or other socioeconomic or demographic factors.

All of the action alternatives in the plan include the use of reservations to manage vehicle volumes in the park. These reservations would be accompanied by a modest (likely less than \$10) fee to cover the costs to operate the reservation system, monitor traffic conditions, and support alternative transportation options such as the free Island Explorer service. These reservations, and the increased fee associated with them, are not proposed for many areas of the park. Visitors would still be able to access the park in a variety of ways that would not be subject to an additional fee. Regardless of alternative selection, implementation would not result in any identifiable adverse human health effects on any population, including minority or low-income

populations. For these reasons, environmental justice as an impact topic was dismissed from further analysis.

Indian Trust Resources. No Indian trust resources are located in the park and the lands comprising the national park are not held in trust by the Secretary of the Interior for the benefit of Indians. Therefore, the issue of Indian trust resources was dismissed from further analysis.

Trails and Carriage Road Systems. The transportation plan addresses safety issues on park motor roads and crowding at popular visitor destinations in the park. No alternative proposes changes to the physical alignment, characteristics, management, or maintenance of hiking trails or carriage roads. Some alternatives propose new parking lots and associated connector trails to adjacent carriage roads and hiking trails, but no modifications to existing trails or changes in their current uses are proposed.

The alternatives do propose managing vehicle levels on roadways and parking lots that provide access to hiking trails and carriage roads. Additionally, a monitoring framework that includes indicators and thresholds for trails and carriage roads and an associated visitor capacity determination is included in appendix A. These indicators, thresholds, and visitor capacity determinations are designed to ensure that management of the park's roads, parking lots, and transit services do not cause adverse impacts on the historic trails and carriage roads or on the visitor experience while using them.

No changes are proposed in any of the alternatives regarding pedestrian and bicycle access on Park Loop Road, including Cadillac Mountain, Ocean Drive, Jordan Pond House, and Sieur de Mont. No reservations would be required to bike in these areas or for bicycle access to the parking lots. Therefore, this topic was dismissed from further analysis.

Isle au Haut and Remote Islands. The transportation system would continue to support low-density visitor use of Isle au Haut, consistent with the 2014 visitor use management plan. No adjustments to management of transportation on the island are proposed in this plan. The National Park Service would continue to use a cooperative agreement to ensure ferry service to Duck Harbor and there would continue to be a passenger ferry dock at Duck Harbor. The National Park Service would continue to ensure motor vehicle access along the park road, although the extent of upkeep would continue to vary based on available funding.

The transportation plan proposes no adjustment in current strategies for managing the park's other remote islands, which would continue to be managed as they are under existing plans and policies. No landing facilities would be constructed on the islands. Commercial use of remote islands would continue to be prohibited. Therefore, this topic was dismissed from further analysis.

Boating. This plan/environmental impact statement addresses land-based transportation and visitor use. While the alternatives do propose changes to parking and vehicle access, including vehicles trailering and launching boats, none of the alternatives propose any changes to managing boat use on the water. Therefore, boating was dismissed from further analysis.

NEXT STEPS IN THE PLANNING PROCESS

During implementation of this plan, the National Park Service will conduct a financial feasibility analysis to determine the most financially viable form or mix of concession contracts and commercial use agreements to provide commercial transportation in the park. For concession

contracts to provide commercial tours in the park, the National Park Service would encourage and incentivize the use of emerging or novel transit options that facilitate world-class experiences for visitors. This would be done through language in the concessions prospectus that incentivizes transportation vehicles that enhance visitor enjoyment (e.g., large windows designed for touring, novel designs) and promote sustainability (e.g., electric vehicles). The National Park Service would also work with the operator of the Island Explorer to ensure these goals (including the acquisition of electric buses when commercially available) are incorporated into future expansion of that fleet.

In implementing the approved transportation plan, the National Park Service intends to partner with the private sector to ensure the best available technology is utilized to implement the reservation system and other aspects of this plan. The National Park Service will issue a Request for Information (RFI) to better understand how these systems and technologies could be leveraged in Acadia National Park. Once the Record of Decision is signed, the information gathered through the RFI process would subsequently be incorporated into a Request for Proposal to facilitate acquisition of these systems.

After release of the final plan/environmental impact statement and a 30-day no-action period, a record of decision approving the plan may be prepared for signature by the NPS Northeast regional director. The record of decision documents the NPS selection of an alternative for implementation. The plan can then be implemented, depending on funding and staffing.

A record of decision does not guarantee funds or staff for implementing the approved plan. The National Park Service recognizes that this is a long-term plan; in the framework of the plan, park managers would take incremental steps to reach park management goals and objectives. The park would actively seek alternative sources of funding, but there is no guarantee that all the components of the plan would be implemented.

Implementation of the approved plan could also be affected by other factors such as changes in visitor use patterns, additional data or regulatory compliance requirements, competing national park system priorities, and unforeseen environmental changes. Additionally, a financial analysis would be completed to determine the best way to meet the goals for management of commercial vehicles in the park. This analysis may be followed by the development of a concession prospectus or new restrictions on commercial use-authorized activities.

Once the comprehensive management plan has been approved, additional feasibility studies and more detailed planning and environmental documentation may be necessary before certain proposed actions are carried out.

Chapter 2

Alternatives



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CHAPTER 2: ALTERNATIVES

INTRODUCTION

This chapter describes alternatives for transportation and visitor use management in Acadia National Park. The alternatives were developed by soliciting input from park staff, stakeholders, other government agencies, and the public on key issues and potential management strategies.

The following sections describe the no-action alternative (alternative A), actions common to all action alternatives, and the three action alternatives (alternatives B, C, and D). Next, the role of best management practices and mitigation measures as they relate to the plan are discussed. Chapter 2 concludes by identifying alternatives and actions that were considered by the planning team but dismissed from further consideration.

Under the no-action alternative, current management continues and the alternative provides a basis for comparing the other alternatives. The actions common to all action alternatives include common-sense approaches to managing transportation in Acadia National Park that do not vary by alternative. The action alternatives present various approaches to managing park resources and values, including a spectrum of visitor opportunities and amenities.

For each alternative, a concept statement is presented followed by management actions and strategies that would guide Acadia National Park's management of the park's transportation networks. These strategies (for action alternatives B, C, and D) are organized under the following topics:

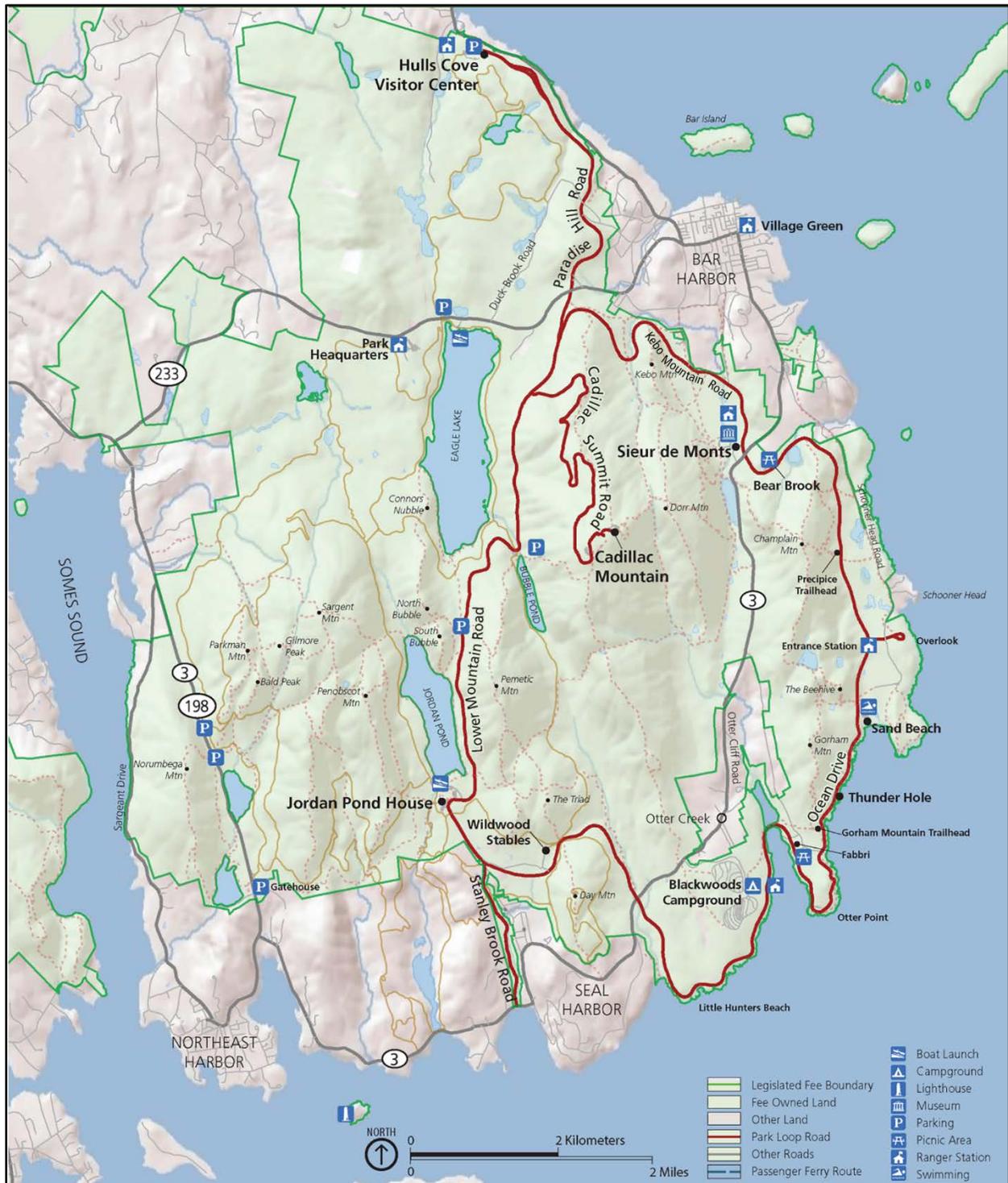
- management of Park Loop Road
- management of other Mount Desert Island attractions and trailheads
- Hulls Cove and Acadia Gateway Center
- Schoodic Peninsula
- public transit
- commercial services

Note that, unless otherwise stated, management of commercial vehicles is addressed separately from management of private vehicles. For a summary of all alternatives, see appendix B.

A Road with Many Names

Different segments of Park Loop Road are known locally by a number of different names. Management strategies included in this plan use those local names to refer to specific areas or segments of Park Loop Road. To clarify which management strategies apply in which locations, those local names are shown in figure 2.

FIGURE 2. MAP OF THE EASTERN PORTION OF ACADIA NATIONAL PARK ON MOUNT DESERT ISLAND



ALTERNATIVE A: NO ACTION

Concept

Under the no-action alternative, current transportation management policies, procedures, and programs for the Acadia National Park transportation system would continue. There would be no major changes from current operations, and changes that did occur would be on a reactionary, not proactive, basis. The park's transportation system would continue to support mobility and access on foot and by bicycle, Island Explorer, and private and commercial motor vehicles.

Management of park visitors would continue to vary seasonally as visitor demand and needs change, with many management strategies focusing on the peak season between mid-June and mid-October. The National Park Service would update facilities on an as-needed basis to be resilient and adapt to the effects of climate change.

Throughout the park, the physical capacity of roads and designated parking lots would be generally unchanged. Parking would remain available to all users on a first-come, first-served basis, but restrictions and prohibitions would be implemented when needed. For example, Cadillac Mountain would be temporarily closed to vehicle access if traffic and congestion prevents emergency vehicle access. Physical changes to roads and parking would be limited and related to safety, accessibility, resource protection, and accommodating alternative transportation, and would not be associated with capacity issues. Roads and parking areas would be temporarily or permanently closed if necessary to address safety and security concerns or to ensure the financial sustainability of the overall transportation system.

Management of Park Loop Road

The scenic motor tour experience along Park Loop Road would remain a priority visitor experience. The historic road is a cultural resource, and the original design of the road would continue to be protected and preserved through adherence to design and maintenance treatment plans. Park Loop Road would continue to serve as a critical component of the transportation network serving many high-density use areas. Right-lane parking would remain available in areas where it is currently permitted, subject to adjustments for safety purposes. These areas include the one-way sections of Park Loop Road from Bear Brook picnic area to the Stanley Brook Road junction (at the start of the two-way section). To minimize congestion, protect resources, and enhance visitor experiences, the amount of parking along Park Loop Road would not be increased, and park staff would continue to encourage visitors to use means other than private vehicles, such as Island Explorer buses, for travel to their destination.

Existing motor vehicle entrances to Park Loop Road would remain. The National Park Service would continue to direct visitors to the Hulls Cove, Cadillac Mountain, Sieur de Monts, and Stanley Brook entrances as the primary access points to Park Loop Road.

Motor touring to the summit of Cadillac Mountain by private vehicle and authorized commercial services would continue. Parking capacity at the summit would not be increased—parking would continue to be available on a first-come, first-served basis. Park staff would continue to manage congestion, direct traffic, and temporarily close the road if necessary to ensure access to the summit by emergency vehicles.

Access to Sieur de Monts from both Park Loop Road and SR 3 would remain as it is now. The parking lot would continue to be used by hikers and visitors to the Wild Gardens of Acadia, the Sieur de Monts Nature Center, and Abbe Museum. Parking would continue to be on a first-come, first-served basis.

Management of Other Mount Desert Island Attractions and Trailheads

Park staff would continue to manage roadside parking on an as-needed basis. On NPS-managed roadways, the focus would continue to be on measures such as managing illegal parking and enhancing parking lot and travel efficiency to improve safety, resource conditions, and visitor experience. On those roadways bordering park lands but owned by others, park managers would continue to work with partners to improve safety and resource protection.

Hulls Cove and Acadia Gateway Center. The Hulls Cove Visitor Center would continue to accommodate current uses with no expansion of parking or other site amenities. The Acadia Gateway Center would be developed and operated as described in the Acadia Gateway Center Environmental Assessment (MDOT and FTA 2006).

Schoodic Peninsula. The park's transportation system on the Schoodic Peninsula would continue to be managed for low-density recreational use and provide alternatives to private vehicles. The National Park Service would continue to provide information on bicycle use, including the availability of the Schoodic Woods parking lot for day use visitors and cyclists. Large vehicles (RVs and commercial vehicles larger than 15-passenger vans) would still be prohibited south of the campground, except for Island Explorer buses and vehicles accessing the Schoodic Institute. Schoodic Loop Road would remain a two-lane, one-way road, except for the two-way road to Schoodic Point. No new parking lots would be established. Existing parking would continue to be managed to protect resources. Informal parking in the right lane along Schoodic Loop Road would not be permitted.

Public Transit

Expanding Island Explorer to meet visitor demands for access is a critical component of all action alternatives. Island Explorer service would continue to be provided during the peak season to the degree that funding allows. Island Explorer buses do not serve the Cadillac Mountain summit. Designated parking for Island Explorer would continue to be provided at locations throughout the park.

Commercial Visitor Services

Under the no-action alternative, the park would maintain current restrictions that apply to all motor vehicles (including commercial vehicles) such as prohibitions on carriage roads, seasonal closures of gravel roads, and size restrictions for dead-end roads and some parking lots. The park currently has concessions contracts with two tour operators (trolley and bus) and would continue to allow concession bus tour opportunities for the life of existing contracts. Renewed or new contracts would also be considered. Concession operations would continue to be subject to the same roadway, access, and height/length restrictions as commercial use authorizations. Oversize vehicles would continue to be prohibited from parking lots and roadways that do not have adequate room for maneuvering, such as the southern end of Schooner Head Road (Great Head Road), Bubble Pond parking lot, and Bass Harbor Head Road.

All NPS-owned roads would remain closed to commercial vehicles except for buses on Park Loop Road and Cadillac Summit Road; buses traveling to and from the Schoodic Institute; and vehicles making deliveries to the park, concessioners, and CUA holders conducting authorized business.

Designated parking for authorized oversize commercial vehicles (i.e., vehicles that do not fit within a standard parking space, such as a motor coach) would continue to be provided at locations throughout the park. Oversize commercial vehicles would continue to be managed by existing policies that limit the number and locations of parking spaces for oversize commercial vehicles in the park.

As specified in the operating plan of the concessions contract for the Jordan Pond House, a concessioner would continue to manage the Jordan Pond House south parking lot.

ACTIONS COMMON TO ALL ACTION ALTERNATIVES

The following management actions are common to all action alternatives. Additionally, best management practices and mitigation measures that apply to all the action alternatives are described later in this chapter. Many of these strategies are practical, common-sense approaches to managing transportation in Acadia National Park and therefore do not vary by alternative. They include enhancing Island Explorer service in the park, managing transportation systems on Mount Desert Island and the Schoodic Peninsula, monitoring the effectiveness of transportation management, and strategies to adapt to climate-related changes. Unless otherwise noted, all of the following actions apply only to NPS lands on Mount Desert Island.

Reservation Systems

All of the action alternatives propose reservation systems to manage the volume and timing of vehicle entry at various locations throughout the park, though the details vary. These reservations only apply to motor vehicles and not pedestrians or bicycles. The purpose of the reservation system is to manage use levels in these locations within the desired resource and experiential conditions of the sites. For each of these areas, desired conditions and visitor capacities have been identified (see chapter 1 and appendix A, respectively). These conditions and analyses were used to identify the maximum amount and type of visitor use that could be accommodated at each location (see appendix A for site-by-site analysis). Regardless of the type of reservation system described in the alternative, the following conditions apply:

- The numbers of reservations available would correspond with management actions needed to manage the identified visitor capacities.
- A percentage of reservations would be held aside for short-term purchase (i.e., day of, day before, week of). Leftover advance reservations and no-shows would be added to the short-term reservation pool.
- Reservations could be made online and at automated reservation kiosks in key locations, including park visitor contact stations at the Village Green, Hulls Cove Visitor Center, and Acadia Gateway Center.
- Timed-entry reservations (alternatives C and D) would not restrict length of stay, only time of entry. Parking reservations (alternative B) would be valid only for a specified time period and would therefore manage length of stay.

- Reservations would be valid only when accompanied by an entrance pass. Entrance passes could be purchased in tandem with reservations, separately online, or at many locations including visitor information centers on Mount Desert Island and the Schoodic Peninsula.
- Operation of the reservation system would be funded through a new service charge and/or a transportation fee associated with the reservation. The fee or service charge would be tied to the cost of operating the reservation system and supporting visitor access through expanded transit service.
- After initial implementation of the reservation system, the number of reservations or the length of time a parking reservation is valid would be adjusted to ensure the highest possible use of the existing parking supply while avoiding parking-related congestion. This would allow park staff to manage to desired conditions and within related thresholds and identified visitor capacities (see appendix A for additional information on traffic and parking-related indicators and thresholds).
- As described in the “Public Transit” section below, if demand for Island Explorer service exceeds either the volume of transit the park is able to financially support or the visitor capacities for specific areas of the park, the reservation system may be expanded to include Island Explorer routes serving the park in order to manage visitor demand for transit access.

Indicators, Thresholds, and Visitor Capacities

This transportation plan identifies visitor capacity and establishes indicators and thresholds using the framework created by the Interagency Visitor Use Management Council (the council). Indicators measure conditions that are related to visitor use, and monitoring is conducted to track those conditions over time. The results of monitoring are used to inform and select strategies to be used by park managers to not exceed the maximum amount of visitor use that can be accommodated for a site (visitor capacity). This iterative practice of monitoring, implementing potential management strategies, and then continuing to monitor to gauge the effectiveness of those actions allows park managers to maximize benefits for visitors while achieving and maintaining desired conditions for resources and visitor experiences in a dynamic setting. The indicators to be monitored at Acadia National Park related to the transportation plan are:

- vehicles at one time (VAOT) at key destinations,
- roadway level of service,
- number of Island Explorer trips with “leave behinds,”
- people per viewscape at key visitor use sites,
- encounters on medium- and low-use trails, and
- extent of visitor-created trails.

These indicators will be used to monitor traffic and resource conditions throughout the park after the reservation system is implemented. These indicators will help show when conditions, such as closures and traffic slowdowns, potential increases in user conflicts, crowding at key sites, and natural and cultural resource degradation (e.g., formation of visitor-created trails) are

approaching thresholds and therefore could be indicative of a condition that is not consistent with the desired conditions of the transportation system, fundamental resources and values, or other desired conditions of the park. If these indicators approach their respective triggers or thresholds, the following actions may be taken:

- adjust the number of permits sold in specific places and/or at specific times,
- expand the reservation system to include access to Island Explorer routes accessing the park, and/or
- expand the reservation system to include managing vehicle access to other NPS-managed parking lots and corridors both on and off Park Loop Road.

By identifying and managing the maximum amount and types of visitor use, the National Park Service can help ensure that resources are protected and visitors have the opportunity for a range of high-quality experiences. Through this planning effort, the park has identified a number of strategies (this chapter) to address vehicle and visitor use issues in the park. These strategies are key to informing the appropriate capacity for different areas in the park.

To determine the appropriate amount and types of use at key areas, a variety of data was reviewed to understand current conditions compared to goals and objectives for the area. Visitor capacity identification also considers the amount and types of visitor use, including the timing and distribution of visitor activities and behaviors as they relate to desired conditions. It also takes into consideration management objectives, desired conditions (chapter 1), and other management actions and strategies being implemented for an area (this chapter). If the visitor capacity analysis identified any additional actions needed to manage to visitor capacities, these actions were added to the alternatives (this chapter).

Implementation of these indicators and visitor capacities are considered a part of the alternatives and are common to all action alternatives (unless noted otherwise). Detail on the indicators, thresholds, related corrective actions, and identified visitor capacities are presented in appendix A.

Public Transit

Expanding the Island Explorer to meet visitor demands for access is a critical component of all action alternatives. Island Explorer service inside the park would be expanded, as necessary, up to the determined visitor capacities for specific sites and, as funding permits, to facilitate an alternative means of access for those unable to secure a vehicle reservation during their desired entry time. The operating season of Island Explorer service in the park would be expanded to coincide with that of the reservation system. Additionally, if demand for Island Explorer service exceeds either the volume of transit the park is able to financially support or the visitor capacities for specific areas of the park, the reservation system may be expanded to Island Explorer routes serving the park in order to manage visitor demand for transit access. The specific indicators and thresholds associated with these actions are described in appendix A.

Visitor Information, Orientation, Enforcement, and Safety

The National Park Service will partner with the private sector to ensure the best available technology is used in implementing this plan (also see the section titled “Next Steps in the Planning Process in chapter 1).

Increased information would be provided to visitors, both before they arrive at the park and upon arrival. An education strategy would be developed that includes mobile and online information and signage explaining reservation requirements, information on trip planning and orientation, and reservation availability. Enforcement of existing parking restrictions would continue in addition to those necessary to implement the strategies proposed in the alternatives.

Visitors would be provided with enhanced trip-planning tools; advice on vehicle/bicycle safety; and information about car-free, active transportation, and on-demand rideshare options to access and explore the Mount Desert Island District. Information about congestion and parking availability would be monitored and disseminated as practicable for the available technology and infrastructure. Examples range from manual monitoring of parking areas and notice via variable message signage about parking availability, to integration of global positioning system (GPS) technology on a commercial traffic and navigation app that would automatically notify drivers heading to Mount Desert Island of park and ride options at Acadia Gateway Center, Hulls Cove Visitor Center, and from most hotel and lodging accommodations.

Additionally, the park would work with communication providers and local communities to improve cellular and Wi-Fi service throughout the park. Improved cellular service would enable the park to provide better visitor information and orientation and increase safety. It is also critical for many of the strategies proposed in the alternatives including the use of app-based, on-demand ride services in the park. Installation of this infrastructure would require additional site-specific planning and applicable compliance at the time that site planning is undertaken.

Management of Other Park Attractions and Trailheads

Each of the action alternatives propose alternative solutions to address roadside parking at the Eagle Lake carriage road entrance to manage particularly unsafe conditions created by limited sight distances, vehicle congestion, and high-speed traffic adjacent to visitors who park and walk along the shoulders of SR 233. These same unsafe conditions exist at the Acadia Mountain trailhead along SR 102. At that site, the park would work with local governments, the Maine Department of Transportation, and other stakeholders to identify an alternative, off-highway option for trailhead parking. Once the alternative parking area is constructed, park managers would work with the State of Maine to put in place and enforce no-parking restrictions along the shoulder as well as to revegetate areas denuded of vegetation. Because it is not currently known where the new parking area would be located or what the actual design of the site would be, the National Park Service would conduct additional site-specific planning and applicable compliance at the time that site planning is undertaken.

Additionally, the National Park Service would develop a memorandum of understanding with state, local, and county departments of transportation and law enforcement to improve safety through enforcement of roadside parking restrictions near these and other trailheads along state highways and local roads.

At park attractions and trailheads elsewhere on Mount Desert Island, park managers would take more incremental management actions, using a series of management options to address existing and anticipated parking-related traffic congestion and unsafe instances of roadside parking. These areas include Ikes Point, Ship Harbor, Wonderland, Bass Harbor Head Light, Echo Lake Beach, Valley Cove, Beach Mountain, Great Head and Schooner Head, Duck Brook Road, Parkman Mountain, Norumbega Mountain, Brown Mountain, the Tarn parking area, the Long Pond Boat Launch, the Western Mountain roads, and Long Pond Fire Road. Some of these areas currently experience periodic congestion pressures, but these pressures are likely to change as park managers implement the reservation system and other site improvements described in the alternatives. Several options for management of existing and anticipated parking and congestion have been identified for each of the parking areas. These include both formalizing and prohibiting shoulder parking; removing, expanding, relocating, or developing new parking lots; improving public transit service; adding parking lots to the reservation system; constructing automated gates and adding queuing lanes to manage traffic flow into lots once they are full; and striping informal parking spaces. As implementation of the reservation system begins, park managers would monitor changes to visitor use and traffic patterns and adjust management of these areas as needed, using one or more of the described management options. Prior to implementing these options, site-specific planning and applicable compliance would be completed.

Vehicle Size Requirements

To improve safety and the historic character of the park, only vehicles that are consistent with the dimensions of the park's historic roads and bridges would be permitted to operate on Park Loop Road. These requirements would be phased in over several years. While the constraints imposed by the historic road geometry and bridge heights vary on different segments of Park Loop Road and Cadillac Summit Road, the vehicle size requirements would be the same for the entire length of Park Loop Road and Cadillac Summit Road in order to uniformly align vehicle sizes with the roads' historic character, improve safety, and simplify the guidelines for both commercial operators and law enforcement. The geometry constraints inherent to the historic design of Park Loop Road require all vehicles to be less than 38 feet in length and less than 11 feet 8 inches tall. Height and length restrictions already in place for other areas of the park as well as those already in place for RVs would remain unchanged. All requirements would be clearly posted at entrances to the park, along Park Loop Road, and on the park's website. Until these requirements are established, oversize vehicles would be required to adhere to site control measures. Passengers of vehicles that do not meet bridge height and/or road geometry restrictions would need to transfer to an alternate mode of transportation, such as an authorized commercial tour or bus that uses smaller vehicles to fit road geometries. These transfers could occur at the Acadia Gateway Center, Hulls Cove Visitor Center, or other locations

Commercial Visitor Services

Providing for commercial services and transit to expand visitor access and facilitate world-class experiences for visitors is a critical part of all action alternatives (also see the section titled "Next Steps in the Planning Process in chapter 1).

Commercial visitor services would continue to be authorized through concessions contracts and/or commercial use authorizations under all of the action alternatives. Consistent with the National Park Service Concessions Management Improvement Act of 1998, which limits concession operations to those "consistent to the highest practicable degree with the preservation and conservation of resources and values of the park unit" and authorizes only

commercial use authorizations that have “minimal impact on resources and values of the unit,” all commercial vehicles would be required to fit within the existing historic road and bridge geometries described above.

During the active reservation season, the number of commercial vehicles allowed at one time at key locations (or in the case of alternative D, on Park Loop Road) would be managed to ensure desired conditions are maintained and visitor capacities at the park’s primary attractions are not exceeded. This would occur through requirements established in the operating conditions specified in their contract(s). The number of visitors arriving via a commercial operator permitted at one time at each of these key destinations is identified in appendix A. Depending on necessary and/or appropriate criteria and financial viability, the National Park Service would allocate road-based commercial tours between concessions and commercial use authorizations in a manner that provides opportunities for visitor use and enjoyment, and best achieves desired conditions for the visitor experience and resource protection.

Any park-approved activity-based experience operating under commercial use authorizations (e.g., step-on guides, wholesale tour operators, nature guides, biking tours, art/photography workshops, climbing schools, summer camps, water activities) would be permitted throughout the park but would be required to use vehicles that fit in a standard parking space. Access to standard parking spaces under the reservation system for these commercial operators would be managed within the private vehicle allocations identified in appendix A and regulated through the operating requirements specified in their operating agreements.

App-based, on-demand ride services use an online network or app to pair passengers with drivers who provide such passengers with transportation in the driver’s vehicle. These services are well established in many metropolitan areas and are an emerging form of transportation on Mount Desert Island. While implementing this plan, park managers would work with drivers and/or transportation network companies (developers of the app) to facilitate access to the park and to set an appropriate fee structure for this commercial use.

Schoodic Transportation Management

The Schoodic Peninsula would continue to be managed as outlined in the 2005 Schoodic general management plan amendment, with the following refinements. This plan calls for the National Park Service to manage for a low-density visitor experience, retaining the opportunities for solitude and quiet. Parking would continue to be allowed in designated areas on a first-come, first-served basis. The speed limit on the road would be reduced.

Visitors would be provided with enhanced trip-planning information about car-free options to access and explore the Schoodic District. On-site information would primarily consist of signage along the entrance road. The parking lots at Schoodic Point and Frazer Point, and the day use parking lot at Schoodic Woods Campground would be monitored at the campground office to provide congestion information. This information would be provided to visitors by variable message signage along the entrance road and by social media. The information would highlight the availability (or relative unavailability) of parking in the day use lot.

Several steps would be implemented to increase visitor safety in the Schoodic District. The current one-way section of Schoodic Loop Road would remain as two lanes traveling in the same direction with a speed limit of 25 miles per hour (mph). Park managers would work with partners and local communities to improve bicycle connections to the park, including a safe

connection between the ferry terminal and park entrance. Park staff would also work with partners to improve safety for those biking the circular route, including Schoodic Loop Road and SR 186. An accessible pedestrian trail would be installed between the Schoodic Institute campus and Schoodic Point to enhance safety for those individuals and organized groups that currently walk along the roadway between the center and Schoodic Point.

The overall amount of designated parking in the Schoodic District would not be increased. Any changes to parking lots and parking locations would be made to improve circulation, enhance safety, provide accessible parking, or protect resources, rather than to increase the number of parking spaces. There is a limited number of designated, historic roadside pullouts on Schoodic Loop Road. These pullouts would be maintained, but expansion of informal pullouts would not be permitted to limit impacts on cultural and natural resource values of the historic road.

Public transit opportunities on the Schoodic Peninsula would remain as they are today, and park managers would continue to support use of the Island Explorer service to access popular destinations. All future access management actions and strategies would maintain adequate access to the Schoodic Institute. Should monitoring indicators at key locations on the Schoodic Peninsula find that Island Explorer service is contributing to surges of activity at popular destinations that cause congestion, degrade visitor experience, and/or damage cultural or natural resources, Island Explorer service would be modified accordingly. For example, the transit service might not serve a specific trailhead during peak periods if the number of people on the trail at one time is so high that it exceeds visitor experience or resource thresholds.

Park managers would work with partners and local communities to provide an opportunity for bike rentals and other necessary and appropriate commercially provided visitor services that help achieve the desired conditions for visitor experience and resource protection in the Schoodic District.

Potential and corrective management strategies also would be adopted for the management of private vehicle use, bicycle use, and Island Explorer service. For example, park managers may choose to implement one or more of the following:

- Deploy additional electronic signage to provide visitors with information on status of parking lots (e.g., “Frazer Point is full. Park at ranger station and take fare-free Island Explorer”).
- Work toward increasing the frequency of Island Explorer service in the park and the extent of Island Explorer service in communities near the park.
- Increase enforcement of endorsed parking only.
- Require cyclists to park their vehicles in the day use lot when Schoodic Loop Road reaches specified capacity.
- Establish a reservation system to manage vehicle access.
- For additional information on corrective actions and related indicators and thresholds, see the “Indicators, Thresholds, and Visitor Capacity” section in appendix A.

ALTERNATIVE B: SITE MANAGEMENT

Concept

Under alternative B, parking reservations would be required for visitors to park at five of the primary attractions and trailheads along Park Loop Road during peak times and seasons—Jordan Pond North Lot, Sand Beach, Thunder Hole, Sieur de Monts, and Cadillac Summit Road. Parking reservations would be valid for a specified time period and would therefore manage length of stay. Right-lane parking would no longer be permitted anywhere on Park Loop Road. Commercial vehicle access to any of the five parking lots under the reservation system would operate through requirements established in their operating conditions, which could include a separate reservation system if necessary. The number of spaces for vehicles at the five reservation-only areas would be defined for different types of uses and vehicle types. Gates or other control mechanisms would be installed at some of the parking lots to manage the number of vehicles allowed at one time. All other parking lots would continue to be on a first-come, first-served basis. Island Explorer service frequency (but not extent) in the park would be managed to enhance visitor experience and resource stewardship.

Primary Differences Between Alternative A (No-Action) and Alternative B

- A parking reservation system would be established for five parking lots on Park Loop Road.
- Right-lane parking along Park Loop Road would be eliminated.
- Eagle Lake initially would remain a first-come, first-served parking lot with the addition of an automated gate to restrict access when the lot is full.
- Additional parking would be provided at Hulls Cove, and the visitor center would be redesigned and relocated on site, but on grade with the parking lot.
- Visitor services at the Thompson Island Information Center (on the west side of SR 3) would be removed and the structures repurposed once the Acadia Gateway Center becomes operational.

Management of Park Loop Road

Overview. Under alternative B, parking-related congestion would be managed by establishing a parking reservation system for vehicles at five of the primary attractions and trailheads along Park Loop Road—Cadillac Summit Road, Jordan Pond, Thunder Hole, Sand Beach, and Sieur de Monts. Under this alternative, private vehicles would continue to be allowed to drive Park Loop Road as they do under the no-action alternative, but reservations for private vehicles would be required to park at these lots and to access Cadillac Summit Road. Elsewhere along Park Loop Road, in areas not serviced by the reservation system, parking lots would be managed on a first-come, first-served basis. Gates would be installed at some of the first-come, first-served lots to manage lot capacity. If first-come, first-served parking lots regularly become overcrowded, they may be considered for inclusion in the reservation system.

Parking reservations for these five areas would be valid for a specified time period and are designed to maintain conditions within identified visitor capacities. This time period could vary, depending on the lot. The time period would be established initially based on the existing use profile of the lot, but the number of reservations in each time period bin (1-hour, 2-hour, or 4-hour) could be proportioned to optimize parking availability. Vehicles would be required to exit

the parking lot before expiration of their permitted time period. This would therefore manage length of stay for visitors arriving by personal vehicle.

All parking in the right-hand lane of Park Loop Road would be eliminated to improve traffic flow and allow passing of bicycles and slow-moving vehicles. Parking at roadside pullout spaces and scenic overlooks would be enforced as short-term (e.g., 15-minute) parking.

Hours and Seasonality of the Reservation System. The parking reservation system for Cadillac Mountain, Jordan Pond, Thunder Hole, Sand Beach, and Sieur de Monts would generally be in place during the peak visitor season (approximately mid-June to mid-October). This time period could be lengthened or shortened to correspond with the operating season of the Island Explorer service or changes to the seasonality of high-use visitation patterns.

- *Cadillac Mountain.* During peak season, all vehicle access to Cadillac Mountain would be by reservation only. Initially, the time period when entry reservations would be required would be set from 4:00 a.m. to 9:00 p.m. during the reservation season. These hours would be lengthened or shortened as necessary, corresponding with shifting visitation patterns to protect a high-quality visitor experience. No motor vehicle access to Cadillac Summit Road would be allowed without a parking reservation during the designated reservation hours in peak season.
- *Sand Beach, Thunder Hole, Jordan Pond, and Sieur de Monts.* Parking reservations would be required at the Jordan Pond House and Sieur de Monts lots from 7:00 a.m. to 4:00 p.m., and from 7:00 a.m. to 5:00 p.m. at Sand Beach and Thunder Hole during the reservation season. These hours would be lengthened or shortened as necessary, corresponding with shifting visitation patterns to protect a high-quality visitor experience.

Number of Reservations Available. The number of reservations available would correspond with actions needed to manage these locations within the desired resource and experiential conditions of the sites. For each of these areas, desired conditions and visitor capacities have been identified (see chapter 1 and appendix A, respectively). These desired conditions and management actions were used to identify the maximum amount and type of use that could be accommodated at each location (see appendix A for a site-by-site description). Using these capacities—along with the existing availability of parking and the designed duration-of-stay specific to Cadillac Mountain, Jordan Pond, Thunder Hole, Sand Beach, and Sieur de Monts—estimates on the daily number of private vehicles that could be accommodated at each site were projected (table 2). After initial implementation of the reservation system, the number of reservations or the length of time a parking reservation is valid would be adjusted to ensure the highest possible use of the existing parking availability while avoiding parking-related congestion and to allow park staff to manage to desired conditions within related thresholds and identified visitor capacities. Additionally, at least two daily reservations for vehicles with boat trailers would be provided at the Jordan Pond House North Lot.

TABLE 2. ESTIMATED NUMBER OF DAILY PARKING RESERVATIONS FOR PRIVATE VEHICLES ON PARK LOOP ROAD

Location	Visitor Capacity (people at one time)	Estimated Private Vehicle Reservations (vehicles per day)
Cadillac Summit (including Blue Hill Overlook)	600 people	1,520 vehicles
Jordan Pond (north lot)	855 people	1,130 vehicles
Sand Beach	550 people	670 vehicles
Thunder Hole	N/A	520 vehicles
Sieur de Monts	190 people	340 vehicles

Infrastructure Changes Required to Implement the Reservation System. For all the parking lots under the reservation system, gates and signage would be installed to validate reservations and provide visitor information and orientation. All installations would follow guidance from the 2007 cultural landscape report for the historic motor road and incorporate appropriate design to protect the historic character of Park Loop Road:

- *Cadillac Mountain.* A queuing lane and gate would be installed near the base of Cadillac Summit Road where parking reservations would be validated.
- *Sand Beach, Thunder Hole, Jordan Pond, and Sieur de Monts.* Reservations for these lots would be validated by installing either an automated or staffed gate near the entrance to the lot or through self-serve reservation validation kiosks allowing visitors to park and then retrieve proof of reservation from the automated kiosk (a receipt or hang tag for the vehicle's dash). Sand Beach parking lot would be reconfigured to provide up to five parking spaces for commercial tour vehicles.
- *Bubble Pond and Bubble Rock.* Although not initially on the reservation system, automated gates would be installed at both of these parking lots to control traffic ingress and egress once the parking lots are full. This gate may be modified or replaced to validate reservations if these lots are added to the reservation system.

Management of Other Park Attractions and Trailheads

Eagle Lake. Under alternative B, the existing parking lot at Eagle Lake would remain a first-come, first-served parking lot with the addition of an automated gate to restrict access when the lot is full. This gate may be modified or replaced to validate reservations if these lots are added to the reservation system. Only vehicles with boat trailers would be permitted to park at the Eagle Lake Boat Launch on the south side of SR 233. Park managers would work with the State of Maine to initiate and enforce no-parking restrictions along the road shoulder and to revegetate areas, where needed.

Hulls Cove, Acadia Gateway Center, and Thompson Island

Hulls Cove. Changes to the Hulls Cove area would be the same as those described under alternative C.

Acadia Gateway Center. Under alternative B, no changes would be made to the plans for the Acadia Gateway Center as described in the Acadia Gateway Center environmental assessment (MDOT and FTA 2006) (see also chapter 1).

Thompson Island. Visitor services at the Thompson Island Information Center (on the west side of SR 3) would be removed and the structures repurposed. Visitor information services would be relocated to the Acadia Gateway Center. The picnic area and restrooms on the east side of the highway would be maintained for visitor use.

Schoodic Peninsula

See the “Actions Common to All Action Alternatives” section in this chapter.

Public Transit

The use of Island Explorer would be encouraged as described in the “Actions Common to All Action Alternatives” section in this chapter.

Commercial Visitor Services

Commercial visitor services would be managed as described in the “Actions Common to All Action Alternatives” section in this chapter.

ALTERNATIVE C: CORRIDOR MANAGEMENT (PREFERRED ALTERNATIVE AND PROPOSED ACTION)

Concept

To manage parking-related congestion and crowding along Park Loop Road, a timed-entry reservation system would initially be implemented incrementally for the Ocean Drive corridor, Cadillac Summit Road, and the Jordan Pond North Lot during peak season (from mid-June to mid-October). During initial implementation of the plan, all other Acadia parking lots would continue to be managed on a first-come, first-served basis. As described in the “Actions Common to All Action Alternatives” section in this chapter (“Indicators, Thresholds, and Visitor Capacities” subsection) park managers would continue to monitor traffic and resource conditions elsewhere in the park. If monitoring indicates traffic or resource conditions worsening beyond acceptable thresholds, access to Island Explorer routes entering the park, vehicle access to other parking lots, or vehicle access to the entire Park Loop Road may be added to the reservation system. Implementing the reservation system for the entire Park Loop Road would require reconfiguring some existing park entrances to be exits only, constructing new or relocating existing entrance stations, and potentially making the entire Park Loop Road one way.

Primary Differences Between Alternative A and Alternative C

- A timed reservation system would be established initially for parking at Jordan Pond, vehicle access to Cadillac Summit Road, and the Ocean Drive corridor. This system could eventually be expanded to include other parking lots or the entire Park Loop Road.
- Right-lane parking along Park Loop Road would be retained in the near term but eventually phased out as other options and parking become available.
- The existing parking lot and restroom on the north side of SR 233 at Eagle Lake would be removed and a new, larger parking lot would be constructed south of the highway at an NPS maintenance storage yard known as Liscomb Pit.
- Additional parking would be provided at Hulls Cove, and the visitor center would be redesigned and relocated on site, but on grade with the parking lot.
- Visitor services at the Thompson Island Information Center (on the west side of SR 3) would be removed and the area restored to natural conditions once the Acadia Gateway Center becomes operational.

Management of Park Loop Road

Overview. Parking-related traffic congestion on Park Loop Road would be managed by establishing a timed-entry vehicle reservation system for the Ocean Drive corridor (between the Sand Beach Entrance Station and the Fabbri picnic area/monument), Cadillac Summit Road, and the Jordan Pond North Lot. The Jordan Pond South Lot would continue to be managed by the concessioner under the existing concession agreement.

Under this alternative, private vehicles would continue to be allowed to travel the entire Park Loop Road, not including the Ocean Drive corridor, as they do under the no-action alternative. Reservations for private vehicles would be needed to park at Jordan Pond, for vehicle access to Cadillac Summit Road, or to proceed past the Sand Beach Entrance Station to the Ocean Drive corridor. Elsewhere along Park Loop Road, in areas not serviced by the reservation system, parking lots would be managed on a first-come, first-served basis. Travel direction and one-way sections of Park Loop Road would continue as under the no-action alternative. Visitors traveling southbound on Park Loop Road toward the Sand Beach Entrance Station without a vehicle access reservation would be encouraged (through signage) to exit at Sieur de Monts. Alternatively, visitors could exit at Schooner Head Road.

The timed-entry system would provide reservation holders with a specific time window during which their vehicle would be permitted to enter the corridor or parking lot. Once inside the corridor or parking lot, there would be no restrictions on length of stay. The length of the initial entry window may be lengthened or shortened as park managers optimize the reservation system; however, it is estimated that initial timed-entry windows would be in 15-minute to 2-hour time blocks.

As stated in the 1992 general management plan, the goal of the National Park Service is to remove right-lane parking from the Ocean Drive corridor to restore a driving experience that more closely resembles the road's original design intent and to improve safety by providing an additional travel lane for bicyclists and slow-moving vehicles. During initial implementation of the plan, the right lane of Park Loop Road would continue to serve as overflow parking for up to 350 vehicles on busy days. Over a period of several years, the number of right-lane parking

spaces would be reduced to approximately 60 spaces along the Ocean Drive corridor, approximately 30 spaces near the Precipice trailhead, approximately 20 spaces along the causeway, approximately 20 spaces at the Orange and Black trailhead, and approximately 20 spaces near Beaver Pond. The phasing down to this number of parking spaces would occur as alternatives to right-lane parking are developed and would also correspond with an in-kind reduction of available vehicle reservations for the Ocean Drive corridor. These spaces would be physically demarcated to differentiate between driving lanes and parallel-parking spaces. At full implementation of this plan, when alternatives to right-lane parking are fully developed, these spaces would be eliminated as called for in the 1992 general management plan. These alternatives to right-lane parking would include additional Island Explorer service, coupled with expanded park-and-ride parking at the Hulls Cove Visitor Center and the Acadia Gateway Center. Other alternatives to right-lane parking include on-demand transportation service and road-based commercial tours and shuttle buses. For additional details on these services, see the “Commercial Visitor Services” subsection in the “Actions Common to all Action Alternatives” section above.

Hours and Seasonality of the Reservation System. The reservation system for the Jordan Pond North Lot, Cadillac Mountain, and the Ocean Drive corridor would generally be in place during the peak visitor season. During initial implementation of the plan, it is anticipated the system would begin on the second Friday in June, and would end on the Sunday after Columbus Day. This time period could be lengthened or shortened to correspond with the operating season of Island Explorer or changes to the seasonality of high-use visitation patterns.

Reservations would be required starting as early as 4:00 a.m. on Cadillac Mountain and 7:00 a.m. at the Jordan Pond North Lot and along the Ocean Drive corridor. Reservations would be required for entry as late as 9:00 p.m. on Cadillac Mountain, and as late as 5:00 p.m. at the Jordan Pond North Lot and along the Ocean Drive corridor. These hours would be lengthened or shortened as necessary to correspond with shifting visitation patterns to protect a high-quality visitor experience consistent with desired conditions.

Number of Reservations Available. Initially, the number of reservations available would correspond with management actions needed to manage these locations within the desired resource and experiential conditions of the sites. For each of these areas, desired conditions and visitor capacities have been identified (see chapter 1 and appendix A, respectively). These conditions and analyses were used to identify the maximum amount and type of use that could be accommodated at each location (see appendix A for site-by-site description). Using these capacities—along with the existing availability of parking and the anticipated turnover rates specific to the Jordan Pond House North Lot, Cadillac Mountain, and the Ocean Drive corridor—projections were made on the daily number of private vehicles that could be accommodated at each site (table 3). At least two daily reservations for vehicles with boat trailers would be provided at the Jordan Pond North Lot. After initial implementation of the reservation system, the number of reservations would be adjusted to ensure the highest possible use of the existing parking supply, while avoiding parking-related congestion and to allow park staff to manage desired conditions within related thresholds and identified visitor capacities.

TABLE 3. ESTIMATED NUMBER OF DAILY TIMED-ENTRY RESERVATIONS FOR PRIVATE VEHICLES ON PARK LOOP ROAD

Location	Visitor Capacity (people at one time)	Daily Private Vehicle Reservations (vehicles per day)
Cadillac Summit (including Blue Hill Overlook)	600 people	1,460 vehicles
Jordan Pond House	855 people	850 vehicles (north lot)
Ocean Drive Corridor	N/A	1,020 vehicles

Infrastructure Changes Required to Implement the Reservation System. During initial implementation of the reservation system, the Sand Beach Entrance Station would be used to validate reservations on the Ocean Drive corridor. Vehicles would be able to enter or exit Park Loop Road via Otter Cliffs Road the same as under the no-action alternative. Sand Beach parking lot would be reconfigured to provide three or four parking spaces for commercial tour vehicles.

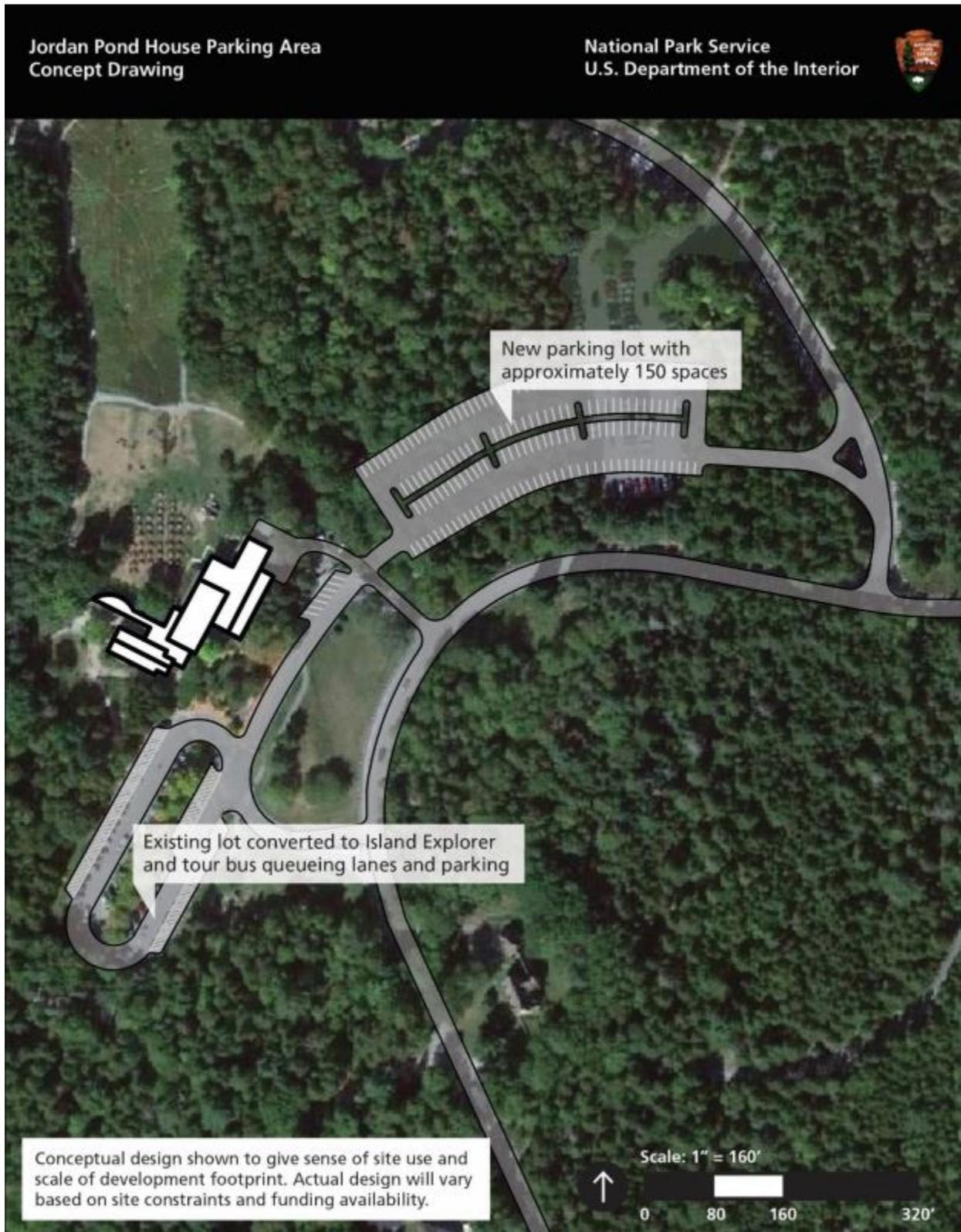
Under this alternative, Great Head Road would be closed to vehicle traffic, and a new trail from the Schooner Head Overlook would be constructed to the Great Head trail system to facilitate enhanced pedestrian and bicycle access to this area of the park.

At the Jordan Pond North Lot and on Cadillac Summit Road, a staff person—and a temporary or mobile reservation validation gate (booth or kiosk), if needed—would be used during the initial implementation phase to validate reservations. This step would allow park managers to test the effectiveness and optimal placement of this minimal infrastructure solution. Initially, using staff or temporary reservation validation infrastructure, rather than permanent installations, also provides an opportunity for the National Park Service to test the effectiveness of the reservation system at these sites and determine whether a more permanent infrastructure is needed or if a reservation system for the entirety of Park Loop Road would be more effective at managing congestion and resource conditions.

If by monitoring the indicators and standards (see appendix A), the National Park Service determines that managing parking congestion at these sites is effective, a more permanent reservation validation infrastructure would be developed. At Cadillac Summit Road, this more permanent infrastructure may include development of a queuing lane and reservation validation gate near the base of the road. At Jordan Pond, this more permanent infrastructure may include installation of a similar reservation validation gate or a self-serve reservation validation kiosk allowing visitors to park and then retrieve proof of reservation from the automated kiosk (a receipt or hang tag for the vehicle's dash). All temporary or permanent installations follow guidance from the 2007 cultural landscape report for the historic motor road and incorporate an appropriate design to protect the historic character of Park Loop Road.

In addition to the infrastructure described above, providing permanent use of reservations at the Jordan Pond lots may also eventually require a comprehensive redesign of both parking lots to provide a single point of entry and a queuing lane. Figure 3 depicts this conceptual redesign. Construction of the parking lots, as depicted in figure 3, would result in clearing trees and vegetation within an approximately 1-acre area. However, because it is not known at this time whether this redesign is necessary (based on monitoring the effectiveness of the reservation

FIGURE 3. JORDAN POND PARKING AREA CONCEPT



system, as described above) or what the actual design of the site would be, the National Park Service would conduct additional site-specific planning and applicable compliance prior to moving forward with implementation.

Signage on Park Loop Road would be required to notify visitors when they are approaching a reservation-only area. Signs placed just prior to the Sieur de Monts exit would encourage visitors without an Ocean Drive corridor reservation to exit. Placing the sign at this location would decrease the volume of exiting traffic on Schooner Head Road. All signs would be designed to maintain consistency with the historic character of Park Loop Road to the extent possible.

Management of Other Park Attractions and Trailheads

Eagle Lake. The existing parking lot and restroom on the north side of SR 233 at Eagle Lake would be removed. These facilities would be relocated to the south (off the highway) at Liscomb Pit, an approximately 2-acre area currently used as a maintenance storage yard. Although the parking lot itself would be constructed on top of the previously disturbed maintenance yard, a new connector trail to the Eagle Lake Carriage Road would be constructed from the new parking area at Liscomb Pit. The gravel-surfaced carriage road connector would be approximately 600 feet long and 16 feet wide and, similar to the carriage roads, managed for nonmotorized travel. Construction of the connector trail would require heavy grading equipment and the removal of approximately 0.25 acres of soil and vegetation.

The new parking lot at Liscomb Pit would have a capacity of approximately 125 parking spaces to accommodate the number of vehicles typically parked in the existing lot and along the highway during an average day during peak visitor use. Additionally, the access road (Liscomb Pit Road) from Eagle Lake Road (SR 233) would be widened by approximately 10 feet and improved—directional and warning signs would be installed to ensure safety. This road widening would require the use of heavy equipment to remove some large trees and vegetation and add fill material adjacent to the existing shoulder, affecting approximately 0.55 acres of soil, vegetation, and wetlands. Figure 4 depicts conceptual site plans outlining the proposed construction footprint for all infrastructure development at Liscomb Pit. The maintenance stockpiles and vehicle storage at Liscomb Pit would be relocated to an abandoned section of Eagle Lake Road adjacent to park headquarters, an existing storage area known as Satterlee Pit near the south end of Schooner Head Road, or another previously disturbed area. Before relocating the maintenance storage function; widening the road; or disturbing wetlands, soils, or vegetation, the park would conduct additional site-specific planning and applicable compliance, as appropriate.

The previous parking lot and restroom area on the north side of SR 233 at Eagle Lake Road would be removed and the area restored to natural conditions. “No Parking” signs would be installed along SR 233, the impacted shoulders would be revegetated, and management stones and/or curbing would be installed to prevent roadside parking. Year-round access to the Eagle Lake and Witch Hole Carriage Road loops would be maintained at the new Liscomb Pit parking, off Duck Brook Road, and at the Hulls Cove Visitor Center.

Parking would remain at the boat launch on the south side of SR 233 but would be reserved for vehicles launching trailered and hand-carried watercraft. Additionally, the park may pursue a redesign of that parking area and boat launch to better accommodate that use. However,

FIGURE 4. LISCOMB PIT PARKING AREA CONCEPT



because it is not known at this time what the actual design of the site would be, the National Park Service would conduct additional site-specific planning and applicable compliance prior to moving forward with implementation.

Hulls Cove, Acadia Gateway Center, and Thompson Island

Overview. Establishing a reservation system for high-use areas in the park would expand the need for highly visible and accessible visitor orientation and initial contact facilities. Orientation and additional parking (outside the reservation system) would be provided at two locations: the future Acadia Gateway Center and the expanded and enhanced Hulls Cove Visitor Center.

Hulls Cove. The Hulls Cove Visitor Center would continue to serve as the primary contact and orientation point for visitors to Acadia National Park. A new plan for developing the site would be proposed that includes a substantial expansion of parking capacity and a new and enlarged visitor center. The plan would include approximately 200 to 250 parking spaces (in addition to the current capacity of 270). The new parking lot would be designed to separate bus circulation from passenger vehicle traffic. It would include parking for buses and RVs and queuing space for bus staging. The new parking capacity at Hulls Cove would be intended to provide visitors without reservations a place to park and transfer to alternate transportation systems in the park.

In addition to expanded parking, a new visitor center would be built at grade with the parking lot for improved universal access. The existing visitor center building would either be repurposed or removed, and the area revegetated. The new visitor center would serve as the primary visitor contact and orientation point for the park, as well as a transportation hub. Visitors to the new facility would receive education about the park and its resources; have opportunities to purchase and access commercially operated tours and shuttles; make vehicle access reservations; and have access to restrooms, a bookstore, Island Explorer service, and a theater to view NPS media. The new visitor center would also include office space for NPS employees and partners. Figure 5 depicts conceptual site plans outlining the proposed construction footprint for all infrastructure development at Hulls Cove. The actual design would vary based on site constraints and funding availability.

Acadia Gateway Center. Under alternative C, no changes would occur to the Acadia Gateway Center as described in the Acadia Gateway Center environmental assessment (MDOT and FTA 2006) (see also chapter 1, “Background”).

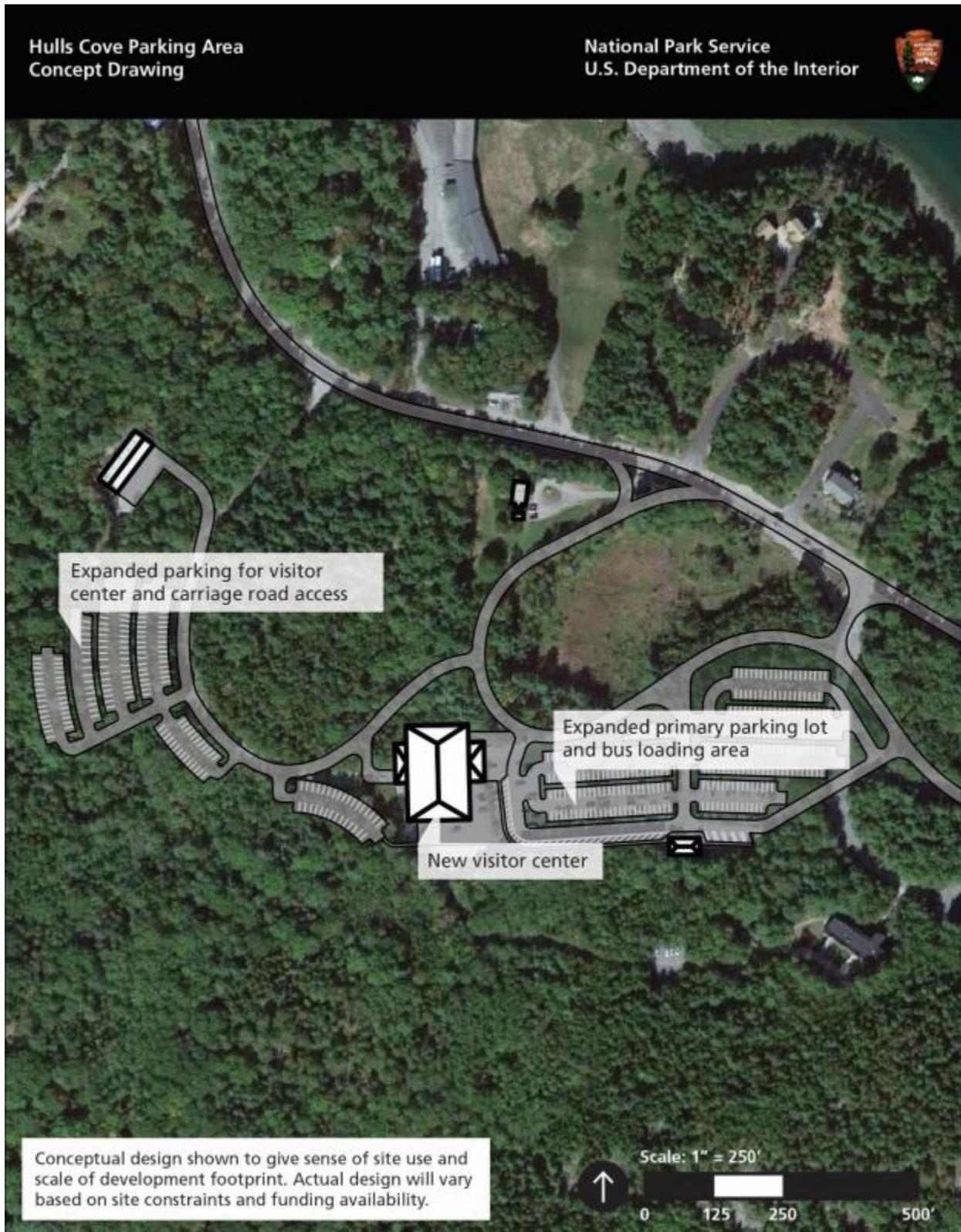
Thompson Island. Under alternative C, visitor services at the Thompson Island Information Center (on the west side of SR 3) would be removed and most of the area restored to natural conditions. Visitor information services would be relocated to the Acadia Gateway Center. The picnic area and restrooms on the east side of the highway would be maintained for visitor use.

Schoodic Peninsula. See the “Actions Common to All Action Alternatives” section in this chapter.

Public Transit

The use of Island Explorer would be encouraged as described in the “Actions Common to All Action Alternatives” section in this chapter.

FIGURE 5. HULLS COVE PARKING AREA CONCEPT



Commercial Visitor Services

Commercial visitor services would be managed as described in the “Actions Common to All Action Alternatives” section in this chapter.

ALTERNATIVE D: PARK LOOP ROAD MANAGEMENT

Concept

This alternative provides a systemwide approach to manage the volume of vehicles on Park Loop Road during the peak season. Under alternative D, park staff would manage vehicle congestion by installing automated gates and additional entrance stations at all access points to Park Loop Road and by implementing a timed-entry reservation system for vehicle access to Park Loop Road during the peak season. Once a visitor passes through an entrance station or automated gate during their reserved entry window, all parking lots on Park Loop Road would be available on a first-come, first-served basis.

Under this alternative, most of Park Loop Road, including Lower Mountain Road, would be one way, in a counterclockwise direction. The counterclockwise flow would be a reversal of direction on the current one-way sections of the road.

Primary Differences Between Alternative A and Alternative D

- A timed-entry reservation system would be established during the peak season for Park Loop Road.
- Most of Park Loop Road would be made one way, in a counterclockwise direction.
- Most right-lane parking on Park Loop Road would be eliminated.
- Most entrances to Park Loop Road would be converted to exit-only and new entrance stations would be built at Wildwood Stables and Paradise Hill Road.
- The existing parking lot and restroom on the north side of SR 233 at Eagle Lake would be removed and a new larger parking lot would be constructed south of the highway along an abandoned section of SR 233.
- A new parking lot accommodating approximately 40 vehicles would be established in the footprint of an existing NPS administrative storage area known as Satterlee Pit near the south end of Schooner Head Road.
- At Hulls Cove, the existing visitor center would be removed and a small visitor contact station would be rebuilt nearer an expanded Hulls Cove parking lot.
- The Acadia Gateway Center would serve as the park’s primary visitor center.
- Visitor services at the Thompson Island Information Center (on the west side of SR 3) would be removed and the structures repurposed once the Acadia Gateway Center becomes operational.

Management of the Park Loop Road

Overview. Under alternative D, the overall volume and timing of vehicles on Park Loop Road would be managed through consolidating entrance points and implementing a timed-entry reservation system. Most of Park Loop Road would be converted to one-way traffic in a counterclockwise direction. This is opposite the direction of existing one-way sections. The road from the Hulls Cove Visitor Center to the SR 233/Eagle Lake Road entrance would be one way in a southbound direction. Two-way sections of road would run from Stanley Brook Road to Jordan Pond and from the base of Cadillac Summit Road to the SR 233/Eagle Lake Road entrance.

Most right-lane parking would be eliminated along Park Loop Road. The only remaining right-lane parking would be physically demarcated parallel-parking spaces in the right lane (when traveling northbound) near Sand Beach. A path leading from roadside parallel parking to the beach would be constructed to safely separate pedestrians from road traffic as they make their way to the beach.

Hours and Seasonality of the Reservation System. Advance reservations would be required for all private vehicles entering Park Loop Road from mid-June to mid-October. Reservations would be required from one hour before sunrise until sunset during the peak season. These hours would be lengthened or shortened as necessary, corresponding with shifting visitation patterns to protect a high-quality visitor experience. Use of the reservation system would correspond to Island Explorer operations (i.e., if the transit systems are operating, the reservation system would be active).

Once visitors enter the park during their assigned timed-entry window, they would be able to travel freely anywhere on Park Loop Road. There would be no limits on length of stay, but re-entry outside of their designated timed-entry window would be prohibited. For users seeking to re-enter the park multiple times per day, a certain percentage of reservations would be available for full-day access. The length of the initial entry window may be lengthened or shortened as park managers optimize the reservation system; however, it is estimated that initial timed-entry windows would be in 1-hour time blocks.

Number of Reservations Available. The number of reservations available would correspond with actions needed to manage these locations within the desired resource and experiential conditions of the sites. For each of these areas, desired conditions and visitor capacities have been identified (see chapter 1 and appendix A, respectively). These conditions and analyses were used to identify the maximum amount and type of use that could be accommodated at each location (see appendix A for site-by-site analysis). Based on these capacities, the existing availability of parking, the anticipated turnover rates for all of the parking lots along Park Loop Road, and the acceptable levels of traffic on the road, it is estimated that initial implementation of this alternative would allow for approximately 4,200 reservations per day (issued in time blocks for entry into the system). Additionally, at least two daily reservations for vehicles with boat trailers would be provided at the Jordan Pond North Lot. After initial implementation of the reservation system, the number of reservations would be adjusted to ensure the highest possible use of the existing parking supply while avoiding parking-related congestion and to allow park staff to manage desired conditions within related thresholds and identified visitor capacities.

Infrastructure Changes Required to Implement the Reservation System. Under alternative D, there would be few changes to the existing infrastructure associated with Park Loop Road parking lots. All parking lots along Park Loop Road would remain on a first-come, first-served basis but would only be available to visitors who have entered Park Loop Road with a timed reservation.

- *Cadillac Mountain.* No new infrastructure or entry controls to the area would be established. The segment of Park Loop Road connecting Cadillac Summit Road with SR 233 would continue to be managed in a two-way traffic pattern so visitors interested in visiting only Cadillac Mountain would not need to circle Park Loop Road in its entirety.
- *Ocean Drive.* The existing Sand Beach Entrance Station near Schooner Head Road would be removed. Access into the park via Schooner Head Road would be replaced with an automated entry (QR code reader or other remote system) for verifying reservations. Right-lane parking along Park Loop Road would be eliminated except for a short northbound section of the road near Sand Beach where a portion of the right lane would be demarcated as parallel-parking spaces. A path paralleling the right-lane parking (but physically separated from motor vehicle traffic) would be constructed to facilitate safe access to the beach from the parallel-parking area. The Schooner Head parking lot would serve as additional parking for Sand Beach. Also, a new parking lot accommodating approximately 40 vehicles would be established within the footprint of an existing NPS administrative storage area known as Satterlee Pit near the south end of Schooner Head Road. This additional parking would provide additional vehicle access to the Sand Beach area. Sand Beach parking lot would be reconfigured to provide three or four parking spaces for commercial tour vehicles.
- *Jordan Pond.* Access to the Jordan Pond area would occur by traveling south on Park Loop Road from Paradise Hill or by a short length of two-way traffic on Park Loop Road coming north from Stanley Brook Road. Because vehicles traveling to Jordan Pond from the south would not drive through a formal entrance station, timed-entry reservations would be validated at the entrance to the north parking lot. A means for controlling access to the lot (either a staffed or automated gate or a validation kiosk) would be installed at the entrance to the lot.

Other Infrastructure Changes. Physical entrance stations with entrance lanes and a booth would be constructed at Wildwood Stables and Paradise Hill Road. The Paradise Hill entrance would be located north of the west street extension on Paradise Hill Road. The entrance station at Wildwood Stables would be located near the current paved entrance to the stables off Park Loop Road. An adjacent service road would be used for a turnaround lane. The intersection of Stanley Brook Road and Park Loop Road would be widened to accommodate horse trailer access into Wildwood Stables. Automated, unmanned entrances (QR code readers or another form of remote access) would be provided at SR 233, Otter Cliff Road, Sieur de Monts, and Schooner Head Road. All installations would follow guidance from the 2007 cultural landscape report for the historic motor road and incorporate appropriate design to protect the historic character of Park Loop Road. To better accommodate bus parking and access at Thunder Hole, designated bus parking spaces would be moved to the ocean side of the road north of the existing lot (so as not to block views), and an additional accessible drop-off location would be established to allow two simultaneous arrivals and departures.

Management of Other Mount Desert Island Attractions and Trailheads

Eagle Lake. The existing parking lot and restroom on the north side of SR 233 at Eagle Lake would be eliminated to remove impermeable surfaces and restore natural wetland adjacent to the lake. These facilities would be relocated to the south (off the highway), along an abandoned section of SR 233 (old route 233). While some of this area is previously disturbed, approximately 0.75 acres of vegetation would be cleared using machinery and heavy grading equipment to accommodate the new parking lot and access road. Additionally, a new connector trail to Eagle Lake carriage road would be constructed from the new parking area. The gravel-surfaced carriage road connector would be approximately 620 feet long and 16 feet wide; similar to the carriage roads, it would be managed for nonmotorized travel. Construction of the connector trail would require heavy grading equipment and removal of approximately 0.25 acres of trees, soil, and vegetation.

The new parking lot would have a capacity of approximately 125 parking spaces to accommodate the number of vehicles parked in the existing lot and along the highway during a typical day during peak visitor use. Figure 6 depicts conceptual site plans outlining the proposed construction footprint for all infrastructure development at the old route 233 site.

The previous parking lot and restroom area on the north side of SR 233 at Eagle Lake would be revegetated. Parking at the boat launch on the south side of SR 233 would remain, but would be reserved for vehicles with boat trailers. “No Parking” signs would be installed along SR 233, the impacted shoulders would be revegetated, and management stones and/or curbing would be installed to prevent roadside parking.

Hulls Cove and Acadia Gateway Center and Thompson Island

Hulls Cove. Under alternative D, the existing visitor center at Hulls Cove would be demolished and the area restored to natural conditions. A small visitor contact station would be rebuilt closer to an expanded Hulls Cove parking lot. The footprint of the expanded parking lot would be similar to what is described in alternative C. The visitor contact station would have a smaller footprint than the visitor center described in alternative C, but would also be located within previously disturbed areas. The new visitor contact facility at Hulls Cove would be minimally designed for visitors to use for contact and orientation, purchase of park passes, and obtaining reservations. Visitor education and interpretive services that currently are provided at the Hulls Cove Visitor Center would be moved to the Acadia Gateway Center.

Acadia Gateway Center. Under alternative D, no substantial changes would be made to the planned physical development footprint of the Acadia Gateway Center facility as described in the Acadia Gateway Center environmental assessment (MDOT and FTA 2006) (see also “Chapter 1: Background”). However, with the transfer of visitor services now provided at the Hulls Cove Visitor Center, the Acadia Gateway Center would serve as the park’s primary visitor center and provide orientation to Acadia’s natural and cultural history and resources. Visitors would also be able to learn about the reservation system at the center, park vehicles, and transfer to a concession tour or Island Explorer service into Mount Desert Island and the park.

Thompson Island. Visitor services at the Thompson Island Information Center (on the west side of SR 3) would be removed and the structures repurposed. Visitor information services would be relocated to the Acadia Gateway Center. The picnic area and restrooms on the east side of the highway would be maintained for visitor use.

FIGURE 6. OLD ROUTE 233 PARKING AREA



Schoodic Peninsula

See the “Actions Common to All Action Alternatives” section in this chapter.

Public Transit

The use of Island Explorer would be encouraged as described in the “Actions Common to All Action Alternatives” section in this chapter.

Commercial Visitor Services

Commercial visitor services would be managed as described in the “Actions Common to All Action Alternatives” section in this chapter.

BEST MANAGEMENT PRACTICES AND MITIGATION MEASURES

To ensure protection of the park’s fundamental resources and values, best management practices would be implemented under all action alternatives. Best management practices are grounded in NPS *Management Policies 2006*, and are intended to provide a practical approach to everyday management of Acadia National Park’s transportation system. Best management practices for this plan can be found in appendix D. Appendix C contains the specific preservation standards expected for the historic motor roads.

Under all of the alternatives evaluated in this plan/environmental impact statement, the mitigation measures would be applied to avoid and minimize potential adverse impacts on Acadia National Park’s fundamental resources and values. These mitigation measures are described in appendix D.

ALTERNATIVES AND ACTIONS CONSIDERED BUT DISMISSED

While developing each alternative, it became evident that certain alternative concepts or actions were not feasible and/or not responsive to the purpose and need for action, and were therefore dismissed from further analysis in the environmental impact statement. These alternative concepts or actions, and the reasons for their dismissal, are described in table 4.

TABLE 4. ALTERNATIVES AND ACTIONS CONSIDERED BUT DISMISSED FROM FURTHER ANALYSIS

Description of Action	Rationale for Dismissal
Limit Park Loop Road access to transit/tour access only (no private vehicles)	This action conflicts with the historic character of the park’s network of historic roads, which were designed to support private vehicle motor touring. Eliminating opportunities for scenic motor touring would adversely impact a fundamental value of the park. The experience of private vehicle auto touring is something the National Park Service aims to preserve at the park, although some car-free days and times of days may still take place intermittently. In addition, the logistics of providing for 2- to 3-minute bus headways (which would be needed to accommodate current visitation without private vehicle access) makes this proposed action infeasible.
Establish two-way traffic patterns for the entirety of Park Loop Road	Establishing two-way traffic on the entirety of Park Loop Road as currently designed would not allow space for bicyclists to safely operate, curtailing the range of visitor experience and access to an entire user group. Changing the dimensions of Park Loop Road to accommodate two-way traffic and bicyclists at the same time (adding bicycle lanes) would unacceptably impact the historic character and integrity of the park’s network of historic roads. In addition, this action would not resolve issues with congestion or overcrowding in that most of these issues are associated with parking and overcrowding in popular destinations, which this action would not address.

Description of Action	Rationale for Dismissal
Expand total parking capacity along Park Loop Road	Expansion of the total parking capacity along Park Loop Road would not manage the Park Loop Road area in a manner consistent with the park's general management plan. The 1992 general management plan acknowledges the direct relationship between crowding at popular destinations and the availability of parking at those sites and therefore established that existing parking capacity would be enforced and alternate means of access would be explored. Additionally, expanding parking in areas with rare or sensitive natural resources, such as on the summit of Cadillac Mountain, would cause unacceptable impacts to these resources. Although the expansion of select lots adjacent to Park Loop Road is proposed under the action alternatives in the transportation plan, they would be balanced with other lot reductions or the elimination of roadside parking.
Widen park roads and manipulate historic infrastructure (i.e., change physical dimensions of roads and parking areas to accommodate more and larger vehicles)	Widening park roads (specifically along Cadillac Summit Road, where the current road width is incompatible with large vehicles) or making changes to overpasses with relatively low clearances were not considered feasible alternative elements, and would conflict with the Park's purpose and need for action, which includes preservation of the historic roads.
Add a funicular to Cadillac Mountain summit	A funicular (a type of incline railway) on Cadillac Mountain would cause unacceptably high levels of impacts on natural and cultural resources and would be highly visible from other areas of the park and thus would impact scenic viewsheds and visitor experience. This would also likely not be capable of transporting existing levels of visitation to the summit. It is thus inconsistent with the Park's purpose and need for action.
Add signal-controlled one-way traffic on Cadillac Summit Road	Adding traffic signals around the tight curves of Cadillac Summit Road to avoid conflicts caused by large vehicles would fundamentally alter the historic character of the road. In addition, given the existing congestion in this area of the park and the pulses in visitation caused by large motor coaches, addition of a traffic signal (although it could help larger vehicles navigate the turn) would likely lead to more congestion issues. As it would likely exacerbate (not solve) the problem and would cause unacceptable adverse effects, this would be inconsistent with the Park's purpose and need for action.
Construct a pedestrian path parallel to Schoodic Loop Road from Schoodic Institute to the point (this suggestion also applies to other areas of Park Loop Road)	Natural and cultural resource impacts associated with construction of a pedestrian path would be too great and incompatible with protection of fundamental resources of the park, including the integrity and setting of the park's network of historic roads and mosaic of habitats supporting diverse flora and fauna.
Remove or relocate parking at Sieur de Monts	Removing or relocating the parking at Sieur de Monts would fundamentally alter the historic character of the area. Additionally, the loss of parking at a popular visitor attraction would likely lead to higher visitation and parking shortages at other trails and trailheads in the park.
Utilize a queuing and a "one-out, on-in" method to manage traffic and congestion when parking areas and corridors fill to capacity	Because at certain times the volume of vehicles seeking to enter the most popular parking areas or corridors in the park significantly exceeds the parking supply, managing congestion by metering or queuing visitors would result in instances of long lines (queues) and wait times for visitors seeking to enter the parking lot or corridor. Much like under current conditions, this strategy provides quality visitor experiences for visitors who are able to access a parking space, but results in a poor experience for those stuck in traffic or a queue waiting for access. Additionally, in some areas of Park Loop Road, the queues may block traffic flow and lead to additional congestion in the park.

Chapter 3

Affected Environment



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CHAPTER 3: AFFECTED ENVIRONMENT

INTRODUCTION

This chapter describes the environment of Acadia National Park that is being analyzed in this environmental impact statement. It focuses on the cultural resources, visitor use and experience (including traffic and transportation), and the socioeconomic environment that may be affected by actions proposed in the alternatives. Please refer to the impact topics section in chapter 1 for a list of the impact topics that have been retained and thus are addressed in this chapter.

HISTORIC MOTOR ROAD

Development History

In 1913, the State of Maine lifted a ban on automobiles on Mount Desert Island, opening the door to a new means of experiencing the natural beauty of the island and the area designated Lafayette National Park in 1919 and eventually Acadia National Park in 1929. The 1913 arrival of automobiles to Mount Desert Island marked the end of a contentious battle that had strained the relationship between the year-round and summer residents for the previous 15 years. The automobile question was essentially a referendum on road building on the island. The year-round residents saw the roads as a pipeline for economic opportunity, while the summer colony viewed the roads as a threat to the reasons they came to Acadia in the first place—the island’s isolated natural beauty. Before the arrival of the automobile, more than 200 miles of rustically designed trails and carriage roads already existed on the island, but by 1920 the major trail-building era had ended and an interest in building motor roads intensified. In 1929, the Seal Harbor Village Improvement Society recorded that “. . .an inevitable first effect of the oncoming of the automobile was the banishment of the horse and the desertion of foot paths and trails.”

John D. Rockefeller Jr. initially held a negative view of the automobile’s presence on Mount Desert Island. Rockefeller was an ardent supporter of the national parks and played a major role in the physical development of Acadia. Already in the process of building a network of carriage roads on Mount Desert Island in the 1920s, Rockefeller offered to donate land and financial support for a motor road system that would allow visitors to see the park’s diverse scenery from their automobiles and to keep them separated from his network of carriage roads intended for horses and carriages only (Killion and Foulds 2007).

The first section of motor road built in the park was the Jordan Pond to Eagle Lake Road, built between 1922 and 1927. Superintendent Dorr and Rockefeller, along with landscape architect Frederick Law Olmsted Jr., worked together to design a motor road that could be as scenic as the carriage roads, but also separate from them. Ultimately, the road that was built during this period established a benchmark for quality and beauty in the National Park Service. There was considerable controversy and worry over the impact on the wilderness that the road would cause, but the partnership between public and private financing and effort and the thoughtfulness of Dorr, Rockefeller, Olmsted, and their engineers produced a new means of enjoying the natural beauty of the park, continuing along the same aesthetic of the scenic hiking trails and carriage roads that merged the natural beauty with an architectural one.

Further work on the motor road system proceeded with the construction of a demonstration segment of Ocean Drive at Thunder Hole in 1929 and Cadillac Summit Road between 1928 and 1932 (Killion and Foulds 2007). By the end of the 1920s, planning, design, and construction of park facilities throughout the National Park Service became increasingly standardized. Projects were characterized by an emerging rustic design style derived from the picturesque style in landscape design, the “wilderness” qualities of the early parks, and the prairie style emphasis on native plants. In the summer of 1929, with the Ocean Drive demonstration section complete, construction of Cadillac Summit Road underway, and the Jordan Pond/Eagle Lake Road almost 2 years old, Rockefeller became a vocal proponent of the automobile in the park. His earlier idea of a limited number of motor roads separate from his carriage roads expanded into a much larger motor road system of scenic roadways taking motorists from the mountaintops to the coasts. Rockefeller now envisioned the concept of the Park Loop Road as a complete circuit and committed \$4 million of his own money for improvements and the purchase of land on behalf of the park. By 1933, all agreements were in place to proceed with construction. That year also corresponded with the passage of Franklin Roosevelt’s “New Deal” make-work programs designed to address the Great Depression crisis. The New Deal provided money and labor to the National Park Service, mostly through the Public Works Administration (PWA) and the Emergency Conservation Works Act. In Acadia, the Civilian Conservation Corps (CCC), which performed “Emergency Conservation Work,” had a key role in the development of the motor road system and the labor that laid down the roads.

In 1933 and 1934, the road segments on Ocean Drive between Thunder Hole and Sand Beach and between Thunder Hole and Otter Cliffs were completed. During this same time period, the National Park Service constructed what would eventually be known as Schoodic Point Road (now Arey Cove Road) and Schoodic Loop Road. The Schoodic landscape was developed in the same rustic, picturesque style that was developed for the Mount Desert Island roads (Killion and Foulds 2007).

The National Park Service built the Stanley Brook and Otter Cliffs Roads between 1934 and 1936. At Stanley Brook, Olmstead paid special attention to protection of the scenic resources of the narrow valley. His design reduced grading depths to minimize landscape damage, eliminated shoulders to maintain as narrow a disturbance corridor as possible, and developed low bridges with wooden guardrails supported by granite posts that blended perfectly in design and scale with the surrounding landscape. Otter Cliffs and Stanley Brook Roads were completed in 1936 and Rockefeller deeded the land over to the federal government. In 1935, he had received notice that the federal government had allocated money for road construction in Acadia. From this point on, his role would be in land acquisition and consultation on design and the National Park Service would fund construction.

The first motor road segment constructed following the 1935 appropriation became known as Kebo Mountain Road, built between 1936 and 1938. A second appropriation for road construction was made in 1936, and Rockefeller deeded the land necessary to build the Otter Cove Causeway and Blackwoods Road in 1938 and 1939. During the road work, plans were drawn up that connected Blackwoods Campground to Park Loop Road, but they were not built because Rockefeller did not want to enable access to any of the park’s motor roads by large trucks or trailers.

Work on the vision of the complete park circuit, unbroken by state highways, continued. The Kebo Mountain Road extension and Champlain Mountain Road were built between 1939 and 1940. Shortly thereafter, Day Mountain Road and its five associated bridge structures was built

connecting Blackwoods Road with the Jordan Pond/Eagle Lake Road. Concurrent with Day Mountain Road construction was the establishment of Paradise Hill Road connecting Hulls Cove at SR 3 to the northern end of Jordan Pond/Eagle Lake Road. Rockefeller pressed urgency during Paradise Hill Road's construction, but the project ran out of money before its three necessary bridges could be built. The entry of the United States into World War II diverted resources from the project and the road would not be completed for 11 years.

World War II essentially halted road construction in the park. There was no money for the work and the engineers had all been diverted to civil defense projects. During the war, Rockefeller continued to promote completion of the loop circuit and spurred the National Park Service to prepare for the day when the war ended and resources would again be available by completing planning for the remaining bridges and road segments. In 1951, Rockefeller funded construction of the Day Mountain Road extension, which eliminated the use of public roads to complete the connection between Day Mountain Road and Jordan Pond/Eagle Lake Road. In 1950, the first federal money for road work since the war had begun was released and the bridges on Paradise Hill Road were completed by 1952.

In 1955, Mrs. Potter Palmer deeded her Schooner Head property to the federal government. This gift allowed the park to connect the Kebo Mountain Road extension and Champlain Mountain Road on park property and represented the last segment of the motor road system. It allowed completion of the Park Loop Road circuit on park property. The final segment was built between 1956 and 1958 as a Mission 66 project (Mission 66 was a 10-year NPS program to fund expansion of visitor services and improve deteriorated infrastructure in parks by the 50th birthday of the National Park Service in 1966) but stayed true to the pre-war rustic design of the National Park Service. Rockefeller lived to see the completion of his vision for the park motor road system and died in May 1960.

Significance

Acadia National Park's 33.25-mile historic motor road system is a nationally significant property constructed between 1922 and 1958. The road system evokes a rustic character that is in harmony with the existing network of carriage roads and hiking trails and is distinctly different from an ordinary state or county highway (Killion and Foulds 2007). Elements common to all roads—bridges, shoulders, guardwalls, coping stones, retaining walls, culverts, and waterways—were purposely designed in the rustic design style to blend with the surrounding landscape. It is considered exemplary in the fields of landscape architecture and engineering and is also nationally significant for its association with John D. Rockefeller Jr. and his contributions to the early development of the national park system. The historic motor road system continues to serve Rockefeller's vision of an unbroken scenic loop moving visitors through the ecosystems of Acadia and exposing them to the natural environment via an architecture that blends into nature and complements its form. The Park Loop Road remains the primary means by which most visitors experience the park's resources. As such, the condition and functionality of the motor roads and the adjacent landscape are inextricably linked to visitors' impressions of the park.

The accomplishments of the road designs and the natural beauty of the landscapes through which they pass have resulted in their recognition as two of the 150 distinct and diverse roads designated as "American Byways" by the secretary of transportation. American Byways include the National Scenic Byways and All-American Roads. The program is a grassroots collaborative effort established to help recognize, preserve, and enhance selected roads throughout the United States. All-American Roads or National Scenic Byways are recognized based on one or

more exceptional archeological, cultural, historic, natural, recreational, and scenic qualities. Acadia National Park manages portions of two designated byways: the Acadia All-American Road (which includes the entirety of Park Loop Road on Mount Desert Island) and the Schoodic National Scenic Byway (which includes the Schoodic Loop Road on the Schoodic Peninsula). These two roads are Maine's only designated scenic byways and bring visitors interested in scenic driving to the park and surrounding communities from all over the world.

The design and construction of the historic motor road included unique, character-defining features that have been identified and described in the Park Loop Road's NRHP nomination and its in-depth cultural landscape report. Acadia strives to protect these character-defining features in the course of maintaining the road and replacing and repairing them in kind when appropriate. The overall treatment strategy for the historic road is one of rehabilitation. Rehabilitation best allows sound stewardship of the historic motor road system through repairs, alterations, and additions, while preserving those existing historic features that convey the historical, cultural, and architectural values. The rehabilitation treatment acknowledges the reality that periodic work is needed to maintain the integrity of the road surfaces, shoulders, and associated engineering structures and to ensure that the historic motor roads contribute to a positive and memorable visitor experience. When conducting these projects, the park strives to protect the road's historic character (including viewsheds and design intent) as well as its historic character-defining physical features that include

- horizontal and vertical alignment
- cross-section
- bridges (except Frazer Creek)
- causeways
- road surface wearing course
- vegetated shoulders
- paved pullouts
- paved parking lots
- vegetated ditches
- mortared rubble waterways
- culverts, inlet structures, and outlet structures
- stone guardwalls (angular and rectilinear)
- earthen guardwalls
- vegetated and stone embankments
- stone retaining walls (dry-laid and mortared)
- gates (Civilian Conservation Corps)
- vegetated and mortared rubble medians
- asphalt walkways
- gravel trails
- stone steps
- granite curbs (except sawn-top)
- concrete curbs
- boulder monuments
- views and vistas (selected)
- vegetation in and along road corridors

Purpose

The primary purpose of the historic motor road system as completed was to provide visitors in automobiles with recreational access to the park's diverse landscapes and to highlight the many scenic views. In addition to connecting to the roadside parking areas at the park's major destinations and developed areas—such as Sand Beach, Thunder Hole, Cadillac Mountain, and the Jordan Pond House—numerous paved pullouts were built. Many of these stops correspond to spectacular views and vistas (Foulds and Killion 2015). Views while in motion were also considered, as well as landscape visibility as it relates to the direction of travel and geometry and placement of the road segments. The intended vistas along Park Loop Road were first documented in 1958, immediately after completion of the final segment of the complete loop and 11 years after the “Great Fire,” which had taken many of the trees in the park. In 1958, young growth was beginning to reclaim vistas. A total of 70 maintained vistas offering views of the mountains, lakes, shorelines, forest vegetation, and unique geological features were documented in the effort, and another was added when the map was revised in 1961, bringing the total number of vistas to 71, all but 4 of which were located on the historic motor road system. Access to these views are a significant feature of the historic character and a part of the design intent of Park Loop Road. Out of concern for loss of roadside vistas due to maturing vegetation, the park's 1992 general management plan called for the protection and management of vistas of the historic motor road system. In 2015, a vista study and management plan was completed that determined 19 out of the 67 vistas along Park Loop Road were in good condition and still provided intended views from the road, 45 were impaired by vegetation growth but repairable with maintenance and treatment (which the plan prescribed), and 3 were proposed for abandonment (one due to extensive growth and poor historic documentation and two because the current one-way direction of travel reduces visibility).

Rockefeller and the road designers were also concerned with the character of the driving experience as impacted by traffic and parking. Particularly, that vehicles on and adjacent to the road not impact the views and the experience of those traveling along it. In 1938, he objected to providing a connection between Blackwoods Campground and the park road to avoid creating a connection that would allow large trailers to enter Park Loop Road and impact scenery. Even more specific were his views on controlling roadside parking such that stationary vehicles would not obstruct views and impair the driving experience.

During construction of the Park Loop Road segment between Thunder Hole and Otter Cliffs in 1934, Rockefeller commented on the appropriateness of roadside parking to the scenic plan envisioned for the Ocean Drive segment in a letter to Walters Hill, director of the CCC labor force building the road segment:

Mr. Olmsted tells me that any questions in connection with the southern section of the Ocean Drive which you brought up were settled satisfactorily during his recent visit. I find on talking with him that he had forgotten our agreement not to have any more parking places provided along the edge of the road south of the Thunder Hole, but rather to provide such spaces off the road under the trees at various convenient and available intervals. Even if parking along the road does not block the road, it so seriously detracts from the beauty of the ocean view that it seems to me greatly to be deplored. I thought it was clear in your mind that no more roadside parking provision was contemplated.

It is questionable if Rockefeller could have imagined the automobiles and mass transit options of the 21st century, or the number of vehicles that would ultimately be traveling the picturesque motor road system he was working to create. However, there is no doubt that the rustic design intent and the focus on viewscales, vistas, and visitor experience of the natural beauty of the park is a character-defining feature of the motor road system and the historic infrastructure of the park. Of concern to this planning effort is balancing the demands of today's visitors with the preservation of the historic character and the intended experience of traveling the historic motor roads of the park.

Current Condition

In the years following completion of the motor road, management of the park, increasing visitation, and changing needs have caused changes to the landscape and historic design of the road. One major change (which actually was original to some of the final segments) was the shift from native pink granite in the final surface coat, which gave the road the same color as the surrounding stone outcrops, to a surface treatment of modern plant-mixed, hot-asphalt bituminous concrete. Today, none of the original treatment is visible. Other modifications came from later Mission 66 construction of visitor facilities at Cadillac Mountain summit and Sieur de Monts, restrooms at Bear Brook and Fabbri, and a picnic area at Frazer Point. Post-Mission 66 developments include:

- construction of the Fabbri picnic area in the 1980s;
- construction of a new Jordan Pond House in 1982 (the original structure burned in 1979);
- redesign of the parking lot, trails, and concourse;
- construction of restrooms at Thunder Hole in the late 1980s and in 1997; and
- construction of the entrance fee station at Sand Beach in 2000 and an accessible walkway at the historic Thunder Hole ranger station, which is now a concessions-operated store and information center.

The National Park Service undertook major realignments and modifications of portions of the historic roads as well, including:

- widening of the original, earliest segment of Jordan Pond/Eagle Lake Road;
- modifying the intersection of Cadillac Summit Road and Paradise Hill Road;
- adding intersections with adjacent and connecting modern roads at West Street, Stanley Brooke Road, Wildwood Stables, Otter Cliff Road, Schooner Head Road, Great Meadow Drive, and at Kebo Street;
- realignment of the road between Jordan Pond House and Bubble Pond that abandoned the motor road segment passing under the Bubble Pond Bridge;
- adding parking and pullouts at Jordan Pond House and Bubble Pond; and
- creating a grade separation on Paradise Hill Road to address congestion.

The road's associated landscape features have changed since the end of its historic construction period, including:

- replacing vegetated shoulders and some drainage ditches with asphalt or loose rubble;
- use of granite curbing and concrete walkways that are not historic;
- rustic design features originally present in the gates and signage replaced with steel access gates and modern metal directional, wayside, and entrance signs; and
- applying painted lane striping for safety and for control in parking areas.

In an attempt to control unauthorized parking along the vegetated shoulders of the road, the park began installing parking management stones along many sections of the road. Parking management stones, intended to be distinct from the finely cut, historic coping stones, are a visual intrusion along many roadsides today.

Arguably, the decision to convert the Kebo Mountain to Day Mountain Road segment to one-way traffic and allow right-lane parking is the most significant change to the historic Park Loop Road. In 1969 the two-way traffic pattern on the historic loop was changed to a one-way flow from north to south along a 12-mile stretch of the road from Sieur de Monts Springs to the intersection of Day Mountain Road. This one-way pattern opened the right lane for parking for the first time. In 1989, the one-way traffic pattern was extended to Kebo Mountain Road, further altering the historic character of the road by changing the designed traffic pattern and expanding the character-diminishing right-lane parking. The 1989 decision was made for safety reasons associated with increased visitation and conflicts between bicycles and motorists, and was reached after several studies and with consideration of the impacts on the historic character of the road. It was determined that travel in a clockwise direction preserved the most important vistas along Ocean Drive and also reduced already compromised views of park-adjacent modern installations (Jackson Laboratory). More than any other modern modification to the historic road, the presence of vehicles parked along the roadway is the largest affront to the designed scenic experience of traveling Acadia's unbroken motor tour.

In recent years, the park has made efforts to successfully reintroduce some of the rustic details of the historic motor road system, such as signs and gates, which have been lost over time. The historic directional and informational signposts have been lost and replaced with the steel UniCor system of signs, but the park has replaced typical modern metal signposts with 4-inch by 4-inch wooden signposts evoking a more rustic appearance. The rustic motor road access gates were historically one of the most visible fixtures along the historic motor road system and were intended to identify the entrances. Over the years, they have been replaced with more durable and easier to maintain galvanized steel pipe gates. The park has committed to the future use of a more appropriate substitute and a simplified rustic wood gate has been installed at the Schooner Head Overlook Access Road, which has been considered a successful substitute for the historic gates.

Notwithstanding changes to Park Loop Road since 1958—and including those reversible modifications associated with the existence of right-lane parking and the one-way traffic patterns—overall, the historic motor road system at Acadia National Park possesses integrity of location, design, setting, materials, workmanship, feeling, and association. Threats to the integrity of the road system include vehicle damage associated with unauthorized parking and off-road operation, proliferation of unpaved pullouts, parking management stones, bituminous

asphalt waterways, lane and parking striping, unmaintained vistas, paved shoulders, signage and gates that are inconsistent with the rustic design style, and right-lane parking. All of these threats are linked to increased visitation and increased traffic, both as a direct result of congestion and the resulting NPS management in response to it.

CULTURAL LANDSCAPES

Sieur de Monts Spring

Situated on the east side of the island and nestled in a picturesque gorge formed by Dorr Mountain and Huguenot Head, the 41-acre Sieur de Monts Spring site is defined by a broad wetland area to the north and east (the Great Meadow), a dammed wetland to the south (the Tarn), and the steep wooded slopes of Dorr Mountain to the west. Sieur de Monts Spring was initially developed by George Dorr in 1904 and contains a complex overlay of associations including work by Dorr, the Village Improvement Associations & Societies, and the National Park Service. The landscape is a blend of elements from both the picturesque and NPS rustic design styles. Dorr had an Italian Renaissance Revival-style canopy structure built over a natural spring that flows into a nearby stone-lined, open pool. Next to the spring pool is the spring building (now the nature center) built in 1949 in the NPS rustic design style to replace an earlier CCC building destroyed in the Great Fire of 1947. Other facilities contributing to the historic significance of the landscape include a 1939 CCC-built parking lot and loop road and a restroom built by the National Park Service in 1948 and 1949 (NPS 2009).

The period of significance for Sieur de Monts Spring is 1909 to 1949. The period begins in 1909 when Dorr acquired the property and built the original spring canopy and spring pool. In the following years, Dorr and the Bar Harbor Village Improvement Association developed the area with picnic grounds, paths, trails, roads, and in time, a spring building and other support structures. The period continues through the 1930s and early 1940s when the National Park Service, in consultation with the Olmsted Firm, began improving visitor facilities, simplifying circulation features, and updating infrastructure. The Civilian Conservation Corps contributed to many of these projects, including constructing a new spring building, improving the loop road and parking lot, and installing and managing new and existing vegetation. The period ends in 1949 when the last buildings destroyed in the park's devastating fire of 1947 were replaced (NPS 2009).

Today, the Sieur de Monts Spring cultural landscape is composed of a collection of natural topography and vegetation; historic trails, parking, and motor routes (including access to the site via a connection to the historic Park Loop Road); historic structures including the Spring Canopy, Spring Building, restroom, and Abbe Museum; smaller-scale landscape constructions including historic culverts on trails and the Park Loop Road, rock monuments, and memorial plaques; and specific views and vistas designed both during the original development of the Sieur de Monts Spring site and during construction of the connecting historic motor road. The contributing features of the landscape are in good condition, but viewsheds are occasionally compromised by vehicle congestion and, like the other road surfaces and shoulders in the park, the parking lot is threatened by unauthorized parking (NPS 2009).

Cadillac Mountain

Cadillac Mountain summit is a developed landscape at the top of Cadillac Mountain, the highest point in Acadia National Park. It is the primary summit destination, with a long history of both pre- and post-NPS development. The rocky summit features three high points or "peaks"

dominated by broad granite ledges and outcrops interspersed with shrubs and grasses and lesser amounts of mixed conifer woodland and forest. Access to the summit is primarily from Cadillac Summit Road, a historic segment of the park's historic motor road system that climbs the mountain's north and west slopes and terminates as a broad, teardrop-shaped loop nestled between the eastern and middle peaks. Visitor facilities at the summit are limited to a small concession and restroom building on a wooded slope below the middle peak (NPS 2007).

Since the 1850s, getting to the top of Cadillac Mountain and experiencing the views has been a sought-after experience. In the early 1920s, the carriage road had badly deteriorated, prompting the park's first superintendent to include a summit motor road in the park's motor road proposal. Road construction began in 1928, but the formidable granite and mountainous terrain kept the Department of Agriculture's Bureau of Public Roads (now the Federal Highway Administration) busy until October 1931. When opened, the road was widely praised as an excellent example of outstanding road construction and for the use of the NPS rustic design style.

Parking at the summit initially consisted of a small parking lot prior to the motor road's terminal loop. Realizing more parking was needed and that visitors would likely wish to stop and enjoy the views, NPS designers implemented plans for a much larger parking area in the terminal loop and new walkways and trails. A ranger station, restrooms, and a small refreshment stand called the Cadillac Tavern were constructed between 1932 and 1934 and were inconspicuously sited on a wooded slope between the middle peak and parking area so as not to impact the viewsheds. Like the motor road, the new facilities and circulation features also demonstrated the rustic design style and visually blended with the surrounding landscape (NPS 2007).

The year 1942 and the departure of the Civilian Conservation Corps marks the end of the period of significance for the cultural landscape that began with the onset of construction of the summit road in 1928. The landscape features and historic character of the site, which include the design and layout of the parking lot and vehicle circulation, as well as unobstructed views and a minimum of noncontributing modern infrastructure, are significant because of their association with the early development of Acadia National Park and the rustic design styles (NPS 2007).

Subsequent construction at the site after the period of significance does not contribute to its historic significance, but only minimally detracts from it. In 1966, a new parking and overlook area was developed below the western peak, now called the Blue Hill Overlook. By 1983, the ranger station was removed and replaced by a new concession building constructed in the same location and design style as the historic ranger station. Today, the Cadillac Mountain summit remains one of the most popular developed areas in the park. Its panoramic views draw visitors from sunrise to sunset. This visitor experience—along with the historic design of the summit road, its connection to Park Loop Road, and summit area trails—are all important features contributing to the historic significance of the site and are in good condition. However, the historic road and parking lot shoulders are regularly damaged by out-of-bounds parking and congestion on the entry road, in the lots, and as a result of individual visitors crowding the site. This congestion negatively impacts historic vistas.

Jordan Pond House

The 42-acre Jordan Pond House site is situated at the southern end of Jordan Pond, bound by Penobscot Mountain, Pemetic Mountain, and two rounded mountains called North Bubble and South Bubble. The historic views of the pond and the surrounding peaks are the focal point of

the site's main building—the Jordan Pond House—which operates as a concessioner-run restaurant and gift shop. The current building dates from 1982, a replacement for the original structure that was lost in a fire in 1979.

Segments of the park's historic hiking trail, carriage road, and motor road systems provide access to the Jordan Pond House and other features at the site that include a gatehouse complex, pump houses, a dam and spillway, a dormitory, parking lots, old building foundations, and several remnant stone-lined trails and roads. The landscape and associated historic features at the Jordan Pond House are significant because of their association with the early community development and the picturesque design style (NPS 2009a).

The Jordan Pond House landscape also reflects the origins of Acadia National Park and early efforts to conserve and maintain a scenic area for recreation. Beginning in the early 1870s, the natural beauty of the site attracted local residents and summer visitors. The period of significance begins in 1895, when Thomas McIntire and his wife Nellie Coburn McIntire became managers of the property when it was a well-known scenic, recreational, and dining destination. By the 1900s, the McIntires had made substantial improvements to the area by enlarging the Jordan Pond House; clearing the tea lawn to obtain views of Jordan Pond and the Bubbles; constructing additional support structures; and developing paths, hiking trails, and roads. John D. Rockefeller Jr. also understood the aesthetic value of the Jordan Pond House area, later directing the design and construction of the Jordan Pond gatekeeper's house, carriage house, and carriage road entrance gates. In addition, Rockefeller directed construction of the first segment of the historic motor road system in the Jordan Pond House area, the Jordan Pond/Eagle Lake Road. The period of significance extends to 1959, reflecting the continued use of the site for recreation and entertainment (NPS 2009a).

There have been a number of major changes to the Jordan Pond landscape since the end of the period of significance. In 1963, the Jordan Pond/Eagle Lake Motor Road was realigned, significantly altering the landscape of the Jordan Pond House site. As a result of the realignment, all of the historic outbuildings on the east side of the road were removed (ice house, woodshed, stable, and water tower). A new entrance road and automobile parking area was established in front of the house and another parking area was designed for overflow parking and boaters where the old motor road originally curved away from the pond. On June 21, 1979, the Jordan Pond House was destroyed by fire. It was rebuilt in 1982, larger than the original and slightly resited to take advantage of the spectacular views. The immediate surrounding landscape was also replanted, but with consideration of original garden types and locations. A significant landscape modification in 1982 included a parking lot set back into the woods in the location of the McIntires' septic field and an additional overflow parking lot in the previous location of their large vegetable garden. A new dormitory was constructed in 1982, south of the old McIntire house, which was torn down that same year. In 2009, circulation improvements to accommodate buses were made in the Jordan Pond House area, which included removing the small circular drive and replacing it with an expanded entrance drive, and adding a new pedestrian plaza and three bus drop-off areas (figure 7). Notwithstanding modifications to circulation systems and the loss of some buildings since the historic period, the developed area at Jordan Pond House continues to convey the historic design intent, use, and rustic design vocabulary.

FIGURE 7. CURRENT CONDITIONS AT THE JORDAN POND HOUSE CULTURAL LANDSCAPE



Today, significant historic features would be those involving the Park Loop Road's connections to the historic carriage roads, the layout of the historic features of the overall site and associated greenspaces, and continued consideration and maintenance of the remaining historic landscape design. The historic character of the visitor experience at the site—associated with unobstructed and uncrowded views of the Jordan Pond House and the Jordan Pond gatekeepers house as well as preservation of the unobstructed vista of the Jordan Pond and the Bubbles beyond it—is also a significant character-defining feature of the cultural landscape.

Thunder Hole

Thunder Hole is an inlet along the rocky eastern shoreline of Mount Desert Island. When a storm or the turning tide forces waves into this narrow channel, the air escapes with a thunderous reverberation that is both deafening and thrilling. Since the early 1930s, the National Park Service has provided formalized walkways, railings, and other visitor facilities to experience the natural phenomena at Thunder Hole.

The developed area of Thunder Hole encompasses approximately 2.25 acres and is accessible from the Ocean Drive historic motor road segment and from the historic hiking trail known as Ocean Path. Both the road and trail trace the shoreline and offer panoramic ocean views that are among the best in the park. On the ocean side of the road and trail is a landscape of uneven and massive granite ledges. A series of curved walks, ramps, and steps make their way between the rocks and down to a broad ledge overlooking the Thunder Hole. Above the road, the landscape holds considerably more trees and shrubs that screen the historic ranger station, parking lot, and restroom.

Thunder Hole has long been a destination on Mount Desert Island's eastern shore, and its popularity can be traced to the mid-1800s. The overall period of significance for Thunder Hole begins in 1890 when recreational access was improved by the Town of Bar Harbor's construction of the original Ocean Drive along the shoreline from Sand Beach to Otter Point. The period ends in 1937 when maintenance responsibility for their paths within park boundaries was transferred to the National Park Service (NPS 2012).

The Thunder Hole Demonstration Section along Ocean Drive was completed in 1929, which served as a guide for the reconstruction of the entire Ocean Drive in 1933–1934 and ultimately made possible the development of park facilities at Thunder Hole. Landscape features and structures at Thunder Hole that contribute to the significance of the historic site include those developed during the period of significance and retaining their historic characteristics of design and use. They include geological forces that shaped the inlet and its natural characteristics; the ranger station and parking lot above the road and trail that are representative of NPS picturesque and rustic design styles sited to avoid marring the scenic vista; some of the walkways, stone steps, and granite curbs originally installed by the Civilian Conservation Corps that remain and contribute to the site's rustic character; and Ocean Drive and Ocean Path themselves. The site's historic significance is associated with the design of the intra-site vehicle circulation, including its connections to Park Loop Road, and the unobstructed views from within the designed landscape. Congestion and large tour buses regularly cause negative impacts on the historic vistas by blocking intended views. Overcrowding also precipitates out of bounds parking, which damages the historic parking lots and road shoulders (NPS 2012).

Schoodic Peninsula

Schoodic Peninsula is a rocky, wooded headland that juts into the Atlantic Ocean at Winter Harbor, Maine. Five miles to the west, across Frenchman Bay, is Mount Desert Island and the main part of Acadia National Park. Although geographically separate, Schoodic Peninsula shares with the rest of Acadia not only a common history, but also the same tradition of rustic design in its constructed features.

The earliest major NPS construction project at Schoodic is the Schoodic Loop Road. The roads at Schoodic are illustrative of the NPS mission to provide public access while seeking to conserve the natural beauty of the park. From a design standpoint, the Schoodic Loop Road at Schoodic also shares many of the design elements used on the carriage and motor road systems implemented by Rockefeller on Mount Desert Island. This portion of the park was both acquired and developed by the National Park Service in a relatively short time span, resulting in greater architectural uniformity than is found elsewhere at Acadia. The hiking trails and motor road systems exhibit a careful selection and placement of routes to provide dramatic vistas with minimal impact on the landscape. Related structures and engineering features including walls, steps, coping stones, and drainage features were constructed of local or natural materials to enhance the overall harmonious effect. A number of the visitor amenities constructed at Schoodic are also examples of the major contributions made by New Deal programs in shaping the park's landscape (NPS 2004).

The Schoodic Peninsula Historic District has remained essentially unchanged since the early 1940s. It includes historic landscape features, structures, scenic vistas, and enduring character-defining visitor experiences dating between 1929 and 1941 that are significant in the areas of NPS rustic design and the influence of John D. Rockefeller Jr. on the development of the national park system (NPS 2004).

VISITOR USE AND EXPERIENCE

Introduction

This section describes elements of visitor use and experience in Acadia National Park that may be affected by the management alternatives of this transportation plan. The description of these elements is based on the best professional judgment of NPS staff, public scoping for this plan, and both past and recent research efforts.

The following visitor use and experience elements will be discussed:

- visitor experience quality (including visitor perceptions of safety)
- visitor access and recreational opportunity (including traffic and transportation)

Overview of Visitor Use and Experience

The visitor experience at the park is nationally significant and unique. The park has a long history of providing respite to urban dwellers from the crowds and pace of nearby cities. The park contains the tallest mountains on the eastern seaboard of the United States with Cadillac Mountain at its apex. From these summits, visitors experience panoramic views of the Acadia archipelago and the surrounding mountains, forests, meadows, lakes, and shorelines. The glacially sculpted landscape of exposed granite domes, boulders, U-shaped valley, and cobble beaches make the park exceptionally scenic. The varied range of habitats from the intertidal zone to subalpine rocky summits and the park's mountains, lakes, streams, wetlands, forests, meadows, and coastlines contribute to the diversity of plants and animals making the visitor experience rich with natural resource-based diversity.

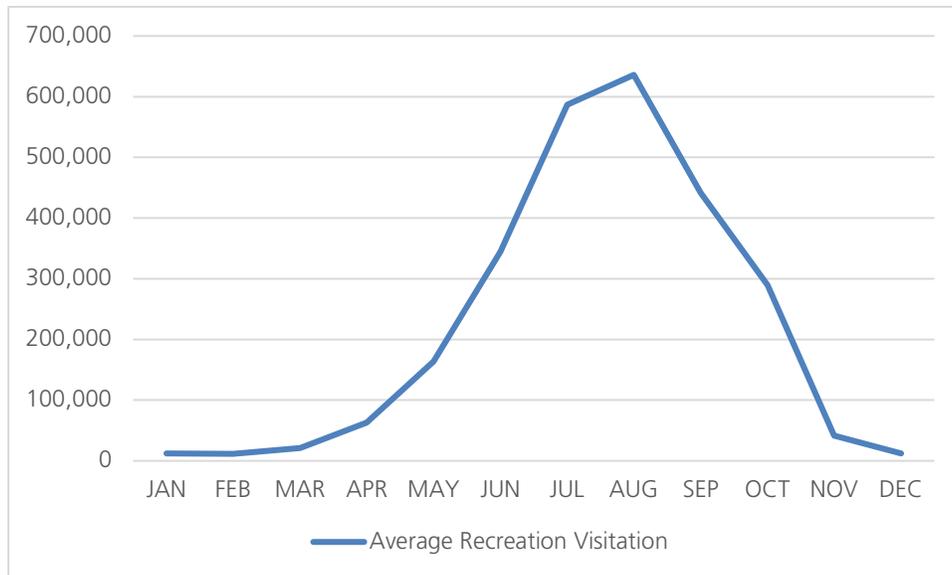
Visitation Trends. Since the park was established in 1916 as Sieur de Monts National Monument, the park has expanded in both size and visitation. Visitation records stretch back to 1919, with 64,000 annual visitors when the park was approximately 6,000 acres. Today the park protects more than 47,000 acres and received 3.5 million visitors in 2017. At this ratio—3.5 million visitors and 47,000 acres—Acadia National Park is arguably the most densely visited national park (Pettengill et al. 2012). Visitation trends over the last 25 years are shown in figure 8 and show a noticeable uptick in visitors beginning in 2014.

Monthly visitation numbers show a clear seasonal trend in visitation (figure 9). Most park visitors are accommodated during the peak and shoulder seasons between May and October. The alternatives described in this plan relate to strategies for managing transportation during the peak season only. The proposed reservation system would only apply during the peak season, currently between mid-June and October.

FIGURE 8. RECREATION VISITORS PER YEAR FROM 1990 TO 2016



FIGURE 9. RECREATION VISITATION PER MONTH AVERAGED OVER THE PAST FIVE YEARS (2011–2016)



Visitor Characteristics. A visitor use study conducted in August 2009 (Manni et al. 2010) found numerous visitor use characteristics that are pertinent to this plan. The following paragraphs list visitor characteristics about where visitors travel from, how often they visit, where they visit in the park, and how they plan:

- Visitation to the park is composed of both national (94%) and international (6%) vacationers. Visitors from Maine and Massachusetts comprised 29% of the visitation, with the remaining national visitors coming from 39 other states, Washington, DC, and Puerto Rico. Of the international visitors, 55% were from Canada, 13% from the Netherlands, 10% from the United Kingdom, and smaller proportions from 12 other countries.
- Fifty percent were first-time visitors, while 31% had visited four or more times; 7% of visitor groups included members with a physical condition (77% of these groups reported mobility problems).
- The most common sites visited were Cadillac Mountain (75%), Jordan Pond House and area (67%), Sand Beach (63%), and Thunder Hole (62%). The Schoodic Peninsula was reported to be visited by 11% of the surveyed visitors.² The most common visitor activities reported were sightseeing/driving for pleasure (83%) and hiking on trails (79%), followed by walking on carriage roads (44%), and dining at Jordan Pond House (37%).
- Only 2% of visitors reported being part of a commercial guided tour group; 1% reported being part of a school/education group.
- The amount of visitors that engaged in preplanning their visit to the park is also important because any changes to transportation systems and access to the park would need to be clearly communicated. Ninety-five percent of visitor groups obtain information about the park prior to their visit, mostly using common sources including previous visits (58%), friends/relatives/word of mouth (51%), maps/brochures (43%), and the park website (43%).
- Seventy-two percent of visitors stayed overnight on Mount Desert Island with 18% of these visitors staying at a park campground. Similarly, 63% stayed longer than 24 hours.
- The 2009 visitor use study (Manni et al. 2010) indicates that 72% of respondent visitor groups stayed overnight on Mount Desert Island. Visitor groups on Mount Desert Island chose a variety of lodging options, but the three most popular options were a motel or hotel (30%), private campground (18%), and a campground in the park (18%).

² The number is likely low because the visitor sampling was only conducted on Mount Desert Island. Therefore, any respondents would have had to travel to *both* Mount Desert Island and the Schoodic Peninsula to be surveyed.

Additionally, 42% of visitor groups spent 2 to 3 days on the island with the average length of stay for all visitor groups being 70 hours (2.9 days).

VISITOR ACCESS AND RECREATIONAL OPPORTUNITY

The action alternatives considered change how visitors access and experience the park. Scenic driving as a visitor experience is a fundamental resource and value for the park; as mentioned above, sightseeing/driving for pleasure is an activity that approximately 83% of visitors engage in. Changes to the management of driving and access to park roads could impact visitor use and experience; this is a primary concern in the planning process because there are potential impacts on visitor experience associated with the issue.

The visitor use study conducted in August 2009 (Manni et al. 2010) revealed that numerous forms of transportation are used to visit the park including car/pickup truck/SUV/van (91%), bicycle (27%), Island Explorer bus (19%), vehicle with trailer camper (7%), ferry (3%), private boat (3%), tour bus (2%), motorhome/RV (2%), RV with towed car/boat (1%), and motorcycle (1%). Per group, 12% of visitors had two motor vehicles and 5% had three or more. The heavy use of private vehicles at the park has contributed to traffic congestion and parking issues, and has generally restricted visitor flow (Hallo and Manning 2009; Pettengill et al. 2012).

The most common access-related visitor services and facilities were directional signs outside the park (82%), restrooms (81%), Park Loop Road (80%), parking lots (79%), directional signs inside the park (74%), and hiking trails (72%) (Manni et al. 2010).

In 1999, the National Park Service established the fare-free Island Explorer service. Figure 10 displays the most current Island Explorer routes. In 2016, ridership averaged 6,5870 riders per day during the summer months and 2,700 riders per day in the fall months. Ridership statistics for the Island Explorer service are summarized in figure 11. Island Explorer service operates seasonally from late June through late August, and at a reduced schedule through mid-October. The length of service dates is largely dictated by the limited number of available drivers (many of these drivers drive school buses during the school year). Expanding the number of drivers could be challenging because, like many other seasonal work forces in and around Acadia National Park, the lack of affordable seasonal housing is a limiting factor.

A study conducted in 2008 examined the incentives and disincentives of using public transportation at Acadia (Holly 2009). These results suggest that the most important factors of using a public transportation system at the park is the frequency of buses (incentive) and the associated wait times (disincentive); fare-free or low cost was also listed, but the Island Explorer is already fare-free. The interviews suggest a maximum interval between buses as 15 to 20 minutes. For a full-service schedule for Island Explorer please see <http://www.exploreacadia.com/routefinder.htm>.

Visitor characteristics were also examined to predict public transportation use at the park (Holly 2009). First-time visitors were more likely to use the Island Explorer than repeat visitors. Maine residents were also less likely to use the Island Explorer than out-of-state visitors. As visitors planned longer visits to Mount Desert Island, the more likely they were to use public transportation. Overall, the study suggested that day users (characterized as those not staying on Mount Desert Island, or those living closer to the park) are the least likely to use public transportation because of the total time they have to visit the park and the perceived lack of freedom to get around the park quickly. Visitors also cited routing as a possible disincentive to using public transportation. While first-time visitors want transportation to major attractions,

repeat visitors often wanted to visit less-popular sites that may or may not be serviced by public transportation. Holly (2009) also asked day users about the likelihood they would use the proposed Acadia Gateway Center and responses included 30% very likely and 35% somewhat likely. A follow-up question asked if visitors would be willing to leave their personal vehicle at the center and ride the Island Explorer; 13% responded very likely and 24% responded somewhat likely.

FIGURE 10. ISLAND EXPLORER ROUTE MAP ([HTTP://WWW.EXPLOREACADIA.COM/ROUTEFINDER.HTM](http://www.exploreacadia.com/routefinder.htm))

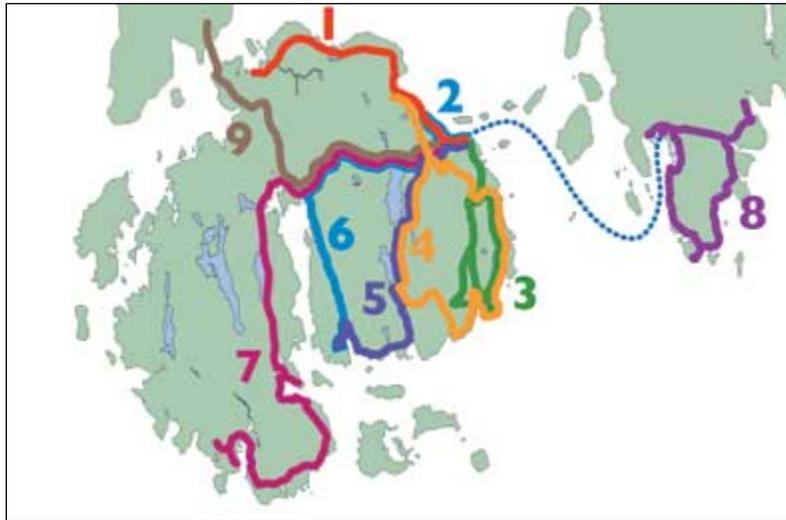
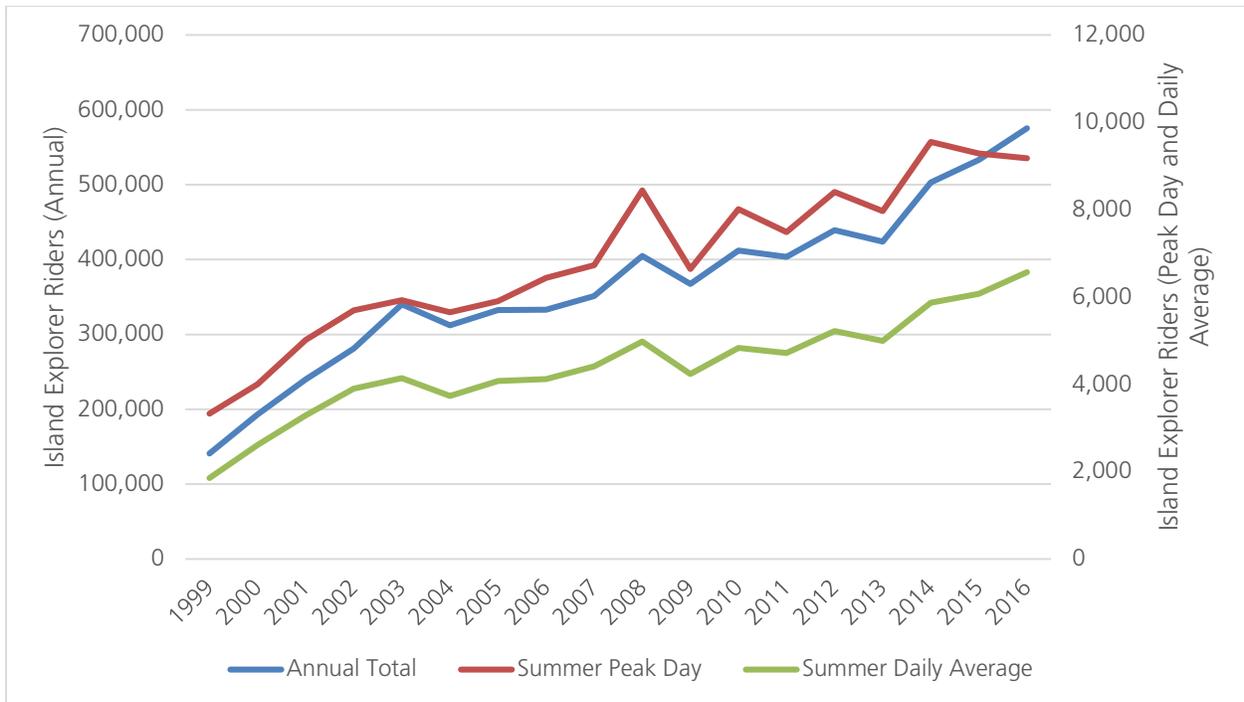


FIGURE 11. ISLAND EXPLORER RIDERSHIP 1999–2016



Mount Desert Island

Mount Desert Island is the center island in the park, has the largest land acreage of the islands in and around the park, and has the most park lands. Mount Desert Island is composed of both park lands and private lands. Cities/towns on the island include Bar Harbor, Southwest Harbor, Tremont, and Mount Desert Island.

The top 15 most visited attractions in the park are on Mount Desert Island (Manni et al. 2010).³ The island also hosts all three visitor/information centers and is the location of most of the carriage roads and Park Loop Road.

Visitor access and mobility on Mount Desert Island likely comprises the same percentages as those for visitors at the park as reported in the 2009 survey: car/pickup truck/SUV/van (91%), bicycle (27%), Island Explorer bus (19%), vehicle with trailer camper (7%), ferry (3%), private boat (3%), tour bus (2%), motorhome/RV (2%), RV with towed car/boat (1%), and motorcycle (1%).

The Island Explorer public transportation system was established on Mount Desert Island to help relieve some of the traffic and parking problems at the park. The system provides robust options for traveling to every segment of the park on Mount Desert Island. Eight of the nine routes offered by Island Explorer are on Mount Desert Island.

Park Loop Road

The 27-mile Park Loop Road system offers outstanding views of the park's ocean shoreline, coastal forests, and mountain silhouettes. Visitors access Park Loop Road from SR 3 East, which begins at Hulls Cove Visitor Center and makes a loop around the eastern portion of Mount Desert Island. The road runs one way (clockwise) from just past SR 233 to its connection with Jordan Pond Road (approximately 13 miles). This is the road that creates the foundational value of driving for pleasure in the park. This historic road system is open from April 15 through November, 24 hours a day, weather permitting. Additionally, the road offers access to Sand Beach, Thunder Hole, Jordan Pond, and Cadillac Mountain. As mentioned above, these are the four most popular sights in the park and are visited by between 62% and 75% of visitors. The entirety of Park Loop Road is serviced by the Island Explorer.

Stopping along the road and parking in the right-hand lane is allowed in certain sections of the park. However, the park's 1992 general management plan states that right-lane parking would be phased out as soon as an alternative transportation system can be established. The plan states that this action would "enhance scenic driving by removing the safety concerns, traffic flow restrictions, and visual impact of right-lane parking. Parking would be permitted only in designated spaces in established lots, and vehicle size would be restricted in lots where turning space is limited."

³ This survey asked "During this trip, which of these places in Acadia National Park did you and your group visit?" However, the sample was derived from visitors on Mount Desert Island (i.e., not from visitors on Isle au Haut or the Schoodic Peninsula).

Because the road itself is a destination and leads to major attractions in the park, the road has been susceptible to crowding, congestion, and parking issues. Specifically, the section of Park Loop Road called Ocean Drive, which extends from the Sand Beach Entrance Station to just past Gorham Mountain trailhead, is particularly crowded.

Cadillac Summit Road

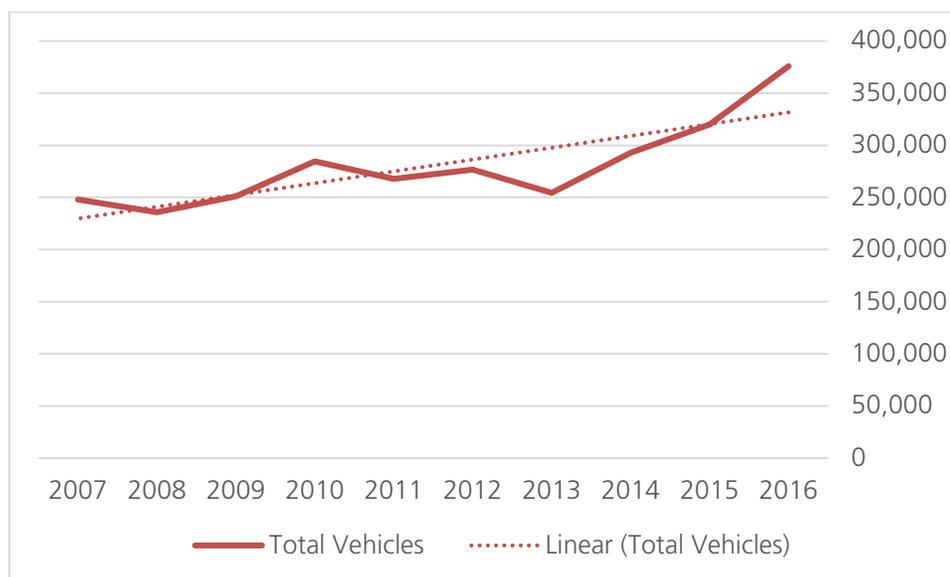
At 1,530 feet, Cadillac Mountain is not only the tallest mountain in the park, but also the tallest mountain along the eastern seaboard of the United States. Cadillac Mountain is the most popular attraction at the park. A 2009 visitor study shows Cadillac Mountain summit to be the most commonly visited site by visitor groups (75%, N=834) (Manni et al. 2010). Visitors to Cadillac Mountain primarily hike the trails around the summit area and take in the scenic views. Cadillac Mountain is accessible via a winding, narrow 3.5-mile road leading from Park Loop Road to near the summit. Both private vehicles and commercial tour buses use this road to provide access to the summit. (The Island Explorer does not provide a route to Cadillac Mountain summit.) Parking at the top of the road is limited (approximately 120 parking spaces). Blue Hill Overlook is just 0.3 miles short of the summit and offers stunning views and 38 parking spaces. A network of trails leads from the summit parking area to the actual summit of Cadillac Mountain; the Summit Path allows accessibility to the view and informational waysides in the summit area. The road is closed from December through April 14, and whenever weather conditions (e.g., dense fog or ice) require. Access to Cadillac Mountain is also provided by numerous trails, including North Ridge Trail, South Ridge Trail, and Gorge Path. Blue Hill Overlook is also accessible by Cadillac Summit Road.

Visitor demand for the experiences and views from the top of Cadillac Mountain is very high, which causes a high level of congestion along this road corridor. During the 2017 summer season, the park began pilot testing strategies to resolve traffic and parking management issues on the summit as a part of the planning process. During these pilot tests, Cadillac Summit Road had to be closed 49 times due to large numbers of vehicles parked along the roadway and congestion resulting from more demand for parking than is available. These closures lasted anywhere from 15 minutes to over 2 hours, with an average closure lasting 63 minutes. Had these same strategies been employed in previous years, it is likely that similar levels of closures would have been needed in 2014, 2015, and 2016.

Ocean Drive

Visitor demand for the experiences and views at the key destinations along the Ocean Drive corridor, including the scenic driving experience of the corridor itself, causes a high level of congestion along this stretch of road. Over the last 10 years, the number of vehicles accessing Ocean Drive has increased substantially (figure 12). Over this same time period, the number of parking spaces for these vehicles has remained static, creating increased pressure on parking lots and an increased rate of vehicles parking in the right-hand lane or in unendorsed areas (often to the detriment of park resources).

FIGURE 12. TOTAL VEHICLES ENTERING OCEAN DRIVE BY YEAR



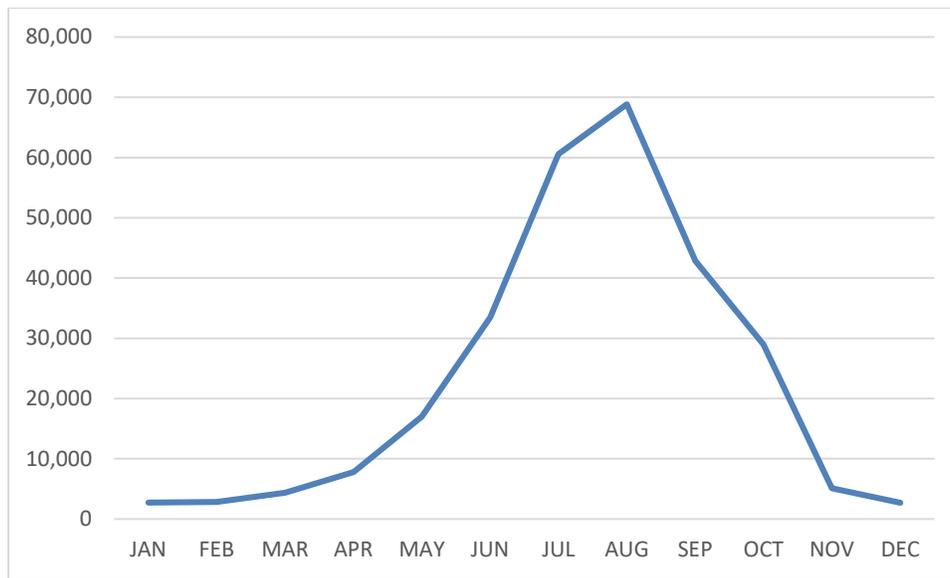
Traffic-count data near Sand Beach also show the amount of vehicle usage in that area of the park (figure 13).

Simulation Model of Traffic on Ocean Drive (Park Loop Road). A simulation modeling study of Acadia's Ocean Drive portion of Park Loop Road (from the Sand Beach Entrance Station for 1.5 miles just past the Gorham Mountain trailhead) was conducted in 2007 (Manning et al. 2008). Popular visitor attractions along this section of road include Thunder Hole, Sand Beach, Beehive trailhead, and Gorham Mountain trailhead. This segment was chosen for the study because it produced zones that corresponded to the visitor attractions and related infrastructure on Ocean Drive, and it provided the greatest detail in the analysis of social visitor capacity.

At the time of this study, visitation was around 2 million visitors compared to more recent levels of 3.5 million visitors. This represents an approximate 75% increase in visitation. Transportation management of this section of road was similar then to now: visitors are allowed to park in the right-hand lane, several parking lots are located along Ocean Drive, parking lots and much of the right-hand lane have become filled with vehicles during the peak season (July–August), and parking lots and road areas around Sand Beach and Thunder Hole are typically the first to reach visitor capacity.

Travel times for the entire section of road were collected from the GPS route data. The average time taken to travel Ocean Drive was 23.8 minutes ($s = 33.3$). The longest time that anyone in the sample took to travel the length of Ocean Drive was 280.9 minutes. The associated GPS route data showed that the vehicle was stopped on the road near the Gorham Mountain Trail in zone E for several hours. The shortest time taken to travel Ocean Drive was 3.0 minutes (the vehicle moved at an average speed of 31.5 mph).

FIGURE 13. MEAN MONTHLY TRAFFIC COUNTS AT SAND BEACH (1990–2014)



GPS data also indicated which parking lots were used along Ocean Drive and for what length of time. Five parking lots were used by vehicle drivers in the GPS sample (table 5). Zone C and zone D lots are small and not near any major visitor attractions.

TABLE 5. VEHICLE PARKING TIME PER PARKING LOT (MANNING ET AL. 2008)

Parking Lot	Percent of Vehicles Using the Parking Area	Average Parking Time (minutes)	Standard Deviation of Parking Times (minutes)
Sand Beach	64.4	51.8	71.7
Small lot in Zone C	6.9	12.7	15.3
Key Hole	2.0	31.4	45.2
Thunder Hole	46.0	24.3	24.6
Gorham Mountain Trailhead	5.0	98.2	106.5

Schoodic Peninsula

The Schoodic Peninsula is east of Mount Desert Island and is accessible via SR 186. The Schoodic Peninsula is well removed from the rest of park and is a 45-minute drive from the Acadia Gateway Center or a 50-minute passenger ferry ride from Bar Harbor.

In 2015, the Schoodic Woods Campground and associated day use parking area opened. The campground consists of 94 sites, a ranger station, a 100-seat amphitheater, and a 100-space day use parking area. The addition of these facilities on the Schoodic Peninsula has increased visitation to this area and park staff have seen a notable increase in bicycle traffic since this

campground and associated facilities opened. The campground is full in July and August and is dominated by RVs. Park staff have observed that the day use parking area is rarely more than 25% full and bike use of the Schoodic Loop Road has increased substantially.

A 6-mile, one-way loop road offers views of lighthouses, seabirds, and forested islands. Vehicle turnouts provide opportunities to stop and enjoy the scenery. Stopping on the road and parking outside designated pulloffs are prohibited. Bicyclists must obey the one-way traffic flow on the road and are encouraged to use free Island Explorer buses and bike paths. RVs are permitted only on the section of Schoodic Loop Road that accesses Schoodic Woods Campground. Unless otherwise posted, the speed limit is 35 mph. Arey Cove Road—a two-way road—leads off Schoodic Loop Road to Schoodic Point, a windswept, rocky point providing spectacular views of Mount Desert Island. Visitors can also access the Schoodic Institute from Arey Cove Road. Steep and winding bike paths provide spectacular views.

During the summer season (late June to Columbus Day) Island Explorer buses provide free transportation in and around the peninsula (figure 14). The bus drivers stop when waved down by visitors and buses are equipped with bicycle racks.

FIGURE 14. ISLAND EXPLORER ROUTE OF SCHOODIC PENINSULA



Another study of vehicle congestion at the Schoodic Peninsula portion of Acadia National Park found that 40 cars per mile was considered the maximum acceptable density by survey respondents (Manning et al. 2002). Visitors also reported that an average of 67 cars per mile would cause them to no longer visit the Schoodic Peninsula section of Acadia National Park.

Recreation visits aren't the only types of visit that occur at the park. For example, nonrecreational vehicles are estimated at 30 vehicles per day from November through April and 75 vehicles per day from May to October.

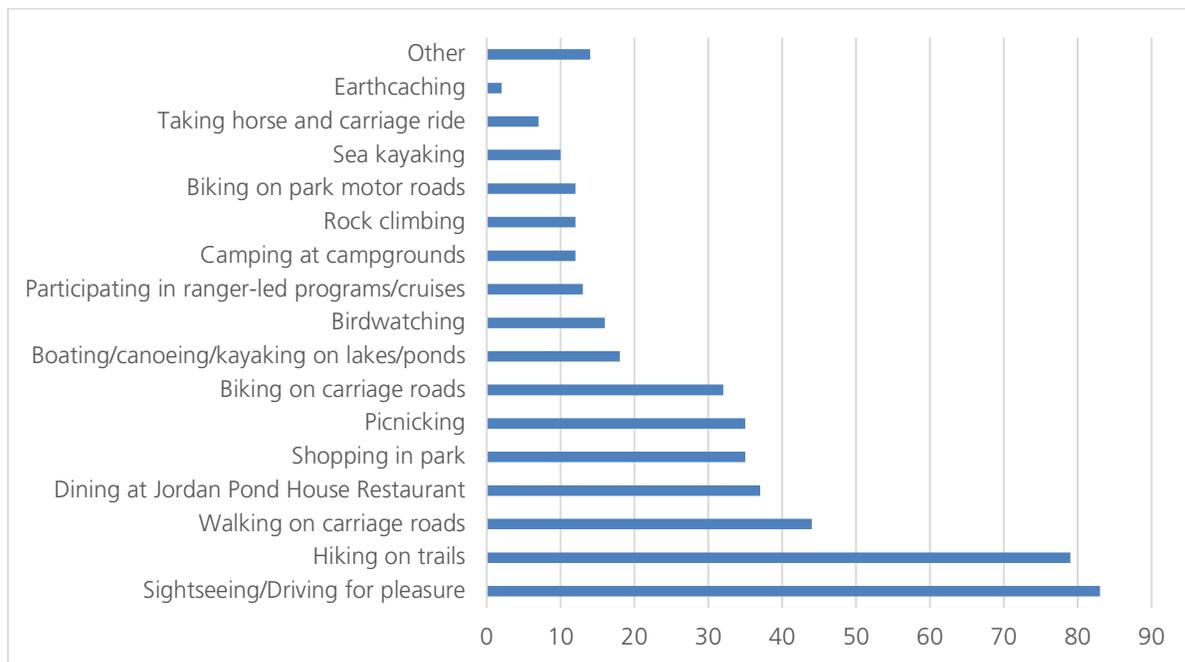
Traffic counts for the Schoodic Peninsula indicate that 2016 visitation increased compared to records from 2006. The months of June, July, August, September, and October in particular experienced large visitor increases compared to 2015.

DIVERSITY AND QUALITY OF VISITOR EXPERIENCE

The park offers numerous recreation opportunities for visitors. The most popular activities include sightseeing/driving for pleasure, hiking on trails, and walking on carriage roads (see figure 15). The park has 125 miles of easy to strenuous trails for hiking and 45 miles of winding carriage roads for walking or biking.

Guided tours and ranger-lead programs are available at the park. Three concessioners offer different bus and horse-drawn carriage tours, including a 2.5-hour narrated bus tour with three 15-minute stops (including Cadillac Mountain), trolley tours, and horse-drawn carriage rides. Ranger-narrated boat cruises are also available including a Baker Island Cruise, Frenchman Bay Cruise, and Islesford Historical Museum Cruise. Cruises vary from 2 hours to 4.5 hours. Ranger-led programs are also offered throughout the day beginning as early as 7:00 a.m. (bird-watching) and as late as 9:00 p.m. (star gazing). Programs are offered across Mount Desert Island and on the Schoodic Peninsula. Programs focus on historical/cultural resources (e.g., Carroll Homestead Tours) and natural resources (e.g., iNaturalist Walk). There are also children-specific programs including Junior Ranger programs and family programs.

FIGURE 15. PERCENT OF VISITOR GROUPS ENGAGING IN SPECIFIC RECREATIONAL ACTIVITIES



Mount Desert Island

Mount Desert Island is the focal point of the park. With the most popular attractions, the largest acreage, and the most infrastructure, Mount Desert Island offers the full range of opportunities that exist at the park. The recreation opportunities and use on Mount Desert Island are likely similar to those described above. The most popular activities are sightseeing/driving for pleasure (83%), hiking on trails (79%), walking on carriage roads (44%), and dining at Jordan Pond House (37%) (Manni et al. 2010).

Mount Desert Island has 45 miles of carriage roads that are ideal for walking, bicycling, and equestrian activities. Carriage roads are closed to motor vehicles, and in some sections, horses (<https://www.nps.gov/acad/planyourvisit/upload/CRUMmap.pdf>).

Park Loop Road

During the summer months, Park Loop Road is used for two primary reasons: scenic driving and accessing other areas of the park (Hallo and Manning 2009). As mentioned above, scenic driving is the most popular activity at the park and some of the most popular attractions and recreation opportunities in the park are accessed through Park Loop Road.

A study conducted in 2005 at the park used a mix-method approach to focus on visitors' perceptions of transportation at Ocean Drive, a portion of Park Loop Road (Hallo and Manning 2009). A total of 39 semi-structured interviews and 128 surveys were used. The qualitative findings suggest that about half the visitors used Ocean Drive to "get to specific sites," while the other half used Ocean Drive as part of their experience in the park. When asked what role Ocean Drive played in their overall experience, visitors were about half and half with respect to Ocean Drive playing or not playing a role in their experience. Considering that Ocean Drive was designed to provide a scenic driving-for-pleasure experience, these results suggest the road fulfills its intended purpose. When asked what they liked least about Ocean Drive, visitors overwhelmingly stated traffic and crowds. The survey responses for this study indicated similar answers. When asked to identify the most important features of a national park's scenic road, 81% responded "scenery," 72% responded "access to important park sites and attractions," and 67% stated "traffic volume." The authors noted how a comparison of these features suggests that "transportation-only" uses indicate the importance of more traditional transportation concepts. For example, traffic volume, pavement quality, and visibility of traffic signs/signals were all rated as important by a majority of Ocean Drive users.

Cadillac Summit Road

Cadillac Mountain is the most popular attraction in the park. It provides sweeping views of Acadia and the surrounding islands. Most visitors access Cadillac Mountain by car or guided tour for sightseeing. On an average summer day in 2016, Cadillac Summit Road was visited by 1,630 vehicles. On an average busy day (in the 85th percentile), this increased to an average of 2,150 vehicles per day and a maximum observed 2,650 vehicles per day.

Ocean Drive

The 2007 Ocean Drive study (Manning et al. 2008) used photo elicitation to derive visitor norms for what was "acceptable" for crowding/congestion of traffic on Ocean Drive. All respondents were asked to rate each photo by indicating how acceptable it was based on the number of vehicles shown. Respondents reported that on average they would prefer to see no more than 4.9 vehicles in the study photo ("preference"); 11.3 vehicles in the study photo was the maximum acceptable number ("acceptability"); 12.5 vehicles in the study photo should prompt management action restrictions on Ocean Drive ("management action"); and at a use level of 16.0 vehicles in the study photo, respondents reported that they would no longer use Ocean Drive ("displacement").

Simulation Model. The results of the simulation model suggested that segments of road near Sand Beach, Thunder Hole, and the Gorham Mountain trailhead suffer from the most congestion resulting from traffic and right-lane parking. The simulation also modeled increases

in visitation. Current conditions (3.5 million visitors) is approximately 160% of 2007 levels (2 million visitors). Therefore, the simulation model suggests that preferred conditions of visitors would not be met for a significant percentage of time during summer use for every zone except the segment between Sand Beach and Thunder Hole. Further, minimal acceptability for visitors would also be exceeded for the segment directly proximal to Sand Beach.

Schoodic Peninsula

The Schoodic Peninsula offers an abundance of recreational opportunities and a chance to explore Maine's rugged coast without the congestion of Mount Desert Island. Popular activities at Schoodic consist of bicycling, camping, and hiking. Popular hiking trails are Alder Trail (easy), Anvil Trail (moderate), Buck Cove Mountain Trail (moderate), East Trail (moderate), Lower Harbor Trail (easy), Schoodic Head Trail (moderate), and Sundew Trail (easy). Additionally, visitors can choose from different camping styles, including tent camping, hike-in camping, or RV camping (with hookups). Bicyclists can ride the one-way Schoodic Loop Road or the 8.3 miles of bike paths on the peninsula.

A 6-mile, one-way loop road offers views of lighthouses, seabirds, and forested islands. Vehicle turnouts along Schoodic Loop Road provide opportunities to stop and enjoy the scenery. RVs are only permitted on the section of Schoodic Loop Road that accesses Schoodic Woods Campground. Arey Cove Road leads to Schoodic point, a windswept, rocky point providing spectacular views of Mount Desert Island.

Ranger-led and other education programs are also offered on the Schoodic Peninsula, often based out of the Schoodic Institute. These programs are generally located at Schoodic Woods Campground or the Schoodic Institute. The program runs from as early as 9:00 a.m. to as late as 9:00 p.m.

VISITOR AND USER SAFETY

Some of the specific factors influencing transportation safety in Acadia National Park include increasing visitation, congestion that inhibits emergency response times, shared use of the roadway for vehicles and bicycles, and nontraditional and disorganized parking habits. Other factors that affect visitor safety in the corridor include traffic speeds, signs and markers that help orient visitors, and visitor behavior. Visitor behavior varies across individuals and can be dependent on an individual's skills, abilities, and experience. These interrelated factors are discussed together in this section and in the analysis of visitor safety of the alternatives in chapter 4.

During public scoping for this plan, there were several comments specific to visitor safety. Many commenters were concerned that injuries and fatalities are imminent on park roads due to issues such as increased congestion in summer, distracted drivers/pedestrians, speeding cyclists and drivers, lack of adequate space for all roadway users, and the presence of oversized vehicles. Commenters had particular concerns about safety on Park Loop Road, the Ocean Drive corridor, and Cadillac Summit Road. Commenters mentioned that pedestrians cross the roads unpredictably and load/unload in right-lane parking areas, creating unsafe conditions for themselves and drivers. In 2016, rangers documented 476 incidents of parking violations, which is indicative of the extent of overparking and overcrowding that occurs in the park.

Many commenters were concerned that large motor coaches and tour buses create unsafe conditions for their passengers, other motorists, and visitors pursuing human-powered recreation (transport) on narrow Cadillac Summit Road during the crowded summer season.

The park staff makes considerable efforts to provide safety information in easily accessible locations and formats. Safety information is available through interaction with park staff at visitor centers, at entrance gates, and along the road with patrols. Safety information is also available on the park website, in park brochures, at some trailheads, and at waysides. However, there are multiple points of entry into the corridor, and visitors are sometimes unaware and unprepared for certain risks.

The speed limit for the majority of the road is 25 mph, although there are 35-mph sections. The road is narrow, ranging between approximately 16 to 22 feet in width. Some sections of the road are one way, while others accommodate two-way traffic. Multiple types of traffic other than motor vehicles use the road, including motor coaches, bicycles, and pedestrians. In 2016, 155 speeding citations were issued and 57 motor vehicle accidents occurred in Acadia National Park. The one fatal crash in the park in 2016 was on Cadillac Summit Road and rangers documented that speed was a contributing factor.

Conflicts among visitors can pose both real and perceived safety problems such as those between vehicles and pedestrians, or between bicyclists and vehicles. Perceived safety refers to an individual's subjective level of comfort and perception of risk without investigation of standards or safety history. Real safety refers to actual levels of risk based on safety history and standards.

The roadways have become a somewhat popular route for bicyclists to connect to multiuse pathways outside the park. However, some members of the public commented during public engagement efforts that they do not feel safe to pursue nonmotorized activities on Park Loop Road, the Ocean Drive corridor, and Cadillac Summit Road due to high levels of congestion during the summer. Specific issues mentioned include, but are not limited to, large numbers of moving and parked vehicles on paved roads, areas without crosswalks, drop-offs along road edges, lack of cycling lanes and safe space for cyclists/walkers, distracted drivers, speeding vehicles and cyclists, vehicles passing too close to cyclists, overflow/congestion near parking areas, and presence of large motor coaches and tour buses on Cadillac Summit Road. In 2016, the park documented 14 bicycle crashes and speed as a contributing factor in 10 of the 14 crashes.

SOCIOECONOMICS

Acadia National Park is prominent in the economy and identity of the coastal region of central Maine and the state as a whole. An economic contributions study in 2017 estimated that spending by local and nonlocal park visitors in 2016, across 3.5 million recreation visits, supported \$339 million in economic output, 4,160 jobs, and \$108 million in labor income across 11 Maine counties (Cullinane Thomas and Koontz 2018). Total estimated visitor spending in 2017 was \$284 million (Cullinane Thomas and Koontz 2018). Transportation access to the park plays a key role in the visitor experience and thereby affects visitor expenditures in the local and regional economies. Park visitation and transportation management also affect local residents and people who work on Mount Desert Island.

Socioeconomic Area of Consideration

Multiple geographic areas and scales of analysis are relevant to the socioeconomic environment for the transportation plan. Most of the information in this section focuses on eight communities overlapping or adjacent to the park, all in Hancock County; they are referred to below as the “core towns” and are the communities most directly affected by transportation decisions for the park. Four of these communities include the towns on Mount Desert Island: Bar Harbor, Mount Desert, Southwest Harbor, and Tremont. Many of the management actions specifically affect transportation patterns on the island and could affect socioeconomic conditions in these Mount Desert Island communities. A second group of four towns, referred to below as the “mainland” communities either have land in Acadia National Park that is affected by the transportation plan (Winter Harbor and Gouldsboro) or are situated immediately north of Mount Desert Island (Trenton and Ellsworth) along SR 3, the primary access route to Mount Desert Island and the park.

Previous NPS evaluations of the economic effects of Acadia National Park have used different study area definitions. For the economic contributions studies mentioned above, the National Park Service used an 11-county study area based on a generic, nationwide approach to study area definition (Cullinane Thomas and Koontz 2018). This area encompasses most of Maine’s 16 counties. In 2015, the National Park Service also implemented a more Acadia-specific study area when it conducted a socioeconomic monitoring pilot study (Resource Systems Group 2015). For that study, local park staff and NPS economics staff jointly defined a five-county study area (Koontz 2016), consisting of the following central Maine counties: Hancock, Knox, Penobscot, Waldo, and Washington. The material below variously refers to data for the core towns, the 5 counties listed above, the 11-county economic contributions area, or the entire state of Maine. Most data reflect the resident populations of the communities and conditions during the period from 2011 to 2015 based on data from the US Census Bureau’s Five-Year American Community Survey (Headwaters Economics 2017; US Census Bureau, 2016), except as noted.

Selected Social and Economic Characteristics

Seasonal Housing. For the state, 16.8% of housing units are intended for seasonal or occasional occupancy. Among the core towns, the seasonal housing rate is lowest in Ellsworth (11.9%), which has only a small area abutting the ocean and is more of a commercial center than a seasonal destination. The seasonal housing rate is very high in Mount Desert (47.1%), matching its reputation as a community with a high summertime population due to second homes. The rate is also very high (47.4%) in Winter Harbor. The seasonal housing rate is quite high among most of the other core towns (up to 39.9% in Gouldsboro). After Ellsworth, it is lowest in Bar Harbor (22.6%), probably reflecting Bar Harbor’s relative strength as an employment center among the Mount Desert Island communities, which would lead to greater use of residences to house employees versus nonworking visitors.

Seasonality of Unemployment. Monthly unemployment rates provide information on the employment market in local economies, particularly in regions where seasonal tourism is a key economic driver. Data from the Maine Department of Labor (2017) show that the unemployment rates for the counties and towns of the five-county study area improved steadily from 2013 through 2016, indicating recovery from the Great Recession. These data also show that some counties and towns have highly seasonal unemployment rates and others do not. Among the eight core towns of the study area, Bar Harbor has a high degree of seasonality in

unemployment. For instance, in 2015 the unemployment rate in Bar Harbor began at 13% in January, declined to well under 4% in August, and rose again to 8% in December (and subsequently, 10% in January 2016). Hancock County has a modest degree of seasonality in unemployment, and Penobscot County has very little seasonality in unemployment. The pattern for the other three counties of the study area fall in between the patterns for Penobscot and Hancock Counties. Southwest Harbor and Tremont have strong seasonality, with Mount Desert somewhat less so but more than for Hancock County. The unemployment pattern for Ellsworth is similar to the pattern for Hancock County. The patterns for the other mainland towns of Trenton, Gouldsboro, and Winter Harbor are roughly similar to that of Hancock County and Ellsworth.

Seasonality of unemployment has multiple socioeconomic implications. Clearly, when the unemployment rate is lower, more residents have income, which benefits them personally and benefits the local economy. Also, as the unemployment rate for community residents declines, and particularly when it reaches low levels (certainly when below 5%), it is likely that businesses are hiring significant numbers of nonresidents. This results in commuting, which can affect traffic and other quality of life considerations.

Commuting. Multiple factors affect commuting in the region and specifically commuting on and off Mount Desert Island. These include traffic created by park visitation; the availability of jobs on and off the island; and how wages, the availability of housing, and the cost of living affect the ability of workers to live on Mount Desert Island or nearby. Commuting patterns are directly relevant to transportation planning for Acadia National Park because traffic generated by visitation directly affects many commuters, as discussed below.

US Census Bureau data from 2014 show that 2,103 workers lived and worked on Mount Desert Island; 3,133 workers commuted to Mount Desert Island for a job; and 1,411 workers lived on Mount Desert Island but commuted off-island for a job. The sum of the first two categories—5,236—was the total number of jobs on Mount Desert Island in the first and second quarters of calendar year 2014. More than twice as many workers commuted to Mount Desert Island as commuted off, and roughly 1,000 more workers commuted to Mount Desert Island than the sum of those who lived and worked on Mount Desert Island or lived there but commuted off-island (US Census Bureau 2017).

These data also show that some off-island workers traveled great distances to jobs on Mount Desert Island. Nearly 12% of workers (600 people) on Mount Desert Island commuted over 50 miles to work, and nearly 25% (1,332 people) commuted over 25 miles.

The data reported above are consistent with information gained during interviews with community and business leaders as part of the research for this socioeconomic section. Park managers selected 12 individuals in leadership positions in business, local government, and nonprofit organizations on Mount Desert Island or the Schoodic Peninsula or with strong interests in Acadia National Park transportation-related matters. Interviews took place by

phone during September 2016.⁴ Executives of two major employers on Mount Desert Island—Jackson Laboratory and Mount Desert Island Hospital—each stated that about 55% of their employees live off-island and commute to Mount Desert Island to work (Interviews 2016). A major Mount Desert Island hotel employer reported that approximately 30% of his employees live on-island and the remaining employees commute and that most seasonal workers commute from off-island (Interview 2016). The town manager of an Mount Desert Island community stated that a majority of the town’s 42 full-time, year-round employees live off-island (Interview 2016). However, most of the employees of a local retail and rental shop live on Mount Desert Island. Many of these employees are high school students who live on-island or are students at the College of the Atlantic (Interview 2016).

Retail Sector Taxable Sales. Taxable sales data show the relative importance of certain retail sectors, seasonality across economic sectors, and growth in sectors over time. This analysis reviewed monthly taxable sales data from 2004 through 2016 from the Maine Office of Policy and Management (2017) and Maine Revenue Services (2017) for two Economic Summary Areas (ESAs). The Bar Harbor ESA consists of Mount Desert Island (all four core towns) and some surrounding islands. The Ellsworth ESA consists of most of the towns and villages of Hancock County, excepting those located in the Bar Harbor ESA and those in the southwest portion of the county around Penobscot Bay (e.g., Penobscot, Castine, Isle Au Haut). The Ellsworth ESA includes all four of the mainland core towns.

These data show that taxable retail sales for the Bar Harbor ESA are greatest in the lodging and restaurant sectors. Further, these sectors show extreme seasonality; their sales rise sharply beginning in May, peak in July and August, and decline but remain higher than sales in other sectors in September and October. From November through April, sales in these two sectors are exceeded by sales in several other sectors, such as food stores and building supply. The other retail sector has the third-highest summertime peak for taxable sales. This sector includes jewelry stores, gift shops, book stores, antique shops, and many other types of stores frequented by tourists. These data show another notable pattern: peak month taxable sales for both the lodging and restaurant sectors in the Bar Harbor ESA have increased steadily from 2004 through 2016. Peak month sales for most other sectors have seen little change over this period (Maine Office of Policy and Management 2017; Maine Revenue Services 2017).

The patterns of taxable retail sales in the Ellsworth ESA are very different. In stark contrast to the Bar Harbor ESA, sales for the lodging sector are among the lowest across the retail sectors. Sales for the restaurant and other retail sectors are somewhat higher, but generally less than sales for food stores, building supply, and the top two sectors—general merchandise and auto transportation. Almost all sectors exhibit significant seasonality, though less than in the Bar Harbor ESA, with lower sales in winter months and higher sales in summer months. In this ESA, some of this seasonality is likely attributable to purchases by tourists and seasonal residents (e.g., particularly for lodging and restaurants), while some is likely attributable to general seasonal purchasing patterns of residents (e.g., especially for automobiles and building supplies). It is also

⁴ The National Park Service has filed details of the interviews in the administrative record for development of the transportation plan.

notable that for the Ellsworth ESA, most sectors do not show a clear trend from year to year, with the exception of a slight upward trend for general merchandise and for auto transportation (Maine Office of Policy and Management 2017; Maine Revenue Services 2017).

Park Visitation and Its Economic Effects

Acadia National Park figures prominently in tourism in Maine. According to 2015 visitor tracking research for the Maine Office of Tourism, the park is the most frequently visited site in the downeast and Acadia tourism region, which consists of Hancock and Washington Counties (David Peterson Associates 2016).

Park Visitation. Expenditures made by park visitors in particular drive the economic effects of Acadia National Park on the economies of Mount Desert Island, the surrounding communities, the region, and the state. The more visitors or the more they spend per visit, the greater the economic effects. The number of visitors also affects local communities in many other ways, ranging from traffic congestion and its impacts on commuting patterns and the ability of local residents to move around Mount Desert Island, to the peak season and off-season sense of place experienced by local residents, to long-term impacts on the local economy and social systems as more visitors come to the region and some seek seasonal residences or permanent homes.

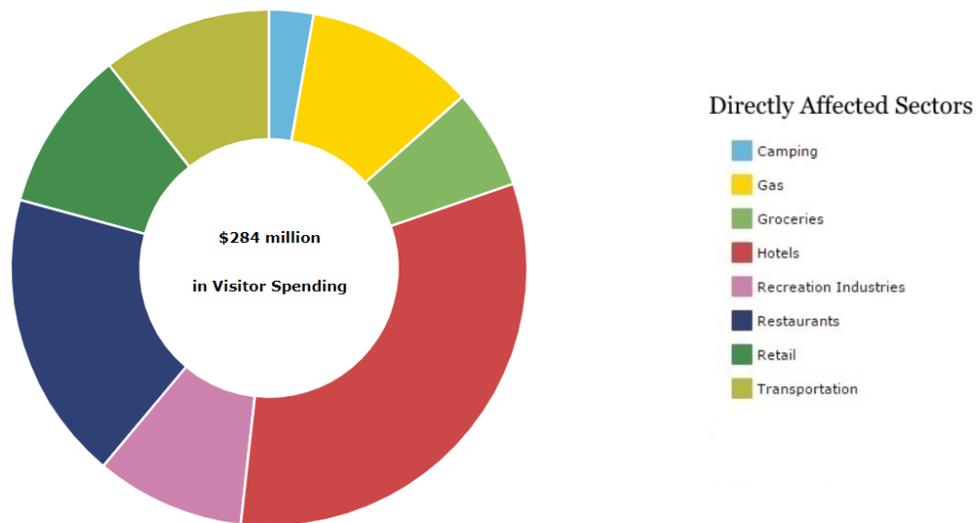
Visitation Trends and Patterns. The “Visitor Use and Experience” section of “Chapter 3: Affected Environment” discusses park visitation in detail. Figure 8 in that section shows that visitation trended downward from 1995 to 2005, began increasing after 2005, and has gone up dramatically since 2013. Figure 9 in that section shows a 6-year average of visitation in each month of the period from 2011 to 2016. Peak visitation occurs in July and August, while June, September, and October are also busy months. Visitation drops to low levels in November and remains low through the winter and begins to increase in April and more so in May. According to park staff and multiple community leaders interviewed for this report, the levels of visitation in September and October are a relatively recent phenomenon. Some of the increase in September and October is due to higher numbers of cruise ships visiting Bar Harbor, a topic discussed below.

Economic Effects of Acadia National Park Visitation. An NPS annual report series estimates the economic effects of visitation to Acadia National Park. The most recent report addresses the economic effects for 2017 (Cullinane Thomas and Koontz 2018). Figure 16 shows the relative shares of visitor spending across the directly affected sectors of the local economy (NPS 2018).

The total economic effects of the park include the secondary effects that occur as the direct visitor spending shown above flows through the local (11-county) economy (NPS 2018). Secondary effects comprise a substantial portion of the total economic effects—numerically between 23.06% for jobs and 32.15% for economic output (NPS 2018). The total economic effects from Acadia National Park visitation include (NPS 2018)

- 4,160 jobs
- \$108 million in labor income
- \$185 million in value added
- \$339 million in economic output

FIGURE 16. RELATIVE SHARES OF PARK VISITOR SPENDING IN THE LOCAL ECONOMY, 2017



Direct spending and resulting economic effects for the transportation sector are particularly relevant to the transportation planning effort. In 2017, \$30.2 million in direct spending occurred in the transportation sector supporting 242 direct jobs and \$5.8 million in direct labor income (NPS 2018).

Park visitation also generates state government revenues through sales and lodging taxes (Maine does not have local sales or lodging taxes). Visitation also supports property values and property tax revenues by bolstering the local economy and exposing potential real estate buyers to the local area. Local governments collect property taxes. Many additional factors affect property values in the core towns and transportation plan decisions are unlikely to affect those values.

Cruise Ship Visitation and Its Economic Effects. Visitation by cruise ship passengers receives considerable attention in the local communities, in part due to its positive economic effects (particularly in the fall), and also because it has created some negative effects on the communities. Cruise ship visits and passenger counts for Bar Harbor have grown substantially over the last two decades. The annual count of passengers arriving in Bar Harbor was less than 40,000 in 2000. The peak passenger count occurred in 2011, at nearly 180,000 passengers.

Cruise ship visitation is a relatively small portion of total visitation to the park. A 2016 study estimated that 138,285 cruise ship passengers “set foot” in Bar Harbor in 2016. It also determined, via survey responses, that 60% of these disembarking passengers visited the park (Gabe et al. 2017). Thus, an estimated 82,971 cruise ship passengers visited the park, representing 2.5% of the total park visitors. Virtually all cruise ship passenger visits to the park occur on commercial transportation. Thus, cruise ship passengers and the commercial operators who cater to them may be affected by the transportation plan.

Cruise ships come mainly in the fall months (September and October), as shown in figure 17, which compares the number of cruise ship visits by month in 2002 and 2015. Most of the growth in visits from 2002 to 2015 has been in September and October. In prior years, park visitation and the tourism economy of Mount Desert Island declined considerably in these months

compared to the busy season from June to August. September and October are still not as busy as the peak season, but they now see substantial visitation. Cruise ship passengers represent a higher percentage of total park visitors in September and October (up to 8.4% in 2016).⁵ The extension of the tourism season, in part due to cruise ship landings, has provided a boost to many local businesses.

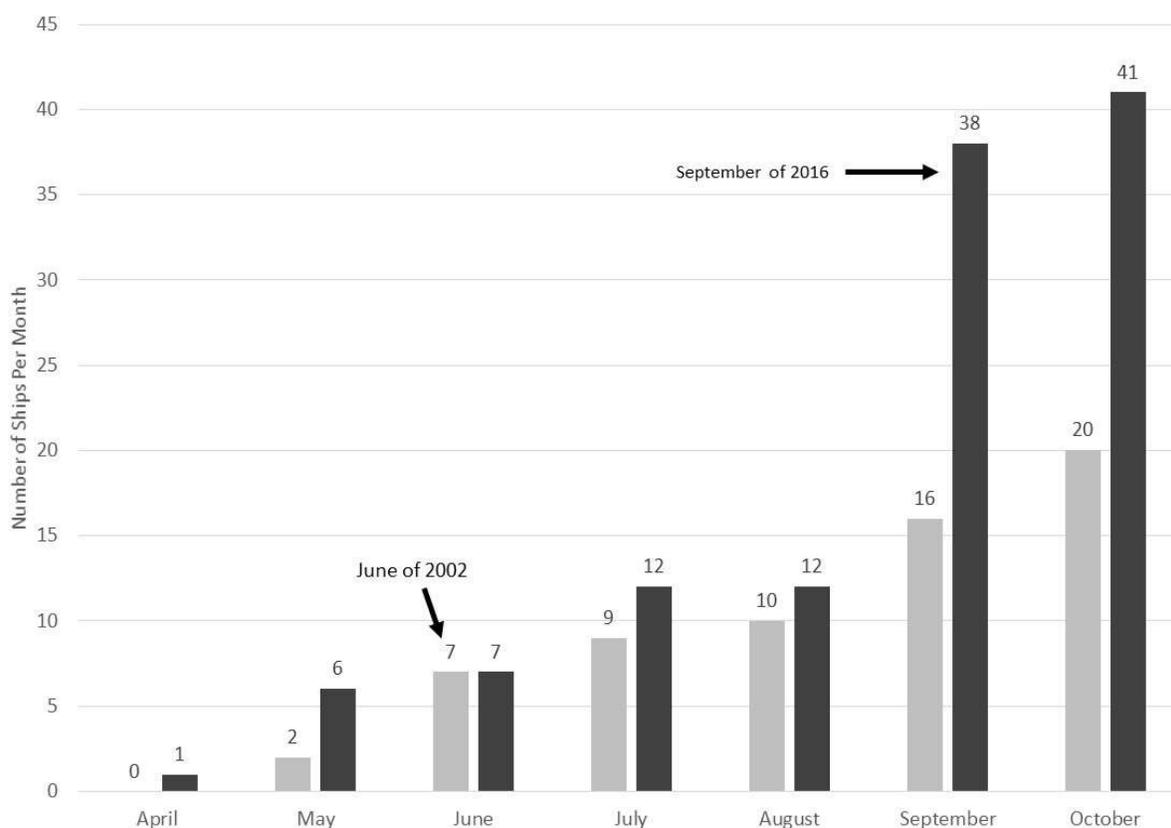
Cruise ship visitors have disproportionate impacts on certain days. Cruise ships do not arrive every day, even in September and October, and passenger numbers vary considerably each day due to the number and size of ships. Busy days result in elevated economic contributions and increased challenges for park managers, other visitors, and local residents.

Many cruise ship passengers spend money in the local economy. Based on a survey of cruise ship passengers, Gabe et al. (2017) estimated that cruise ship passengers in 2016 generated \$20.2 million of spending in the local economy, which supported 379 jobs and \$5.4 million in labor income received by employees and business proprietors. This amounts to a small but nontrivial portion (about 5%) of the economic effects of all park visitation. Spending by cruise ship passengers primarily benefits Bar Harbor, but not other Mount Desert Island communities because passengers mostly have opportunities to spend money while walking around Bar Harbor. In addition, cruise ship visitation benefits some Bar Harbor businesses, such as gift shops and lunch restaurants, but does not benefit other sectors of the Bar Harbor economy very much.

One economic sector that has clearly benefited from increases in cruise ship passenger visits is the commercial transportation industry. Buses, vans, limousines, hail driving services, and taxi operators transport passengers to various points in the park, including Cadillac Mountain and other popular sites such as the Jordan Pond House and Thunder Hole. This extends the season for these companies and, for some, it supplements other charter tour business. It provides employment during the fall season to commercial drivers, tour guides, and others associated with the commercial transportation sector.

A 2016 survey of cruise ship passengers showed that, of the passengers who visited Bar Harbor on days that the Island Explorer was running, 8% used the service. In addition, according to the survey authors, many survey respondents wrote in the margins of the survey form that they were unaware of the fare-free bus service (Gabe et al. 2017). The “Visitor Use and Experience” section of the “Chapter 3: Affected Environment” describes other park visitors’ use of the Island Explorer service.

⁵ In 2016, the 89,971 visits to the park by cruise ship passengers divided by 982,850 total visits in September and October of 2016 equals 8.4%. This percentage is a modest overestimate because some cruise ship passengers visit in other months.

FIGURE 17. SCHEDULED CRUISE SHIP VISITS TO BAR HARBOR, 2002 (LIGHT SHADE) VS. 2016 (DARK SHADE)

Source: Copied from Gabe et al. 2017, Figure 1.

Commercial Transportation—Visitor Use and Business Models. Commercial transportation services available at Acadia National Park include transportation companies that operate under a commercial use authorization. These companies bring people to the park for tours and/or activity-based experiences such as hiking, biking, nature tours, summer camps, art/photography workshops, water activities, and rock climbing. The two current concessions contracts provide tour services. Data for 2013 to 2016 show that all CUA holders for bus and van services combined carry only a small fraction of the total visits to the park, even in September and October, the busiest months for these services. For instance, in October 2016, bus passengers (39,453) amounted to 11.5% of total visits to the park on Mount Desert Island (344,490). In 2015, the percentage in October was the same. October consistently produces the highest percentage of visits occurring via CUA holders for buses and vans. The number for September is typically around 8% to 9%, and in other months it is typically under 4%.

While visits occurring via buses, limousines, taxis, hail driving services, and vans constitute a small percentage of total visits, it is important to further consider trends in their use and the nature of these businesses. These businesses could be impacted directly by some actions under the transportation plan alternatives.

Concessions. A concessions contract is a binding written agreement that authorizes the concessioner to provide certain visitor services within a park area under specified terms and

conditions, granted after a competitive solicitation process. The National Park Service has concessions contracts with two tour operators (trolley and bus): Oli's Trolley and Acadia National Park Tours. Both operate scheduled tours during the main tourism season of May to October. The tours include narration by a qualified guide, typically include a visit to the top of Cadillac Mountain, and may include stops at additional key attractions, depending on the length of the tour. Tours range from 1 to 4 hours and cost up to \$55 per adult. These companies are listed on Acadia National Park's website as tour providers.

Both concessions companies offer additional services. These include private charters in the park for corporate events, weddings and other private events, rental of buses for transportation to other locations, and step-on guides (providing qualified guides to accompany groups on vehicles owned by others). These services augment the income of these companies, but the publicly offered scheduled tours are the core of the business models of both concessioners.

Commercial Use Authorizations. A commercial use authorization is the legal instrument for park-approved business entities including nonprofit organizations to operate in the park. The NPS issues authorizations for commercial operations in the park not covered by a concessions contract. Each year, multiple bus, van, limousine, hail driving service, and taxi companies apply for and receive commercial use authorizations. There were 25 bus, van, limousine, hail driving service, and taxi commercial use authorizations in 2003. This number first exceeded 100 (specifically, 106) in 2012. There were 132 bus, van, limousine, hail driving service, and taxi commercial use authorizations in 2015 and 162 in 2016. These represented over 2,000 trips into the park by authorized buses, vans, limousines, and taxis between July and October of 2016.

Some of the CUA holders are based locally (in the eight core towns). Most are based in other parts of Maine or in other states because a major use of commercial use authorizations is by motor coach companies that offer tours originating outside the local area and feature Acadia National Park as one of the tour's attractions. However, the motor coach companies that use the park the most are based in Maine.

Motor coaches are large buses, typically 40 to 45 feet in length and capable of carrying 50 or more passengers. They typically include onboard restrooms and are designed for passenger comfort over long distances. These large buses are also used by some companies for short tours in the park, particularly for carrying cruise ship passengers on shore excursions to the park, usually including the top of Cadillac Mountain as a destination. Cruise ship companies and shore excursion companies often hire motor coach companies to carry passengers on the excursions. In addition to several large companies that provide this service, many smaller companies provide transportation for excursions and other tours, as shown by CUA numbers.

Passenger costs for road-based commercial tours vary considerably, depending on the length and type of use. For instance, according to a 2016 survey, the average cost of an excursion (most of which would involve some form of commercial transportation) was \$75 per person (Gabe et al. 2017). Shore excursion passenger revenues may be split between multiple parties, including the cruise line, the motor coach company, an excursion broker (in some cases), a tour guide, and food or other vendors (if applicable). At the other end of the motor coach cost spectrum, multiday tours that include Acadia National Park can cost many hundreds to thousands of dollars per passenger. As of August 2017, 6-day fall foliage tours from Boston up the Maine coast to Bar Harbor were available online for a base price of \$565 per person, double occupancy (Tours4Fun 2017), and a more deluxe 8-night fall foliage circle tour of New England from Boston was advertised online starting at \$2,169 (Signature Travel 2017). These revenues are also

distributed across multiple parties, including the motor coach company, hotels, featured attractions, sometimes a broker, and potentially others. For all the examples noted above, only a portion of the revenue (the percentage varies considerably) accrues to businesses in the eight core towns, the five-county study area, or the State of Maine.

Information from an interview with the president of one of the larger motor coach companies provides an example of how a large CUA operator benefits from and uses Acadia National Park. The company provides charter tours that originate outside of—but include—the park, as well as chartered shore excursions for cruise ship passengers. Cruise ship shore excursions are its largest segment, and therefore, the fall season when most of the cruise ships arrive is its busiest time. During most other months, the company has other business, although December and January are very slow. The company has approximately 50 bus drivers, about 20 of whom are full time or full-time equivalent (part-time drivers who work full-time hours during busy parts of the year). The company maintains two garages in Maine, both off of Mount Desert Island. In addition, some drivers keep buses at home, mainly when working for a few days in a row—they bring the bus back to a garage after their last shift of that week. Drivers make “good money” doing cruise charters. The company has many additional employees: mechanics, dispatchers, driver trainers, bus cleaners, and administrative staff. None of its drivers or other employees are based on Mount Desert Island, but the company subcontracts a few tour guides who are based there. It uses those guides for chartered, noncruise tours; the cruise companies provide or contract their own guides for excursions (Interview 2016).

According to the interviewed CUA operator, motor coach companies face a challenge under current transportation policies because of several “choke points” in the park due to traffic and limited parking spaces for motor coaches; these include Thunder Hole, Jordan Pond House, and Cadillac Mountain. Both short-haul (e.g., shore excursion) charter buses and long-distance tour buses must share a few designated motor coach parking spots, which are separate from the spaces reserved for the two concessioners (trolley and bus). If no spaces are available, for instance at Thunder Hole, a driver may have to drive by and not let customers off, which is unfavorable for business because guests’ experiences are diminished. Many of the charter companies coordinate with each other and with park staff to try to deconflict schedules, but this problem does occur at times. The interviewee stated that the companies doing shore excursions are generally good about staying on time because cruise ships are on tight schedules; problems tend to occur because the arrival of long-distance tour buses is somewhat less predictable. The interviewee stated that motor coach operators feel that motor coaches are shunned by some members of the public who believe they are big and noisy, but because they carry large numbers of passengers, they help reduce the number of vehicles on the road (Interview 2016).

In addition to or instead of motor coach services, some CUA operators offer entry to the park using small buses (typically 25 to 30 feet in length and holding up to 24 passengers) or vans (typically holding up to 14 passengers). These services may also include tour guides.

The National Park Service tracks numbers of commercial motor coaches, small buses, and vans that enter the Mount Desert Island portion of the park. The two concessioners (Oli’s Trolley and National Park Tours) must report their exact number of passengers. For buses and vans with commercial use authorization, the National Park Service estimates the number of passengers by multiplying the number of vehicles by 45 for commercial motor coaches, by 18 for small buses, and by 10 for vans. Data for 2013 through 2016 show the following trends in the number of passengers and vehicles by type that entered the park:

- Vehicle and passenger counts for CUA holders of small buses were low across all 4 years and showed little seasonality.
- Peak vehicle and passenger counts for CUA holders of motor coaches decreased from 2013 to 2015, but increased in 2016 to roughly 2013 levels.
- Passenger counts for the concession operators, Oli's Trolley and National Park Tours, were similar in monthly distribution for the 3 years from 2014 through 2016.
- The passenger and vehicle counts for CUA holders of motor coaches and for CUA holders of vans were highly skewed toward September and October, showing the importance of autumn visitation to those operators.
- The passenger and vehicle counts for Oli's Trolley and National Park Tours show that they obtained a more even proportion of their business across a longer period—June through October.
- The numbers of CUA holders for vans increased from 2013 through 2015 in most months compared to the same month in the previous year, especially in September and October. Beginning in 2014, the number of CUA vans per month became skewed toward September and October.
- The number of CUA holders for van passengers has increased across the 4 years from 2013 through 2016.

While the numbers of vehicles and passengers are clearly largest for motor coaches, those numbers have not grown since 2013, while vehicle counts and passengers for vans have grown. Some CUA holders see business opportunities in increasing the use of small buses and vans. For instance, one company based in Bar Harbor has purchased two small buses and six vans since 2014. The vehicles purchased are configured for comfort—they have four comfortable seats per row, two on each side of an aisle of stand-up height, large viewing windows, and a quality speaker system. In the case of the vans, the driver is not required to have a commercial driver's license because the capacity is limited to 14 passengers. Thus, the driver can also be the guide, speaking to the clients via a headset and speaker system (Interview 2017).

Park Visitation, Transportation, and Local Quality of Life

Interviews conducted for the socioeconomics section revealed three general areas of quality of life concerns related to the numbers of park visitors and how visitors are managed in the park and in the surrounding communities. These concerns involve people, cars, and buses. The views expressed in the interviews were generally, but not entirely, consistent. Diverse views are noted below where applicable. These issues are not solely due to park visitation—not all visitors to the local area come to visit the park, and many split their visits between the park and other attractions.

People. For some locals, the sheer number of people on Mount Desert Island is sometimes a concern, apart from concerns about vehicles. Restaurants can be crowded, requiring locals to make reservations (which at one time were rarely needed) or to allow more time to get a table. The number of people on the sidewalks and in the park in Bar Harbor is seen as undesirable at times. Some locals say that cruise ship passengers are the source of crowding issues. Others note that more people are in Bar Harbor on an average noncruise day in July or August than ever arrive by ship. They say the problem is one of perception—all of the cruise ship visitors enter at

the same place and the same time, amplifying the perception of impact, while other visitors may be at least as numerous but enter at different times and places. Moreover, they point out that more visitors come to Mount Desert Island by car than any other way (Interviews 2016).

Cars. A related problem, given the arrival of visitors by car, is parking. Locals say that Bar Harbor lacks adequate parking (Interviews 2016). The Town of Bar Harbor has studied parking adequacy and considered development of a parking garage (Bermello Ajamil & Partners, Inc. and Desman Associates 2014). According to the interviews, locals and visitors alike often have to circle around many times to find parking in town, and people also park illegally and in nontraditional parking areas. In Bar Harbor, Mount Desert Island Hospital purchased two motels, mainly for office space but also to access and create parking for its operations. Parking has become an issue elsewhere as well, including in Winter Harbor on the Schoodic Peninsula (Interviews 2016).

Parking is also a concern outside the villages. Roadside parking in the park is common and is a safety concern: “People are driving 60 mph with people parking for a mile and half stretch, both sides, unloading bicycles and taking photos. Not just on the loop road, but on the public road traversing the park, the Eagle Lake Road.” This is dangerous for visitors who are parking or driving and for locals who use these roads. Locals say that more people are coming by car and this is causing traffic jams and stresses on parking (Interviews 2016).

According to the interviews, traffic problems also create difficulties in commuting on and off Mount Desert Island. Several thousand people commute to Mount Desert Island for year-round jobs, and many more seasonal workers commute to the island, as well. Managers of major businesses and institutions such as Mount Desert Island Hospital, Jackson Laboratory, local hotels, and town governments are particularly concerned about commute times because the majority of their employees live off-island. This impacts their employees and sometimes their businesses. As one manager said, “Fifteen minutes of extra commute time times twice a day, five days a week, adds up. It is an economic cost—it is time they aren’t with their families, late for work, etc. It is not inconsequential” (Interviews 2016).

Locals report that the Trenton bridge is a particular choke point for commuter traffic, because it is the only road on and off the island. Park visitors arriving on Mount Desert Island by car add to the congestion issues faced by commuters at the bridge and on other main routes on the island. According to one local leader, “From 3:00 p.m. to 5:00 p.m., no local tries to leave the island. Locals pick and choose their times.” For some businesses, Trenton bridge congestion is also a business operations concern. For instance, congestion sometimes delays Jackson Laboratory in making shipments of biomedical research mice, a major product of the lab. Traffic problems also extend beyond the Trenton bridge, impacting Ellsworth at times. All visitors and commuters going to or from Mount Desert Island via the two major roads in the region (SR 1 and 1A) go through Ellsworth (Interviews 2016).

The net result of pedestrian and vehicle congestion for Mount Desert Island residents includes both a level of acceptance and some changes in behaviors. Interviewees for this report had these and other observations (Interviews 2016).

- “The people who run the businesses in town . . . they tend to be our neighbors, friends, and rely on tourism. So most of us look at the traffic and see a good thing because it comes with some positive impacts to the community.”

- “Some locals leave for summer. Some don’t go out at all when there are a lot of visitors and some have difficulty using and traversing the park.”
- “There are times when the locals avoid downtown because the cruise ships are there and this has resulted in some divisiveness in the community.”
- “It is very different in the summer than it is in the winter. July, August, and half of September is primary visitation season. Everything is crowded and congested and then everything goes away and settles in for winter. For example, a lot of people from my community, including myself, don’t go to Bar Harbor, like to the supermarket there, during the summer months, we wait until the winter. It impacts your consumption and travel patterns in the summer.”
- “Most locals stay out of the park during tourist season. If you are a local, you would only hike or bike to Cadillac Mountain, not drive.”

Buses. Community views regarding the use of buses to move park visitors are mixed. According to the interviewees, some community members believe that buses help reduce the number of cars. But there are concerns that buses serving cruise ships add to congestion in downtown Bar Harbor as they pick up and drop off passengers. In addition, some locals are concerned about safety issues around buses in the park. Said one, “The big tour buses are a real struggle because the roads are so narrow and not designed for those types of vehicles, and they are blazing through to keep up with their schedules and hit the bullets—Thunder Hole, Jordan Pond House. It gets intense at times.” This is a concern for locals who drive through the park and for some businesses, such as bicycle shops, whose customers may be affected (Interviews 2016).

Chapter 4

Environmental Consequences



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CHAPTER 4: ENVIRONMENTAL CONSEQUENCES

INTRODUCTION

This chapter describes the potential environmental consequences of implementing the alternatives being analyzed in this environmental impact statement. It is organized by resource topic and provides a comparison among alternatives based on issues and topics discussed in “Chapter 1: Purpose and Need” (i.e., visitor use and experience, visitor and user safety, historic motor roads, cultural landscapes, and socioeconomics) and further described in “Chapter 3: Affected Environment.” In accordance with CEQ regulations, direct, indirect, and cumulative impacts are described and the impacts are assessed in terms of context, intensity, and duration (40 CFR 1502.16). This analysis is based on the assumption that the mitigation measures—actions taken to lessen the severity and probability of a potential impact—would be implemented for all of the alternatives.

Unless otherwise noted, the geographic analysis area for all of the impact topics is the park boundary. When the impact analysis refers to duration, unless otherwise specified, a short-term impact corresponds to the period associated with the completion of construction, anticipated to last two to three construction seasons. A long-term impact would be an effect that extends beyond the construction period—more than several years.

SUSTAINABILITY AND LONG-TERM MANAGEMENT

For each alternative evaluated in an environmental impact statement, the National Park Service must consider the following: (a) any adverse environmental effects that cannot be avoided should the proposal be implemented; (b) the relationship between short-term uses of the human environment and the maintenance and enhancement of long-term productivity; and (c) any irreversible or irretrievable commitments of resources that would be involved in the proposal should it be implemented.

This first consideration (a) is discussed where applicable in each of the impact analyses contained in this chapter.

The second consideration (b) explores long-term effects of an alternative and whether the productivity of park resources is being traded for the immediate use of land. All of the action alternatives are designed to provide enjoyment of park resources in a manner that leaves them unimpaired for future generations. Therefore, the actions in this plan do not compromise the productivity of park resources in the long term.

The third consideration (c) requires that the National Park Service consider whether the effects of the alternatives are irreversible or represent irretrievable commitments of resources. Irreversible impacts are those effects that cannot be changed over the long term or are permanent. Irretrievable commitments are those resources that, once gone, cannot be replaced. All of the action alternatives propose some level of change to the park’s natural and cultural resources; however, none of these changes are irreversible and therefore neither are the effects.

In addition to the consideration above, the National Park Service is also required to consider (i) possible conflicts between the proposed action and the objectives of federal, regional, state, and local (and in the case of a reservation, tribal) land use plans, policies, and controls for the area concerned (1506.2(d)); (ii) energy requirements and conservation potential of various

alternatives and mitigation measures; and (iii) natural or depletable resource requirements and conservation potential of various alternatives and mitigation measures.

In regard to (i), no known federal, regional, state, local, or tribal land use plans or policies are in conflict with the actions proposed in the alternatives.

In regard to (ii), the alternatives would largely reduce traffic and congestion and would improve the operation and energy requirements of park facilities.

In regard to (iii), petroleum is an example of a depletable resource that would be required for the alternatives. Under all the action alternatives, construction of new facilities including structures and parking areas would require heavy equipment. Petroleum products (e.g., gasoline, oil) would be needed to operate this equipment. Implementation of these alternatives would therefore consume depletable resources.

ANALYZING CUMULATIVE IMPACTS

Cumulative impacts are defined as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (federal or nonfederal) or person undertakes such other actions” (40 CFR 1508.7). Cumulative impacts can result from individually minor, but collectively significant, actions taking place over a period of time.

To determine potential cumulative impacts, past, present, and foreseeable future actions were identified in the park. Cumulative impacts are considered for all alternatives, including the no-action alternative, by combining the impacts of the alternative being considered with other ongoing, present, and reasonably foreseeable future actions, and are presented at the end of each impact topic discussion. Table 6 illustrates the projects considered in the cumulative impact analysis for each resource.

HISTORIC MOTOR ROAD

Methods and Assumptions for Analyzing Impacts

The impacts on the historic Park Loop Road are described in terms of the potential to diminish or protect the integrity and/or character-defining qualities that contribute to their NRHP eligibility. The impact analysis was primarily qualitative in nature based on the knowledge and best professional judgment of planners, resource specialists, data from park records, and studies of similar actions and impacts as applicable.

TABLE 6. PAST, CURRENT, AND FUTURE ACTIONS USED IN ANALYSIS OF CUMULATIVE IMPACTS

Project	Project Description	Impact Topics
The Jackson Laboratory 10-Year Management Plan (Campus Zoning Plan)	The Campus Zoning Plan aims to develop a true campus setting for Bar Harbor Campus by moving JAX Mice, Clinical & Research Services to Ellsworth, Maine. The zoning plan is projected to be completed over a 10-year period, with the intention of having 50% growth in research space, 100% growth in research animal facility space, and migration from outdated rooms to modern and flexible/readily convertible facilities. Wood-frame buildings and trailers would be eliminated. The campus setting is meant to improve pedestrian safety; maintain and improve landscape and scenic views along SR 3 and Schooner Head Road streetscapes; and provide a visitor entrance that is welcoming and informative of JAX history, discoveries, and current initiatives. Part of the actions associated with this plan are to replace some of the current functions with a conference center and to expand parking to accommodate this use.	Visitor Use and Experience, Historic Motor Road
Maine Office of Tourism Strategic Plan	The purpose of the 5-year strategic plan is to strengthen tourism and recreation in Maine by expanding resources, capitalizing on changing consumer needs and buying trends, and educating residents and state business leaders about the economic benefits of tourism. The main objective of the plan is to increase direct tourism expenditures to \$6 billion in 2019. Other goals include increasing business-related visitation by 2 million visitors, increase first-time visitors by 500,000, and grow off-season visitation by 1% each year. By meeting these goals, the state's economy would be strengthened through incremental revenue, increased taxes, new jobs, etc. The strategic plan would be flexible and dynamic in order to meet any unforeseen changes within the 5-year period.	Socioeconomics, Visitor Use Experience, Historic Motor Road, Cultural Landscapes
Bold Coast Bike Tour Route	The Bold Coast Scenic Bikeway is a 300-mile bicycle route that winds through 30 communities from the Schoodic Peninsula to Eastport and connects to Calais and the Canadian Maritimes via the East Coast Greenway and US Bicycle Route 1. Once completed, the Scenic Bikeway will be permanently signed with interactive online maps, downloadable trip digests, and a comprehensive website connecting bicyclists with all the services they need to complete this route.	Visitor Use and Experience

The historic resources impact analysis primarily includes discussion of the following:

- To what extent would the historic character of Park Loop Road be affected by the proposed project alternatives?
- How would the proposed alternatives affect the qualities for which the road was determined eligible for the National Register of Historic Places?
- To what extent would significant historic resources be affected by modern infrastructure additions or modifications necessary to implement the alternatives?

Historic resources are irreplaceable and nonrenewable. Therefore, most direct impacts that affect the physical attributes and character-defining features of the road may be considered permanent impacts due to their nonrenewable aspects. Impacts on features of the road that are not historic could be considered reversible and may be considered temporary in nature if the intent is to ultimately reverse the impact.

Alternative A (No Action). Under alternative A, with no major changes in management of the park, the historic fabric and unique character-defining features of Park Loop Road would continue to be protected via regular maintenance following the guidance provided in the park's general management plan and Acadia's mission statement for the historic road system (see appendix C). When repairs are necessary, the park would aspire to replace historic features in kind; while retaining and protecting the extant historic resources, the park would discourage the addition of new features or techniques. The park would continue to follow the existing preservation guidelines laid out in the cultural landscape report for the historic Park Loop Road in reference to road surfacing and striping, maintenance of pullouts and parking lots, parking management stones, access gates, and signage. Under existing management, the road would maintain its fundamental purpose for sightseeing and recreational driving. Current efforts to rehabilitate and maintain the scenic roadside vistas would continue as described in the park's vista management plan. The park would continue to communicate needs and work with neighbors and partners to protect views and reduce negative scenic impacts along approaches from gateway communities, adjacent and internal designated scenic byways, and at neighboring properties.

Under the no-action alternative, the physical condition of Park Loop Road can be expected to deteriorate at an increased pace as visitation and congestion issues continue to increase. Road shoulders are particularly vulnerable because of continued use of right-lane parking (as wheels almost always leave the pavement to park), and because large vehicles unable to navigate historic road geometry would continue to drive on shoulders at curves, particularly on Cadillac Summit Road. The potential for collisions between historic bridge fabric and large vehicles that do not fit safely under them would increase. With increased congestion, more instances of shoulder parking and the associated damage to the historic fabric of the road would continue and increase. Increased traffic on the roads would continue to impact the historic character of the road by obscuring viewscapes, as would continued parking in the right lane.

Over time, because of overcrowding, historic pullouts along the road intended for brief stops for vista viewing have been converted to long-term parking. This historic character-diminishing impact would continue and possibly increase. NPS actions and creating minor modifications and expansions to parking lots, as well as right-lane parking and informal shoulder parking, could be expected to proliferate as responses to ever-increasing visitation. These adjustments to parking options change places where visitors congregate, which leads to changes in the routes and locations of trailheads on historic trails (both via social trailing to access the trails and purposeful park management to adjust trailheads to new parking realities), which damages their historic character and landscape design.

Under the no-action alternative, oversize commercial vehicles and vehicles with trailers would continue to use all of the historic roads. These oversize vehicles represent a threat to the physical historic characteristics of the Park Loop Road due to their size, as they damage historic shoulders on tight turns and have been involved with collisions with historic bridges. Oversize vehicles also damage the historic character of the roads by blocking viewsheds when parked alongside the road and at designed vistas. They also block viewsheds while in motion and can

cause historic character diminishing congestion when they must use two lanes of traffic to navigate sharp turns.

Ongoing incremental park management decisions taken to mitigate traffic problems and safety concerns associated with congestion, which would continue to occur under the no-action alternative, cause permanent long-term adverse impacts on the physical integrity and character of the historic roads. These actions include the placement of parking management stones that are not part of the historic landscape design and obscure views of designed and intended landscape vistas; the establishment of additional modern signage for controlling traffic and modified lane striping, both of which introduce modern features that dilute and degrade the historic scene; and the expansion and management of right-lane parking, a parking situation that was not a part of the historic design of the road and obscures historic vistas and damages the historic circulation design of the road.

Common to All Action Alternatives. Some actions to improve the quality of the transportation system and experience within Acadia are the same for action alternatives B, C, and D. To avoid repeating them in the description of each alternative, the impacts of these “common” actions are discussed here. When evaluating the individual alternatives in the Final Acadia National Park Transportation Plan/Environmental Impact Statement, readers should include the material in this section because it describes impacts associated with the entire plan and is an integral part of each action alternative.

All of the action alternatives include provisions that establish size restrictions on vehicles that travel on portions of Park Loop Road that were designed with road geometries incompatible with some modern large vehicles. Limiting the size of vehicles using the road would be a beneficial impact on the historic Park Loop Road. Incompatibly sized vehicles threaten and damage the historic fabric of the roads when they cannot navigate turns within the available lane space and off track, damaging historic shoulders. Oversize vehicles also threaten and occasionally damage historic bridges when they collide with low structures. In addition, requiring all motor vehicles, including commercial vehicles, to fit the road geometries would result in smaller tour buses on some segments of Park Loop Road. Park Loop Road was not designed for modern oversize vehicles, which block historic vistas, diminish the character of the road, and can damage historic shoulders and bridges. Smaller buses would improve vista viewing and result in fewer visitors flooding historic scenes at one time, also an improvement to the historic scene. Under all of the action alternatives, park management would encourage expansion of the Island Explorer public transit system, with the goal of reducing the number of vehicles on the road, a long-term positive improvement to Park Loop Road’s historic character.

Alternative B. Under alternative B, a parking reservation system would be established for the five largest lots associated with the historic Park Loop Road during the peak visitor season. The lots under a parking reservation would include those at the summit of Cadillac Mountain, Jordan Pond House, Thunder Hole, Sand Beach, and Sieur de Monts. Modern infrastructure in the form of staffed or automated gates would be installed at the entrances to each of these lots, as well as at Bubble Pond and the Bubbles lots to control traffic ingress and egress once these first-come, first-served lots are full. Gate appearance (whether automated or staffed) would be designed to the extent practical to match historic NPS rustic design characteristics, mostly mitigating their installation. Nevertheless, as they were not a part of the historic design of the

road they would represent an adverse impact that would diminish the historic character and historic integrity of the road system because they introduce modern infrastructure to the historic landscape.

Under alternative B, all right-lane parking along Park Loop Road would be eliminated and pull-off, time-limited parking for vista viewing would be established. These actions would result in a significant beneficial impact that restores the historic character of the road by removing parked vehicles from the viewshed and a historically designed travel lane, and protects and restores the historic intent of the pull-off parking lots. Removal of endorsed right-lane parking would result in a substantial beneficial impact to road's historic character. Its continued use despite overcrowded conditions in the park's parking lots degrades the historic character of the road more than any other current condition or management. Further positive impacts would be realized as road shoulders currently impacted by continued roadside parking are repaired and restored to a more historically accurate condition.

Under this alternative, reservations are only required to park at popular destinations and there are no restrictions on the number of vehicles that may enter the historic transportation corridor at one time. Existing adverse impacts on the historic character of the roads associated with congestion may continue or increase in intensity as vehicles are presented with fewer parking options. Congestion represents temporary negative impacts to the historic character of the road associated with blocked vistas and a compromised driving experience outside the historic intent of the loop.

Alternative C (Preferred Alternative and Proposed Action). Under alternative C, a timed-entry reservation would be established for the most popular corridors along the historic Park Loop Road: Ocean Drive, Cadillac Mountain, and the parking lots at Jordan Pond House. In order to manage the reserved entry points, temporary automated or staffed entry infrastructure would be needed at the intersection of Cadillac Summit Road and Park Loop Road, and at the entrance to the Jordan Pond House parking lots. Reservations for the Ocean Drive corridor would be validated at the existing Sand Beach Entrance Station. Initially, the infrastructure at Cadillac Mountain and Jordan Pond House would be mobile or temporary, as the reservation system's effectiveness at reducing congestion and overcrowding in the park as a whole is evaluated. These installations would represent negative impacts that diminish the historic character of Park Loop Road because they introduce modern infrastructure to the historic scene of the road and cause breaks in the free-flowing design intent of the road. Where entry infrastructure is established permanently, these would become permanent intrusions in the historic scene. These intrusions would be minor impacts to the road's physical integrity because they would be in places that have already been modified after the road's period of significance and could be designed to mirror the rustic design of other historic gates (at the entrance to Jordan Pond House and Cadillac Summit Road). However, more significant negative impacts to the historic character of the road and its intended unbroken loop could be realized if gates cause queuing of vehicles on the traffic lanes of Park Loop Road, interrupting the free flowing traffic expected as part of the historic design. Additional signage would be needed to inform visitors of the reservation-only entrances, particularly near Sieur de Monts, which are also modern intrusions into the historic landscape that detract from the historic character of the road. Guidelines for the construction of signs and gates described in the 2007 cultural landscape report for the historic Park Loop Road would be followed for all new infrastructure additions; this would minimize, but not eliminate, the impacts on the physical character of the road. In addition, signage and gates could be expected to proliferate if new reservation areas were

brought online if and when the adaptive management strategy of this alternative calls for adding more lots or corridors to the reservation system. New signs and gates would exacerbate the adverse impacts associated with introducing modern equipment to Park Loop Road's historic scene, though those impacts could be mitigated by adhering to NPS rustic design standards in their production and installation. In addition, the ultimate evolution of the adaptive management strategy of this alternative may be a complete systemwide management of Park Loop Road. Under this situation, many of the individual gates and signs within the system could be removed, lessening their impact of the historic scenery.

In addition to adverse impacts on the physical characteristics of the historic roads associated with infrastructure additions, other adverse impacts on the roads' character are associated with this alternative. Lane-shift and parallel-parking striping in the right lane of the Ocean Drive corridor intended to temporarily formalize right-lane parking changes the historic appearance of the road by adding striping that was not part of the historic design and formalizing the historic character-diminishing use of right-lane parking, which blocks designed views and the intended use of the road. Because the alternative calls for the phase out of right-lane parking, this adverse impact would eventually be eliminated as right-lane parking is phased out and the striping is removed. The ultimate elimination of right-lane parking is a major beneficial impact on the historic character of Park Loop Road. It will remove parked vehicles from the designed vistas and work (along with the reservation system) to restore free-flowing traffic conditions more reminiscent of the historic scene along Park Loop Road.

This alternative would create a segmentation of the driving experience on the contiguous historic Park Loop Road. As Rockefeller and other founders of Acadia National Park designed Park Loop Road in segments over several decades, they maintained a consistency in design and vision of an uninterrupted motor tour complementing the varying natural ecosystems of the park. Accomplishing this vision and consistency of rustic design while simultaneously acquiring the individual property parcels, navigating federal and private funding, and weathering hurdles presented by the Great Depression and World War II is part of the historic significance of the road and its uninterrupted route is one of its defining historic characteristics. Creating segmented corridors that interrupt the designed flow of the motor tour would detract from its historic design and intent and would be a significant adverse impact because of the degree to which it would diminish the historic character of the road.

Alternative D. Under alternative D, the entirety of Park Loop Road would be placed under the management of a timed-entry reservation system. Visitors would need a reservation to enter the system, but once inside could travel and park anywhere along the loop road. Under this alternative, most of Park Loop Road would be converted to one-way traffic in a counterclockwise direction. Counterclockwise circulation is a reverse of the current one-way flow on Ocean Drive. Right-lane parking would be discontinued except in a single area between the existing entrance station and Sand Beach (physically demarcated with striping). Several gates would be installed (designed to match the NPS rustic design used elsewhere in the park) to control access to the reservation-only loop as well as automated kiosks and new staffed entrances at Wildwood Stables and on Paradise Hill Road.

Reversing the direction to a counterclockwise circulation would be an adverse impact on the historic character of the current two-way circulation as it would involve an alteration of the historic design of Park Loop Road, which intended two-way traffic and envisioned vistas and scenery that would be viewed from both directions. It would also represent an adverse impact on the already one-way portions of the loop road as the viewshed of the driving experience would be compromised by more readily apparent scenes of modern buildings outside the park (The Jackson Laboratory) and—according to research conducted in 1988 that helped to inform the selection of the current one-way traffic direction—would result in access to fewer of the preferred vistas, including iconic views of Otter Cliffs and Bubble Rock. Though the establishment of one-way travel is different from the historic design intent of the road, and circulation in a counterclockwise direction exposes vehicles to modern disruptions of the view, it would improve views of Gorham Mountain and the northern section of Frenchman's Bay and would also provide the ability to travel in the direction and lane intended for the ocean front portions of the loop, a beneficial impact on the historic character over the no-action alternative. Establishing a one-way direction of travel on the currently two-way portions of the road would reduce the visibility of 16 identified and managed scenic vistas between Cadillac Summit Road and Jordan Pond House, some of which may be lost.

Under alternative D, there would be new infrastructure requirements along the historic Park Loop Road that would negatively impact its historic character. These new installations would be required to manage entry into the reservation-only system and to control the new one-way circulation pattern. Manned entry stations with expanded entrance lanes and booths would be constructed east of Stanley Brook Road at the entrance to Wildwood Stables, and along Paradise Hill Road near the West Street intersection, and new automated entry gate stations would be built at SR 233, and Sieur de Monts. Although these gates and stations would be designed to the extent possible to match NPS rustic design—and in the case of the new entrance stations, would be placed in locations previously compromised by the construction of modern road intersections—they would nevertheless be modern intrusions to the historic designed landscape of the road. These developments would also impact the physical historic fabric of the road in places where lane widening was necessary, and would diminish the historic character of the road by adding modern infrastructure to the historic setting.

Management of the entire loop road under a single reservation would reduce character-diminishing congestion on the entirety of Park Loop Road and would allow removal of the existing modern entry station at Sand Beach, which would be an improvement to the historic scene as well as an improvement of the free-flowing design of the historic loop that is currently compromised by a required stop at the entrance station. System-wide management of the loop would allow the park to remove modern traffic management stones from the landscape, helping to restore historic character to the shoulder design of the roads and lots where the stones currently exist. In addition, less modern signage would be required to manage a road that was converted to one way and some of the current signs could be removed, further restoring rustic historic conditions. Discontinuing most right-lane parking is a beneficial impact to the historic character of the road as it removes vehicles that block designed and intended vistas, restores free-flowing traffic to lanes historically intended for travel, and eliminates shoulder damage associated with parked vehicles. However, permanent demarcation of right-lane parking in the limited area near Sand Beach would adversely impact the character of the road because although cars now typically park in the right lane in this area, the physical demarcation of lanes and parking spots on the road surface would mar the historic setting and be visible at all times, even when visitation was not high.

The primary beneficial impacts on the historic integrity provided by alternative D is that systemwide management of the entire Park Loop Road ensures that once visitors have entered, they can experience the entirety of the loop uninterrupted by additional segmentations in the complete circuit imagined and designed by Rockefeller and Olmstead during the early development of the park; that their passage would be free flowing, and their views would be mostly unobstructed by right-lane parking and large vehicles.

Cumulative Impacts on Park Loop Road. Throughout the lifetime of the road up to the present, the major challenge to maintaining its historic integrity has always been the pressure of increased visitation and traffic. Previous impacts to the historic integrity and character of the road have always been in response to increased visitation (e.g., route and surface modifications, shifts to one-way travel, the establishment of right-lane parking). Continued pressure that could have a detectable impact on the historic roads of the park include tourism, marketing, and outreach initiatives articulated in the Maine Office of Tourism’s strategic plan. This initiative, combined with efforts of the National Park Service that encourage visitors to get out and into their national parks, add annually to the numbers of people coming to Acadia and neighboring communities. Road and parking congestion associated with over-visitation during peak times could be expected to proliferate under the no-action alternative, in conjunction with Maine’s tourism efforts (as well as the initiatives of others), adverse cumulative impacts on the character of the historic roads sourced in congestion, and damage to historic road fabric.

An additional threat to the historic character of the historic Park Loop Road and the designed driving experience associated with it includes Jackson Laboratory’s campus zoning plan and the efforts to expand the footprint of the laboratory campus on property neighboring the park. The laboratory lies within the historic viewshed of Park Loop Road and its expansion would damage the road’s historic landscape.

Under all action alternatives, private vehicle numbers are ceilinged by the capacity of however the reservation system is employed. Only under alternative D are private vehicle numbers along the entire scenic driving experience controlled so adverse impacts—specifically an increase in congestion that blocks character-defining viewsheds and causes damage to historic road fabric from unendorsed parking and shoulder driving—could be expected under alternatives B and C in association with Maine’s tourism marketing efforts, although all of the action alternatives reduce the cumulative negative impacts of these marketing efforts. The proposed expansion of the Jackson Laboratory campus to include housing developments, parking lots, and new administrative spaces could represent an adverse impact on the historic character of the road that would be worsened by changing the direction of one-way traffic as proposed in alternative D, and lessened by maintaining current traffic direction as presented in the no-action alternative or action alternatives B and C.

Conclusion. The no-action alternative continues and allows proliferation of adverse impacts on the historic character and character-defining features of Acadia’s historic motor road system. These impacts are primarily precipitated by overcrowding and vehicle congestion on park roads and in popular destinations.

Alternative B attempts to reduce these impacts by creating a timed-entry system to park at key destinations, controlling vehicle sizes at some locations, and eliminating right-lane parking. It involves impacts that diminish the historic character and physical integrity of the roads through installation of modern infrastructure to control parking lot access. These impacts would be

permanent but minor because the new infrastructure could be designed to minimize the visual intrusion on the historic scene.

Alternative C proposes a reservation system to enter the Ocean Drive corridor, Cadillac Summit Road, and Jordan Pond House, as well as an adaptive strategy that could extend reservation requirements elsewhere as necessary. It includes similar adverse impacts to the historic character and integrity associated with installation of modern infrastructure throughout the loop road system, as well as temporary formalization of right-lane parking. A significant adverse impact inherent in alternative C is the segmentation of the historic driving experience, which diminishes the historic design and character of Park Loop Road by forcing some visitors off the designed loop and others to stop for reservation validation.

Alternative D presents a systemwide management strategy for the historic Park Loop Road and eliminates most right-lane parking. Negative impacts of alternative D on the historic character of the motor road system include the construction of two new entrance stations, the expansion of one-way travel (contrary to the design intent of the road), and formalization of a short segment of right-lane parking.

All of the action alternatives involve positive and negative impacts on the historic character of the motor road system. All of the alternatives improve preservation of the historic character of the park's roads over the no-action alternative. Alternative D involves the least amount of negative impacts, balanced with positive impacts on the historic road system, primarily because alternatives B and C do not manage traffic on the entire historic Park Loop Road and allow continued congestion and compromised historic character outside the reservation corridors or lots. In addition, alternative D allows an uninterrupted tour of Park Loop Road, a character-defining feature that was part of the design strategy of the system over several decades of construction. Alternative B provides more beneficial impacts on the historic roads than alternative C because it allows an uninterrupted tour of the entirety of the loop road (though one that may be compromised by congestion). Alternative B also eliminates right-lane parking in its entirety, an immediate beneficial impact that would eventually be experienced under alternative C, as well.

All of the action alternatives include some adverse impacts to the physical integrity of Park Loop Road associated with the introduction of modern signs, gates, and entrance stations; these are minor impacts that can be mitigated by utilizing thoughtful adherence to rustic design. Alternatives B, C, and D all eliminate much or all of the currently endorsed right-lane parking, a significant beneficial impact that works to restore historic character by eliminating what is currently the worst affront to the road's historic character and largest threat to its physical integrity (due to regular shoulder damage). However, the preferred alternative also includes a significant adverse impact to the design intent and historic character of Park Loop Road by introducing a segmented driving experience that forces some visitors off the loop and others to stop for reservation validation.

CULTURAL LANDSCAPES

Methods and Assumptions for Analyzing Impacts

The impacts on the park's historic cultural landscapes are described in terms of the potential to diminish or protect the integrity and/or character-defining qualities that contribute to their NRHP eligibility. The impact analysis was primarily qualitative in nature and based on the knowledge and best professional judgment of planners, resource specialists, data from park records, and studies of similar actions and impacts as applicable.

The impact analysis primarily includes discussion of the extent significant historic resources would be affected by modern infrastructure additions or modifications necessary to implement the alternatives, and to what extent would the historic character exhibited in the park's significant cultural landscapes be affected by implementing the alternatives. Cultural resources are irreplaceable and nonrenewable. Therefore, most direct impacts that affect the physical attributes and character-defining features of the park's cultural landscapes may be considered permanent impacts due to their nonrenewable aspects.

Alternative A (No Action). Under alternative A, with no major changes in management of the park, resource protection activities at Sieur de Monts, Jordan Pond House, Cadillac Mountain, Thunder Hole, the Schoodic Peninsula, and other known cultural and historic landscapes would continue on an as-needed basis as issues are identified and funds are available. Park staff would continue to protect cultural landscape resources by reacting to major visitor use and transportation issues when and where they occur. The contributing historic resources and unique character-defining features of Acadia's cultural landscapes would continue to be protected via regular maintenance of structures, roads, trails, plants, and other landscape features following the guidance presented in the park's general management plan and the treatment recommendations of the park's cultural resource management program. When repairs are necessary, the park staff would aspire to replacing historic features in kind, while retaining and protecting the extant historic resources, which would discourage the introduction of new features or techniques.

Under the no-action alternative, visitation and congestion issues are expected to continue to increase. Physical conditions at the major park destinations can be expected to deteriorate at an increased pace, and the frequency of repairs and intervention on the landscapes can be expected to increase, particularly at sites like Thunder Hole, Cadillac Mountain, and Jordan Pond House.

Ongoing incremental park management actions taken to mitigate safety concerns and visitor satisfaction associated with overcrowding (which would continue to occur under the no-action alternative) may cause increasing adverse impacts on cultural landscapes. Some of these actions include the placement of parking management stones that are not part of the historic landscape, the establishment of additional signage for controlling traffic, modifications of parking patterns, and parking lot expansions. Incremental impacts of managing overuse of historic landscapes designed for fewer visitors would likely result in larger widespread adverse impacts on the park's cultural landscapes under the no-action alternative.

Common to All Action Alternatives. Some actions to improve the quality of the transportation system and experience in Acadia National Park are the same for action alternatives B, C, and D. To avoid repeating these actions in the description of each alternative, the impacts of these "common" actions are described here. When evaluating the individual alternatives in the Acadia National Park Transportation Plan/Environmental Impact Statement,

readers should include the material in this section because it describes impacts associated with the entire plan and is an integral part of each action alternative.

In all of the action alternatives, a reservation system of some kind would be established for access to the most popular destinations off Park Loop Road, specifically the cultural landscapes at Cadillac Mountain, Jordan Pond House, and Thunder Hole. Establishing access to these landscapes by reservation would result in more control over the numbers of people and vehicles at the sites at any one time. Reducing congestion of the landscapes, particularly in the parking lots, would reduce incidents of unauthorized parking and visitor-created trail development—both of which cause damage to the historic landscapes and fabric. In addition, once the congestion is controlled, park efforts to restore previously damaged landscape features and restore social trails will be more effective and result in an improvement to the condition of the cultural landscapes. Limiting access to Cadillac Summit Road to reservation holders and subsequently controlling the number of vehicles allowed at one time on the road is also common to all action alternatives, as is limiting vehicle size on the road to those that can safely navigate the turns in their lanes. These actions would serve to prevent congestion on the summit road that diminishes its historic character as well as control driving on the shoulders, which damages the historic fabric and hastens deterioration of the road.

All of the action alternatives establish vehicle size limitations. Limiting vehicles to sizes that meet the historic geometries of the roads and parking lots in the designated cultural landscapes at Jordan Pond House and Cadillac Mountain would reduce the instances of damage to historic landscapes and historic fabric from vehicles too large for parking lot and road conditions (particularly in the Cadillac Mountain cultural landscape and along its summit road). In addition, limiting the size of vehicles that can access Cadillac Mountain and Jordan Pond House would also reduce the number of passengers per bus, which would decrease pulses of high visitation from tour buses, resulting in less people at one time (PAOT) within the landscape, which would improve the historic viewshed by reducing the degree of visual intrusion.

All of the action alternatives are identical in their treatment of the Schoodic Peninsula. Schoodic would be managed for a lower density visitor experience providing a diversity of means of access and visitor experience. The park would continue to encourage bicycle access to the Schoodic historic road, including increasing outside connections through local communities. There would be no increase in parking or changes to the historic landscape design or number of pullouts. Parking enforcement would be used to discourage informal parking pullouts. In the event that vehicle traffic along the Schoodic National Scenic Byway through the park reach levels that regularly compromise scenic views or threaten the historic fabric of the road and landscape features, the park would implement adaptive management strategies that could include mandatory park-and-ride/bicycle use or would establish a reservation system for entrance to the corridor. These actions would all serve to protect the historic character of the loop road on the Schoodic Peninsula.

Alternative B. Under alternative B, gates would be installed at the parking lot entrances that are either manned or automated at Jordan Pond House, Sand Beach, Cadillac Mountain, Sieur de Monts, and Thunder Hole to control access to these reservation-only parking lots. These gates or stations would be modern visual intrusions on the cultural landscapes, diminishing their historic character. On busy days, traffic would likely queue onto the historic Park Loop Road behind the parking lot entrances, which would cause an undesirable impact on views from the cultural landscapes at Jordan Pond House, Sieur de Monts, and Thunder Hole. The gates

themselves would be designed, to the extent possible, using NPS rustic design guidelines, which would minimize the adverse impact on the historic scene.

Under alternative B, removal of all right-lane parking from the historic Park Loop Road would reduce the potential of social trail development into adjacent cultural landscapes from dispersed parking areas. In addition, limiting the number of vehicles allowed to enter the parking lots at the designated cultural landscapes and on Cadillac Summit Road would reduce crowding and congestion in the lots, which would reduce unauthorized parking that damages the historic fabric and landscape appearance, resulting in a beneficial improvement to current conditions.

Alternative C (Preferred Alternative and Proposed Action). Impacts on documented cultural landscapes associated with alternative C include similar negative impacts to alternative B associated with installation of modern traffic control gates at entrances to historic landscapes. Initially, the stations/gates would be temporary to test the effectiveness, meaning the adverse impacts would be fully reversed where it is determined that a station or gate is not needed. In areas where the station/gate is determined to be necessary, the gate would be a permanent intrusion that would diminish the integrity of the landscape. Careful placement and design would help minimize the adverse impacts. Alteration of the existing parking lots at Jordan Pond House and creation of a new lot and landscaped area are adverse impacts on the historic character of the site. The existing parking lots and associated connectors to Park Loop Road are not contributing historic features because they were built after the period of significance during the road realignment in 1963. Nevertheless, the additional proposed parking lots reduce and alter the greenspaces at Jordan Pond House, which negatively impacts its character and integrity. Proper use of vegetation screening and implementation of best practices during construction of the lots would help mitigate these impacts. The addition of modern signage at the Sieur de Monts cultural landscape is an adverse impact on the character of the site, but one which could be mitigated by using sympathetic design.

Alternative C also has potential for increased adverse impacts to cultural landscapes as adaptive strategies for managing the reservation system are implemented. Because the alternative includes options for expanding the reservation system and adding additional by-reservation-only corridors and lots into the system as needed, adverse impacts associated with installation of gates and entry booths (along with their associated infrastructure), signage, and other parking controls could extend to other cultural landscapes, cumulatively posing a threat to the historic integrity of the historic properties in Acadia National Park, though much of this impact could be mitigated by adherence to NPS rustic design standards. In addition, the ultimate expansion of the reservation system could include the entirety of Park Loop Road, which could allow for the removal of modern gates and signs at individual landscapes that would no longer be needed under a system-wide reservation.

Alternative D. Impacts to cultural landscapes under alternative D would be primarily beneficial. Because visitor access to the individual cultural landscapes under alternative D are controlled by making a reservation to the entire Park Loop Road, installation of modern traffic control infrastructure within the landscapes would be minimal. There would also be no expected negative impacts to viewsheds associated with queuing at landscape entrances. One exception would be the Jordan Pond House where a rustic gate would be installed within a noncontributing portion of the historic landscape previously modified in 1963. Beneficial impacts associated with reducing vehicles parked in unendorsed spaces that damage historic

fabric and reducing pulses of peak visitation and the associated impact of crowded viewsheds within the landscapes described in alternatives B and C are similar under alternative D.

Cumulative Impacts. Other past, present, and reasonably foreseeable future actions have altered, or have the potential to affect, the historic character and physical integrity of the park's designated cultural landscapes with proximity and connections to the Park Loop Road. Throughout the modern history of the park, the major challenge to maintaining the historic integrity of cultural landscapes has always been the pressure of increased visitation and traffic. Previous impacts to the historic integrity and character of the road have always been in response to increased visitation (for example, the modifications to vehicle circulation at the Jordan Pond House and at the entrance to Cadillac Summit Road). Continued pressure that could have a detectable impact on cultural landscapes of the park include tourism, marketing, and outreach initiatives articulated in the Maine Office of Tourism's strategic plan. This initiative, combined with efforts of the National Park Service encouraging visitors to see their national parks, add annually to the numbers of people coming to Acadia and the neighboring communities.

Over-visitation at popular destinations/historic cultural landscapes during peak times could be expected to proliferate under the no-action alternative, in conjunction with Maine's tourism efforts (as well as initiatives of others), adverse cumulative impacts on the character of historic landscapes originating from congestion that impacts scenic vistas and unauthorized parking that damages landscape fabric and leads to social trailing. Outside efforts that tend to increase visitation levels would have no impact on the historic character of cultural landscapes in the park under alternative B, which completely controls visitation levels within individual landscapes. Under the other action alternatives, there could be negative impacts on historic character associated with overcrowding and vehicle congestion because there is still some opportunity for visitors to move between sites with spontaneity, but overall, the cumulative negative impacts associated with alternatives C or D would be less than the no-action alternative.

Conclusion. The no-action alternative continues and allows proliferation of adverse impacts on the historic character and character-defining features of cultural landscapes in the park. These impacts are primarily associated with character-damaging overcrowding and associated physical damage to historic landscape fabric at popular destinations.

Alternative B attempts to reduce these impacts by creating a timed-entry system at key destinations in the park. It involves adverse impacts on the historic character at Cadillac Mountain, the Jordan Pond House, Sieur de Monts, and Thunder Hole cultural landscapes from installation of visible gates or entry stations.

Alternative C has similar, but fewer impacts, on landscapes associated with potential entry gates or stations at Cadillac Summit Road and Jordan Pond House, as well as the introduction of modern signage near the Sieur de Monts cultural landscape and extensive alterations of parking infrastructure in the Jordan Pond House landscape.

Alternative D involves no direct impacts to individual cultural landscapes at Sieur de Monts, Cadillac Mountain, Jordan Pond House, or Thunder Hole, as no modern additions to the landscapes or adjacent areas of the Park Loop Road would be needed.

All action alternatives remove the adverse impacts on the historic character of the landscape and damage to the historic fabric at Cadillac Mountain by limiting access to vehicles that fit the geometry of the summit road. All of the action alternatives involve positive and negative impacts on the historic character of the park's cultural landscapes. All of the alternatives improve preservation of the historic character of the park's landscapes over the no-action alternative. Historic character at cultural landscapes would be improved by limiting overcrowding and out-of-bounds parking under all of the alternatives, although alternative B provides the most control over crowds in specific landscapes. Alternative B involves the most modern infrastructure in the form of gates and entry stations installed at cultural landscapes. Alternative C also involves construction of modern gates and entry stations at cultural landscape sites, but fewer are needed than in alternative B (though the adaptive strategies in alternative C could eventually mean more are installed). Alternative D involves no modern additions to significant portions of road adjacent historic landscapes at Jordan Pond House, Cadillac Mountain, Sieur de Monts, and Thunder Hole, but offers the least amount of direct control over crowd size in specific locations and could result in occasional overcrowding at peak times and the associated threats that accompany it.

VISITOR USE AND EXPERIENCE

Methods and Assumptions for Analyzing Impacts

The effects of the alternatives on visitor use and experience in the project area were analyzed based on impacts resulting from (1) changed opportunities for *access* to recreation opportunities and key visitor experience, and (2) impacts on current visitor *experience quality* resulting from changes to visitor use patterns, visitor demand, and visitor expectations at popular destinations. These are important distinctions to recognize given the actions in the alternatives. Where one action may limit the number of people that can access a site (adverse impact), it will at the same time improve the quality of the experience for the visitors once they arrive at the site (beneficial impact). Understanding and exploring this distinction through this analysis is important to understanding the relative benefits and trade-offs to each alternative. For this reason, these two issues (access and experience quality) are analyzed separately.

To determine the projected number of permits that would be needed under the conditions of each alternative, a spreadsheet model was developed to analyze the current conditions and proposed conditions under each alternative. Inputs to this model include many data points and report results including hourly roadway vehicle counts, turnover rates for lots, parking occupancy rates, parking lot inventories, functional VAOT analysis, roadway capacity, roadway flow condition assessments, visitor perceptions of roadway crowding, gate processing rates, and visitor experience evaluations and specific sites.

Site-specific analysis was done by park area/destination where impacts on the area/destination would be distinctive from parkwide impacts. The impact analysis was based on the knowledge and best professional judgment of planners, comparisons of conditions in previous visitor surveys, data from park records, and studies of similar actions and impacts when applicable.

Impact Analysis Questions

The issues related to visitor use and experience addressed in this plan have the potential to negatively impact the fundamental resources and values of the park. Primarily, the fundamental resource and value being impacted is "Range of Visitor Experience." The actions in this plan are designed to address these issues and may change or impact how visitors access the park, which

sites they visit, when they can visit those sites, and what the experiential conditions of the site would be when they arrive. Therefore, this analysis is driven by these key questions:

1. How would visitor access and recreational opportunity change as a result of the alternatives?
2. How would the quality of visitor experience and opportunity change as a result of the alternatives? How would the levels of crowding be affected as a result of the alternatives? How would visitor perceptions of safety be affected by the alternatives?

Visitor Access and Recreational Opportunity

Alternative A: No Action. Continuation of the current management of the transportation systems at Acadia National Park would result in some beneficial, but mostly adverse, impacts on visitor access and recreational opportunities. Access to all roadways, parking, and visitor use would continue to be unconstrained. This would result in beneficial impacts on visitor access because visitors would still be allowed to arrive at sites and choose opportunities spontaneously. However, current volumes of use would continue to result in conditions where ease of travel to and finding parking in preferred locations would be challenging at peak times of day and peak days of the year. So while the ability to freely access sites may appear to be highly beneficial, the current conditions make it very challenging.

High volumes of use in accessing the park during the summer season and expanding shoulder season can cause congestion on roads and regularly exceed parking capacities in popular locations. This growing and unmanaged use results in congestion on roadways and a reduced level of service that also limits visitors' ability to access park resources. Additionally, groups arriving in oversize vehicles may continue to be displaced by crowded conditions in parking lots and at visitor use sites.

Maintaining Island Explorer service in its current configuration of service (timing, frequency, and extent) would result in no notable impacts as visitors would continue to benefit from continued access to visitor use sites for those who cannot or choose not to access those sites via personal vehicle. However, as demand for Island Explorer service continues to grow (as competition for parking increases and visitors seek other access options), there could be adverse impacts on visitors resulting in constrained access (related to long wait times) to both enter the park and to leave visitor use sites in the park during an increasing number of hours of the day and days of the year.

Common to All Action Alternatives. Visitors who arrived at the park in a vehicle that does not meet the size requirements would have to use Island Explorer service or authorized commercial services to access Park Loop Road, which could change their mechanism of access but not necessarily constrain the freedom of movement for these visitors. Additionally, actions to prevent use of unendorsed parking would result in fewer private vehicles being able to access some sites on the busiest days of the year. However, prohibiting entry to vehicles that do not meet road and bridge geometry restrictions may provide more access opportunities in certain areas to medium-sized vehicle parking where the current lack of parking prohibits their entry.

In all action alternatives, an increased number of visitors would be encouraged to use transit service to access key areas of the park. This would eventually lead to crowding at bus stops and on buses during peak times of day and days of the year if visitation continues to increase. If demand for the Island Explorer service were to increase to a point where crowding and

congestion at stops and on buses is not consistent with desired conditions for this service, a reservation system could be implemented, further restricting growth in visitation and expanded access opportunities. Also, bicycle and pedestrian access would continue to be encouraged, resulting in beneficial impacts on those user types.

Visitors who choose to or need to access the park with a commercial service provider (tour, excursion, or other service) may find that the service limits at some locations (depending on the alternative) constrain their ability to visit some locations in the park during peak times of day. Some of these visitors have very limited windows in which they can explore the park (based on current tour packages and arrival times), so the ability to find another time or day to visit isn't reasonable or feasible.

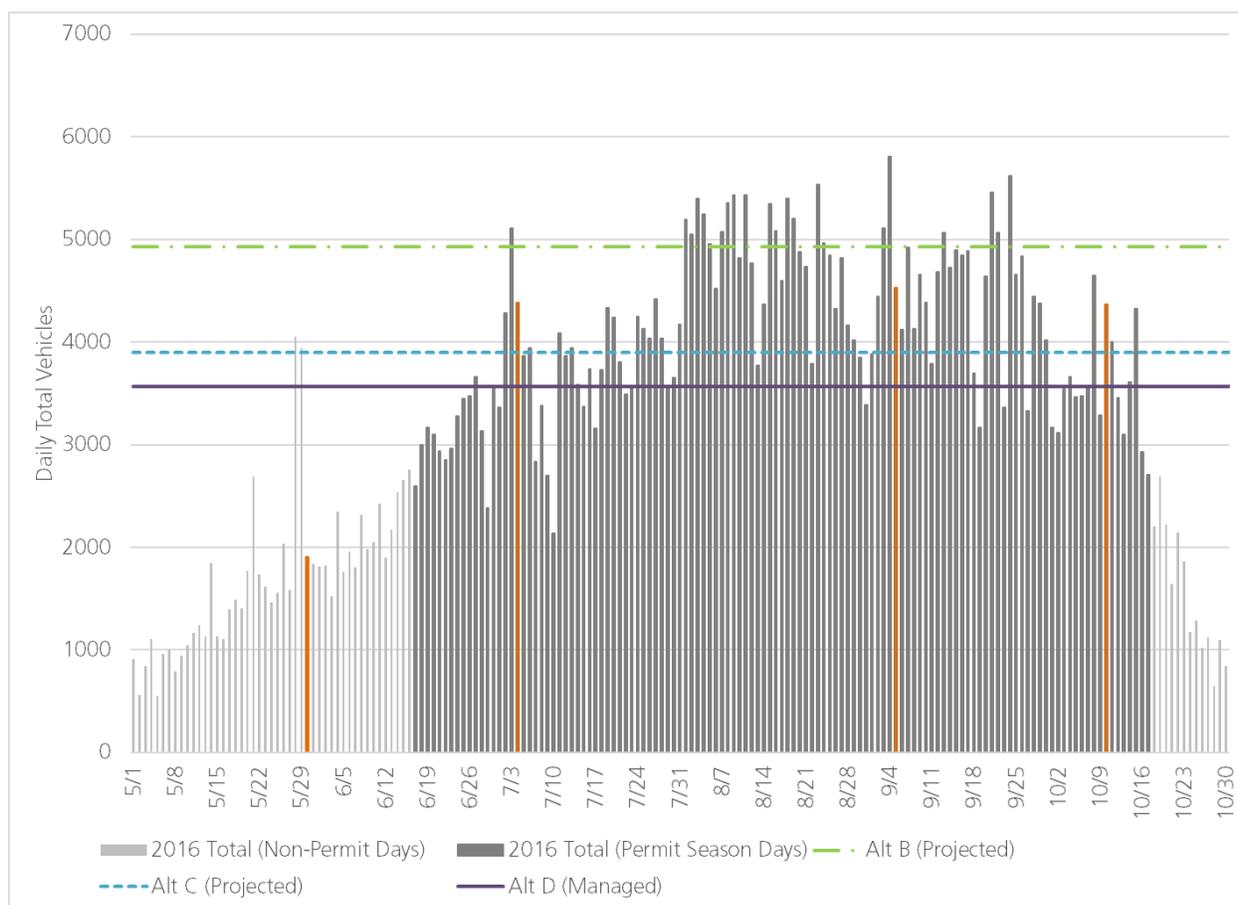
Additionally, direction management actions at sites, corridors, or the whole loop road would likely lead visitors to abandon these areas of the park and select other park locations to visit where access is not actively managed (and consequently constrained). This could lead to crowding and congestion at other park sites (e.g., Acadia Mountain, Schoodic Peninsula, Echo Lake). This could also lead to limits on the locations where educational programs can occur during high use times of the year, and these programs may have to relocate to other areas of the park. Finally, opportunities to access parking to participate in canoeing or kayaking on the lakes and ponds could be adversely affected as parking in these lots becomes more competitive due to more visitors competing for available parking spaces for a spontaneous arrival (e.g., Bubble Pond).

Schoodic Peninsula. Actions at Schoodic Peninsula would result in no notable impacts on visitor access or recreation opportunity. No major changes to the way visitors currently access this area of the park are proposed in these alternatives. Maintaining current access patterns and levels to this area of the park would result in no change to visitors by providing freedom and spontaneity of access and full and free access to all recreation opportunities. Actions to actively manage the transportation systems on Mount Desert Island (see preceding paragraphs) could result in additional visitors choosing to visit the Schoodic Peninsula instead of sites on Mount Desert Island because these locations are not on the reservation system. This could lead to increased competition for parking (parking will not be expanded to Schoodic Peninsula under any alternative) if more visitors switch from Mount Desert Island to Schoodic Peninsula.

Impacts Related to Reservation Systems. Implementing reservation systems would result in beneficial impacts since visitors would be able to more effectively plan their trip without worrying about or competing for available parking. For others, such systems would result in adverse impacts who would not be able to access a destination with their private vehicle if they did not plan their trip enough in advance, prefer spontaneous travel, or have some other barrier to obtaining a reservation. These visitors would have to find another destination or use Island Explorer service to access these locations. For visitors who prefer spontaneous arrival, Island Explorer would still facilitate this type of access.

Developing permit or reservation systems for parking areas or corridors (details vary depending on the selected alternative) would effectively redistribute use more evenly across the day and season. This would eliminate periods when lots and visitor sites are overused and redistribute that use to low-use periods. Estimates of the number of daily vehicles that would be accommodated on Park Loop Road by alternative is represented in figure 18. The amount of

FIGURE 18. ESTIMATED DAILY VEHICLES ON PARK LOOP ROAD BY ALTERNATIVE (MAY–OCTOBER)⁶



*Federal holidays denoted by orange bars.

available parking is relatively fixed across all alternatives, therefore, variations in the number of vehicles that can be accommodated per day among the alternatives mostly depends on the relative efficiency that can be expected of these areas, the anticipated (or managed) turnover rates, and the travel pattern of these vehicles. (There are additional differences in the *level of quality* that can be found in those locations, which is discussed in the “Visitor Experience Quality” section that follows.) When comparing the alternatives to vehicle demand during 2016, there would be between 22 and 89 days (alternatives B and D, respectively) of the 123 days of the season when parking permits are in place when the demand for access could exceed supply. However, there are 113 days within (54 days) and outside of (59 days) the parking permit season that could accommodate more vehicles than the current demand (in the preferred alternative). Across the entire summer season there is room to accommodate an estimated 63,000 additional

⁶ This chart does not include vehicles accessing Cadillac Summit as under each alternative, Cadillac is managed separately from the loop road system.

vehicles without violating desired conditions. As the parking permit season is isolated to the busiest days of the year (where this strategy is most needed to manage access and protect desired conditions), there will likely be a reduction in total vehicles accommodated during this time of the summer (-5% to -14%), with the exception of alternative B which could accommodate for some moderate growth (20%).

Since parking permits will be required only on the busiest days of the year, there are many days in the spring and some days in the fall where additional visitors could be accommodated along Ocean Drive. If the summer season is fully utilized, there is an opportunity for 8% to 48% increases in total annual private vehicles accommodated. Practically speaking, implementation of reservation systems would likely result in a retention of current use levels if those visitors who could not obtain reservations still decide to come at the same time and could be accommodated by other transportation modes (road-based commercial tours or transit). However, some visitors who still prefer private vehicle access may be displaced from high-use days (due to lack of permit availability) and may not be flexible enough to change their travel plans to lower-use days of the year.

Commercial Tour Access to Cadillac Mountain Summit. If reservations are fully utilized for road-based commercial tours (across all hours of the day), it should result a 46% increase in the number of visitors being able to access Cadillac Mountain summit per day via this service (when compared to an average busy day under current conditions).

Alternative B. The actions in alternative B (in addition to the actions analyzed under “Actions Common to All Action Alternatives”) would lead to both beneficial and adverse impacts on visitor access and recreational opportunities. As a result of this alternative, roughly 53% of the parking that provides access to sites along Park Loop Road would be on a reservation system. Overall, visitors who still wish to spontaneously engage in scenic driving to all segments of the park roads (including all segments of Park Loop Road) would still be able to do so, resulting in beneficial impacts. However, visitors without parking reservations would not be able to gain access to the parking areas that directly access major attraction sites. This would make accessing these areas by personal vehicle more challenging for visitors who do not have an advance reservation because competition for parking spaces in lots not on the reservation system would be high, resulting in adverse impacts on those visitors.

Visitors who are able to plan their trip would receive beneficial impacts in that they would have the certainty and ability to access sites that are of interest to them by securing a parking permit for direct access to the most popular park sites. Visitors who still wish to spontaneously engage in scenic driving of all segments of the park roads (including all segments of Park Loop Road) would still be able to do so. Completion of the Acadia Gateway Center would provide critical wayfinding and transportation information to visitors before they enter the park reservation system. This would help visitors by managing expectations appropriately and providing information about the range of park experiences and where visitors can access those opportunities and experiences. Parking lots not on the reservation system would still be open to spontaneous access, which would allow visitors the freedom to choose where and when they visit these locations, provided parking spaces are available when they arrive.

Most importantly, visitors without parking reservations would not be able to gain direct access to major attraction sites via their private vehicles. These visitors without reservations would be dependent on alternative transportation to recreate in these key areas of the park. Those

parking lots that are not on the reservation system are likely to still reach capacity early in the day, displacing visitors who do not arrive early. Competition for these lots would remain high, which would also lead to limited access in these areas as well as congestion in these lots. For more information about the impacts of congestion on visitors, see impacts related to “Visitor Experience Quality”).

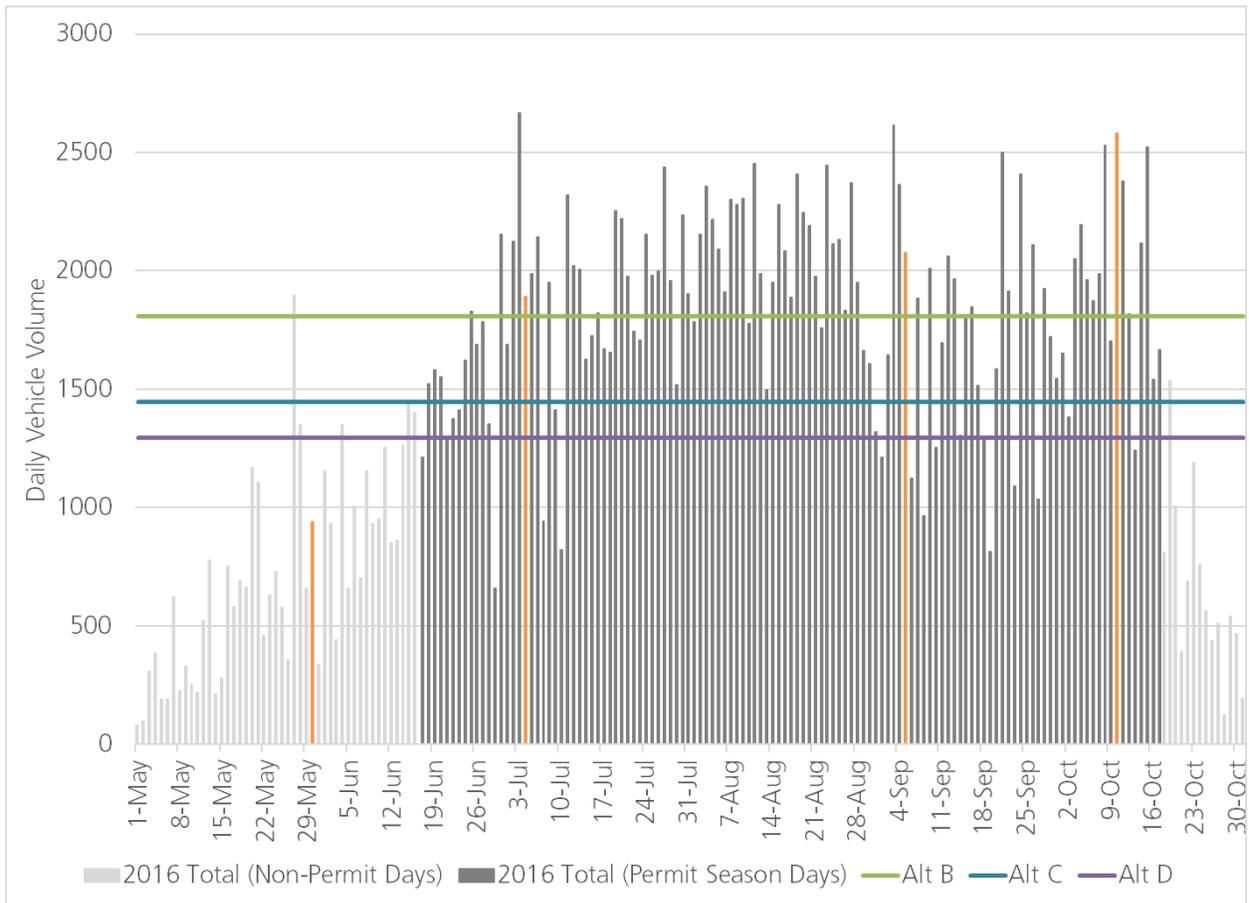
Additionally, parking reservations at the lot level would mean that visitors are committed to specific locations at specific times for specific durations of time. This has three adverse impacts. First, if there is an incident that closes access to that lot, visitors would have a limited number of places where they could relocate and would need to compete for parking at those alternative locations. Second, this type of reservation system restricts the ability of visitors in private vehicles to easily relocate to other locations if conditions are unfavorable in that location. For example, if a visitor has a reservation for Sand Beach, but it is raining, that visitor wouldn’t have the opportunity to self-relocate to another more favorable area (such as Jordan Pond House). Third, the fixed length of stay could put constraints on those visitors in private vehicles who would like to stay in a location longer than their reservation allows. However, the intention to sell a range of duration options in the parking permits would make this impact fairly negligible. Finally, while visitors learn about the reservation system and its associated requirements, they may be displaced from some locations where they did not make a reservation.

For visitors who choose to access the park with a commercial service provider (tour, excursion, or other service), they may find that the service limits at some locations in this alternative constrain their ability to visit some locations in the park.

Cadillac Mountain Summit. Based on 2016 data, there were 98 of the 123 days when the reservation system would be in place under this alternative where the number of cars that attempted to access Cadillac Mountain summit over the course of the day exceeded what would be supplied under the allocations described in this alternative. This would result in a decrease in access during these days (-17%). However, if this area is fully utilized across the full summer season (across all hours and days from May to October), it should result in an increase in the number of visitors being able to access Cadillac Mountain summit throughout the season, via private vehicle (+4%) without violating visitor capacities or desired conditions. See figure 19 for a summary of the 2016 daily total number of vehicles to Cadillac Summit compared to the action alternatives.

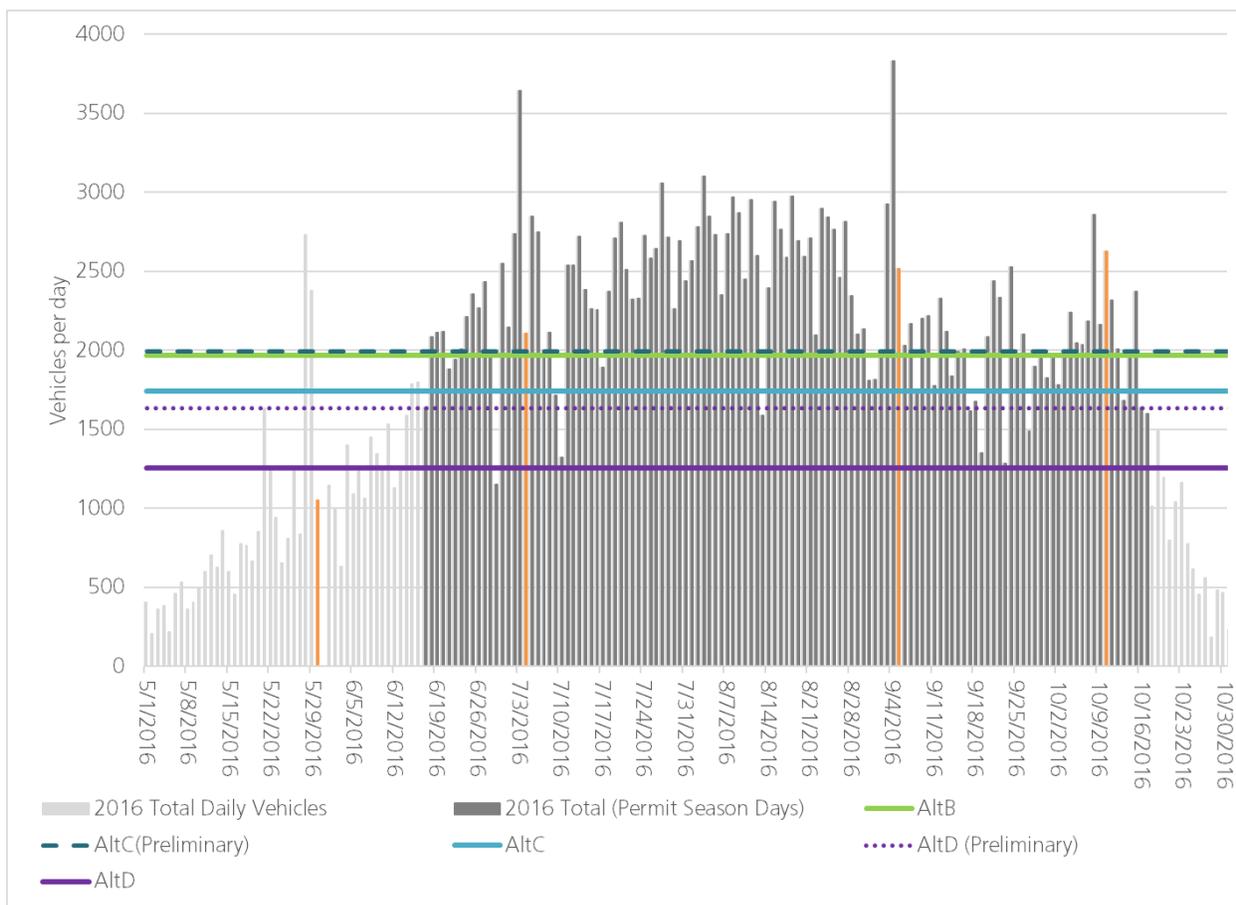
Ocean Drive. Outside of the managed access times of day, visitors have the freedom to visit the corridor without permits for accessing sites or scenic driving. This is a benefit to those who would like to spontaneously visit this corridor in the early morning or evening hours. Based on 2016 data, there were 110 of the 123 days when the parking permit system would be in place under this alternative where the number of cars that accessed the Ocean Drive corridor during this time period exceeded what would be allowed under the allocations described in this alternative. This alternative would likely result in 25% fewer visitors accessing this corridor via private vehicle during the parking permit season. An expansion of Island Explorer service to this area of the park (see “Chapter 2: Alternatives” and “Appendix A: Key Locations, Sand Beach”), should allow visitors who would have visited in a private vehicle to still access this area of the park via this service. See figure 20 for a summary of the 2016 daily total number of private vehicles to Ocean Drive compared to the action alternatives.

FIGURE 19. 2016 DAILY VEHICLES ON CADILLAC SUMMIT COMPARED TO ACTION ALTERNATIVES (MAY – OCTOBER)



Alternative C (Preferred Alternative and Proposed Action). The actions in alternative C (in addition to the actions analyzed under “Actions Common to All Action Alternatives”) would lead to mostly beneficial and some adverse impacts on visitor access and recreational opportunities. As a result of this alternative, roughly 58% of the parking that provides access to sites along Park Loop Road would be on a reservation system. Overall, visitors who still wish to spontaneously engage in scenic driving of most segments of the park roads (including most segments of Park Loop Road and the segment of Ocean Drive past Otter Cliffs Road) would still be able to do so, resulting in beneficial impacts. However, visitors without reservations would not be able to gain direct access by private vehicle to some park areas that provide access to major attraction sites. This would require visitors without parking reservations to take the Island Explorer or a commercial tour, ride a bicycle, or use another means of access. This could result in a very small and temporary adverse impact to visitors during the first season while visitors learn about other modes of access.

FIGURE 20. 2016 DAILY VEHICLES ON OCEAN DRIVE BY ALTERNATIVE (MAY – OCTOBER)



Visitors who are willing and able to obtain reservations would have a high probability of accessing those locations they desire. Hulls Cove Visitor Center would provide critical wayfinding and transportation information to visitors before they enter the transportation system. This would help manage expectations related to access and provide information about a range of experiences available to visitors. Expanded parking in this location would also make it easier for more visitors to transfer to Island Explorer buses and access a variety of park sites. Additionally, the Acadia Gateway Center would provide orientation to both the transportation system and the ecoregion, allowing visitors the benefit of learning about the park and its resources. By making Great Head Road a bicycle- and pedestrian-only surface, with vehicle access and parking available from Schooner Head, this alternative would further enhance access to recreational opportunities (like walking and cycling) and access to recreational resources (like Sand Beach) in this area of the park.

Because this alternative directly manages the two most popular areas of the park for scenic driving, visitors would be restricted in their ability to spontaneously engage in a scenic drive of the Cadillac Summit Road and Ocean Drive corridors if they were not able to obtain a reservation. As parking is not managed for individual lots in the Ocean Drive corridor, finding parking in the most popular lots in the park (i.e., Sand Beach, Thunder Hole) may still be challenging, although the number of people competing for these highly desirable spaces would

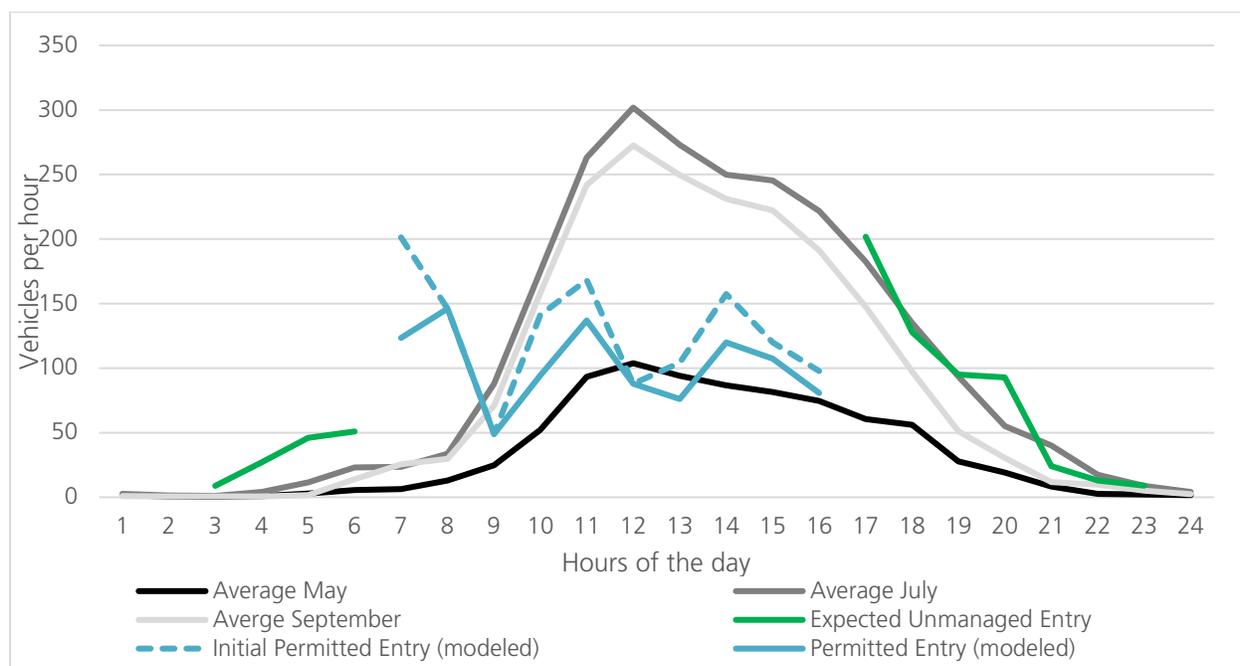
be far fewer than in alternatives A and D. Parking reservations at the corridor level would mean that visitors are committed to that specific corridor at specific times, though not—as with Alternative B—to specific locations within that corridor. This has two adverse impacts. First, if there is an incident that closes access to that corridor, visitors in private vehicles would have a limited number of places where they could relocate and would need to compete for parking at those alternative locations. Second, this type of permitted parking or permitted entry system restricts the ability of visitors in private vehicles to easily relocate to other locations if conditions are unfavorable in that location. As the whole of Park Loop Road is not managed, there could still be congestion along the roadways and in parking lots not on the reservation system, limiting easy access to some park areas during peak times of the day and days of the year. For more information about the impacts of congestion, see impacts related to “Visitor Experience Quality.”

For visitors who choose to access the park with a commercial service provider (tour, excursion, or other service), they may find that the service limits both the number of reservations available and places where tours can go at Cadillac Mountain summit and along Ocean Drive, which may constrain these visitors’ ability to visit these park locations. However, adding commercial tour access to Sand Beach increases the range of tour access locations in the Ocean Drive corridor, which is a benefit to these visitors.

Cadillac Summit. Based on 2016 data, there were 102 of the 123 days when the reservation system would be in place under this alternative where the number of cars that accessed Cadillac Mountain summit exceeded the “at one time” limits that would be in place under alternative C (see appendix A). Even if reservations are fully utilized across all hours of the day, all days of the permit season, it would likely result in 21% fewer private vehicles being able to access Cadillac Mountain summit during these days. However, if this area is fully utilized across the full summer season (across all hours and days from May to October), it should result in a minimal (0.5%) decrease in the number of visitors being able to access Cadillac Mountain summit throughout the season, via private vehicle without violating visitor capacities or desired conditions. See figure 19 for a summary of the 2016 daily total vehicles to Cadillac Summit compared to the action alternatives.

Ocean Drive. Another benefit of this alternative is that visitors would have a high degree of flexibility and spontaneity once they arrive in the Ocean Drive corridor. During permit times of day, visitors have flexibility to choose their parking location within the corridor and move through the corridor without fixed destinations or durations of visit. Outside of the managed access times of day, visitors have the freedom to visit the corridor without permits for accessing sites or scenic driving. This is a benefit to those who would like to spontaneously visit this corridor in the early morning or evening hours. Figure 21 shows the average vehicle entry to the Ocean Drive corridor in 2016 by hour for May, July, and September (gray-scale lines) compared to modeled average vehicle entry for this alternative. While managed hours of the day (blue lines) show large reductions in the average number of vehicles that can be accommodated, hours of the day where permits are not required (green lines) have opportunities to accommodate more vehicles.

FIGURE 21. AVERAGE VEHICLE ENTRY TO OCEAN DRIVE CORRIDOR



During the parking permit season, once in the corridor, visitors are likely to obtain a parking space at or near where they would like to recreate. Based on 2016 data, there were 109 of the 123 days when the reservation system would be in place under this alternative where the number of cars that accessed the Ocean Drive corridor exceeded what would be allowed under the allocations described in this alternative. This alternative would result in a reduced number of vehicles that would access this area of the park during the time of year where the parking permits are in place (-24%). During initial implementation phases when some right-lane parking is retained, there would be 90 fewer days where historical demand for parking exceeds supply and there would be a 13% reduction in expected access levels for those arriving by private vehicle. See figure 20 for a summary of the 2016 daily total private vehicles to Ocean Drive compared to the action alternatives.

Alternative D. The actions in alternative D (in addition to the actions analyzed under “Actions Common to All Action Alternatives”) would lead to mostly beneficial and some adverse impacts on visitor access and recreational opportunities. As a result of this alternative, roughly 77% of the parking that provides access to sites along Park Loop Road would be on a reservation system. This alternative has the highest degree of flexibility and opportunity for spontaneity for visitors who have access to Park Loop Road. However, as this alternative manages the whole park loop road system, visitors would not be able to spontaneously enjoy a scenic drive in the park if a reservation is not available.

Visitors in private vehicles who are willing and able to obtain reservations would have a high degree of flexibility and spontaneity once they access Park Loop Road. Once on Park Loop Road, visitors are likely to be able to obtain a parking space at or near the site where they would like to recreate. The Acadia Gateway Center would provide critical wayfinding and

transportation information to visitors before they enter the transportation system. This would help manage expectations related to access and provide information about a range of experiences available to visitors. Reversal of the road could result in new and expanded interpretation opportunities for visitors; however, this could also cause the reduction of some of the existing interpretive opportunities.

Alternative D significantly changes the way visitors in private vehicles access the park and the recreational resources along Park Loop Road by reducing the number of access points and the requirement to have a parking permit. This major change would result in short-term adverse impacts while visitors learn the new system. Since the lots are not managed directly in this alternative and demand for all lots along the loop road is not equal, this alternative would likely result in some competition for the most popular lots during peak times—namely, Sand Beach, Jordan Pond House, and Cadillac Mountain Summit. Based on historic distributions of use along the Park Loop Road lots, these popular lots could see demand for parking at 104% to 133% of parking availability. However, the number of people competing for these highly desirable spaces would be far fewer than under current conditions where there can be demand for use as high as 160% of parking availability. Additionally, reducing the number of entry points to the loop road system would change the use pattern of the road, which could cause delays at the entrances. The change in roadway direction may reduce the relative visitor demand on places like Sieur de Monts, Great Meadow, and Kebo Street because these areas are now on the exit—rather than the entry—areas of Park Loop Road.

Visitors who choose to access the park with a commercial service provider (tour, excursion, or other service), may find that the service limits both number of reservations available and places where the tours can go at Cadillac Mountain summit and along Ocean Drive; this may constrain these visitors' ability to visit these park locations.

Cadillac Mountain Summit. Based on 2016 data, there were 110 of the 123 days when the reservation system would be in place under this alternative where the number of cars accessing Cadillac Mountain summit exceeded allowances under the allocations described in alternative D. Even if reservations are fully utilized across the whole season, it would result in 30% fewer visitors able to access Cadillac Mountain summit throughout the reservation season via personal vehicle. However, if this area is fully utilized across the full summer season (across all hours and days from May to October, it should result in a lesser (12%) decrease in the number of visitors being able to access Cadillac Mountain summit throughout the season via private vehicle without violating visitor capacities or desired conditions. See figure 19 for a summary of the 2016 daily total vehicles to Cadillac Summit compared to the action alternatives.

Ocean Drive. Based on 2016 data, there were 122 of the 123 days when the reservation system would be in place under this alternative where the number of cars accessing the Ocean Drive corridor exceeded what would be allowed under the allocations described in this alternative. Under this alternative, it is likely that 45% fewer vehicles would access this area during the parking permit season. During initial implementation phases when some right-lane parking is retained, there would be 115 fewer days when historical demand for parking exceeds supply and the reduction in expected access levels would be 29% less. See figure 20 for a summary of the 2016 daily total private vehicles to Ocean Drive compared to the action alternative.

Cumulative Impacts. The projects analyzed in the cumulative impacts analysis would ultimately result in additional vehicles being attracted to and accommodated on Mount Desert Island and near the park. These actions would likely increase the demand for access to the park

via Island Explorer (in all alternatives) and could increase the demand for access to park resources and experiences. This could make competition for the limited capacity of Island Explorer even more competitive when compounded with the reservation systems outlined in the action alternatives, which would adversely contribute to visitor access for this access type.

Additionally, all of the action alternatives assume that some peak season park visitors would choose to visit in the shoulder seasons when competition for parking and access is not as intense. State tourism initiatives that propose growth in the shoulder seasons could compound the rate at which the availability of access in these seasons is fully utilized. Stated goals of increasing tourism overall could increase the competition for access to park resources and experiences during the peak season. These cumulative impacts would be persistent as long as visitation to the regional area increases and would become increasingly acute; Island Explorer and visitor capacities are approached on increasingly more days of the year, each year; and the supply of parking would not keep pace with the relative increase in demand for parking, displacing visitors (leading to adverse impacts for visitors) who prefer to access the park in this way.

Conclusion. The actions in alternative A would lead to mostly adverse impacts on visitor access and recreational opportunities. Access to all roadways, parking, and visitor use would continue to be unconstrained. While visitors would continue to benefit from access remaining spontaneous, current volumes of use would continue to result in conditions where ease of travel to and finding parking in preferred locations would be challenging at peak times of day and peak days of the year. So while the ability to freely access sites may appear to be highly beneficial, the current conditions make it very challenging. High volumes of use in accessing the park during the summer season and expanding shoulder season can cause congestion on roads and regularly exceed parking capacities in popular locations. This growing and unmanaged use results in congestion on roadways and a reduced level of service that also limits visitors' ability to access park resources and opportunities.

The actions in alternative B would lead to both beneficial and adverse impacts on visitor access and recreational opportunities. Implementation of this alternative would result in permanent changes to how visitors access and travel around the park, resulting in beneficial and adverse impacts. The beneficial impacts would be experienced at the specific sites where access is directly managed and would be significant as they represent a surety of access that cannot be found under current conditions. The most notable benefit of this alternative is the increased ability of visitors to plan their trip and ensure parking at a limited number of popular lots in the park. Additionally, this alternative has the highest potential for personal vehicle access to Cadillac Summit, as it directly manages the turnover rate in the associated lots to maximize visitation in this location. Adverse impacts from this alternative could be significant because increased visitation could lead to an increase in parking demand and there would be fewer spaces available for spontaneous arrivals. Also, as the roadways are not actively managed, congestion on some road segments would likely persist in restricting the freedom of visitor movement around the park. The increased trip planning and parking assurances make this alternative more beneficial than alternative A (no action). However, these benefits are limited to a few locations, making this alternative less beneficial than alternatives C and D.

The actions in alternative C would lead to mostly beneficial and some adverse impacts on visitor access and recreational opportunities. Implementation of this alternative would result in permanent changes to how visitors access and move around the park, resulting in significant beneficial and adverse impacts. The beneficial impacts would mostly be experienced in the

major corridors where access is managed and provides surety of access for visitors who are able to obtain reservations. Additionally, visitors who prefer to spontaneously engage in scenic driving or spontaneous arrival at sites would still have that opportunity in the locations not directly managed by the timed-entry system and during times of day and days of the year that are outside of the managed times (see chapter 2). However, visitors without reservations would not be able to gain direct access to some park areas that provide access to major attraction sites during peak times of day on peak days of the year. This would make accessing such areas at these times more challenging for visitors who do not have an advanced reservation, resulting in adverse impacts. The increased trip planning and parking assurances make this alternative more beneficial than alternative A (no action). Also, as this alternative provides a mix of reservation and spontaneous arrival options and directly manages the most congested parking lots/corridors, it is more beneficial for visitor access than any of the other action alternatives.

The actions in alternative D would lead to mostly beneficial and some adverse impacts on visitor access and recreational opportunities. Implementation of this alternative would result in permanent changes to how visitors access and move around the park, resulting in significant beneficial and adverse impacts. Visitors who are willing and able to obtain reservations would have a high degree of flexibility and spontaneity once they enter Park Loop Road. Once in the loop road system, visitors are likely to be able to obtain a parking space at or near where they would like to recreate. However, this alternative is the most constraining on the number of people that could be accommodated on a daily basis on the loop road system. Additionally, as the lots are not actively managed (to provide freedom of movement within the system) it would likely lead to minor or moderate competition for (and congestion of) the most popular parking lots along the loop road (i.e., Cadillac Mountain summit, Sand Beach, Thunder Hole). The increased trip planning and parking assurances make this alternative more beneficial than alternative A (no action). Because this alternative provides high surety of access and spontaneity in the corridor and reduces congestion to the extent practicable while retaining these values, this alternative provides more visitor access benefits than alternative B, but not as many as alternative C.

Visitor Experience Quality

Alternative A: No Action. The continuation of current management of the transportation systems at Acadia National Park would result in some beneficial, but mostly adverse, impacts on visitor experience quality. Current traffic patterns would still allow traffic jams along major roadway segments, leading to adverse impacts on both the quality of the driving experience and the ease of access to popular locations. Additionally, parking that is not actively and directly managed often leads to sites that are overcrowded, diminishing the quality of the experience. Finally, some perceptibly unsafe and uncomfortable conditions for visitors related to traffic patterns would continue to occur with frequency (e.g., parking along Eagle Lake Road where visitors have to exit vehicles directly into an active traffic lane).

Maintaining Island Explorer service in its current service configuration (timing, frequency, and extent) would result in mostly beneficial impacts because it would continue to provide access to visitor use sites for those who prefer this mode of travel. However, as demand for the service has grown and continues to grow—as competition for parking or access increases and visitors seek other access options—there could be adverse impacts on visitors resulting in long wait times (both on entry and egress) and crowded conditions on buses during an increasing number of hours of the day and days of the year.

Common to All Action Alternatives. Instituting a visitor management framework—including monitoring indicators (see appendix A) and taking adaptive management actions if thresholds are exceeded—would have a beneficial effect in the long term, reducing the extent and frequency of overcrowding in current and future popular areas of the park and ensuring opportunity for visitors to experience quiet, low-use areas of the park.

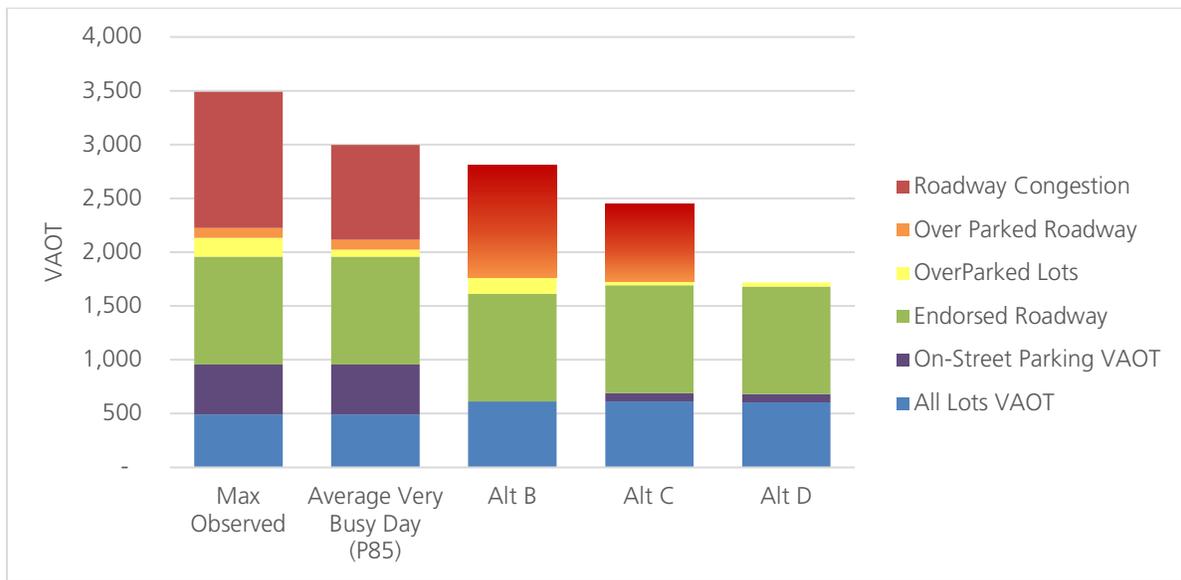
Visitor capacities for key areas of the park have been identified (see the “Indicators, Thresholds, and Visitor Capacity” section in chapter 2 and appendix A for discussions on visitor capacity). This capacity quantifies the amount of visitation that can be accommodated in these areas given desired conditions for visitor experience and resources. The capacity analysis took into account the management strategies being proposed in the plan that better distribute visitation through the park (e.g., reservation systems, parking changes) and address many of the current issues in the park (e.g., crowding, use conflicts, resource impacts). By managing to the identified capacities of the most popular locations of the park, the quality of the experience in these locations is protected for the long term. See appendix A for how visitor experience quality informs visitor capacities.

Schoodic Peninsula. The strategies to manage the Schoodic Peninsula are common to all action alternatives and would result in beneficial impacts on visitor experience quality. The goal for Schoodic is to maintain opportunities for low-density recreation. This goal is reflected in the Schoodic general management plan and public comment on this plan. Additionally, research on visitor preferences for experiences on the Schoodic Peninsula overwhelmingly (95%) support this objective (Manning et al. 2002).

Impacts Related to Reservation Systems. Implementation of a parking reservation system could lead to visitor perceptions that the park is a place that is less easy to visit. Reservations commit visitors to visiting a location at a certain time and day. If the weather isn’t compatible with the activity, this could lead to poor visitor experiences. Additionally, if current demand for experiences does not redistribute to other days of the year, those visitors who did not obtain a reservation for the directly managed areas would likely redistribute to other areas of the park, which could lead to overcrowded conditions and degraded visitor experience at those sites (e.g., Acadia Mountain, Eagle Lake, Schoodic Peninsula).

Figure 22 provides a summary of the number of VAOT that could be accommodated on Park Loop Road under the conditions of each alternative, compared to the busiest and average-busy days in 2016. The strategies in the action alternatives allow designated parking lots to become marginally more efficient through direct management strategies. The use that is currently displayed as overparking in lots or along roadways, or classified as roadway congestion is redistributed to other times of day or days of the year to the extent practicable. However, some alternatives (B and C) do not actively manage some lots and corridors along Park Loop Road. Therefore, if historic arrival patterns and demand prevail, it is expected that some roadway areas and some lots that are not directly managed through the reservation systems would likely still see higher demand than can be accommodated, resulting in overparking or roadway congestion on the busiest 20 to 25 days of the year. This “overuse” is represented in the gradients in figure 22 since the locations of these vehicles (either on the roadway or overparked in lots) is not definitively predictable.

FIGURE 22. VEHICLES AT ONE TIME (VAOT) ON PARK LOOP ROAD



Alternative B. The actions in alternative B (in addition to the actions analyzed under the “Actions Common to All Action Alternatives” section) would lead to some beneficial, but more adverse, impacts on visitor experience quality. In this alternative, some of the parking lots would be managed so that the sites proximal to these lots would not become overcrowded, therefore protecting the visitor experience in these locations. Congestion in these lots would be alleviated most of the time, reducing visitor stress related to finding a parking spot and adaptive strategies would ensure that lots on the reservation system are maintained to desired conditions. This alternative manages some lots with a reservation system with a range of fixed-duration-of-stay reservations for vehicles. While this fixed-duration approach increases turnover rates and thereby increases the potential number of people who could access a site in a day, it may have adverse impacts to experience by limiting the duration of stay for visitors to a defined time block.

The current traffic patterns experienced at Acadia National Park would likely prevail because most roadway segments are not directly managed under this alternative. This would likely result in traffic jams at some times during high-use times of the day and days of the year. These traffic jams may prevent visitors with reservations from accessing the location of their reservation in a timely manner, adversely affecting their experience. In some areas of the park, buses would continue to obstruct scenic viewsheds in some locations at some times, adversely impacting the experience quality of those views. Driving times may increase (people would likely drive slower or linger longer in pullouts or along roadways as they try to enjoy the scenic corridors without the ability to park). This could increase congestion along scenic corridors and reduce the efficiency of the reservation system and associated roadway level of service. As parking near the most popular areas would be directly managed through reservation systems and right-lane parking would no longer be allowed, visitors may begin to use temporary pullouts as long-term parking areas if they are unable to access a parking area for a proximal visitor use site. This would likely be most pronounced along Ocean Drive, particularly the roadway areas near Thunder Hole.

By requiring permits beginning at 7:00 a.m. means that on some days the lots will be partially occupied before the permits are in effect for the day. (For example, on busy days in 2016, up to 150 cars were already in the Ocean Drive corridor at 7:00 a.m.) This could lead to a situation where visitors with parking permits cannot find a place to park in their destination lot due to visitors who arrived before permits were required that day, resulting in adverse impacts to the visitor experience. Additionally, allowing access to Ocean Drive without timed-entry permits in the early evenings would allow for more unconstrained use of this area during times when it is highly desired (a visitor experience benefit); it may also lead to minor to moderate traffic congestion and competition for parking (therefore distracting from high-quality visitor experiences) as the historical demand for use during these hours is still relatively high.

Alternative C (Preferred Alternative and Proposed Action). The actions in alternative C (in addition to the actions analyzed under the “Actions Common to All Action Alternatives” section) would lead to mostly beneficial, but some adverse, impacts on visitor experience quality. Visitors who are able to obtain access to Ocean Drive and Cadillac Summit Road would benefit from a high-quality experience free of extended and systemic traffic jams. Additionally, the number of people at each site would be managed to expectations, so crowding at attraction sites would not be experienced. Ocean Drive, Cadillac Summit, and Jordan Pond House would be managed so visitors with reservations are assured a place to park when they arrive. Because the most popular attractions at the park are managed through reservation systems, visitors can be confident that their experiences in those locations would be of high quality (i.e., free from visitor crowding). Strategies in this alternative help manage visitor experiences on Cadillac Summit in a manner consistent with desired conditions and visitor capacities for the area (see appendix A). This alternative could ultimately accommodate more visitor use in this area across the season provided that the reservation systems for personal vehicle and road-based commercial tours are fully maximized. This could cause a negative impact on summit resources and, in turn, adversely affect visitor experience of these resources. Additionally, concession tour service to Cadillac Mountain summit could provide increased interpretive opportunities as a part of that service, contributing to the benefits of this alternative.

Development of the Liscomb parking area as a well-designed, environmentally friendly parking facility would greatly enhance the quality of the arrival experience at this area of the park and the transition from vehicle to recreation experience. Also, the Hulls Cove Visitor Center would provide an enhanced experience for learning about the park and transitioning to transit service from private vehicle for visitors who use this service. The addition of a formal lot near Acadia Mountain would result in people being able to access the trails in this location without having to park along nearby roadsides.

In some areas of the park (i.e., Ocean Drive and Lower Mountain Road), buses would continue to obstruct scenic viewsheds during high-use times of the day and year, which adversely impacts the visitor experience of these views in these locations. The current traffic patterns experienced at Acadia National Park would likely prevail along the segments of the roadway that are not directly managed by a reservation system. This would likely result in traffic jams along these road corridors during high-use times of the day and days of the year, which would adversely affect visitor experience. The driving experience on the most popular road segments (Ocean

Drive and Cadillac Summit Road) would be protected by implementation of the timed-entry system, which limits the number of VAOT that can move through these corridors during managed hours of the day.

By requiring permits beginning at 7:00 a.m. means that on some days the lots will be partially occupied before the permits are in effect for the day. (For example, on busy days in 2016, up to 150 cars were already in the Ocean Drive corridor at 7:00 a.m.) This could lead to a situation where visitors with parking permits cannot find a place to park in their destination lot due to visitors who arrived before permits were required that day, resulting in adverse impacts to the visitor experience. However, allowing access to Ocean Drive without timed-entry permits in the early evenings will allow for more unconstrained use of this area during times when it is highly desired (a visitor experience benefit); it may also lead to minor to moderate traffic congestion and competition for parking (therefore distracting from high-quality visitor experiences) as the historical demand for use during these hours is still relatively high (see figure 22).

Alternative D. The actions in alternative D (in addition to the actions analyzed under the “Actions Common to All Action Alternatives” section) would lead to mostly beneficial, but some adverse, impacts on visitor experience quality. Visitors who are able to obtain access to Park Loop Road would benefit from a high-quality experience, free of extended and systematic traffic jams. However, as individual sites and corridors in this system are not directly managed, there may be some transient congestion at the most popular destinations during high-use times of the day and days of the year. Similarly, some areas of the park would continue to be less used. Monitoring indicators related to crowding would ensure that the number of people at each attraction site is managed to desired conditions so crowding is not experienced. Additionally, limited bus access to key corridors would increase the quality of scenic views along the roadways. Concession tour service to Cadillac Mountain summit could also provide increased interpretive opportunities as part of that service, contributing to the benefits of this alternative.

Limited access points to Park Loop Road could cause moderate congestion at those locations at the beginning of access times as many visitors may try to enter at these gates at the top of the hour to maximize their time in the corridor. Additionally, as drive-in access to the resources and experiences to Park Loop Road would be actively managed and limited, it is expected that at some locations (West Street, Schooner Head Road, Otter Cliff Road, Great Meadow Drive, Kebo Street, and the Jordan Pond Road) visitors may park along the roadsides to either walk or bike into the Park Loop Road system. This roadside parking could lead to adverse conditions along the roadway and possibly to crowding at sites that would require additional management strategies in those locations if thresholds are approached (see appendix A for more information on indicators, thresholds, and associated potential management actions).

The change in the direction of travel for Park Loop Road would provide a safer alternative for slow-moving traffic because vehicles would have easier access to the scenic pullouts on the right side (ocean side) of the roadway. Making the majority of Park Loop Road one way would correct current confusion at the Stanley Brook/Park Loop Road intersection, reducing the potential for vehicle incidents and increasing perceived driver safety. This change in direction of travel could also temporarily cause confusion along the newly reversed segments of road and intersections for drivers who are used to driving the road in the current designated travel pattern.

Cumulative Impacts. In all alternatives (including the no-action alternative), completion of the Bold Coast Bike Tour Route could likely result in increased bicycle use along Schoodic Loop Road. This could increase the possibility of vehicle-bicycle incidents along this road segment and potentially impact the experience quality for cyclists if this route becomes popular during

the peak season. For other cumulative impacts see the “Visitor Access and Recreational Opportunity” section.

Conclusion. The greatest benefit resulting from implementation of this plan is common to all of the action alternatives. Instituting a visitor management framework, including monitoring indicators and taking management actions if thresholds are exceeded, would have a beneficial effect in the long term, reducing the extent and frequency of overcrowding in current and future popular areas of the park and ensuring the opportunity for visitors to experience quiet, low-use areas of the park.

Additionally, while implementation of a reservation system has some adverse impacts on visitor experience quality (see discussion above), over the long term it would result in sites that yield higher-quality visitor experiences, more in keeping with the desired conditions for the “Range of Visitor Experiences” fundamental resource and value. These benefits would be significant when compared to the current condition of these sites and experiences (common to all action alternatives).

The actions in alternative B would lead to some beneficial and mostly adverse impacts on visitor experience quality. While the reservation systems at some locations would directly manage the experience quality, this alternative does not proactively address the adverse impacts associated with high competition for parking at most of the parking lots and does not directly manage the most congested road corridors. As a result, it is likely that there would still be high levels of congestion in lots and along roadways during most days of the summer season. As the unique benefits of this alternative are limited to only a few locations, this alternative has fewer benefits and more adverse impacts related to visitor experience quality than either alternatives C or D.

The actions in alternative C would lead to mostly beneficial impacts on visitor experience quality. This alternative takes action to directly manage the most popular (and therefore congested) corridors in the park. This alternative, in addition to the visitor use management actions (see the “Actions Common to All Action Alternatives” section), would ensure that visitors have high-quality experiences in these key areas of the park. While there may be some intermittent crowding and congestion on other corridors, these events aren’t likely to detract from the overall quality of the experience of the park resources and transportation system. These benefits would be most acutely experienced on the managed corridors. As this alternative directly manages the most critical areas of the park to protect and maintain a high-quality visitor experience, this alternative has more beneficial impacts than alternatives A or B, and similar beneficial impacts as alternative D.

The actions in alternative D would lead to mostly beneficial impacts on visitor experience quality, with some potential adverse impacts. As this alternative directly manages the park loop road system, it would result in significant benefits to experience quality for visitors who have access to these areas. However, as the individual sites are not directly managed, there could be some intermittent congestion and crowding in some of the most popular locations. Also, stricter limits on use (see the “Visitor Access and Recreational Opportunity” section) could result in

crowded and congested conditions—and therefore degraded visitor experience quality—at locations that are not directly managed. This alternative has more benefits than alternatives A and B, and similar benefits to alternative C.

VISITOR AND USER SAFETY

Methods and Assumptions for Analyzing Impacts

This analysis discusses impacts on visitor and user safety related to the Acadia transportation systems. Some of the specific factors influencing transportation safety in Acadia National Park include increasing visitation, congestion that inhibits emergency response times, shared use of the roadway for vehicles and bicycles, and nontraditional and disorganized parking habits. Other factors that affect visitor safety in the corridor include traffic speeds, signs and markers that help orient visitors, and visitor behavior. Visitor behavior varies across individuals and can be dependent on an individual's skills, abilities, and experience. These interrelated factors are discussed together in this section.

The level of detail varies because the level of impacts would vary. If there are no impacts or only slight impacts associated with certain actions, then they are not discussed here. The effects of the alternatives are analyzed based on anticipated results from changes to traffic management strategies, visitor use patterns, types of use, timing of use, changes in levels of development, and management actions associated with each alternative. The impacts of each alternative are determined by describing how each impact topic would change compared to existing conditions. This analysis is driven by the key question: "How would visitor safety, both real and perceived, be affected by the alternatives?"

Alternative A: No Action. The continuation of current management in alternative A would result in some beneficial, but mostly adverse, impacts on visitor safety. Because of the historic road width, one-way sections are generally safer and more pleasant to drive. Where right-lane parking is prohibited, one-way sections of roadway provide safe space for passing vehicles and bicyclists. The one-way sections of roadway allow safer operation of buses and RVs.

However, the congested condition of the roadways under current conditions can mean that emergency response times are delayed during busy days (primarily on Ocean Drive and Cadillac Summit Road). To manage these peak congestion periods, the ranger division often has to allocate a majority of resources to these incidents, which makes the park staff unavailable to respond to other potentially more-pressing emergencies. Additionally, the current two-way traffic pattern nominally increases traffic on Park Loop Road by encouraging commuter traffic through the park (instead of taking other routes designed for commuter use). Due to the historic road width, the two-way section of Park Loop Road and Cadillac Summit Road is not designed for safe use by larger vehicles such as buses or RVs, especially when passing bicyclists or when meeting one another from opposite directions; this results in perceived safety risks and potential adverse impacts on safe use of the roadways. Finally, there is the potential for visitor injury from collisions between historic structures and motor coaches and other large vehicles that do not fit under historic bridges without straddling center lanes. Implementing the recommendations from the Traffic Safety Management Plan (2011) would mitigate many, but not all, of these concerns.

Common to All Action Alternatives. Reductions in vehicle size would reduce the number of instances where vehicles need to cross the centerline, increasing safety along roadways for vehicles and bicycles. Ensuring buses fit within the dimensions of the historic bridges and roadways would result in safer bicycle/bus encounters and would allow them to stay in their lanes, especially under historic bridges and in tight curves, reducing the likelihood of collisions. Though the road would still provide shared motor vehicle and bicycle use, replacing large coach

buses (approximately 60 passengers) with more small buses (approximately 30 passengers) would result in nearly double the bicycle/bus encounters on two-way sections of roadway, and could increase the potential for collisions.

Alternative B. In addition to the impacts discussed in the “Common to All Action Alternatives” section above, benefits in this alternative would result from the overall reduction in vehicle volumes on Cadillac Summit Road (resulting from the managed access actions in this alternative) and would reduce the likelihood of vehicle conflicts.

Alternative C. The removal of right-lane parking in some areas would reduce the potential for vehicle-pedestrian conflicts and increase the safety of bicyclists. Overall, reductions in vehicle volumes would also reduce the likelihood of vehicle conflicts on the corridors that are actively managed through the reservation system. The elimination of roadside parking at Eagle Lake would vastly improve visitor safety along this section of road for pedestrians accessing trailheads and bicyclists. Additionally, the active management of the most-used corridors would mean that ranger staff would not need to actively manage the congestion in these areas and would be able to respond more readily to other incidents in the park. The overall reduced traffic volumes in these corridors would increase the likelihood that emergency response vehicles would have unrestricted access to these areas of the park. These benefits, while limited to the locations where the National Park Service has jurisdiction of the road, could greatly reduce overall safety concerns.

The actions in this alternative could result in some site-specific adverse impacts on visitor safety. Because the road would still provide shared motor vehicle and bicycle use, temporarily keeping right-lane parking would continue to pose the potential for vehicle-bicycle and vehicle-pedestrian conflicts until right-lane parking is removed (thereby removing the potential for this conflict). Regulated access to corridors could increase the number of people who walk or bicycle in, which could pose safety issues along roadways.

Alternative D. Similar to alternative C, removal of right-lane parking in some areas would reduce the possibility of vehicle-pedestrian conflicts and increase the perceived safety of bicyclists. Overall, reduction in vehicle volumes would also reduce the likelihood of vehicle conflicts on the corridors that are actively managed through the reservation systems, resulting in a lower probability of incidents. Additionally, the active management of Park Loop Road would mean that ranger staff would not need to actively manage the road congestion and would be able to respond more readily to other incidents in the park. The overall reduced traffic volumes on Park Loop Road would increase the likelihood that emergency response vehicles would have unrestricted access to these areas of the park.

Regulated access to corridors could increase the number of people who walk or bicycle in, which would likely lower the risk of crashes along these roadway segments (c.f. Marshall, 2011). Changing Lower Mountain Road to one way could create temporary confusion and temporary driver safety hazards at the intersection of Lower Mountain Road and Cadillac Summit Road until visitors adjust to this change in traffic patterns.

Cumulative Impacts. In all alternatives (including the no-action alternative), completion of the Bold Coast Bike Tour Route could result in increased bicycle use along Schoodic Loop Road. This could increase the possibility of vehicle-bicycle incidents along this road segment and potentially impact cyclist safety if this route becomes popular during the peak season. For

other cumulative impacts see the “Visitor Access and Recreational Opportunity” section in the “Visitor Use and Experience” section.

Conclusion. The greatest benefit resulting from implementation of this plan is common to all of the action alternatives. Reducing vehicle size so vehicles can navigate park roadways without departing the travel lane greatly improves safety on roadways of all user types. These beneficial impacts would be permanent. Additionally, the active management of these areas and corridors would allow park staff to be more responsive (both in timing and number) to other incidents in the unit, resulting in long-term beneficial impacts to all users. In all alternatives, the regulated access to sites and corridors could lead to an increased number of visitors accessing the park as pedestrians or cyclists. This may reduce the potential for between-user conflicts on the roadways. This potential benefit is in addition to the expected reduction in between-user conflicts associated with the overall reduction in traffic volumes.

SOCIOECONOMICS

Methods and Assumptions for Analyzing Impacts

Economic data, visitor use data, expected future visitor use, park records, and future developments of the park—as well as studies of similar actions and their impacts—were all considered in identifying, discussing, and evaluating expected impacts from the proposed alternatives. The geographic area analyzed for potential impacts on socioeconomics is the five-county area around the park including Hancock, Knox, Penobscot, Waldo, and Washington Counties in Maine.

The effects of the alternatives on the socioeconomic environment were qualitatively analyzed based on potential changes in visitor use patterns, visitor demand, tourism, commercial visitor services, visitor spending, and resultant contributions to the local and regional economy.

The following assumptions were considered when assessing the effects of each alternative management action:

- With no changes in park management, visitation levels for all uses would increase throughout the park during the time frame of the plan.
- Visitation levels in the shoulder season would continue to increase.

Alternative A (No Action). Alternative A (the no-action alternative) would not result in any change to current contributions that park visitation and operations have on the local and regional economy. The dynamic and interdependent relationship between the park and local communities would remain unchanged. Management of park visitors would continue to vary seasonally as visitor demand and needs change and the physical capacity of roads and designated parking lots would remain generally the same. This is expected to result in similar volumes of use as currently experienced where finding parking in preferred locations is very challenging at peak times. Visitors who prefer less-crowded park experiences and who may not have the flexibility to adjust their travel plans to lower-use days of the year would continue to be displaced from the most popular park sites. Visitors would continue to be able to arrive at sites and choose recreational experiences and opportunities spontaneously.

Under this alternative, restrictions and prohibitions on roads and parking areas would continue to be implemented when needed to address safety concerns. An example of this is the temporary closure of Cadillac Summit Road due to extreme congestion. For visitors who have flexibility in

their schedule to adjust their travel plans, the temporary closure of a popular location may result in spending more time exploring nearby attractions and returning at a less-congested time. Longer visits to nearby areas are likely to result in higher visitor spending in the visitor service sector, which is a localized, beneficial impact to the local economy. For visitors on tight schedules, such as cruise ship visitors, traffic delays and lack of parking space for their road-based commercial tour bus can result in having to drive by (without being let off) popular destination points. In 2016, almost 70% of cruise ship passengers spent between 4 and 7 hours off the ship. Because there are no substitutes for visiting another national park within a 20-mile radius from Bar Harbor, increased congestion that reduces access and opportunity to explore the park would have adverse impacts on the tourism experience of visitors on tight schedules. The ongoing extreme congestion at peak times, lack of visitor parking at popular visitor destinations in the park and in the town of Bar Harbor, as well as large visitor crowds could result in negative visitor experience and discourage some visitors from visiting the park again or completing their planned stay. These would result in long-term minor adverse impacts on the local and regional economy from decreased visitor-related spending and the associated induced effects (e.g., reduced seasonal employment).

This alternative would not result in changes to current contributions to commuting times. Half of the park's visitation (over 1.5 million visitors) is expected to continue to be concentrated into the three-month period of July through September; therefore, summer congestion and traffic slowdowns are expected to continue to worsen. The particularly high traffic volumes and congestion on roads on the eastern portion of the island during peak visitor season may lead to the park visitor experience being perceived as less safe and of diminishing quality—a potential long-term adverse impact on tourism and associated service-related business that depend on the inflow of tourism dollars. Under this alternative, local visitors who have the flexibility to adjust their plans would likely adjust their visit to coincide with either less-congested times of the day or different times of the year when fewer nonlocal visitors are expected at the park. Changes to how locals visit the park would result in undetectable effects on the local and regional economy; however, these effects would likely be noticeable in the locals' quality of life as the benefits of living next to a national park may be perceived as diminishing. The effects on residents' quality of life are likely to be localized to the Mount Desert Island communities.

The months of September and October are likely to experience an increase in large vehicle traffic due to increased cruise ship visitation in those two months. Cruise ship visitation previously discussed in “Chapter 3: Affected Environment” has greatly increased over the last 15 years. There were 64 scheduled cruise ship visits to Bar Harbor in 2002, more than 110 ships dropped anchor in Bar Harbor between April and October 2016, and more than 160 ships were scheduled to visit by the end of the 2017 season. A similar level of growth was observed in the number of bus and van CUA holders, which grew from 25 in 2003 to almost 120 in 2016. As the number and size of cruise ships visiting Bar Harbor increases, an increased number of buses would be expected to use park and local roads. The continuation of current management is expected to result in long-term, noticeable, adverse effects on local quality of life as residents and commuters continue to be affected by the high level of visitation to the park and the effects of this visitation on resources, park and local infrastructure, current traffic congestion, parking, and safety.

As visitor season continues to expand, especially during spring and fall when park operations are not fully ramped up, the demand and pressure on park services and facilities would continue to increase. With expanded visitor season, additional staff is needed to clean restrooms, pick up

trash, and conduct overall custodian activities. Furthermore, under this alternative, resource protection and visitor safety activities would continue to be reactionary and take away resources (people and funds for temporary fixes such as signage) when issues arise. Park operations and services would remain constrained by current budgetary conditions. However, the no-action alternative would not further constrain park operations or services.

Because visitor commercial services would generally continue as currently managed, business operators would not realize any changes to the current contributions resulting from visitor expenses. However, without any changes to current management, congestion issues are expected to continually increase. Under this alternative, commercial operators would maintain flexibility to adjust tours to deal with delays; however, operators using oversize vehicles have less flexibility due to the geometry of park roads and bridges. In practice, this means that oversize commercial vehicles are limited to certain areas in the park and cannot take their clients elsewhere in the park to substitute an experience. The lack of reserved parking for road-based commercial tour operators at some of the most popular park visitor sites would continue to be an operational risk to these operators as drivers may need to circle lots waiting for a space to become available. Continued growth in congestion can be expected to be unfavorable for the long-term sustainability of road-based commercial tour operators, resulting in a long-term adverse impact on the local and regional commercial transportation sector and associated service-related businesses that cater to these park visitors.

Continuation of current visitor commercial services management would continue to have short- and long-term adverse effects on facilities and roads damaged by oversize commercial vehicles. For example, motor coaches collide with the entrance station every year, adding to the park facility maintenance needs. As no major changes in budgeted resources to fund NPS operations are anticipated under this alternative, the above-mentioned damages would continue to be addressed at the expense of other park maintenance projects (e.g., culvert cleaning, mowing) and with the limited available park maintenance staff. These would adversely affect the long-term sustainability of the park resources upon which visitation and the associated local economic activity relies. Current management would continue to provide commercial operators with short- and long-term beneficial economic impacts from maintaining business in the park.

Service-related businesses supported by park visitation would continue to benefit from visitor expenditures inside the park and in the surrounding area. Contributions to the local and regional economies that result from park visitation would continue to be beneficial.

Common to All Action Alternatives. As described under the “Visitor Access and Recreational Opportunity” section, increased parking and traffic condition information prior to visitor arrival and at arrival—as well as the decreased number of private vehicles accessing certain areas of the park as part of implementing reservation systems—would result in beneficial impacts on visitor access, opportunities, and experiences. Positive visitor experience tends to translate into visitors completing or extending their stay and repeat visits, both of which would result in beneficial impacts on the local and regional economy.

As described in the “Visitor Access and Recreational Opportunity” section, the amount of available parking is relatively fixed across all alternatives; therefore, under any reservation system, establishing a structure to move visitors from crowded areas toward other less-visited park areas would result in a long-term, beneficial impact to the local and regional economies from sustained visitor-related spending and the associated effects. Based on the visitor-access analysis above, the common to all actions would result in beneficial impacts on the local and

regional economy due to the potential for an overall increase in access to the park throughout the reservation season. Under any reservation system, visitors who prefer private vehicle access may be displaced from high-use days due to lack of reservation availability and may not be flexible enough to change their travel plans to lower-use days. A decrease in visitation would result in a reduction of current contributions from visitor spending in the local and regional economy.

Under all action alternatives, the park would continue to promote the availability and expansion of the Island Explorer, up to the determined visitor capacities for key areas of the park and the carriage roads (see appendix A), in order to facilitate access for visitors unable to secure a reservation. Implementing any configuration of a reservation system has the potential to significantly increase demand for alternate means of transportation (i.e., Island Explorer, road-based commercial tours, and/or app-based on-demand rides). Only 2% of current visitors report being part of a commercial guided tour group; therefore, implementation of a reservation system is likely to result in long-term beneficial economic impacts on the local and regional commercial travel and tourism sectors from the additional economic activity from new transportation operations, including increased direct visitor spending and new jobs supported. Although the number of PAOT arriving via oversize commercial vehicles would decrease at key park destinations, over the course of the entire day and the entire reservation period the total number of visitors would almost double at Cadillac Summit and Ocean Drive. For instance, if reservations are fully utilized for road-based commercial tours across available hours of the day, there could be an increase of up to 191% in the number of visitors able to access Cadillac Mountain summit per day via commercial tour service. Furthermore, if reservations are fully utilized, all of the current shore excursions visiting the park would be accommodated and could increase across the season by over 40%. The numbers of visitors arriving via a commercial operator that are permitted at one time at key park destinations are identified in appendix A. To the extent that commercial operators are able to offer tours throughout the full reservation system period, an increase in access to Cadillac Mountain summit, Thunder Hole, and Sand Beach would result in long-term beneficial impacts to the local and regional transportation sector and businesses that benefit from this increased spending.

Furthermore, having fewer private vehicles accessing certain areas of the park may provide new or expanded opportunities for commercial visitor services, a beneficial impact to the local and regional commercial transportation sector.

For visitors who arrive at the park in their own vehicles and have not made reservations in advance—but have flexibility in their schedule to adjust their plans—a reservation system may result in them spending more time in the area and exploring less-visited areas of the park. Longer visits would beneficially impact the local economy from visitor services (e.g., gas, food, lodging) obtained in the local communities.

For visitors on a tight schedule who are unable to secure a reservation to access the park using their private vehicle, the new Acadia Gateway Center—along with improvements at Hulls Cove and associated large parking lots—would provide the opportunity to park and transfer to alternate transportation options to access areas within the reservation system and would inform them of other areas of the park that can be explored outside the reservation system. Maintaining overall visitor access and diverse opportunities to explore the park would support maintaining or expanding the average length of stay and desire to return to visit. To the extent that the additional information and orientation maintains visitation levels and disperses use, this would

represent a long-term beneficial impact to the local and regional tourism and recreation economy from visitor and tourist direct and indirect spending.

Implementing size requirements for commercial vehicles is expected to result in neutral economic impacts on the local and regional commercial transportation sector. Although road-based commercial tour operators wanting to operate in the park would need to switch to vehicles that fit within the existing bridge height and/or road geometry, these requirements would be phased in over several years. With an average of 10 to 12 years of rated useful life for large and small heavy-duty buses, it would be expected that operators would incrementally upgrade their fleet size as the vehicle size requirements are phased in or to meet potential commercial service requirements. Implementation of vehicle size requirements has the potential to displace some of the current commercial operators from the park and present new business opportunities for other commercial operators. Vehicle size requirements may favor businesses whose main focus is catering to park visitors and who are able to capitalize on the full park visitor season. Commercial operators that include visiting the park as part of longer regional tours may need to maintain large motor coaches to serve the needs of their business; this would require them to partner with tour operators who choose to invest in commercial vehicles that meet the new size requirements. Such change would result in long-term adverse impacts on the commercial operators who would no longer be able to conduct business in the park, but would provide long-term beneficial impacts on the commercial operators that successfully invest in commercial vehicles that allow them to operate in the park. Smaller commercial vehicles would also help better maneuver park roads, which would have a long-term beneficial impact on the preservation and conservation of park resources as well as reduce park repair expenses associated with facilities and roads damaged by oversize commercial vehicles. Furthermore, it may provide road-based commercial tour operators a new opportunity to take customers to other areas of the park that may have been previously inaccessible. The switch to smaller buses that meet the new vehicle size requirements would result in a larger number of authorized commercial vehicles that would employ additional drivers. This would be a long-term beneficial impact on the transportation sector and the number of jobs it supports.

Under all action alternatives, the number of oversize commercial services allowed at key locations of the park would be actively managed through requirements established in their operating conditions to ensure desired conditions are maintained and visitor capacities at primary attractions are not exceeded. An example of how commercial vehicles may be managed would be through the use of a reservation system that would require additional pre-planning for commercial operators on when their services may be provided. Having a system in place to manage oversize commercial vehicle access would reduce operational risks associated with limited parking and would ensure that operators' customers access the primary park destinations. This would be expected to result in satisfactory, high-quality visitor experiences that are beneficial to the long-term health of the operators' business. However, under a reservation system, commercial operators would lose some of the flexibility afforded by the current management practices.

Acadia National Park would continue to be a significant economic driver for local and regional communities and would continue to preserve the qualities and values (recreational, aesthetic, ecological, and cultural/historical, among others) that enhance local quality of life. Elimination of roadside parking at the Eagle Lake carriage road entrance along SR 233 and at Acadia Mountain off SR 102 would result in beneficial impacts on the local quality of life because it would improve traffic flow and safety concerns associated with sharing the limited road space

with pedestrians, bicyclists, and vehicular traffic. The switch to smaller buses that meet the new vehicle size requirements would result in a larger number of authorized commercial vehicles on the road, which may increase traffic congestion both in the park and in local communities. The smaller size of these buses and improved ability to navigate and park in local communities may result in noticeably beneficial impacts to local quality of life. However, the increased number of these smaller commercial vehicles in local communities would result in adverse impacts on the local quality of life as it could further aggravate locals' concerns associated with parking in Bar Harbor and traffic problems in and around the park. Promoting the availability and expansion of the Island Explorer public transit service under all of the action alternatives, as funding allows, would allow visitors to access the park and move freely about the island. This would result in beneficial impacts to local quality of life and local economy by alleviating some of the congestion caused by too many vehicles on island roads and by creating an opportunity to provide an improved visitor experience to the area.

Schoodic Peninsula. The opportunity for partners and local communities to provide bike rentals and other necessary and appropriate commercial visitor services in the Schoodic District would result in beneficial impacts to the local economy. The increased range of access and visitor opportunities in this area—such as improved bicycle connection to the park, bike rentals, and accessible pedestrian trails between the Schoodic Institute campus and Schoodic Point—would support increased visitation in this area. Furthermore, this may help accommodate some of the displaced visitors from Mount Desert Island who did not secure a reservation to visit other key areas of the park. Increased visitor access in this area in conjunction with the opportunity for high-quality experiences would result in long-term beneficial impacts to the local and regional tourism and recreation sectors.

Alternative B. In addition to the actions analyzed under the “Actions Common to All Action Alternatives” section, alternative B’s site management actions emphasize the protection of high-quality visitor experiences and resources at five of the primary attractions and trailheads along Park Loop Road by implementing parking reservations at each of those areas. As a result of the reservation system proposed under this alternative, roughly 53% of the parking that provides access to sites along Park Loop Road would be actively managed. Having the certainty and ability to access the five sites that are in the reservation system by securing a parking reservation would enhance visitor experience and support visitors maintaining the average length of stay and desire to return for future visits. Visitors who wish to spontaneously engage in scenic driving to all segments of the park roads would continue to be able to do so (since other areas of the park would be accessible without a reservation); therefore, the reservation system proposed under this alternative would support improved visitor experience and proactive destination stewardship. This would support sustainable tourism levels which, in turn, provides long-term beneficial impacts to the local and regional economies. Alternative B would result in the fewest number of days (22 out of 123 days in the reservation system) where demand for private vehicle access to Park Loop Road would exceed the number of available parking spaces. Please refer to figure 18 in the “Visitor Access and Recreational Opportunity” section for the estimated daily vehicles on Park Loop Road by alternative. Compared to alternatives C and D, the reservation system proposed under this alternative is more efficient and provides greater visitor access. If timed-entry permits are fully utilized for road-based commercial tours across available hours in the reservation system, it could result in a 191% increase in the number of visitors able to access Cadillac Mountain summit per day via road-based commercial tours (when compared to an average busy day under current conditions) and an overall increase in the number of visitors across the season. The smoothing of visitation levels and spreading of visitors to other areas of

the park would allow local communities and businesses to continue to reap the benefits of tourism while addressing some of the current congestion, crowding, and safety concerns.

Elimination of right-lane parking along Park Loop Road has the potential to improve visitor experience as it would likely decrease vehicle-pedestrian conflicts and visitor safety concerns. This would contribute to positive visitor experiences and support maintaining or expanding average stays and desire to return to visit, which would be a long-term beneficial impact on the local and regional tourism economy. However, until alternative parking options at Hulls Cove and the Acadia Gateway center are developed, removing right-lane parking may displace vehicles that would have otherwise been parked in the right lane to other areas of Mount Desert Island. This influx of vehicles into the community would further aggravate locals' concerns associated with parking in Bar Harbor and traffic problems in and around the park resulting in adverse impacts to the local quality of life.

Under this alternative, future construction expenditures associated with the new facility at Hulls Cove, rehabilitation of the existing Hulls Cove Visitor Center, and a new Acadia Gateway Center—as well as the gate and signage improvements associated with the reservation system—would be greater than alternative A and would support the local construction industry and associated vendors and suppliers. This would result in beneficial economic impacts during the 3- to 5-year construction period.

Alternative C (Preferred Alternative and Proposed Action). In addition to the actions analyzed under the “Actions Common to All Action Alternatives” section, alternative C would actively manage vehicle access to three of the most popular visitor destinations (Cadillac Mountain, Jordan Pond, and Ocean Drive), which would provide high-quality visitor experiences at these sites while alleviating some of the congestion and crowding along Park Loop Road. As a result of the reservation system proposed under this alternative, roughly 58% of the parking that provides access to sites along Park Loop Road would be actively managed. Having the certainty and ability to access the sites that are in the reservation system by securing a parking reservation would enhance visitor experience and support visitors maintaining the average length of stay and desire to return for future visits. Visitors who wish to spontaneously engage in scenic driving to all segments of the park roads would continue to be able to do so (since other areas of the park would be accessible without a reservation); therefore, the reservation system proposed under this alternative would support improved visitor experience and proactive destination stewardship. This would support sustainable tourism levels which, in turn, provides long-term beneficial impacts to the local and regional economies. If timed-entry permits are fully utilized for road-based commercial tours across available hours in the reservation system, it could result in a 191% increase in the number of visitors able to access Cadillac Mountain summit per day via road-based commercial tours (when compared to an average busy day under current conditions) and an overall increase in the number of visitors across the season. Based on the analysis for visitor access in the sections above, the smoothing of visitation levels and spreading of visitors to other areas of the park would allow local communities and businesses to continue to reap the benefits of tourism while addressing some of the current congestion, crowding, and safety concerns.

Visitor access, in conjunction with high-quality visitor experiences, is the most influential factor in determining length of stay in an area and willingness to return for a visit. The economic impacts of visitation and tourism depend on length of stay (the longer visitors stay, the more visitors spend) and willingness to return. The eventual elimination of right-lane parking along Park Loop Road would improve visitor experience as it would help decrease vehicle-pedestrian

conflicts and visitor safety concerns. This would contribute to positive visitor experiences and support maintaining or expanding average stays and desire to return to visit, which would be a long-term beneficial impact on the local and regional tourism economy.

Under the timed-entry reservation system proposed in alternative C, there would be none of the restrictions on length of stay as there would be in alternative B. This may result in visitors continuing to have difficulty securing parking at the most popular visitor destinations during peak days and times; however, the ability to secure a reservation in advance, coupled with reduced levels of congestion, is likely to result in improved visitor experience from current conditions. Additionally, the construction of new large parking lots—such as the parking areas at Eagle Lake, Liscomb Pit, and Acadia Mountain with associated new trail connections—would further support enhanced visitor access at destinations outside the reservation system.

Implementation of a timed-entry reservation system with no restrictions on length of stay would likely result in visitation changes including strategizing park visits that could have an effect on the goods and services demanded (e.g., higher demand for ready-to-go meals) and amount of time spent in the local area. To the extent that other areas of the park outside the reservation system would satisfy visitor’s expectations for their park visit, the actions under alternative C would have long-term beneficial impacts on the local and regional tourism industry.

Under this alternative, future construction expenditures associated with the new and enlarged visitor center at Hulls Cove, substantial expansion of parking capacity at Liscomb Pit and Hulls Cove, relocation of the maintenance area to Satterlee Pit—as well as the gate and signage improvements associated with the reservation system—would be greater than alternatives A and B and would support the local construction industry and associated vendors and suppliers. This would result in beneficial economic impacts during the 2- to 3-year construction period.

Alternative D. In addition to the actions analyzed under the “Actions Common to All Action Alternatives” section, alternative D would manage the volume of vehicles on Park Loop Road at a systemwide level during the peak visitor season. This is likely to significantly alleviate congestion and crowding along Park Loop Road and provide for high-quality visitor experiences. Visitor access in conjunction with high-quality visitor experiences are the most influential factors in determining length of stay in an area and willingness to return for a visit. Under alternative D, fewer visitors are able to access the park via private vehicle at one time than in alternatives A, B, or C. Based on 2016 data, there would be 89 days of the 123 days in the reservation system under this alternative where demand for private vehicle access to Park Loop Road would exceed the number of available parking under alternative D. Please refer to figure 18 in the “Visitor Access and Recreational Opportunity” section for the estimated daily vehicles on Park Loop Road by alternative. It is expected that visitors who do gain access via private vehicle would have exceptionally higher-quality experiences and therefore are more likely to return to the park and Mount Desert Island for a repeat visit. Visitors who wish to spontaneously engage in scenic driving to all segments of Park Loop Road will not be able to do so without a reservation, although there will be other areas and roads of the park accessible without a reservation. If timed-entry permits are fully utilized for road-based commercial tours across available hours in the reservation system, it could result in a 191% increase in the number of visitors able to access Cadillac Mountain summit per day via road-based commercial tours (when compared to an average busy day under current conditions) and an overall increase in the number of visitors across the season. With significantly fewer visitors having access to these sites by private vehicle than current levels, and with the reservation system including most of the park’s iconic destinations, it is possible that some visitors may perceive access to the park as

restrictive, which may dissuade them from visiting. A decrease in visitation or reduced length of stay due to the inability to access iconic park areas would result in long-term, adverse, economic impacts on the local tourism industry and associated service-related businesses.

The proposed timed-entry reservation system supports a high degree of flexibility and spontaneity once visitors enter Park Loop Road, which would result in a beneficial impact on visitor experience. With no limits to length of stay and without the option for re-entry, visitors may adjust their visit patterns to maximize the amount of time they can spend at favored destination sites. Such change may increase demand for ready-to-go food items and create new demand for on-site services and goods, such as vending machines and walking tours.

Additional access to the Sand Beach area from the new Satterlee Pit parking lot and new larger parking lot at Eagle Lake that would accommodate the vehicles typically parked along the highway would reduce the possibility of vehicle-pedestrian conflicts and general vehicle conflicts, resulting in beneficial impacts to visitor experience, access, and safety.

The impacts on local quality of life resulting from elimination of most parking in the right-hand lane of Park Loop Road would be the same as those described under alternative B. Implementation of a timed-entry reservation system for all of Park Loop Road would affect locals who use sections of this road for commuting. A reduction in access to park roads for local recreation and travel would result in long-term, noticeable, adverse impacts on local quality of life.

Under this alternative, future construction expenditures associated with improvements at Hulls Cove; widening the intersection of Stanley Brook Road and Park Loop Road; parking lot improvements at Thunder Hole, Satterlee Pit, and Eagle Lake; new entrance stations at Wildwood Stables and at Paradise Hill; and gate and signage improvements associated with the reservation system would be greater than alternative A, but less than alternatives B and C. The proposed infrastructure improvements under this alternative would support the local construction industry and associated vendors and suppliers. This would result in beneficial economic impacts during the 2- to 3-year construction period.

Cumulative Impacts. A number of projects analyzed in the cumulative impacts analysis (e.g., Maine Office of Tourism's Five-Year Strategic Plan, potential plans to renovate Bar Harbor's ferry terminal, the Jackson Laboratory Campus Zoning Plan) would ultimately result in additional visitors and workers being drawn to and accommodated on Mount Desert Island and near the park. These actions would likely increase the demand for access to the park via Island Explorer and commercial services (in all alternatives). This could increase competition for the limited capacity at the iconic park sites such as Cadillac Mountain and Jordan Pond House, resulting in degraded visitor experience. Park visitors are an important economic driver that contribute to the local and regional economy through the wide variety of activities they engage in when visiting such as eating out, shopping at local stores, exploring museums, going on tours, etc. However, large numbers of visitors have other impacts on the local community including increases in foot and vehicle congestion in Bar Harbor, increased pressure on community infrastructure and services (e.g., roads, restrooms, emergency services), and changes to the town character that locals wish to preserve.

Social and economic impacts from implementing the no-action and action alternatives would be similar to those of other past, current, and future developments in the region and those under the no-action alternative. These include population and economic growth across the region that

would result in minor, long-term increases in traffic on regional and local roads; minor, long-term increases in visitor spending, bolstering tourism-related business in the region; long-term demand on community infrastructure and services; as well as increased tax and fee revenues to fund public services and facilities. The action alternatives could result in long-term, minor, economic effects on tourism-related business and on local traffic and safety due to the changes in visitor use, distribution, and levels.

The effects of past, current, and reasonably foreseeable future actions by others—including the possible renovation of Bar Harbor’s ferry terminal and the ongoing construction projects on Jackson Laboratory’s Bar Harbor campus—in combination with the effects of the NPS action alternatives, would result in minor to moderate, beneficial, cumulative effects. The effects of the NPS action alternatives would add a small contribution to these effects. For example, the visitor spending from changes in visitor use, distribution, and levels would be small in relationship to the total spending by area residents, businesses, and other industries in the area.

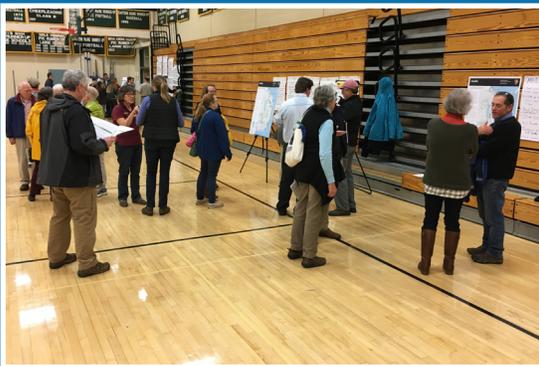
Conclusion. Visitor access, in conjunction with high-quality visitor experiences, are the most influential factors in determining length of stay in an area and willingness to return for a visit. Longer lengths of stay and return visits tend to result in beneficial economic impacts on surrounding communities. With increasing visitor levels, traffic, and parking issues, the actions in alternative A would be inadequate to support the regional efforts to enhance tourism and increase visitor access in the area. The increased trip planning resources and enhanced transit services under the “Actions Common to All Alternatives” section make all action alternatives more beneficial than alternative A.

The most notable impact of alternatives B and C is the improvement of visitor access to key park sites via private vehicle for those without a parking reservation. These alternatives maintain high levels of private vehicle access to Park Loop Road while providing greater certainty and access to parking for those who are able to secure a parking reservation. In terms of economic impacts due to the levels of visitor access, alternatives B and C would be more beneficial than alternatives A and D.

All of the action alternatives involve beneficial and adverse impacts on the local and regional economies and on the local quality of life. All action alternatives improve visitor access and support high-quality visitor experiences over alternative A. All action alternatives would result in short-term, beneficial impacts on the local construction industry and associated vendors and suppliers as a result of future construction expenditures associated with infrastructure improvements.

Chapter 5

Consultation and Coordination



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CHAPTER 5: CONSULTATION AND COORDINATION

INTRODUCTION

The National Park Service consulted with various agencies, tribes, organizations, and interested persons in preparing this document. The process of consultation and coordination is an important part of this project. The public had two primary avenues for participation during the development of the plan—participation in public meetings and responding to newsletters by submitting comments via regular mail, by hand, and electronically through the NPS Planning, Environment, and Public Comment (PEPC) system website. This chapter summarizes the opportunities the public had to participate in the planning process and consultations that occurred with federal and state agencies and tribes.

PUBLIC SCOPING

On August 28, 2015, the National Park Service published in the *Federal Register* (vol. 80, no. 167, pages 52336–52337) a notice of intent to develop a transportation plan/environmental impact statement for Acadia National Park. The notice requested the public to share their thoughts, concerns, and ideas for the plan during a comment period from May 18 to September 30, 2015. The planning team sought this public input to understand the public’s perspectives on key issues and management options for the future of transportation in the park. These comments were instrumental in the subsequent creation of the range of preliminary concepts.

To inform the public of the scoping process, a newsletter describing the context for the plan and how to comment was distributed in the summer of 2015. This newsletter provided a general overview of the planning schedule, provided background on issues and opportunities regarding transportation in the park, and described opportunities for the public to engage in the planning process.

To reach a broad audience, the newsletter and information about public scoping were shared with the public in a variety of ways. An electronic copy of the newsletter was distributed to 185 contacts on the park’s mailing list. A press release was issued announcing public scoping. Social media, including Facebook and Twitter, were also used during the scoping period to inform people about the planning effort.

Approximately 148 people attended public open house events during the comment period including two meetings at the Peninsula School in Prospect Harbor on June 3 and July 30, 2015, and two meetings at Mount Desert Island High School in Bar Harbor on June 4 and July 29, 2015. All handwritten comments received during the public open house events were transcribed and entered into the PEPC system.

The National Park Service also held six public outreach sessions in which uniformed employees solicited public feedback at a booth with sign-in sheets, newsletters, comment cards, and an informational poster. The public was encouraged to provide comments related to the same questions presented at the public open house events. Verbal public comments received at the sessions were recorded by the staff and later entered into the PEPC website. Visitors were also encouraged to mail in a public comment card or enter their comments directly into the PEPC

website. A total of 44 visitors signed the sign-in sheets during these sessions. Dates and locations of these visitor outreach sessions included the following:

- August 3, 2015, at Schoodic Point
- August 8, 2015, at Eagle Lake
- August 8, 2015, at Sand Beach
- August 11, 2015, at Hulls Cove Visitor Center
- August 13, 2015, at Jordan Pond House
- August 25, 2015, at Bass Harbor Head Light

A majority (61%) of the public comments submitted during the public scoping period were from Maine, but comments were also received from across the country. A total of 289 individual correspondences were submitted, most of which were submitted directly to the NPS PEPC website. Hardcopy letters and e-mails that were mailed or delivered to the park, including those submitted on behalf of user and advocacy groups, were entered into the PEPC system. The PEPC system serves as a database where the National Park Service can analyze and summarize public scoping comments.

PUBLIC ENGAGEMENT ON THE PRELIMINARY CONCEPTS

During the summer of 2016, the NPS planning team began developing a range of preliminary concepts for the transportation plan. While not required by the National Environmental Policy Act, the planning team felt that public feedback on the preliminary concepts would be vital to inform development of the environmental impact statement.

To inform the public of the range of preliminary concepts and provide an update on the planning effort, a newsletter was released on October 13, 2016. The newsletter described the draft goals and desired conditions for each fundamental resource and value, defined management strategies for each preliminary concept, and identified next steps in the planning processes. The public was asked to provide feedback on the preliminary concepts during the October 13 to November 30, 2016 comment period.

To reach a broad audience, the newsletter and information about the preliminary concepts were shared with the public in a variety of ways. The availability of the newsletter; the length of the comment period; and the dates, times, and locations for the open house events were announced in a news release issued on October 12, 2016. An electronic copy of the newsletter was e-mailed to the 201 contacts on the park's mailing list, which included public scoping meeting attendees who provided e-mail addresses and indicated that they would like to be added to the park's mailing list.

Approximately 230 people attended the 2016 open house events in Prospect Harbor, Maine, on Wednesday, November 2, 2016, and in Bar Harbor, Maine, on Thursday, November 3, 2016. All handwritten comments received during the public open house were transcribed and entered into the PEPC system.

A large portion (77%) of public comments submitted during public review of the range of preliminary concepts were from Maine, but comments were also received from across the country. A total of 213 individual correspondences were received, and most of those were

submitted directly to the PEPC website. Hardcopy letters and e-mails that were mailed or delivered to the park also were entered into the PEPC system.

PUBLIC ENGAGEMENT ON THE DRAFT PLAN/ENVIRONMENTAL IMPACT STATEMENT

During 2017 and early 2018, the National Park Service developed the draft transportation plan/environmental impact statement, which analyzes three action alternatives and one no-action alternative. The draft plan/environmental impact statement identified alternative C as the preferred alternative and proposed action. Public comments received during the public scoping and preliminary concepts phases were instrumental in developing the draft plan/environmental impact statement and identifying the preferred alternative/proposed action.

The draft plan/environmental impact statement was made publicly available for review and comment during a 60-day period from April 26 through June 26, 2018. The public was encouraged to provide substantive feedback on the draft plan/environmental impact statement throughout the comment period, having been made aware of its availability and contents by media releases, posts to the park website, targeted outreach, a newsletter, and an announcement on the NPS PEPC website.

In order to improve the public's understanding of the draft plan/environmental impact statement and encourage robust substantive feedback, NPS staff hosted a number of public meetings in various settings. Information sessions were held at three local public libraries May 14 through May 16, 2018 reaching a total of 108 individuals. These information sessions were streamed online courtesy of Friends of Acadia, with more than 6,000 participants viewing each session.

National Park Service staff also hosted two public open houses that provided 70 participants the opportunity to discuss the draft plan/environmental impact statement directly with NPS staff and provide comment. The open houses were held May 22 and May 23, 2018 at Mount Desert High School (Bar Harbor, Maine) and Peninsula School (Prospect Harbor, Maine).

A virtual information session was held online on June 13, 2018 to widen the geographic span of public participation. While the virtual information session had only 15 participants, three videos that were posted on YouTube reached over 10,000 views.

Ultimately, the National Park Service received a total of 489 unique correspondences via e-mail, mail, public meetings, and the PEPC website. An additional 5,570 form letters were submitted to the park (these represent one unique correspondence). All non-PEPC correspondences were entered into the PEPC website for analysis. A Comment Summary Report, which includes concern statements and NPS responses, is included as appendix F in this final transportation plan/environmental impact statement.

AGENCY AND TRIBAL CONSULTATION

US Fish and Wildlife Service, Section 7 Consultation

Section 7(a)(2) of the Endangered Species Act requires each federal agency, in consultation with the Secretary of the Interior, to ensure that any action the agency authorizes, funds, or carries out is not likely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of designated critical habitat. The National Park Service

initiated informal consultation with the US Fish and Wildlife Service, Maine Field Office, in a letter dated July 1, 2015. The National Park Service also initiated informal consultation with the National Marine Fisheries Service, Greater Atlantic Regional Fisheries Office, in a letter dated July 1, 2015.

These letters notified the US Fish and Wildlife Service and the National Marine Fisheries Service that the National Park Service had begun developing a transportation plan for Acadia National Park and was initiating informal consultation on the project. The letter to the US Fish and Wildlife Service included a list of federally listed endangered, threatened, and candidate species for Acadia National Park that were assessed for potential impacts, including roseate tern (*Sterna dougallii*), Atlantic salmon (*Salmo salar*), and northern long-eared bat (*Myotis septentrionalis*). The letter requested that the agencies review and provide advice to ensure adequate evaluation of the potential impacts that the transportation plan/environmental impact statement project would have on federally listed endangered, threatened, and candidate species. In a letter dated July 15, 2015, the US Fish and Wildlife Service confirmed the possible presence of these species in the project area.

In a letter dated July 21, 2015, the National Marine Fisheries Service advised that no consultation was necessary due to the lack of potential for the plan to impact endangered species protected under the Endangered Species Act and the lack of any essential fish habitat protected under the Magnuson-Stevens Fisher Conservation and Management Act (see appendix G).

In a letter dated August 15, 2018, the National Park Service notified the US Fish and Wildlife Service that the draft plan/environmental impact statement was available for public and regulatory review. The letter requested US Fish and Wildlife Service's determination of potential effects on federally listed species from the draft plan/environmental impact statement.

In a letter dated October 19, 2018, the US Fish and Wildlife Service advised that projects involving activities like construction may disturb habitat and have effects that warrant consultation under section 7 (see appendix G).

Accordingly, the National Park Service will pursue separate consultation prior to construction when and if infrastructure projects at Hulls Cove Visitor Center, Jordan Pond House Parking, Eagle Lake Parking, Acadia Mountain Parking, and other locations are implemented.

Section 106 Consultation with Maine Historic Preservation Commission

Park staff have completed cultural resource surveys of the area of potential effect. It may be necessary to conduct additional surveys for specific project areas that are yet to be finalized (e.g., entrance station development, vehicle turnouts, additional parking areas) and to carry out monitoring during construction. However, the historic properties currently identified in the plan/environmental impact statement reflect the best available information regarding the known resources that could be affected by project actions.

In a letter dated July 1, 2015, the National Park Service (Acadia National Park) notified the Maine Historic Preservation Commission of the intent to consult under section 106 of the National Historic Preservation Act regarding preparation of a transportation plan for the park.

On May 16, 2018, the state historic preservation officer was provided a review copy of the draft plan/environmental impact statement to assess the potential effects of the proposed alternatives on cultural resources (archeological resources; ethnographic resources; historic structures, sites, and cultural landscapes).

On October 19, 2018, the state historic preservation officer concluded in correspondence to the National Park Service that initial implementation of the plan would have no adverse effect on historic properties. The finding was made on the condition that further consultation will be necessary for the design and location of the temporary structures included in the initial implementation (see appendix G).

The state historic preservation officer also concluded that full implementation of the preferred alternative, as described in the draft plan/environmental impact statement, is likely to have an adverse effect on historic properties. Therefore, as elements of the preferred alternative are developed beyond initial implementation, the National Park Service will continue to consult with the Maine Historic Preservation Commission. A programmatic agreement would be developed during and following initial implementation of the preferred alternative to address currently unknown impacts on historic properties.

Consistency with the Coastal Zone Management Act of 1972

The Coastal Zone Management Act was enacted by Congress to balance the competing demands of growth and development with the need to protect coastal resources (16 *United States Code* [USC] 1451 et seq.). The Maine Coastal Program was established in 1978 and is administered by the Department of Agriculture, Conservation, and Forestry, Bureau of Resource Information and Land Use Planning.

In a letter dated April 27, 2018, the National Park Service notified the Maine Coastal Program that the draft plan/environmental impact statement was available for public and regulatory review. The letter sought the Maine Coastal Program's review and identification of applicable Coastal Zone Management Act provisions and enforceable policies.

In a letter dated June 18, 2018, the Maine Coastal Program determined that adoption of the transportation plan does not trigger review under an enforceable policy of Maine's coastal zone management program and that federal consistency review of the plan pursuant to the Coastal Zone Management Act is not required (see appendix G).

In accordance with the Coastal Zone Management Act, the National Park Service will pursue separate consultations prior to construction when and if infrastructure projects at Hulls Cove Visitor Center, Jordan Pond House Parking, Eagle Lake Parking, Acadia Mountain Parking, and other locations are implemented.

Consultation with American Indian Tribes

In letters dated July 1, 2015, the National Park Service (Acadia National Park) notified representatives of the park's associated tribal governments of the intent to prepare a transportation plan/environmental impact statement for the park and to seek to consult with the tribes under section 106 of the National Historic Preservation Act.

Associated tribes were provided copies of the draft plan/environmental impact statement for their review and comment in correspondence dated April 30, 2018. The letters sought the associated tribal governments' review and comment on the plan. The National Park Service did not receive any responses or comments from tribal governments.

In accordance with section 106 provisions, the National Park Service will pursue separate consultations prior to construction when and if infrastructure projects at Hulls Cove Visitor Center, Jordan Pond House Parking, Eagle Lake Parking, Acadia Mountain Parking, and other locations are implemented.

AGENCIES, ORGANIZATIONS, AND PERSONS RECEIVING COPIES OF THIS ENVIRONMENTAL IMPACT STATEMENT

Partners

Abbe Museum	Friends of Acadia
Acadia National Park Tours	Isle au Haut Boat Services
Carriages of Acadia	Maine Coast Heritage Trust
Dawnland, LLC	Mount Desert Island Search and Rescue
Downeast Transportation, Inc.	Oli's Trolley
Eastern National	Schoodic Institute
Frenchman Bay Conservancy	

Tourism/Business

Acadia Corporation	Hub of Bar Harbor
Acadia Regional Chambers of Commerce	Intercruises Shoreside & Port Services
Bangor Regional Chamber of Commerce	Island Bike Rental
Bar Harbor Bicycle Shop	Maine Motorcoach Network
Bar Harbor Chamber of Commerce	Maine State Chamber of Commerce
Bar Harbor Merchants Association	Maine Tourism Association
Bar Harbor Resorts	Mount Desert Chamber of Commerce
Bar Harbor Whale Watch Co.	Mount Desert Regional Chambers of Commerce
Bermello, Ajamil & Partners	New England Bus Association
Boland Properties	Northeast Charter & Tour Co.
Cruise Lines International Association	Ocean Properties Hotels Resorts & Affiliates
CruiseMaine	Schoodic Peninsula Chamber of Commerce
Cyr Bus Lines	Southwest Cycle
Destinations North America	Southwest Harbor & Tremont Chamber of Commerce
Down East Resource Conservation and Development Council	Sunward Tours
DownEast & Acadia Regional Tourism	Trenton Chamber of Commerce
Downeast Windjammer Cruises	Tucker Downeast Resources, Inc.
Eastern Maine Development Corporation	Witham Family Limited Partnership
Ellsworth Chamber of Commerce	
Frenchman Bay Research Boating	

Elected Officials

Hancock County Commissioners	Maine State Representative - 134th District
Maine State Representative - 132th District	Maine State Representative - 135th District

Maine State Representative - 136th
District
Maine State Senator - 6th District
Maine State Senator - 7th District
Maine State Senator - 12th District

U.S. Representative Chellie Pingree
U.S. Representative Bruce Poliquin
U.S. Senator Angus King
U.S. Senator Susan Collins

Towns

Town of Bar Harbor
Town of Cranberry Isles
Town of Frenchboro
Town of Gouldsboro
Town of Isle au Haut
Town of Mount Desert

Town of Southwest Harbor
Town of Swans Island
Town of Tremont
Town of Trenton
Town of Winter Harbor

Libraries

Bass Harbor Library
Ellsworth Library
Gouldsboro Library
Jesup Library (Bar Harbor)
Maine State Library

Northeast Harbor Library
Southwest Harbor Library
Thorndike Library (College of the
Atlantic)
Winter Harbor Library

Community

Acadia Scenic Byway Committee
Acadia Senior College
American Driving Society (The)
Bar Harbor Historical Society
Bar Harbor Village Improvement
Association
Beatrix Farrand Society
Bicycle Coalition of Maine
Bike MDI
Camp Beech Cliff
Carriage Association of America
College of the Atlantic
Hancock County Planning Commission
Hancock County-Bar Harbor Airport
Harbor House Community Service
Center
Healthy Acadia
Island Institute
Jackson Laboratory (The)
Maine Audubon Society
Maine Island Trail Association
Maine Sea Coast Mission
Maine Sierra Club
MDI Land and Garden Preserve
Mount Desert Island Biological
Laboratory

Mount Desert Island Historical Society
Mount Desert Island Hospital
Mount Desert Island League of Towns
Mount Desert Island Regional School
System
Mount Desert Island YMCA
Natural Resources Council of Maine
The Neighborhood House (The)
Northeast Harbor Village Improvement
Society
Otter Creek Aid Society
Peninsula School
Schoodic Arts for All
Schoodic Scenic Byway Committee
Seal Harbor Auto Museum
Seal Harbor Village Improvement Society
Somes Pond Center
Somesville Village Improvement Society
Summer Festival of the Arts
Town Hill Village Improvement Society
University of Maine Cooperative
Extension/Maine Sea Grant
Wendell Gilley Museum
Winter Harbor Historical Society
YWCA Mount Desert Island

State of Maine

Department of Economic & Community
Development
Department of Environmental Protection
Department of Inland Fisheries and
Wildlife
Department of Marine Resources

Department of Natural Resources
Department of Transportation
Maine Historical Preservation
Commission (SHPO)
Maine Port Authority
Office of the Governor

National

American Bus Association
National Park Conservation Association

National Park Foundation
United Motorcoach Association

Federal

Acadia National Park Advisory
Commission
Federal Highway Administration
Federal Transit Administration

US Coast Guard – Sector Field Office
Southwest Harbor
US Environmental Protection Agency
US Fish and Wildlife Service

Tribes

Aroostook Band of Micmacs
Houlton Band of Maliseet Indians
Passamaquoddy – Pleasant Point
Reservation

Passamaquoddy Tribe of Maine - Indian
Township Reservation
Penobscot Nation

PREPARERS

Acadia National Park

Mary Elizabeth “Mea” Arego, Concessions Management Specialist; BA (Geography and Outdoor Recreation), MS in Environmental Law (Natural Resource Policy); 31 years with the National Park Service.

Christie Denzel Anastasia, Public Affairs Specialist; BA (Human Ecology), MA (Organization Development); 22 years with National Park Service.

Rebecca Cole-Will, Chief of Resource Management; BA (Anthropology), MA (Anthropology); 12 years with the National Park Service, 20 years of experience in cultural resource management and museum management.

Judith Hazen Connery, Natural Resource Program Leader; BS (Natural Resources); 37 years with the National Park Service.

Jason Flynn, Environmental Protection Specialist; BA (Environmental Studies); 15 years with the National Park Service.

Gail Gladstone, Cultural Resources Program Manager; BFA (Photography/Art History), MLA (Landscape Architecture); 10 years with the National Park Service.

Charles Jacobi, Natural Resource Specialist; BA (Sociology), MS (Forest Recreation and Park Management); 35 years with the National Park Service.

Keith Johnston, Chief of Facility Management; BS (Mechanical Engineering); 28 years with the National Park Service

John T. Kelly, Management Assistant; BS (Outdoor Recreation), MURP (Environmental Policy and Planning); 31 years with the National Park Service.

Kevin Langley, Chief of Administration, BS (Political Science); 28 years with the National Park Service.

Michael Madell, Deputy Superintendent; BS (Environmental Studies and Geography), MA (Recreation and Parks); 29 years with the National Park Service, 6 years with other federal or state land management agencies.

Kevin Schneider, Superintendent; BS (Natural Resources Recreation and Tourism), MPA (Public Administration); 20 years with the National Park Service.

Stuart West, Chief of Visitor and Resource Protection, BS (Forestry – Park Management); 30 years with the National Park Service.

National Park Service – Northeast Regional Office

Mark Alexander, Chief of Line Item Construction and Transportation; BA (Major Geography); 21 years with the National Park Service; 2 years with the US Forest Service; 2 years in private sector design, and 4 years of City and Nonprofit Program Management experience.

Margo Brooks, Resource Planning Specialist; BA (Anthropology), MA (Archaeological Heritage Management); 13 years with the National Park Service.

Jacki Katzmire, Regional Environmental Coordinator; BS (Environmental Studies), BA (Biology), MS (Biology); 22 years with the National Park Service.

National Park Service – Washington Support Office

Debra Hecox, NPS Commercial Services Program – Branch Chief for Planning and Development; Juris Doctor; 11 years with the National Park Service, 16 years with the Office of the Solicitor, U.S. Department of the Interior.

National Park Service – Denver Service Center

Kerri Cahill, Branch Chief; PhD (Forestry/Recreation Management), MSP (Planning), BA (Environmental Policy and English); 15 years with the National Park Service, 5 years with state parks and private consulting.

Rachel Collins, Visitor Use Management Specialist; PhD (Parks, Recreation, and Tourism), MS (Experiential Education), BS (Recreation and Leisure Studies, Outdoor Recreation); 5 years with the National Park Service, 5 years as research social scientist.

Robert Gansauer, Project Manager; BS (Civil Engineering); 8 years with the National Park Service.

Jordan Hoaglund, Branch Chief and Project Manager; BA (Environmental Studies), MURP (Master of Urban and Regional Planning); 9 years with the National Park Service.

Marc Kochheiser, Project Specialist; BLA (Landscape Architecture); 2 years with the National Park Service, 2 years in private sector design.

Wanda Gray Lafferty, Editor (Contractor); 5 years with National Park Service, 11 years environmental consulting, 5 years communications director with environmental legal nonprofit organization.

Charles Lawson, Cultural Resource Specialist; BS (Anthropology), MS (Anthropology); 18 years with the National Park Service.

Tatiana Marquez, Environmental and Natural Resource Economist; BS (Environmental Studies), MS (Environmental and Natural Resource Economics); 6 years with the National Park Service, 2 years in private sector environmental consulting.

Cynthia Nelson, Branch Chief; BA (Political Science), MPA (Master of Public Administration); 11 years with National Park Service.

Michael Rees, Natural Resource Specialist; BA (Environmental Studies), MFS (Master of Forest Science); 26 years with the National Park Service, 6 years with the US Fish and Wildlife Service.

US Department of Transportation – Volpe Center

Heather Richardson, Community Planner, US Department of Transportation Volpe Center; BS (Environmental Policy and Management), MCP (Master of City Planning with transportation focus); 4 years with the US Department of Transportation Volpe Transportation Systems Center.

Consultants

Bill Cranshaw, Vanasse Hangen Brustlin, Inc., Transportation Planner; BA (History), BS (Civil Engineering); 29 years private sector planning and operations experience.

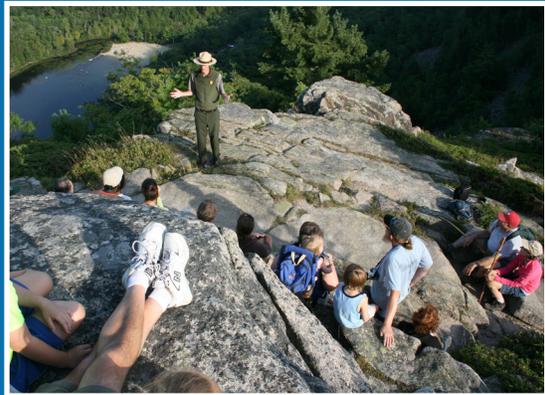
Steve Lawson, Resource Systems Group Inc., Senior Director; PhD (Natural Resources), MS (Resource Economics and Policy), BA (Political Science); 22 years of experience in natural resource recreation-related social science research.

Tracy Littell, Vanasse Hangen Brustlin, Inc., Environmental Planner; BS (Biology), MEM (Ecosystem Science and Management); 9 years of professional experience.

Jennifer Morrissey, Vanasse Hangen Brustlin, Inc., Federal Lands Program Manager; AB (American History), MS (Natural Resource Planning); 20 years of experience in public lands planning and management.

Richard Pinkham, Socioeconomic Analysis; BA (Geography), MS (Natural Resources Policy & Management); 13 years with Booz Allen Hamilton, 12 years of experience with socioeconomics for environmental planning.

Glossary and Acronyms, and Appendixes



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APPENDIX A: INDICATORS, THRESHOLDS, AND VISITOR CAPACITY

The visitor use management framework created by the Interagency Visitor Use Management Council (the council) includes a series of elements by which planning decisions are made concerning visitor use management. Establishing indicators and thresholds and determining visitor capacity are key components of this framework as applied by the National Park Service. Indicators measure conditions that are related to visitor use, and monitoring is conducted to track those conditions over time. The results of monitoring are used to inform and select strategies to be used by park managers in order to not exceed the maximum amount of visitor use that can be accommodated for a site (i.e., visitor capacity determination). In this section, potential management strategies are described for each indicator and would be applied together with the actions and intents of each alternative presented in this plan. This iterative practice of monitoring, implementing corrective strategies, and then continuing to monitor to gauge the effectiveness of those actions allows park managers to maximize benefits for visitors while achieving and maintaining desired conditions for resources and visitor experiences in a dynamic setting. In this section, the indicators to be monitored at Acadia National Park are presented, and the associated thresholds and strategies included below are used to inform the visitor capacity determination.

INDICATORS AND THRESHOLDS

Indicators translate the broad description of desired conditions into measurable attributes (e.g., people at one time [PAOT] at key locations, number of visitor-created trails) that can be tracked over time to evaluate change in resources or conditions that relate to visitor experience. They are a critical component of the visitor use management framework and are considered common to all action alternatives. The planning team considered many potential issues and related indicators that would identify impacts of concern, but those described in this section are considered the most noteworthy, given the importance and vulnerability of the resources or visitor experiences affected by visitor use. In identifying meaningful indicators, the planning team also reviewed the experiences of other park units with similar issues.

Thresholds that represent the minimum acceptable condition for each indicator were then assigned, taking into consideration the qualitative descriptions of the desired conditions, data on existing conditions, relevant research studies, and staff management experience. Although defined as “minimally acceptable,” thresholds still represent acceptable conditions. Also, establishing thresholds does not imply that no action would be taken prior to reaching the threshold. One goal of visitor use management is to strive to make progress toward desired conditions. Thresholds identify when conditions are about to become unacceptable and accordingly serve as a “line in the sand,” letting managers and the public know that corrective action must be taken to keep conditions acceptable so that progress toward desired conditions can be achieved over time. For some indicators, triggers have been developed. A trigger reflects a condition of sufficient concern for an indicator to prompt a management response to ensure that desired conditions continue to be maintained before the threshold is crossed.

Indicators, thresholds, triggers (when identified), and associated potential management strategies (see figure A-1) that would be implemented as a result of this planning effort are described below. Indicators are applied across all action alternatives within the plan. In this plan, thresholds can vary either by alternative, management zone, or site. These variations reflect the content of the management strategies ascribed for each alternative. For example, if

access to a site is restricted under one alternative, the threshold would be different for an alternative where visitor opportunities at that site remain the same or are expanded. Where actions across the alternative do not result in differences of visitation or visitor experience to sites, the threshold does not vary.

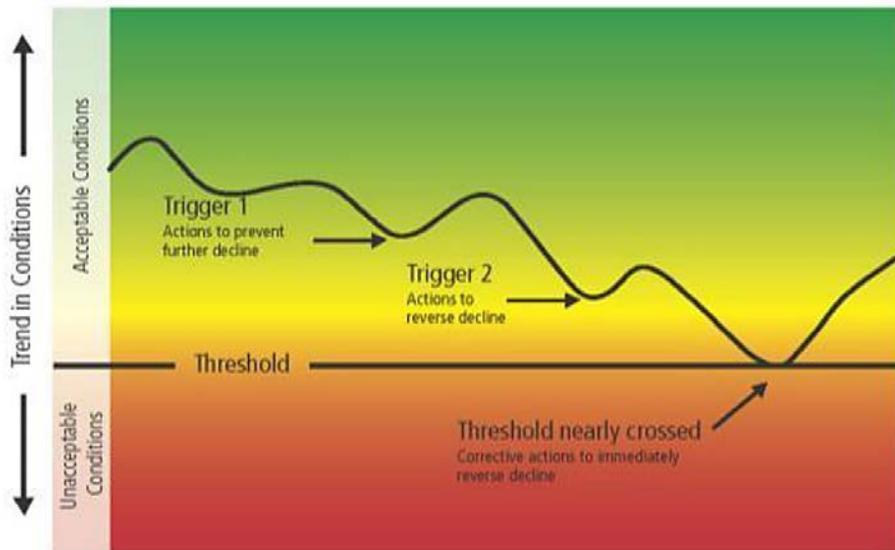


FIGURE A-1. MANAGEMENT TRIGGERS AND THRESHOLDS IN RELATION TO TREND IN CONDITIONS

Some management strategies vary across alternatives and would be implemented on completion of the plan to ensure thresholds are maintained and desired conditions are achieved. Several of these strategies are currently in use at the park and may be increased in response to changing conditions. The implications of indicators, thresholds, potential management strategies, and visitor capacity determinations are considered as part of the actions common to all alternatives and therefore are analyzed as part of the alternatives in chapter 4. If additional strategies are needed as outlined in the potential management strategies, details of their application would be developed as thresholds are exceeded or approached and would be informed by monitoring results.

Visitor use management is an iterative process in which management decisions are continuously informed and improved through monitoring to determine the most effective way to manage visitor use to attain desired visitor experience and resource conditions. As monitoring of conditions continues, managers may decide to modify or add indicators if better ways are found to measure important changes in resource and experiential conditions. Information on NPS monitoring efforts, related visitor use management actions, and any changes to the indicators and thresholds would be available to the public. This section presents the potential corrective strategies component of the plan common to all action alternatives. For each indicator, potential management strategies are identified. These strategies represent the range of actions in addition to those found within the alternatives that the National Park Service may take to meet the goals and desired conditions of this plan. If it is determined through monitoring that thresholds are being approached or exceeded, the National Park Service would use one or more of these management strategies. Details of potential management strategies would be developed at the

time they are needed to ensure that the most effective approach is identified. The potential impacts of these actions are included in chapter 4 of this plan.

Vehicles at One Time at Key Destinations

Rationale for Indicator and Thresholds.

Monitoring and managing visitor use according to this indicator helps ensure that visitors have safe and stress-free access to popular visitor destinations at key areas and along key corridors by reducing vehicle congestion and conflicts in parking lots. Vehicles at one time (VAOT) is a measure commonly used by park managers and researchers to quantify vehicle congestion in parking lots (Lawson and Kiser 2013a; Manning, Lawson et al. 2014). It provides an important measure of parking lot conditions in relation to visitor access to popular destinations as well as potential park resource impacts as a result of parked vehicles in unauthorized areas when lots are full.

Parking Lots

Parking lot capacities provide an ideal threshold on which to base monitoring efforts for VAOT. Instances in which parking lot capacities are exceeded are indicative of vehicle congestion, potential safety concerns, and possible park resource impacts stemming from vehicles parking in unauthorized areas (Lawson, Newman, and Monz, 2017). This indicator also helps ensure that the reservation systems for lots, corridors, or systems are appropriately allocated to ensure that visitors with reservations can reach their intended destinations as allocated. The VAOT thresholds are determined such that the permit system in each alternative can be fully utilized without hitting the threshold. Minor adjustments to the number and/or timing of permits may occur over time to maximize use of these areas while protecting resources and values (consistent with the indicators and thresholds).

VAOT in parking lots along Park Loop Road, Cadillac Summit, and Schoodic Peninsula will be used as an indicator of transportation and access conditions at popular visitor destinations. Parking lots at these destinations provide visitors with access to important park resources and experiences, including viewing scenery, hiking on trails, visiting historical and cultural sites, and walking or biking on carriage roads. Monitoring VAOT at one or more of these locations provides a reasonable basis on which overall transportation and access conditions at visitor destinations can be inferred. Sites that initially will be included in the VAOT indicator are as follows:

- Thunder Hole
- Jordan Pond
- Sand Beach
- Great Head
- Otter Cliffs and Otter Point
- Fabbri Lots
- Hulls Cove Visitor Center
- Sieur de Monts
- Schooner Head Overlook
- Bubble Rock
- Wildwood Stables
- Eagle Lake
- Bass Harbor Head
- Acadia Mountain
- Echo Lake Beach
- Cadillac Summit

- Blue Hill Overlook
- Frazer Point
- Schoodic Point
- Schoodic Woods Day Use Lot

Right-Lane Parking

Similar to the rationale above, parking VAOT for vehicles parked in the right lane provide an ideal threshold on which to base monitoring efforts for transportation system efficiency. Instances in which right-lane parking capacities are exceeded are indicative of vehicle congestion, potential safety concerns, and possible park resource impacts stemming from vehicles parking in unauthorized areas (Lawson, Newman, and Monz 2017). This indicator also helps ensure that the reservation systems for lots, corridors, or systems are appropriately allocated to ensure that visitors with reservations can reach their intended destinations as allocated. The threshold for right-lane parking is determined such that the permit system in each alternative can be fully utilized without hitting the threshold.

Thresholds

Parking Lots

Threshold: VAOT does not exceed the design capacity of parking lots at the visitor destination more than 25% of the time (about 2 hours per day or 14 hours per week) during the peak hours of the day (9:00 a.m. to 5:00 p.m.).

Trigger 1: Lots not on reservation systems. VAOT does not exceed the design capacity of parking lots at the visitor destination more than 20% of the time per day during peak hours of the day (9:00 a.m. to 5:00 p.m.) for 2 consecutive years.

- **Corrective Management Actions:** Implement a strategy (e.g., reservation system, gated access) to actively manage vehicle demand at this lot or expand extent of managed access corridors.

Trigger 2: Lots managed by reservations. VAOT does not exceed the design capacity of parking lots at the visitor destination (more than 75% of lot spaces) for more than 20% of the time during the days or times when permitted entry is not in place for 2 consecutive years.

- **Corrective Management Actions:** Expand days of year or times of day when permits are required for entry.
- **Rationale for Trigger:** The action alternatives take a conservative approach to managing access to the most popular areas of the park. Per the action alternatives, permits will only be required during the highest-use time of day and days of year for areas of the park (as described in the alternatives). Should monitoring of the parking areas under permit systems reveal that the desired conditions for system functionality and visitor experience of these lots/corridors are not being met, the park would expand times of day or days of the year when permits are needed to maintain desired conditions.

Alternatives B and C, Trigger 3: All Park Loop Road lots. VAOT does not exceed the design capacity of parking lots at the visitor destination (more than 75% of lot spaces) for more than 20% of the time per season for 2 consecutive years.

- Corrective Management Actions: Expand reservation system to all of Park Loop Road.
- Rationale for Trigger: At some point, changes in visitation numbers or patterns may be such that managing these areas or corridors is problematic for both visitors and park managers, and an approach similar to what is described in alternative D may be more effective for managing transportation in the park. Implementing the reservation system for all of Park Loop Road would require reconfiguring some existing park entrances as exit only, constructing new entrance stations or relocating existing entrance stations, and potentially making all of Park Loop Road one way in a clockwise or counterclockwise direction. This scenario is described in greater detail in alternative D.

Right-Lane Parking

Threshold: VAOT in the right lane does not exceed the lineal extent allowed under the alternative more than 25% of the time (about 2 hours per day or 14 hours per week) during the peak hours of the day (9:00 a.m. to 5:00 p.m.).

Trigger 1: VAOT does not exceed the lineal extent allowed under the alternative more than 20% of the time per day during peak hours of the day (9:00 a.m. to 5:00 p.m.) for 2 consecutive years.

- Corrective Management Actions: Discontinue parking in the right lane. Develop the Satarlee Pit parking and trail from this lot to Sand Beach to replace vehicles previously allocated for parking in the right lane.

Related Potential Management Strategies—General.

- Adjust number of parking permits sold (in total or for specific times of day).
- Enforce parking and access restrictions, as well as site management (signage, curbing, paving, revegetation) to resolve overparking and visitor-created parking.
- Deploy Intelligent Transportation Systems to provide visitors with information on the status of parking lots (i.e., Frazer Point is full—park at Day Use Lot). This information would be conveyed to visitors before and/or on entry to the corridor to facilitate seeking alternative experiences, including those outside the corridor.
- Increase the frequency of Island Explorer service in the park.
- Increase the extent of Island Explorer service in communities leading to the park.
- Increase enforcement of endorsed parking only.
- Expand reservation system to all of Park Loop Road (see “Trigger 3”).
- Related Potential Management Strategies—Schoodic Peninsula Destinations.
- Consider reducing vehicles to a single lane to encourage increased bike use.
- Allow bike rental concession to encourage increased bike rental.
- Require park-and-ride/bicycle use from the day use lot when Park Loop Road reaches capacity.
- Establish a reservation system to manage visitor use (similar “Trigger 1” in this indicator).

Monitoring Strategies.

Establish statistical and/or mathematical relationships among automated vehicle traffic recorder (ATR) data and VAOT as a basis for long-term monitoring of VAOT. Periodically conduct an observational study of VAOT in parking lots and adjacent overflow areas to establish and update statistical relationships between ATR data and VAOT counts. Compare observed and/or estimated VAOT to the design capacity of parking lots.

Roadway Level of Service

Rationale for Indicator and Thresholds.

Ocean Drive offers sweeping views of the Atlantic coast and access to many of the park's most popular visitor destinations and, as a result, is the most popular section of Park Loop Road for scenic driving. Results of research in Acadia National Park suggest that traffic conditions on Ocean Drive are important to the quality of visitor experience (Hallo and Manning 2009). The same research suggests that visitor perceptions of vehicle congestion on Ocean Drive may be a primary indicator of the quality of scenic driving experience in Acadia National Park and roadway segments proximal to Jordan Pond House and Cadillac Road entrance are indicative of the general quality of driving (or levels of congestion) along Park Loop Road. Monitoring the roadway level of service on segments of Ocean Drive, segments proximal to Jordan Pond House, and the Cadillac Road entrance, could therefore provide a reasonable basis on which the quality of visitor experience on Park Loop Road could be inferred.

According to industry standards, Level of Service D represents a travel condition where the demand for use is high. Under these conditions, passing becomes challenging and a high percentage of cars are traveling in platoons (limiting general freedom of travel along the roadway). Level of Service E represents a condition where demand is approaching the roadway capacity. Passing is virtually impossible and speeds are seriously curtailed (Highway Capacity Manual 2010).

Thresholds

Alternative B: Peak hour level of service does not fall below Level of Service E for more than 120 minutes per day for more than 14 days per summer for 3 consecutive summers along Ocean Drive.

Ocean Drive Alternatives C and D: Peak hour level of service does not fall below Level of Service D for more than 180 minutes per day for more than 14 days per summer for 3 consecutive summers along Ocean Drive.

Triggers and Corrective Actions

Trigger. Peak hour level of service does not fall below Level of Service D for more than 60 minutes per day on more than 14 days per summer along Ocean Drive.

- Corrective Management Actions: Conduct a study to better understand visitor attitudes toward roadway congestion and adjust this indicator and threshold to ensure metrics are consistent with operational needs and visitor acceptability.

Trigger. Peak hour level of service does not fall below Level of Service D for more than 60 minutes per day for more than 14 days per summer for 2 consecutive summers along Ocean Drive.

- Corrective Management Actions: Alternative B – Evaluate implementation of the corridor or systems management alternative.
- Corrective Management Actions: Alternatives C and D – Reduce the number of permits to correct the condition.

Related Potential Management Strategies.

- Deploy Intelligent Transportation Systems to provide visitors with information on status of parking lots (i.e., Frazer Point is full—park at Day Use Lot). This information would be conveyed to visitors before and/or on entry to the corridor to facilitate seeking alternative experiences, including those outside the corridor.
- Increase the frequency of Island Explorer service in the park.
- Increase the extent of Island Explorer service in communities leading to the park.
- Adjust reservation system parameters (timing, number, duration) to reduce roadway congestion.

Monitoring Strategies.

Establish statistical and/or mathematical relationships among ATR data and vehicle percent time following. Periodically conduct an observational study percent time following along roadways to establish and update statistical relationships between ATR data and Level of Service (as operationalized through percent time following metrics).

Number of Island Explorer Trips with Leave-Behinds

Rationale for Indicator and Thresholds.

The Island Explorer is a popular means by which visitors to the park can avoid driving in congested conditions and still visit popular destinations. The park promotes Island Explorer as a means of reducing roadway and parking lot congestion and improving the quality of the visitor experience. Therefore, it is important that Island Explorer services operate in a manner that is reliable and convenient for visitors to use. The term “leave-behinds” refers to instances in which users of Island Explorer service are unable to board a next arriving bus because there is no room on the bus for additional passengers. Monitoring leave-behinds provides a reasonable basis by which the quality of Island Explorer service along Park Loop Road can be inferred. The number of leave-behinds per Island Explorer service trip will be used as an indicator of the quality of Island Explorer service access to visitor destinations along Park Loop Road. Leave-behinds negatively affect wait times for and frequency of Island Explorer service trips, both of which have been shown to be among the most important factors in a visitor’s decision to use Island Explorer in Acadia National Park and other national parks (Manning 2009; Pettengill et al. 2012; Manning et al. 2014). Instances of leave-behinds may also indicate that visitors onboard the bus may be experiencing crowded conditions on the bus. This indicator would apply to Island Explorer service in and connecting to Acadia National Park.

This indicator would be monitored at two types of loading locations: transportation hubs and park destinations. Transportation hubs (Hulls Cove, Village Green, Acadia Gateway Center, Schoodic Marina, and Schoodic day-use parking) are those places where a large number of

people are arriving and transitioning to transit service. Because these areas are larger and have more visitor services, there is a higher tolerance for leave-behinds. Park destinations are smaller stops with limited visitor services where leave-behinds could have a stronger negative influence on visitor experience because at these locations visitors have limited options to make other plans (e.g., return to private vehicle, choose other route).

Thresholds

- **Transportation Hubs:** No more than 3% of riders are left behind on any Island Explorer service trip.
- **Park Destinations:** No more than 1% of riders are left behind on any Island Explorer service trip.

-

Related Potential Management Strategies.

This indicator is also monitored in concert with the people per viewscape (PPV) and encounter rate indicators (see below). Where transit service can be increased or modified to reduce the number of leave-behinds without violating the thresholds in these indicators, those changes will be made. However, if changes to the transit service result in negative trends on related indicators, other actions (such as reservations for transit service) will be pursued.

- **Mount Desert Island**
 - Increase the size of transit vehicles operating on the island (if this increase can be accomplished consistent with the capacity determination and vehicle size restrictions for the related locations).
 - Increase the frequency of transit service on the island (if this increase can be accomplished consistent with the capacity determination for the related locations).
- **Schoodic Peninsula**
 - Modify transit service (i.e., timing, routes, number of stops) to ensure visitor capacities are not exceeded and desired conditions are maintained.

Monitoring Strategies.

On each Island Explorer service trip, bus operators or other monitoring staff record each instance of a leave-behind and the number of people unable to board the bus.

People per Viewscape at Key Visitor Use Sites

Rationale for Indicator and Thresholds.

Sites: PPV is a measure often used by park managers and researchers to quantify visitor crowding (Lawson et al. 2011; Lawson et al. 2009; Manning et al. 2011; Lawson, Newman, and Monz, in press). Crowded conditions have been documented to adversely affect the quality of visitor experience in national parks (Whittaker and Shelby 2010). Research suggests that visitors can identify site-specific standards for crowding (Manning et al. 2011). These visitor-based standards can be used to guide the development of social indicators and thresholds for crowding. PPV is also used by park managers and researchers to quantify visitor crowding

impacts along higher-use hiking trails, walking paths, and other scenic nonmotorized transportation corridors in national parks (Lawson et al. 2009; Lawson et al. 2011; Lawson, Newman, and Monz 2017).

Thunder Hole. PPV at Thunder Hole will be used as an indicator of the quality of visitors' experiences at popular visitor destinations along Park Loop Road. Thunder Hole is an iconic feature of Acadia National Park and is easily accessed by a short path from a parking area off Park Loop Road. The popularity of this feature can lead to high numbers of PAOT on the Thunder Hole observation deck, which can cause crowding that negatively affects the quality of visitor experience. Monitoring of PAOT at Thunder Hole provides a reasonable basis on which the quality of visitor experience at popular destinations along Park Loop Road can be inferred. The well-delineated and contained space at Thunder Hole ensures that monitoring efforts will be reliable and accurate. A 2004 and 2005 study of visitors to Acadia National Park identified approximately 30 PAOT as the threshold beyond which visitors generally felt the Thunder Hole observation deck was unacceptably crowded (Anderson, Manning, and Valliere 2009; Manning 2009).

Cadillac Summit. PPV in the Cadillac Summit Loop Trail area will be used as an indicator of the quality of visitors' experiences on Cadillac Mountain's summit. Cadillac Mountain is an iconic feature of Acadia National Park. The summit is accessible to visitors arriving on three hiking trails or traveling in private vehicles, road-based commercial tours, or activity-based commercial use authorization holders up Cadillac Mountain Road. The popularity of Cadillac Mountain can lead to high numbers of PAOT on the summit. Monitoring of PPV in the summit area loop trail provides a reasonable basis on which the quality of visitor experience on Cadillac Mountain's summit can be inferred and helps ensure that visitors can experience an uninterrupted view from the summit area. There is also a high correlation between the number of people in the loop trail area and the total number of people on the summit (visitor capacity). Therefore, this indicator also allows park managers to ensure that visitor capacity on the summit is not exceeded with regularity.

High-Use Trails. PPV along the Jordan Pond Path, Beehive Trail, and/or Gorham Mountain Trail will be used as an indicator of the quality of visitor experience on higher-use hiking trails along Park Loop Road. Hiking trails along Park Loop Road provide access to scenic vistas of the Atlantic coast and the forests and lakes of Mount Desert Island. Many of these trails provide relatively short (i.e., a few miles or less) round-trip hikes, and are accessible to hikers with a broad range of ability levels. Correspondingly, these trails are popular and can become crowded at times, which can negatively affect the quality of visitor experience (Manning 2009). On some high-use trails in the park—such as the Beehive Trail, which has narrow ledges and steep ascents—visitor crowding may cause unsafe conditions. Monitoring of PPV along one or more of the trails noted provides a reasonable basis on which the quality of visitor experience on higher-use hiking trails along Park Loop Road can be inferred. Because the transportation system along Park Loop Road and associated park roads serves as the primary mechanism by which people access these trails, it is important to monitor these experiences to ensure that the transportation system is not delivering more people to a trail than that trail can accommodate given its desired condition and related threshold.

To date, no studies have been completed to determine acceptable PPV levels along higher-use hiking trails in Acadia National Park. (PPV studies on the carriage roads do not translate directly to potential PPV thresholds for the hiking trails.) However, studies of PPV on trails in other national parks can provide a range within which acceptable PPV levels for typical viewsapes on

trails in Acadia National Park might fall. Results of a 2005 study in Muir Woods National Monument included a visitor-based acceptability threshold of 16 PPV for higher-use or “primary” hiking trails, and a visitor-based acceptability threshold of 7 PPV on lower-use or “secondary” hiking trails (Manning et al. 2005). Results of a 2003 study of visitors to Yosemite National Park included a visitor-based acceptability threshold of 26 PPV on the trail to Vernal Fall, a high-use hiking trail in Yosemite Valley (Lawson et al. 2009). It should be noted that the differences in PPV thresholds in these studies may be due, in part, to differences in the lengths of trail sections for which the visitor-based standards were measured.

Carriage Roads. PPV on one or more sections of the carriage roads will be used as an indicator of the quality of visitor experience on the carriage roads. Acadia National Park’s carriage roads are an iconic feature of the park and offer car-free bicycling and walking opportunities with access to scenic vistas of the forests and lakes of Mount Desert Island. Correspondingly, the carriage roads are popular and can become crowded at times (Manning 2009). Monitoring of PPV along one or more of the carriage roads provides a reasonable basis on which the overall quality of visitor experience on the carriage roads can be inferred. Because the transportation system along Park Loop Road and associated park roads serves as the primary mechanism by which people access this recreation opportunity, it is important to monitor these experiences to ensure that the transportation system isn’t delivering more people to the carriage road system than the system can accommodate given its desired condition and related threshold.

A 1998 study of visitors to Acadia National Park identified approximately 14 PPV per 328-foot (100-meter) segment as the threshold beyond which visitors generally felt that the carriage roads were unacceptably crowded. A 2009 study of visitors to Acadia National Park identified approximately 21 PPV per 410-foot (125-meter) segment as the threshold beyond which visitors generally felt it was unacceptably crowded (Manning 2007; Pettengill et al. 2012).

Schoodic Peninsula. PPV at Schoodic Point, Frazer Point, and/or Little Moose Island will be used as an indicator of the quality of visitor experience on Schoodic Peninsula. Acadia National Park’s General Management Plan Amendment for Schoodic Peninsula states that opportunities for “low-density recreation” and “solitude” should be maintained on Schoodic Peninsula to preserve the character of the area. Schoodic Point, Frazer Point, and Little Moose Island are visitor use locations on Schoodic Peninsula where the park’s objectives include providing visitors with opportunities to experience the beauty of the park in lower-density recreation areas. Monitoring of PPV at these locations provides a reasonable basis on which the overall quality of visitor experience on Schoodic Peninsula can be inferred.

A 2003 study of visitors to Acadia National Park identified 70 PPV as the threshold beyond which visitors generally felt a selected “photo area” at Schoodic Point was unacceptably crowded and 85 PPV as the threshold beyond which visitors generally felt a selected “photo area” at Frazer Point was unacceptably crowded (Manning 2009).

No visitor crowding studies have been conducted to date at Little Moose Island. Little Moose Island has no established trails or facilities, and use on the island is dispersed. Given the relatively small size of the island and that there are no formally defined visitor use areas on the island, the indicator is specified as PAOT on all of the island. The relatively small size of the island suggests that the presence of even just a few groups on the island (or approximately 6 to 12 PAOT) might have a significant impact on visitor experience there.

Thresholds.

- Thunder Hole and Cadillac Summit
 - Thunder Hole: No more than 30 PPV are on the Thunder Hole lowermost observation deck more than 80% of the time per season.
 - Cadillac Summit: No more than 220 PPV are on the Cadillac Summit more than 80% of the time per season.

High-Use Trails. No more than 10 PPV are on a selected 165-foot section of trail more than 80% of the time per day.

- Carriage Roads.⁷
 - High-Use Zone: PPV standards of quality (per hour) in the high-use zone are no less than 31 minutes at zero PPV, no more than 27 minutes at 1 to 5 PPV, no more than 2 minutes at 6 to 10 PPV, and no minutes at 11 PPV or more.
 - Low-Use Zone: In the low-use zone, standards of quality are no less than 48 minutes at zero PPV, no more than 11 minutes at 1 to 5 PPV, no more than 1 minute at 6 to 10 PPV, and no minutes at 11 or more PPV.
- Schoodic Peninsula.
 - Schoodic Point: No more than 70 PPV are in the Schoodic Point “photo/monitoring area” more than 80% of the time per day.
 - Frazer Point: No more than 85 PPV are in the Frazer Point “photo/monitoring area” more than 80% of the time per day.
 - Little Moose Island: No more than 12 PAOT are on all of Little Moose Island more than 80% of the time when the island is accessible by foot.

Related Potential Management Strategies.

The following potential management actions would be implemented as part of the management strategy and in a descending order if determined to be necessary:

- Develop and implement a public information effort about the desired conditions for the park and actions the National Park Service is taking to achieve those conditions and how visitors can best experience the park. This information could be distributed through direct visitor contact, park publications, wayside exhibits, maps, social media, websites, and park partners. The goal would be to have visitors self-disperse to approved sites or come during lower-use periods of the day or season to accommodate similar levels of hiker use but without concentrating that use during peak periods.

⁷ This threshold is not new to this plan. It has been carried forward from the carriage road visitor experience and resource protection process (NPS 1997). Because this threshold is directly related to the transportation system, it is restated here.

- Ensure informational materials that cover a wide variety of topics—such as locations for permitted activities, park rules and regulations, and Leave No Trace practices—are available for visitors in a variety of languages, including when visitor centers are closed.
- Use up-to-date technology to provide information to visitors before and during their visits.
- Collect data for sites, trails, or destinations where additional information on visitor use patterns, levels, and behaviors could further inform thresholds. This information would be collected and used to refine thresholds before actions that limit or reduce visitor use are taken.
- Encourage hikers to take a certain route during peak-use times.
- Provide information on other visitor destinations in the corridor. Focus on destinations that typically have lower-use levels.
- Increase maps and signage about various destinations both in and outside the park.
- Provide real-time parking lot status updates. Rangers at contact stations could relay this information to visitors before they reach that location.
- Limit group size to 10 individuals along trails.
- Manage commercial uses to ensure smaller group sizes and/or manage the timing and places tour groups can visit. Enforce parking in authorized spaces for commercial groups.
- Separate when and where visitor use occurs at a location. Separation could be done by allowing private and commercial entities to access a location at different times or by physically separating where one type of use occurs from others.
- Develop a trail management plan.
- Implement a permit system for certain trails or trailheads.

Monitoring Strategies.

Establish statistical and/or mathematical relationships among ATR data on proximal traffic counters and site locations for long-term monitoring of PPV using automated counter data. Periodically conduct an observational study of PPV at site locations (via photo monitoring or direct counts) to establish and update statistical relationships between ATR data and PPV counts. Compare observed and/or estimated PPV to crowding thresholds.

PPV will be monitored on one or more of the following higher use trails:

- Jordan Pond Path
- Beehive Trail
- Gorham Mountain Trail
- South Bubble Trail
- Wonderland Trail
- Ship Harbor Trail
- Cadillac Mountain Gorge Path
- Schoodic Head Trail

PPV will be monitored at one or more of the following Schoodic locations:

- Schoodic Point
- Frazer Point
- Little Moose Island

Encounters on Medium-Use and Low-Use Trails

Rationale for Indicator and Thresholds.

Encounters along the North Ridge Trail, South Ridge Trail, and/or Gorge Path on Cadillac Mountain will be used as an indicator of the quality of visitor experience on lower-use hiking trails along Park Loop Road. Encounters is a measure often used by park managers and researchers to quantify crowding on lower-use hiking trails (Lawson 2006; Lawson et al. 2006; Kiser, Lawson, and Itami 2008). Crowded conditions have been documented to adversely affect visitor experience in national parks (Whittaker and Shelby 2010). The North and South Ridge Trails of Cadillac Mountain feature open ridgelines with expansive views as hikers climb toward the summit. The Gorge Path is a steep, rugged trail and is the most challenging of the three trails. Because park visitors can drive private vehicles or ride tour buses to the summit of Cadillac Mountain, these trails experience lower levels of visitor use than if they provided the only access to the mountain summit. Correspondingly, these trails provide visitors with opportunities for lower density experiences on Cadillac Mountain before and after visiting the higher use summit area. Monitoring encounters along these trails provides a reasonable basis on which the quality of visitor experience on lower-use hiking trails along Park Loop Road can be inferred.⁸

A 2007 study of visitors in Acadia National Park measured visitor-based standards for hiking encounters on trails throughout the park (Manning 2009); a 2004 study monitored visitor groups' island-wide encounters on Isle au Haut (Manning 2009). In addition to monitoring encounters on low-use trails, these studies monitored encounters high-use trails and roads, and they focused on encounters over the course of an entire day. Therefore, the results of these studies are not easily applicable to hiking encounters per hour on low-use trails. Studies of encounters in other parks and protected areas, however, can provide a range within which an acceptable number of encounters on lower-use trails in Acadia National Park might fall. A 2005 study of visitors to 13 wilderness areas in Oregon and Washington reported a median "displacement level" (level beyond which visitors would opt to go somewhere else to hike) of 9 encounters per hour on relatively high-use wilderness trails (Cole and Hall 2005). As a point of reference, observed levels of visitor use on the high-use wilderness trails in the study (20 or more groups per day) are similar to those observed on the Gorge Path, but well below those for the North and South Ridge Trails (Reigner, Belenz, and Lawson 2016).

⁸ Future trail planning may include data collections and/or management actions that would suggest amending this indicator and/or thresholds.

Thresholds.

- Low-Use Trails: 80% of visitors encounter no more than 15 encounters with other people per hike.
- Medium-Use Trails: 80% of visitors encounter no more than 40 encounters with other people per hike.

Related Potential Management Strategies.

The following potential management actions would be implemented as part of the management strategy and in a descending order if determined to be necessary:

- Develop and implement a public information effort to inform local businesses and other information providers (e.g., guidebooks) about the desired experience in the corridor, actions the park is taking to achieve those experiences, and how visitors can best experience the corridor. This information would be distributed through direct visitor contact, park publications, and wayside exhibits. The goal would be to have visitors self-disperse or come during lower-use times of day or season to accommodate similar levels of hiker use but without concentrating that use during peak periods.
- Place physical barriers along roadsides so visitors cannot park on the roadside and then walk to trailheads. Formalize road edges where possible.
- Actively manage (through reservation systems or other mechanisms) the proximal parking areas during peak periods to ensure visitors only park in authorized spaces.
- Reduce the usable size of parking lots to reduce encounter rates on trails.
- Establish statistical and/or mathematical relationships among automated counter data (e.g., ATR, infrared trail counter, camera) and encounters as a basis for long-term monitoring of encounters using automated counter data. Periodically conduct an observational study of encounters via trail patrols to establish and update statistical relationships between automated counter data and encounter counts. Compare observed and/or estimated number of encounters to encounters threshold.
- Develop a trail management plan.

Monitoring Strategies

The number of people encountered per hour will be monitored on one or more of the following lower-use trails:

- Norumbega Mountain Trail
- Triad Trail
- Hunters Brook Trail
- Western Mountains Trails
- Cadillac Mountain North Ridge Trail
- Cadillac Mountain South Ridge Trail
- Other trails based on needs identified in observational data

Extent of Informal Trails

Rationale for Indicator and Thresholds.

The percent change in the condition class of informal trails in sensitive environments will be used as an indicator of visitor use-related impacts to natural resources. Condition class measures are used by park managers and researchers to quantify the severity of visitor-caused trampling of and damage to vegetation and soil resources in national parks (Manning 2009; Monz et al. 2010). Condition class is a qualitative scale, ranging from one to five, where one refers to minimal trail disturbance and five refers to major trail disturbance.

Cadillac Summit. Cadillac Mountain's summit features large areas of sensitive subalpine vegetation. Subalpine habitats are unique, isolated ecosystems that show little resilience to repeated trampling (Monz et al. 2010). The popularity of Cadillac Mountain as a visitor destination, combined with visitors' interest in and tendency to roam off-trail on the mountain summit, has resulted in a network of informal trails that represents a threat to the long-term health of the subalpine ecosystem on the summit. Monitoring the condition class of informal trails provides a reasonable basis on which the overall health of the subalpine environment on the summit of Cadillac Mountain can be inferred.

In 2010, a study was completed to inventory the lineal extent and condition class of informal trails on Cadillac Mountain's summit (Monz et al. 2010). The results of this study will be used as a baseline against which to compare future monitoring for tracking the percent change for thresholds and triggers.

Objectives.

No (or 0% of) informal trail segments on the summit of Cadillac Mountain will decline in condition class from the previous monitoring period.

There will be no increase from baseline in the total lineal extent of informal trails on Cadillac Summit.

Related Potential Management Strategies (in descending order).

- Rehabilitate visitor-created trails in a timely manner whenever possible.
- Educate visitors regarding the sensitivity of resources and the importance of staying on the trail.
- Improve trail identification and signage.
- Consider designating (or re-engineering) visitor-created trails in strategic locations, as appropriate.
- Initiate annual monitoring in this location to confirm trends.
- Close the area to off-trail travel or consider formalizing (hardening) additional trails to reduce visitor-created trails.

Monitoring Strategies.

Every 3 years, perform GPS-based census mapping of informal trails in a systematically delineated area of the Cadillac Mountain summit and derive measures of condition class for informal trails from the remote sensing data. Compare recorded condition class measures and/or lineal extent to the thresholds for this indicator.

IDENTIFYING AND IMPLEMENTING VISITOR CAPACITY

Overview

This appendix provides additional information about identifying and implementing visitor capacity as it relates to the visitor use management framework. Please refer to chapter 1 of this plan for a description of this framework that is common to all alternatives.

Broadly speaking, visitor use management is the proactive and adaptive process of planning for and managing characteristics of visitor use and its physical and social setting, using a variety of strategies and tools to sustain desired resource conditions and visitor experience. Within this framework, desired conditions (chapter 1), indicators and thresholds (this appendix), and management strategies (chapter 2) have been drafted. Another component of this framework is identification of visitor capacities. Visitor capacity is a component of visitor use management defined as the maximum amount and types of visitor use that an area can accommodate while sustaining desired resource conditions and visitor experiences, consistent with the purpose for which the area was established. Visitor capacities will be used to both inform and implement the management strategies selected as part of this transportation plan/environmental impact statement (plan). The National Park Service is legally required to identify and implement visitor capacities for all areas of a park unit per the National Parks and Recreation Act of 1978 (Interagency Visitor Use Management Council [IVUMC] 2016).

The primary goal of this planning effort is to preserve the fundamental resources and values of Acadia National Park. By identifying and managing the maximum amounts and types of visitor use, the National Park Service can help ensure that resources are protected and visitors have the opportunity for a range of high-quality experiences. Although visitors have mostly noted that their experiences are of high quality, they have also identified a number of concerns related to increasing use levels such as congestion in parking areas, conflicts between user groups, and concerns over resource impacts at swim areas and near sensitive resources.

Through this planning effort, the park has identified a number of strategies (chapter 2) to directly address these issues. These strategies then influence and inform the maximum allowable use in this area (visitor capacity). For example, expanded parking capacity at Eagle Lake addresses resource and safety issues associated with roadside parking and also accommodates additional visitor use in this area while still protecting resources and experiences. At some sites, current use levels are so high that they are resulting in adverse impacts to experiences and could lead to adverse impacts to resources. In these cases, strategies have been identified to directly address these issues, and the identified visitor capacities are based on the expected outcomes of implementing these strategies. For other sites, current use levels do not appear to be impacting experiences or resources, therefore, the visitor capacity has been identified to be at, near, or above current use and is based on the limiting attributes described at the site. If any monitoring or additional actions are needed to manage to these visitor capacities, this information has been included in the indicators and thresholds (this appendix) and the alternatives (chapter 2). This appendix documents the considerations and processes used to identify and implement visitor capacity for key destinations.

Background on Visitor Use Levels and Patterns

The amount, timing, distribution, and types of visitor use in Acadia National Park influence both resource conditions and visitor experience. Since its establishment, visitation to the park has increased. Average visitation in the 1990s and early 2000s was 2.4 million visitors per year. In

2013, visitation to the park started to climb steadily reaching 2.8 million in 2015 and 3.5 million in 2017. Currently, there is high demand for recreational opportunities and high levels of use in the park, particularly during peak summer months. Other issues facing the park that are associated with visitor use include crowding, visitor-created trails, impacts to soil and vegetation, visitor conflicts, and roadway congestion. For more details on visitor use trends and impacts, please see the “Visitor Use and Experience” sections of chapters 3 and 4 of this document.

Visitors arrive at Acadia National Park in a variety of ways including by personal vehicle, authorized commercial services, and alternative transportation. The levels and patterns of visitor use are causing negative impacts to visitor experience and resources and are influencing the ability of the National Park Service to maintain desired conditions. Identifying visitor capacity can direct managers on how and when visitors access the park. Appropriate management strategies can then be selected and implemented to maintain desired resource conditions and visitor experience consistent with the purposes for which the park was established.

Concerns about overuse of the park carriage road system and the behavior of some users alerted park managers to threats to the quality of the carriage road visitor experience which lead to the development of the Carriage Road Visitor Experience and Resource Protection (VERP) study that was completed in 1997. Through VERP, the park sought to understand, define, and maintain high-quality experiences on the carriage roads. This process concluded that the visitor capacity of the carriage road system is 3,000 visitors per day (Jacobi & Manning 1997).

Process for Determining Visitor Capacities

The approach for developing visitor capacities is based on the council’s Visitor Use Management Framework and associated publications, and is consistent with the literature and best practices on this topic. Visitor capacities were identified using best practices and examples from other plans and projects across the National Park Service. Based on these best practices, the planning team describes the process for identifying capacity following four key steps: (1) determine the analysis area, (2) review existing direction and knowledge, (3) identify the limiting attribute, and (4) identify visitor capacity.

Step 1: Determine the Analysis Area.

The amount, timing, distribution, and types of visitor use at Acadia National Park influence both resource conditions and visitor experiences. Currently, there is high demand for recreational opportunities in the park, particularly during summer. The primary activities associated with the fundamental values of the park are scenic driving, hiking, bicycling, birdwatching, boating, climbing, fishing, horseback riding, picnicking, swimming, exploring natural habitats (tide pools and rocky summits), night-sky viewing, and a variety of winter recreational activities. Further guidance for addressing visitor capacity in other areas of the park can be found in the Isle Au Haut Visitor Use Management Plan (2015) and the Schoodic General Management Plan (2006).

This plan and identified visitor capacities are needed to manage and protect the park through the identification of appropriate kinds and amounts of visitor use so visitors have the opportunity to engage with the resources at the park while ensuring the protection of those resources.

Following guidance from the council, the level of analysis that occurs during visitor use management planning and visitor capacity is identified based on a sliding scale depending on the complexity and context of the plan. During the planning process, it was determined that 10 key areas of the unit would benefit from a capacity analysis.

A higher level of analysis has been identified as necessary for the key locations due to present visitor use issues. For the other locations, desired conditions are being met under current use levels and a lower level of analysis is being used. The visitor capacities at these other locations have largely been determined to be near, at, or slightly above current use level. Future monitoring of use levels and indicators will inform the National Park Service if visitor capacities are encroached. The level of detail provided in the rationales for each capacity determination is commensurate with the level of complexity related to visitor capacity at that site.

Per the 1978 Parks and Recreation Act (54 USC 100502) and following guidance from the council, visitor capacity determinations are legally required for key destinations and areas that this planning effort addresses (IVUMC 2016). Together, the eight key areas comprise the majority of the areas with issues and plan actions are directly related to visitor use levels. These locations are as follows:

- Sand Beach
- Cadillac Mountain
- Jordan Pond House
- Echo Lake
- Acadia Mountain and Echo Lake Ledges
- Eagle Lake
- Hulls Cove
- Schoodic Point

There are other areas of the park (trails, summits, and other destinations) that are subject to this legal requirement to define visitor capacity. However, as decisions about management of these areas are out of scope for this plan, these capacity determinations will be addressed in subsequent planning.

Step 2: Review Existing Direction and Knowledge.

During this step the National Park Service reviewed desired conditions, indicators, and thresholds, with particular attention to conditions and values that must be protected and are most related to visitor use levels. Below, the relevant indicators are listed under each key area. The thresholds and associated actions for these indicators can be found earlier in this appendix. Relevant desired conditions, for both resources and visitor experience, were reviewed for each site as part of this process. For descriptions of the goals and desired conditions by fundamental resource or value, see chapter 1. An overview of visitor use issues and current use levels is also provided for each key area.

Step 3: Identify the Limiting Attribute.

Step three requires the identification of the most limiting attribute(s) that constrain the analysis area's ability to accommodate visitor use. The limiting or constraining attribute(s) may vary across the analysis area and are described under each key. This is an important step given that a key area could experience a variety of challenges regarding visitor use issues.

Step 4: Identify Visitor Capacity.

To determine the appropriate amount and types of use at key areas, a variety of data was reviewed to understand current conditions compared to goals and objectives for the area. Visitor capacity includes consideration of the amount and types of visitor use, including the timing and distribution of visitor activities and behaviors as they relate to desired conditions. It also takes into consideration management objectives, desired conditions, and other management actions for an area (as described in “Chapter 2: Alternatives”).

As strategies and actions directly influence how many people can reach a site, the action alternatives therefore influence the visitor capacity. For this reason, visitor capacities can vary between the alternatives depending on management strategies of that individual alternative. For instance, if a site is closed to visitor use in one alternative, the capacity determination is zero as no use is authorized under that alternative. In another alternative, a site may be expanded with additional facilities, therefore resulting in a visitor capacity determination at or above current use levels.

For Acadia National Park, visitor capacities are most frequently expressed as PAOT increments. PAOT refers to the total number of people that are present at a site at any given point in time. Delineations of sites may vary depending on the specific location, and monitoring can be done in a variety of ways but should serve to approximate as best as possible the total number of people present at a location. The visitor capacities will be implemented as part of this planning effort. Where applicable, specific management strategies outlined in the alternatives that will be used to implement visitor capacities have been included in the visitor capacity for each area. For these and all other locations, visitor capacities will be monitored as described in the “Indicators and Thresholds” section of this appendix; if associated thresholds are exceeded, potential management strategies would be implemented to ensure that capacities are not exceeded.

In some locations, visitor capacity allocations are also identified. Allocation is the process of distributing visitor capacity among a variety of uses or opportunities to achieve or maintain desired conditions. Once visitor capacity is identified for an area, managers may need to determine appropriate allocations among a variety of uses or opportunities. Information about the categories of use to be allocated should be considered as the visitor capacity is being identified.

Methodological Considerations.

To determine the appropriate amount of use at one time at key locations, data were reviewed to understand current conditions compared to desired conditions and to quantify limiting attributes. Visitation data are collected annually by the park staff to track levels of visitor use parkwide. Research was conducted by a variety of researchers from 2005 to present on use levels, types, patterns, and preferences, and perceptions of visitors at a specific number of key locations in the park. Results from visitor surveys inform visitor capacity determinations below. Research on visitor impacts to trails, including visitor-created trails, has been used to understand and determine the appropriate kind and amount of visitor use with regard to natural resources. The National Park Service collects annual data including counts of fees, parking availability, trail counters, and other pieces of information.

Lot functionality and efficiency was also taken into consideration in the identification of visitor capacities. Given the dynamic nature of visitor use patterns (mostly duration of stay), lots cannot

be assumed to be 100% full at all times. Therefore, the reservation system lots use an efficiency factor to ensure that lots operate at a high efficiency but are not “oversold,” and to ensure that when visitors arrive with a reservation they will have a parking space. For a directly managed lot (i.e., on a reservation system) the efficiency factor is relatively high (90%). Where lots are not actively managed, the efficacy factor applied is slightly lower (85%) to account for what could reasonably be accommodated in the lots under those conditions (Smith 2005).

$$\text{Parking Spaces} \times \text{Efficiency Factor} = \text{VAOT}$$

Where necessary, approximations have been made. For instance, a persons-per-vehicle (PPVh) multiplier has been used to estimate the average number of people (PAOT) who come to a site based on private vehicle use (VAOT). While some vehicles may include more or less than the multiplier used, it represents a reasonable average. The PPVh used at Acadia National Park is three persons/vehicle (NPS 2016). Often times these numbers are rounded up to account for the potential error in the assumptions.

$$\text{VAOT} \times \text{PPVh} = \text{PAOT (visitor capacity)}$$

Key Locations

Sand Beach.

Review of Existing Direction and Knowledge

This analysis area includes Sand Beach itself, the parking areas that facilitate access to this beach, and the Beehive trailhead. During a 2005 visitor survey, 25% of Sand Beach users said that crowding was an issue in this location, and 15% said that the lack of parking or difficulty finding parking was an issue. More than half of visitors in this survey said the current number of people in this area was too many, and 42% said that the number of people on the beach was problematic. The parking at Sand Beach also provides access to the Beehive Trail, which currently receives approximately 400 hikers per day.

There are currently 113 parking spaces in the two lots that provide access to Sand Beach and its related trailheads. These lots allow 340 PAOT to this area when the PPVh is applied to the number of possible vehicles. During the peak times of the day, it is estimated that an additional 19 vehicles (maximum observed) create their own parking spaces in these lots or along the drive paths leading to these lots (VHB 2014). This unendorsed parking contributes an additional 57 PAOT to the area. Additionally, right-lane parking facilitates access to this area of the park. During busy days, up to 217 cars have been observed parked in the right lane near Sand Beach (VHB 2014). This results in an additional 650 PAOT parked in this location (only about half of which will go to the beach). Given the current length of stay for visitors at this location and shuttle headway schedule for Island Explorer, this service facilitates access to the Sand Beach area for up to 115 PAOT. On average, 15% of people who arrive at Sand Beach (either via the parking lot or Island Explorer service) use this area as a trailhead and do not go to the beach itself.

During a 2004 study, visitors were asked what their preferences were toward the number of PAOT on the beach in this location. The mean acceptability from this study was 248 PAOT on the beach. Visitors, on average, said that the National Park Service should allow 557 PAOT on the beach and they would no longer use this area at 724 PAOT (Park Studies Lab 2011). During

the 2017 summer season, an average of 244 PAOT were counted on the beach during the peak time of day, and a maximum of 480 PAOT was observed on the beach (NPS 2017a).

Limiting Attribute and Relevant Indicators(s)

The limiting attribute in this area is social. At the time of the last visitor survey in this area (2004) visitor experience quality on the beach and trails was acceptable; lingering visitors were dispersed enough throughout the areas and surrounding trails such that experiences have not been notably or measurably impacted. Monitoring on trails near this area indicate that the level of use on trails is within acceptable ranges most of the time, but approaching thresholds for PVV on the high-use trails accessed by this lot and shuttle stop.

Allowing more people on the beach than expressed preferences in the 2004 visitor study (see above) would cause visitors to begin to displace (which the parks considered contrary to the desired experiential conditions) and may cause visitors to disperse to sensitive natural resource areas off the beach or trails that would result in natural resource impacts.

Relevant Indicators

- VAOT at Key Destinations (Sand Beach)
- PPV on High-Use Trails (Beehive Trail)

Visitor Capacity

Based on the expressed visitor preferences for social conditions on the beach and management guidance, the capacity for this area is identified to be 550 PAOT on Sand Beach. This capacity is consistent with visitor preferences for what the public believes the beach should be managed to (Anderson et al. 2009). This level of use facilitates appropriate access to the variety of resources, without causing conditions that would lead to adverse conditions on the beach or along the trail segments.

Visitor Capacity Allocations for Action Alternatives

All Action Alternatives

Given the visitor use patterns, lengths of stay for visitors at this location (median 60 minutes, mean 81 minutes; Park Studies Lab 2011), and shuttle headway schedule for Island Explorer, this service will facilitate access to Sand Beach for up to 115 PAOT. Smaller commercial tour buses will be able to provide tour access to this area, contributing 75 PAOT to Sand Beach. For other access types, the conditions of the alternatives will allocate this visitor capacity differently. See below for a discussion of these allocations and for a summary of current conditions compared to the action alternatives. For a summary of visitor capacities at this site, see table A-1.

Alternative B

Both lots that facilitate access to Sand Beach would be maintained; however, a permit system would increase the efficiency of these lots. The conditions of this alternative would lead to up to 102 VAOT to access the Sand Beach area, contributing 310 PAOT in the area. Based on current use distributions, it is anticipated that 260 PAOT on the beach. Under the conditions of this alternative, Island Explorer service may be expanded (based on feasibility), to provide an additional 100 PAOT.

Alternative C

Both lots that facilitate access to Sand Beach would be maintained; however, a permit system would increase the efficiency of these lots. The conditions of this alternative would lead to up to 102 VAOT to access the Sand Beach area contributing 310 PAOT to the area. Based on anticipated use distributions based on the conditions of this alternative, it is anticipated that 290 of these PAOT would go to the beach. Under the conditions of this alternative, Island Explorer service may be expanded (based on feasibility) to provide an additional 70 PAOT at Sand Beach.

Alternative D

Both lots that facilitate access to Sand Beach would be maintained; however, a permit system would partially increase the efficiency of these lots. The conditions of this alternative would lead to up to 96 VAOT to access the Sand Beach area, contributing 290 PAOT to the area. Based on visitor distributions, it is anticipated that 280 of these PAOT would go to the beach. Under the conditions of this alternative, Island Explorer service may be expanded (based on feasibility), to provide an additional 80 PAOT to Sand Beach.

TABLE A-1. SAND BEACH VISITOR CAPACITY AND ALLOCATION SUMMARY

Allocations	Current Condition	Alternative B	Alternative C (Preferred)	Alternative D
People arriving via private vehicle (PAOT)	720	260	290	280
People arriving via Island Explorer (PAOT)	115	115	115	115
People arriving via commercial tour provider (PAOT)	N/A	75	75	75
Potential Island Explorer (PAOT)	N/A	100	70	80
Visitor capacity	835	550	550	550

Cadillac Summit Area.*Review of Existing Direction and Knowledge*

At 1,530 feet, Cadillac Mountain is not only the tallest mountain in the park, but also the tallest mountain along the eastern coast of the United States. Cadillac Mountain is accessible via a winding, narrow, 3.5-mile road. The road is closed from December through April 14 and whenever weather conditions (e.g., dense fog, ice) require. Cadillac Mountain is the focal point for Acadia National Park visitors because it offers sweeping views of an island-dotted landscape in all directions. A recent study reported that 75% of visitors went to the summit during their stay (Manni et al. 2010). This area of analysis includes the whole of Cadillac Summit including the summit viewing platforms, hiking trails, parking lots, gift shop, and ledges area.

An estimated 259,000 vehicles and at least 777,000 visitors went to Cadillac Mountain between June 2, 2016 and October 31, 2016 (NPS 2017b), an 8% increase over the same period in 2015. The busiest times are sunrise, sunset, holidays, June 25 to August 31, and 10:00 a.m. to 5:00 p.m.

Each month has peak traffic in excess of 2,000 vehicles per day. August 2016 averaged 2,100 vehicles and at least 6,300 visitors per day. The busiest day of 2016 was Sunday, July 3, 2016, when 2,830 vehicles climbed Cadillac Mountain, even with an 81-minute closure in the early afternoon (NPS 2017b).

In 2014, vehicle counts were conducted on Cadillac Summit. In this study, the maximum observed number of vehicles on Cadillac Summit and the Blue Hill lots was 192 VAOT, which contributed 580 PAOT. On an average busy day in this study (P_{85}) 153 vehicles were counted in these two lots, contributing 460 PAOT to the summit area (VHB 2014). More recently (in 2016 and 2017), park staff counted up to 450 vehicles parked in the lots and along roadways, which likely contributed over 1,300 PAOT to the Cadillac Summit area. In addition, up to five road-based commercial tours are allowed in the summit lots at one time, contributing 175 PAOT. On average busy days, there are 80 PAOT on Cadillac Summit that have arrived there by one of the trails that leads to the summit (Resources Systems Group [RSG] 2015). Based on these data collections, it is estimated that maximum observed PAOT in the analysis area is 830 PAOT, and 715 PAOT on average busy days.

Visitor studies suggest that visitors prefer to have about 195 PAOT in the summit area. When visitor use exceeds this level, conditions are such on the trails and viewing platforms that visual crowding begins for some visitors. When there are roughly 365 PAOT in the summit area, physical crowding begins on the viewing platforms, and visitors in the interpretive area start to have difficulty moving freely (Pettengill et al. 2009; Transportation Research Board 2010). When visitors were asked about their preferences and tolerances for crowding on Cadillac Summit, they responded that the point at which management action should be taken (and also what the respondents viewed to be “acceptable conditions”) was roughly 600 people in the summit area (or 30 PAOT in the 328-foot [100-meter] section of trail) (Manning 2009). Visitors expressed that roughly 700 PAOT in the summit area (or 25 PAOT in the viewing platforms and 225 to 330 PAOT in the Loop Trail Area) represents a condition at which visitors would begin to displace and would no longer return (RSG 2015; Manning 2009).

A 2008 study assessed visitor preferences for alternative combinations of public access, resource protection, and design solutions to manage and protect the summit of Cadillac. Results of this study showed that visitors strongly support access to the summit and strongly oppose management actions that would result in many people being turned away. There was some minor support for a few visitors being turned away to support resource protection. Results of this study indicated that the most important issue to visitors was “visitor-caused damage to vegetation and soils” and visitors strongly opposed use of the summit area that leads to extensive damage to these resources. Relatedly, visitors were opposed to use levels that result in many visitors traveling off-trail. (Bullock and Lawson 2008).

Private Vehicle Use

There are currently 157 parking spaces in the two lots (Cadillac Summit and Blue Hill Overlook) that provide access to Cadillac Summit. These lots contribute 355 PAOT to Cadillac Summit. During the peak times of the day it is estimated that 35 VAOT create their own parking spaces along the roadway. This unendorsed parking contributes an additional 105 PAOT to the summit area for a total of 460 PAOT on the summit.

Oversize Commercial Vehicles

There are currently five commercial vehicle spaces in the Cadillac Summit lot. The average occupancy of these tour vehicles is 35 visitors. This contributes up to 175 PAOT to Cadillac Summit.

Hiker Access

On average busy days, 80 PAOT have arrived on Cadillac Summit by one of the trails that leads to the summit (RSG 2015).

Limiting Attribute(s)

There are three potential limiting attributes related to visitor capacity in this area: protecting natural resources, promoting visitor enjoyment, and reducing traffic congestion and crowding.

Natural Resource Constraints

The summit of Cadillac Mountain is home to plant species that are sensitive to visitor use. While some infrastructure solutions (trail paving, fencing, signage) have been implemented to prevent impacts to these resources, overuse of this area could result in impacts to these summit communities. Additionally, geographic and natural resource constraints limit the ability to expand parking beyond the current (2016) footprints.

Relevant Indicators

- Extent of Informal Trails

Transportation System Performance

Parking is limited in the lots that provide direct access to Cadillac Summit, making competition for parking high during most of the day during the peak summer season. Additionally, visitor-created roadside parking creates safety issues and roadway congestion. Given the historic nature of the road and its cultural significance, expanding the roadway to provide endorsed parking along the shoulders is not feasible.

Relevant Indicators

- VAOT at Key Destinations

Visitor Enjoyment

Providing quality recreational opportunities also requires that visitor use be managed and distributed to avoid unacceptable levels of crowding at popular recreation sites and primary attractions. One of the desired conditions for this area is that views from Cadillac Summit are dominated by the natural landscape. Therefore, visitor capacity on the summit needs to ensure that use of the summit provides for conditions such that these views are achievable. Research related to visitor enjoyment of the summit and associated levels of use are discussed in the “Review of Existing Direction and Knowledge” section above.

Relevant Indicators

- PPV on High-Use Trails
- PPV

Visitor Capacity

Extensive research and study of this area suggests a number of benchmarks by which visitor capacity could be determined. While visitors prefer low-density experiences on Cadillac Summit (Manning 2009), this is a place where they are willing to tolerate higher levels of use so that many visitors do not need to be turned away from this resource and experience, provided that the natural resources in this location remain protected (Bullock and Lawson 2008). Considering all of these factors and studies along with the operational conditions of the environment, the visitor capacity is identified at 600 PAOT in the summit area. Beyond this point, social conditions would be so degraded that visitors that have previously visited this area would be displaced by crowded conditions and therefore desired conditions for this area would not be met.

In practice, the conditions of each alternative lead visitor use rates and allocations that may vary by alternative in this analysis area due to the anticipated efficiencies of the lots under the different conditions of the reservation systems. See below for the visitor use allocations by alternative. A summary of these capacities are presented in table A-2.

Visitor Capacity Allocations for All Action Alternatives

Private Vehicle Use

The 23 spaces on the outside loop would be removed to improve safety. Removing parking from the travel way is consistent, in part, with its historic design and would balance the allocation between private vehicle and commercial access.

Commercial Vehicles

Five commercial vehicle spaces in the Cadillac Summit lot would continue to be maintained. Due to size restrictions in each alternative, it is assumed that no more than 30 visitors could be accommodated per vehicle. This would contribute 150 PAOT to Cadillac Summit.

Hiker Access

It is anticipated that with vehicle access restrictions to the summit, more visitors will likely choose to hike to the summit, increasing this allocation to 90 PAOT from the current average estimate of 80 PAOT). Should encounter rates along these trails approach the threshold, trail access to Cadillac Summit may need to be re-evaluated.

Alternative B

Private Vehicle Use

Both lots that facilitate access to Cadillac Summit would be maintained; however, a permit system with a managed turnover rate would increase the efficiency of these lots. These lots would be managed for 121 spaces in the two lots (Cadillac Summit and Blue Hill Overlook) that

provide access to Cadillac Summit. Under the conditions of this alternative, these lots contribute 360 PAOT to Cadillac Summit.

Alternative C

Private Vehicle Use

Both lots that facilitate access to Cadillac Summit would be maintained; however, a permit system that allows variable length of stay would allow for a moderate efficiency of these lots. There would be 117 managed spaces in the two lots that provide access to Cadillac Summit. Under the conditions of this alternative, these lots contribute 350 PAOT to Cadillac Summit.

Alternative D

Private Vehicle Use

Both lots that facilitate access to Cadillac Summit would be maintained; however, a permit system for the Park Loop Road would increase the efficiency of the summit lot, but would not increase the efficiency of the Blue Hill Overlook lot. There would be 108 managed spaces in the two lots that provide access to Cadillac Summit. Under the conditions of this alternative, these lots contribute 325 PAOT to Cadillac Summit.

TABLE A-2. CADILLAC SUMMIT VISITOR CAPACITY AND USER ALLOCATION SUMMARY

Allocations	Current Condition	Alternative B	Alternative C (Preferred)	Alternative D
People arriving via private vehicle (PAOT)	460	360	350	325
People arriving via hiking trail (PAOT)	80	90	90	90
People arriving via commercial vehicles (PAOT)	175	150	150	150
Visitor capacity	715	600	600	600

Jordan Pond House Area.

Review of Existing Direction and Knowledge

The only dining facility in the park—the Jordan Pond House Restaurant—serves lunch, tea, and dinner (mid-May through late October). Afternoon tea with popovers remains a popular tradition during a visit to Acadia. Visitors are encouraged to make reservations or to visit this restaurant during off-peak times. This area also serves as a trailhead for many popular hiking trails (e.g., the Jordan Pond Path), is a popular starting point for pedestrians and cyclists to access the carriage road system, and is a major stop for cyclists who entered the carriage roads from other locations. This area of analysis includes the Jordan Pond House itself, its associated grounds, and the trailheads and trails that this parking lot provides access to.

In the summer, visitors who can find a space to park typically still wait 45 minutes for a table; however, this wait time during peak use is considered acceptable. This area was intentionally designed to accommodate high levels of visitor use. There are currently minor natural resource

impacts from use levels in this location. There was a general consensus among park managers that use levels in this area can continue at current levels (which is being driven primarily by available parking). In a 2004 visitor survey, visitors reported that the things they enjoyed least about their visit were crowding (19.5%) and lack of parking or difficulty of locating parking (17%) (Park Studies Laboratory 2011).

There are currently 198 spaces in the two lots that provide access to The Jordan Pond House area. These lots contribute 600 PAOT to this area. During the peak times of the day, a maximum of an additional 44 vehicles create their own parking spaces in these lots and 20 vehicles are parked along the nearby roadway segments (VHB 2014). This unendorsed parking contributes an additional 190 PAOT to the area. Given the current length of stay for visitors at this location and shuttle headway schedule for Island Explorer, this service will facilitate access to the Jordan Pond House area for up to 90 PAOT. Currently, three commercial vehicles could be accommodated at one time at Jordan Pond House. These buses have a maximum capacity of 45 passengers each, contributing up to 135 PAOT to this area. Based on park staff observations, between 30 and 50 cyclists are in the Jordan Pond House area at any one time.

Limiting Attribute(s)

The limiting attribute in this area is social. Despite currently acceptable visitor experience, on busy days the carriage roads in the area can be very crowded, wait times at the restaurant can be lengthy, and visitor experiences of this recreation opportunity would become impacted if the number of visitors on busy days were to become the norm. For this reason, expanded parking should not be considered and bus drop offs need to be intentionally managed. At this location, lingering visitors are dispersed enough throughout the areas and surrounding trails such that experiences have not been notably or measurably impacted. Monitoring on nearby trails indicate that the level of use on trails is usually high (NPS 2014). In the 2013 selected trail census, 948 hikers (or 135 hikers per hour) were counted passing through the high-use trail junction near the Jordan Pond House. While visitor surveys (Park Studies Lab 2011) show this level of use isn't considered crowding by many, as it is by some, and minor natural resource damage near these trails indicates some visitors may be departing trails to seek lower-density experiences.

Relevant Indicators

- VAOT at Key Destinations
- PPV on High-Use Trails
- Number of Island Explorer Leave-Behinds
- Encounters on Medium-Use and Low-Use Trails

Visitor Capacity

The capacity for this area has been identified at 855 PAOT. Based on available studies and park staff observations, if visitor delivery conditions prevail, with the exception of overparked roadways and lots, this level of use can be sustained without impacting resources or experiences in this area of the park.

Visitor Capacity Allocations for All Action Alternatives

Given the current length of stay for visitors at this location and shuttle headway schedule for Island Explorer, this service will facilitate access to the Jordan Pond House area for up to 90 PAOT. Exceedance of this number would likely lead to passenger leave-behinds or stranded visitors at rates that would be incompatible for the desired conditions of this service. The likely reduction in vehicle size, with sustained level of parking for commercial vehicles, would result in 105 PAOT in this area arriving in road-based commercial tours.

Alternatives B and C

To ensure the continued protection of the resources and experiences at the Jordan Pond House, visitor use of this area will be managed to the capacity of the parking lots, as these lots were designed to accommodate an appropriate level of use on nearby resources. The direct managed access strategies applied in these alternatives will allow for 210 VAOT and 630 PAOT. See table A-3 for a summary of these allocations and a comparison to current use levels.

Alternative D

To ensure the continued protection of the resources and experiences at the Jordan Pond House, visitor use of this area will be managed to the capacity of the parking lots, as these lots were designed to accommodate an appropriate level of use on nearby resources. The less-direct managed access strategies applied in these alternatives will allow for 200 VAOT and 600 PAOT. As private vehicle access to this area is most restrictive in this alternative, additional visitors could be accommodated through other means (likely carriage roads) without crossing related thresholds. See table A-3 for a summary of these allocations and a comparison to current use levels.

TABLE A-3. JORDAN POND HOUSE VISITOR CAPACITY AND ALLOCATION SUMMARY

Allocation	Current	Alternative B	Alternative C (Preferred)	Alternative D
People arriving via private vehicle (PAOT)	790	630	630	600
People arriving via carriage roads (PAOT)	N/A	+30	+30	+50
People arriving via Island Explorer (PAOT)	90	90	90	90
People arriving via road-based commercial tours (PAOT)	135	105	105	105
Visitor capacity	1,015	855	855	855

Hulls Cove.

Review of Existing Direction and Knowledge

Hulls Cove is currently the only visitor center for the park. At this location, some visitors will park for a short duration to learn about the park, purchase park passes (required for entry to the

park), and then return to their vehicles to enter the park. Other visitors use this location as a transportation hub to transfer to Island Explorer buses. Still other visitors use this parking area as a place to transfer from vehicles to other modes of travel (bicycle/foot) on the carriage roads.

The physical design of the building is limiting, and the theater and bathroom capacities are often exceeded. Although social capacity thresholds are likely high, as visitors expect the facility to be busy, wait times to speak to a ranger about park information or purchase a park entrance pass can be at unacceptable levels.

The current Hulls Cove parking lot has 270 spaces. This lot is occasionally overparked by marginal degrees (101%), but on an average design day this lot runs at 81% efficiency (which is considered acceptable by industry standards for this type of lot). This means that at any one time there are 648 PAOT (or up to 820 PAOT when parking is maximized) who are using the parking at Hulls Cove and are either on carriage roads, in the Hulls Cove visitor center, or in the park via Island Explorer.

Limiting Attribute(s)

The limiting attributes in this area of the park are experiential and based on a number of factors. Too many people at Hulls Cove could lead to long wait times in the visitor center or at bus stops for Island Explorer. Also, too many people at Hulls Cove could result in unacceptable conditions along the carriage roads near this parking area.

Relevant Indicators

- Number of Island Explorer Leave-Behinds
- PPV on Carriage Roads
- VAOT at Key Destinations

Visitor Capacity

Alternative B

Parking at this site will be limited to the endorsed spaces in the lot. This lot will accommodate 270 VAOT and 1,425 PAOT using this lot to access either carriage roads, the visitor center, or to transfer to Island Explorer or a commercially provided tour.

Alternatives C and D

Parking at this site will be limited to the endorsed spaces in the lot. This lot will accommodate 470 VAOT and 1,425 PAOT using this lot to access either carriage roads, the visitor center, or to transfer to Island Explorer. The expansion of parking in this area is not expected to increase the number of people on site at Hulls Cove, rather, to provide visitors a place to park private vehicles and transfer to Island Explorer service or a commercially provided tour if they cannot or choose not to secure parking (either via reservation or spontaneous arrival) in another location in the park.

Echo Lake.

Review of Existing Direction and Knowledge

This beach is one of a few locations in the park where swimming is allowed. Public water supply restrictions limit this activity elsewhere. Echo Lake is one of two beaches in the park with lifeguarded swimming. Most visitor groups are made up of family and friend groups at this location; commercial groups rarely visit this site (Park Studies Laboratory 2011). More than half of visitors to this site (63%) are repeat visitors, with a median number of five visits to this site; 69% of visitors at this site intended to return to Mount Desert Island in the next 2 years (69%) (Park Studies Laboratory 2011).

Echo Lake Beach is a small site but can be heavily used during the summer. The parking lot is often overparked, with overparking on roadways. This overparking can lead to crowded conditions on the beach. Visitors reported that crowding was the thing they enjoyed least on their visit to this site; about half of the visitors surveyed thought there were too many people in this area of the park (Park Studies Laboratory 2011). Nearly a third of visitors (27%) think no changes are needed at this site and fewer visitors (11%) think action needs to be taken at this location to manage congestion or limit use (Park Studies Laboratory 2011). However, visitors report that crowding levels are generally low (Park Studies Laboratory 2011).

In 2005, visitors reported that they typically see 156 PAOT on the beach. Currently, the lot can accommodate 99 VAOT and 297 PAOT delivered to the Echo Lake area. During busy days, up to 29 additional vehicles have been observed parked along roadways adding an additional 87 PAOT. On average busy days, Island Explorer service delivers up to 40 PAOT at peak times of day. The maximum observed condition in the Echo Lake area is therefore 424 PAOT. Roughly 15% of visitors to this area use it as a trailhead, leaving up to 360 PAOT on the beach. According to the results of the social science survey, this is considered more people than would be acceptable by visitors. In July 2017, an average of 83 PAOT were counted on the beach, with a maximum observed of 200 PAOT (NPS 2017a).

Limiting Attributes

The limiting attribute at this site is social and is related to the number of people that can be accommodated on the beach before visitors start to feel crowded. On most summer days when the lot is not overparked, use at the beach itself is at acceptable levels and the number of users does not exceed the limits for lifeguards. While visitors prefer to see an average of 109 PAOT on this beach and at 303 PAOT the conditions would be so unacceptable that they would no longer visit this area (Park Studies Laboratory 2011). Although loons nest near the beach and are sensitive to visitor use levels, the lifeguards in this location manage the visitors so this does not present a significant issue.

Relevant Indicators

- VAOT at Key Destinations
- Encounters on Medium-Use and Low-Use Trails

Visitor Capacity

The capacity for this area has been identified at 350 PAOT, consistent with visitor evaluations of when conditions would surpass acceptable levels of crowding. Per management decisions in the alternatives, parking at Echo Lake will be limited to the endorsed spaces in the lot to protect natural resources and mitigate safety concerns along the roadway.

Visitor Capacity Allocation for All Action Alternatives

This lot will accommodate 99 VAOT and 297 PAOT to this area and Island Explorer could contribute up to 50 PAOT. If current use patterns continue, this should create conditions on the beach that are below the displacement rate all of the time and within visitors' preferred management range most of the time.

Acadia Mountain and Echo Lake Ledges.

Review of Existing Direction and Knowledge

This site serves as the trailhead to Acadia Mountain and other popular trails in this area of the park. Most visitors to this area have visited the park before (79%) and intend to visit again (76%) (Park Studies Laboratory 2011). Visitors spend an average of 164 minutes in this area of the park (Park Studies Laboratory 2011). This site is serviced by Island Explorer transit service.

Major issues in this area relate to the number of cars that are parked along roadsides to access this site. This results in visitor-created trails that lead to official trailheads and impacts resources directly along the roadside. The visitor-created trails are found along the shoreline as swimmers seek out less crowded, more secluded places to swim. The hiking trail to Acadia Mountain is widened and braided and major trail-related resource impacts are found at the site. This lot was designed to protect the quality of the experience along the trails, but overparking also leads to crowding on these trails during the busiest days of the year. Crowding was noted as the third-most cited issue detracting from quality experiences in visitor surveys (Park Studies Laboratory 2011). Visitors state that finding a parking place was the biggest issue facing this site, followed by too many people on the trails (Park Studies Laboratory 2011).

This parking lot can accommodate 27 VAOT leading to 81 PAOT. During peak times, up to 62 vehicles are parked along the roadside contributing an additional 186 PAOT. Maximum observed use at this site (based on parking lot counts) is 267 PAOT. This is consistent with trail counts, which have documented an average of 85 hikers an hour through the two major trail junctions in this area.

Limiting Attribute(s)

The limiting attribute in this area is the number of people that can be accommodated along the trails while maintaining desired conditions for this type of activity and the desired conditions of the trails. Informal monitoring of current use levels by park staff indicates that the current number of people on trails in this area is within acceptable levels most of the time, but on days when overparking is at its worst, the trails become crowded. The Acadia Mountain Trail is one of several that has become excessively wide and braided due to the number of hikers and their behaviors (not staying on the trail), or from visitors creating new trails along the lake. Using design factors and maintenance to increase the resiliency and sustainability of these trails may

increase the number of people that could be accommodated; however, this would likely result in approaching or crossing thresholds for encounters on this and other nearby trails.

Therefore, a slight reduction in the number of people at this site from current conditions should be considered. Additional parking could be arranged (see alternative C), provided the additional parking does not lead to encounter rates on trails that are in exceedance of their thresholds (see encounter rate indicator in previous section).

Relevant Indicators

- VAOT at Key Destinations
- Encounters on Medium-Use and Low-Use Trails

Visitor Capacity

Alternatives B and D

Parking at this site will be limited to the endorsed spaces in the lot. This lot will accommodate 27 VAOT and 80 PAOT to this site from private vehicles.

Alternative C

Parking at this site will be limited to the endorsed spaces in the lots. These lots will accommodate 63 VAOT and 190 PAOT to this site from private vehicles.

Eagle Lake.

Review of Existing Direction and Knowledge

Eagle Lake parking lot is located along State Route (SR) 233 and provides access to the carriage road system. As this lot is located close to the town of Bar Harbor, it is a popular site for visitors to transition from the roadway system to the carriage road system. Currently the lot can accommodate 23 VAOT that contribute 69 PAOT to this site. During busy summer days, between 60 and 100 vehicles have been observed parked along roadsides. This contributes 198 PAOT to this site. On busy days, Island Explorer service delivers up to 50 PAOT at this site during peak times of the day. Total maximum observed use at this site is 317 PAOT.

Limiting Attribute

Current use at Eagle Lake is at an acceptable level from a visitor experience perspective. The number of vehicles parked here is not contributing visitors to the trails or carriage road system in such a way that experiential thresholds are being approached. However, resource damage is a concern related to overparking along roadsides. Roadside parking also raises safety concerns as this roadway sees steady traffic and there are no paths or sidewalks to move visitors safely from their cars to the trailhead. Monitoring of carriage road indicators is important in this location as over-delivery to the carriage road system from this access point could lead to compromised conditions in this area.

Relevant Indicators

- Carriage Road PPV
- VAOT at Key Destinations
- Encounters on Medium-Use and Low-Use Trails
- Number of Island Explorer Leave-Behinds

Visitor Capacity

All alternatives will manage Eagle Lake to its proposed designed capacity to mitigate resource and safety concerns. See below for specifics by alternative as design capacity varies by alternative.

Alternatives B and D

Alternatives B and D will manage Eagle Lake to its currently designed capacity to mitigate resource and safety concerns. The visitor capacity of this site is determined to be 65 PAOT from private vehicles. While the carriage roads could sustain additional use beyond this level, the biophysical constraints of the parking lot limit the ability of this area of accommodate additional use. Therefore, additional Island Explorer delivery could be implemented here provided it doesn't compromise Carriage Road capacities and thresholds.

Alternative C

In alternative C, the visitor capacity of this site is determined to be 320 PAOT from private vehicles with the expanded parking area at Liscomb Pit. The design changes to the lot in this alternative allow for this area to sustain higher amounts of visitor use without compromising the natural resources associated with current roadside parking. Therefore, additional Island Explorer delivery could be implemented here provided it doesn't compromise Carriage Road capacities and thresholds.

Schoodic Point.

Review of Existing Direction and Knowledge

Schoodic Point is the most popular visitor destination on the Schoodic District, with 88% of all visitors to the district visiting this destination (Manning 2002). Per the general management plan, parking is allowed only in designated lots. According to staff and visitor observations, this site is the place on the Schoodic Peninsula that most often becomes crowded (Manning 2002). Current parking lot infrastructure was designed to achieve desired conditions for visitor densities on Schoodic Point. This lot can accommodate up to 31 VAOT contributing 93 PAOT to this site. A 2002 study reported that at peak seasons and times of day an average of 70 PAOT was observed at Schoodic Point. Park staff have observed that over time more groups are arriving in larger vehicles (holding up to 15 passengers), which results in an increase in the number of people at the site compared to the number of parking spaces. Additionally, transit service has been added to this location. On busy summer days, transit service delivers an estimated 166 visitors per day to this site over the 14 trips to Schoodic Point. It is estimated that at any given time, about 10 people are on Schoodic Point via Island Explorer.

Limiting Attributes

Visitor studies indicate that Schoodic Point can accommodate 100 PPV (or 110 PAOT) before the visitor experience at this site is compromised and visitors begin to displace from this site (Manning et al. 2002).

Relevant Indicators

- PPV
- VAOT at Key Destinations
- Number of Island Explorer Leave-Behinds

Visitor Capacity

All alternatives will manage this area to its current designed capacity to mitigate resource impacts and protect experiential values. See below for specifics by alternative as design capacity varies by alternative. The visitor capacity of this site is determined to be 110 PAOT.

Visitor Capacity Allocation for All Action Alternatives

Parking at this site will be limited to the endorsed spaces in the lot. This lot will accommodate 31 VAOT and 93 PAOT to this site. This site will accommodate up to 17 PAOT arriving via transit or trail. Therefore, the visitor capacity of this site is determined to be 110 PAOT.

Other Locations

The following areas comprise the locations where some plan actions are directly related to visitor use levels. Table A-4 provides a summary of the location, current use level, visitor capacity, and rationale for the visitor capacity.

TABLE A-4. VISITOR CAPACITY DETERMINATIONS

Location	Current Use Level	Visitor Capacity	Rationale
Frazer Point	42 people at one time (PAOT) (average)	90 PAOT	Visitor survey results (Manning 2001) indicate that at this level NPS managers should take action to correct an unacceptable condition.
Sieur de Monts	274 PAOT (average) 290 PAOT (peak)	190 PAOT	The desired condition for the area is a quiet, intimate environment. Changes in infrastructure to support more use would detract from this desired condition. Therefore, this visitor capacity is consistent with managing to the current infrastructure to protect the quality of the social environment as a part of the Range of Experiences fundamental resource and value.

APPENDIX B: ALTERNATIVES SUMMARY TABLE

Issues	Alternative A (No Action)	Alternative B	Alternative C (Preferred)	Alternative D
Application of the Reservation System	All parking would continue to be available to visitors on a first-come, first-served basis. Parking-related congestion would be managed on a case-by-case basis.	<p>Parking-related congestion would be managed by establishing a parking reservation system for vehicles at five of the primary attractions and trailheads along Park Loop Road—Cadillac Mountain, Jordan Pond House, Thunder Hole, Sand Beach, and Sieur de Monts. During initial implementation of the plan, all other parking lots would continue to be managed on a first-come, first-served basis.</p> <p>Parking reservations for these five areas would be valid for a specified time period and vehicles would be required to exit the parking lot prior to the expiration of their permitted time period thereby managing length of stay.</p>	<p>Parking-related traffic congestion on Park Loop Road would be managed by establishing a timed-entry vehicle reservation system for the Ocean Drive corridor (between the Sand Beach Entrance Station and the Fabbri picnic area/monument), Cadillac Summit Road, and the Jordan Pond House North Lot. During initial implementation of the plan, all other parking lots would continue to be managed on a first-come, first-served basis.</p> <p>The timed-entry system would provide reservation holders with a specific time window during which their vehicle would be permitted to enter the corridor or parking lot. Once inside the corridor or parking lot, there would be no limits on length of stay.</p>	<p>The overall volume and timing of vehicles on Park Loop Road would be managed by consolidating entrance points and implementing a timed-entry reservation system for access onto Park Loop Road. Most of Park Loop Road would be converted to one-way traffic in a counterclockwise rotation. This is opposite the direction of existing one-way sections.</p> <p>Once visitors enter Park Loop Road during their assigned timed-entry window, they would be able to travel freely anywhere on Park Loop Road and all parking would be available on a first-come, first-served basis. There would be no limits on length of stay.</p>
Right-Lane Parking	Right-lane parking along Park Loop Road would be retained.	All parking in the right-hand lane of Park Loop Road would be eliminated to improve traffic flow and allow passing of bicycles and slow-moving vehicles.	Right-lane parking along Park Loop Road would be reduced in the near term but eventually phased out as other options and parking become available. At full implementation of this plan, when alternatives to right-lane parking are fully developed, these spaces would eventually be eliminated as called for in the 1992 general management plan.	Right-lane parking along Park Loop Road would be eliminated except for a short northbound section of road near Sand Beach where a portion of the right lane would be demarcated as parallel parking spaces.
Eagle Lake	The existing parking lot and restroom on the north side of SR 233 at Eagle Lake would remain a first-come, first-served parking lot.	The existing parking lot and restroom on the north side of SR 233 at Eagle Lake would remain a first-come, first-served parking lot with the addition of an automated gate to restrict access when the lot is full. This gate may be modified or replaced to validate reservations if this lot is added to the reservation system.	The existing parking lot and restroom on the north side of SR 233 at Eagle Lake would be removed. These facilities would be relocated to the south (off the highway) at Liscomb Pit, an approximately 2-acre area currently used as a maintenance storage yard.	The existing parking lot and restroom on the north side of SR 233 at Eagle Lake would be removed. These facilities would be relocated to the south (off the highway) along an abandoned section of SR 233 (old route 233).
Hulls Cove	No changes would be made to the existing function or footprint of Hulls Cove.	Hulls Cove Visitor Center would continue to serve as the primary contact and orientation point for visitors to Acadia National Park. The site would be redeveloped with a substantial expansion of parking capacity and a new and enlarged visitor center. The existing visitor center building would either be repurposed or removed and the area revegetated.	Same as alternative B.	The existing visitor center at Hulls Cove would be demolished and the area restored to natural conditions. A small visitor contact station would be rebuilt closer to an expanded Hulls Cove parking lot.
Acadia Gateway Center	The Acadia Gateway Center would be developed as described in the Acadia Gateway Center environmental assessment (MDOT and FTA 2006). (See also chapter 1.)	Same as alternative A.	Same as alternative A.	No substantial changes would be made to the planned physical development footprint of the Acadia Gateway Center facility as described in the Acadia Gateway Center environmental assessment (MDOT and FTA 2006). However, under this alternative the Acadia Gateway Center would serve as the park's primary visitor center.
Thompson Island	No changes would be made to the existing function or footprint of the Thompson Island Information Center.	Visitor services at the Thompson Island Information Center (on the west side of SR 3) would be removed and the structures repurposed. Visitor information services would be relocated to the Acadia Gateway Center. The picnic area and restrooms on the east side of the highway would be maintained for visitor use.	Same as alternative B except all the information center infrastructure on the west side of SR 3 would be demolished and the area restored to natural conditions.	Same as alternative B.

Notes: FTA = Federal Transit Authority; MDOT = Maine Department of Transportation; SR = State Route.

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APPENDIX C: MISSION, GOALS, AND PRESERVATION STANDARDS FOR HISTORIC MOTOR ROAD SYSTEM

In addition to the management guidance presented in the general management plan, the mission statement for the historic motor road system as well as the goals and preservation standards expected for the resource are described within the Cultural Landscape Report for the Historic Motor Road System (NPS 2007a):

- The historic motor road system at Acadia National Park is a cultural resource. Operations and maintenance shall preserve its rustic character and significant characteristics and features, while considering potential adverse effects on natural resources, and make all reasonable efforts to avoid or mitigate these effects whenever possible and practicable.
- Visitors using the historic motor road system should have an experience consistent with the goals of the park. This experience may contrast with the experience of traveling on a typical public road or public highway and may differ from the initial expectations of the visitor.
- Before any modifications are made to the historic motor road system, changes should be carefully evaluated for their impact on the historical integrity of the significant characteristics and features. In carrying out individual actions or routine maintenance, the overall or cumulative effect of each change will be evaluated to ensure that the historical integrity is not diminished.
- During motor road construction projects, impacts on the park and its visitors will be reduced as quickly as possible. Major projects should consider potential environmental, social, and economic impacts, and include a construction sequencing strategy that minimizes road congestion and delays. Whenever possible, the motor roads will remain open during construction projects.
- The following goals are intended to maintain the significant characteristics and features of Acadia's historic motor road system while protecting Acadia's natural resources and high-quality visitor experiences:
 - Preserve the historic vertical and horizontal alignment and cross-sections that are unique to each motor road segment as a testament to its designers and dates of construction.
 - Preserve the natural features associated with the construction of the motor roads, such as roadside rock outcrops and rock cuts.
 - Preserve the historic vistas and associated paved pullouts and parking areas.
 - Preserve the diversity of vegetation adjacent to the road corridors.
 - Preserve the rustic character of built features designed in the rustic design style (e.g., stone-faced bridges and causeways; vegetated shoulders and ditches; stone embankments, retaining walls, guardwalls, culvert headwalls, drop-inlets, waterways, medians, curbs; asphalt walkways).
 - Preserve historic features designed by the Bureau of Public Roads (concrete and brick drop-inlets, concrete curbs).

Appendix C: Mission, Goals, and Preservation Standards for
Historic Motor Road System

- Manage visitor parking that is consistent with the carrying capacity of the historic motor road system. This will include management of informal pullouts, right-lane parking, and the use of parking management stones. Historic features should not be modified solely to accommodate larger automobiles, recreational vehicles, or buses.
- Minimize use of standard regulatory signs and pavement striping.
- Protect perennial and intermittent streams that intersect the road corridor.
- Preserve habitats that use the road corridor.
- Preserve the historic character of the historic motor road system for future generations.

APPENDIX D: BEST MANAGEMENT PRACTICES AND MITIGATION MEASURES

BEST MANAGEMENT PRACTICES

To ensure protection of the park's fundamental resources and values, the following best management practices would be implemented under all action alternatives. These best management practices are grounded in National Park Service (NPS) *Management Policies 2006*, and they are intended to provide a practical approach to everyday management of Acadia National Park's transportation system. These best practices are different from the mitigation measures described in the next section of this appendix, which are intended to avoid or minimize potential adverse impacts from implementing the management actions proposed in this plan.

General

- Minimize expansion of impervious surfaces in the park. Pervious pavement would be used where practical and abandoned roads or parking lots would be rehabilitated to restore natural conditions.
- Incorporate the principles of sustainability in the design, construction, and operation of all facets of the NPS transportation system.
- Ensure that all new facilities maximize protection of the park's fundamental resources and values and are scaled to achieve the desired visitor capacity of the site.

Natural Resources

Scenery.

- Design, site, and construct developments to avoid or minimize visual intrusion.
- Strategically place signs within the road corridor based on established design guidelines. Where signs are necessary, locate them to minimize visual intrusion.
- Design new traffic and parking control structures to minimize visual intrusion to the maximum extent possible.
- Maintain selected vistas and other remarkable views through vegetation pruning to allow visitors to experience the intended scenic design of the historic road system without disrupting the integrity of the natural ecosystem.
- Manage appropriate visitor and administrative uses to minimize impacts on scenic qualities.
- Place proposed utility lines underground in existing and/or new corridors to minimize visual intrusion, except where such placement would cause significant damage to natural or cultural resources.

Ecological Communities, Functions, and Species.

- Monitor human use areas (e.g., road corridor, trails, turnouts) for signs of native vegetation disturbance and manage visitor use to minimize or avoid vegetation disturbance and the spread of nonnative species (e.g., through public education, erosion control, and barriers to control potential impacts on plants).
- Monitor populations and distribution of various wildlife “indicator” species to assess for possible effects from visitor use and triggers for adaptive management actions.
- Restore native species, ecological function, and habitat values to disturbed areas where possible.
- Develop and implement revegetation plans for disturbed areas that specify native seed/plant source and mixes, soil preparation, etc.
- Implement best practices to ensure construction equipment and machinery construction areas are free of nonnative invasive plant and aquatic species.
- Develop cooperative integrated pest management and vegetation management practices with state and local agencies for road corridors transecting or adjacent to NPS lands.
- Conduct pre- and post-project plant monitoring in the project area to ensure successful revegetation, manage invasive exotic plants, and determine maintenance needs in establishing vegetation.

Aquatic Resources.

- Periodically monitor chemical, physical, and biological properties of water bodies and waterways in Acadia National Park (including coastal waters, Eagle Lake, Echo Lake, Jordan Pond, and smaller bodies) to ensure water quality remains in excellent condition.
- Implement best practices to reduce pollution, erosion, sedimentation, and compaction and to control surface runoff from parking areas, roads, and other ground-disturbing activities.
- Avoid or minimize salt use in winter to protect adjacent waters.
- Delineate and avoid work in wetlands, and apply protection measures before any ground disturbance (e.g., construction). Wetlands would be delineated by qualified NPS staff or certified wetland specialists and clearly marked before construction work begins.
- Perform construction activities in a careful manner to prevent damage by equipment, erosion, siltation, etc.
- Restore stream connectivity and natural hydrological flows, and ensure that stream and wetland crossings and culverts are designed for the natural movement of fish and aquatic wildlife.
- Design and build infrastructure to address increased storm intensities and flows related to a rapidly changing climate.
- Ensure protection of drinking water quality in Eagle Lake and Bubble, Jordan, Lower Hadlock, and Long Ponds in compliance with the Safe Drinking Water Act of 1974.

Natural Soundscapes and Acoustic Resources.

- Follow all applicable guidance and policy regarding natural soundscapes and acoustic resources, including Director's Order 47: *Soundscape Preservation and Noise Management* and *NPS Management Policies 2006*.
- Maximize noise-free intervals and limit the intensity and duration of noise intrusions.
- Purchase and encourage use of quiet fleet and transit vehicles when possible.

Night Sky.

- Minimize lighting and use only dark-sky friendly light fixtures and practices in all aspects of the park transportation system and infrastructure, including along roadways and in parking lots.

Cultural Resources.

- Consider modifications to historic roads and infrastructure that maintain historic integrity but also mitigate the effects of anticipated increases in intensity and frequency of precipitation storm events.

Quality of the Visitor Experience.

- Periodically conduct visitor surveys and collect and analyze data to determine visitor satisfaction with park programs, services, and facilities.
- Conduct community outreach and education about the park and provide collaborative and consistent messaging regarding appropriate visitor uses and means of access.
- Continue appropriate and strategic signage and wayfinding where needed.
- Implement a visitor use management and monitoring program using indicators and thresholds to effectively manage visitor use and related impacts.
- Encourage park staff to limit administrative use of vehicles within the transportation system as much as possible through carpooling and other means.
- Ensure the facilities, programs, and services of the National Park Service and its partners are accessible to and usable by all people, including those who are disabled. This policy is based on the commitment to provide access to the widest cross-section of the public and to ensure compliance with the Architectural Barriers Act of 1968 (42 *United States Code* [USC] 4151 et seq.) and the Rehabilitation Act of 1973 (29 USC 701 et seq.).

MITIGATION MEASURES AND MONITORING GUIDELINES

Under all of the alternatives evaluated in this plan/environmental impact statement, the following mitigation measures would be applied to avoid and minimize potential adverse impacts on Acadia National Park's fundamental resources and values.

General Construction Measures

- Locate staging and stockpiling areas in previously disturbed sites, away from visitor use areas to the extent possible, to minimize the amount of ground disturbance. All staging and stockpiling areas would be returned to preconstruction conditions and/or revegetated following construction. Parking areas for construction vehicles would be limited to these staging areas, existing roads, and identified previously disturbed areas.
- Identify and fence construction zones with construction fencing, silt fencing, or some similar material prior to any construction activity. The fencing would define the construction zone and confine activity to the minimum area required for construction. All protection measures would be clearly stated in the construction specifications and workers would be instructed to avoid conducting activities, including materials staging and storage, beyond the construction zone as defined by construction zone fencing.
- Place nonvegetation construction debris in refuse containers at least daily and dispose of refuse at least weekly. No refuse burying or burning would be allowed inside the park.
- Design, build, and landscape all new structures with defensible space around the structures in case of wildfires.
- Comply with applicable federal and state regulations on the storage, handling, and disposal of all hazardous materials and waste. Provisions would be made for storage, containment, and disposal of hazardous materials used on site. To minimize possible petrochemical leaks from construction equipment, all equipment would be monitored

- frequently to identify and repair any leaks and would be staged in designated areas suitable to contain leaked materials. Trained personnel would clean up and dispose of any leak or spill from construction equipment such as hydraulic fluid, oil, or fuel. Fueling and fuel-storage areas would be permitted only at approved locations and comply with park refueling guidelines.
- Develop and implement a comprehensive spill prevention and pollution control program that complies with federal and state regulations and addresses all aspects of spill prevention, notification, emergency spill response strategies for spills occurring on land and water, reporting requirements, monitoring requirements, personnel responsibilities, response equipment type and location, and drills and training requirements.
- Limit all construction activities in Acadia National Park to the period from 30 minutes after sunrise to 30 minutes prior to sunset.

Sustainable Development

- Design development projects (e.g., parking lots, infrastructure, utilities, roads) or rehabilitation projects (e.g., road and parking lot rehabilitation, utility upgrades) to blend with the natural and historic surroundings. Projects would reduce, minimize, or eliminate air and water point and nonpoint source pollution. Projects would be sustainable whenever practicable by recycling and reusing materials, minimizing materials, minimizing energy consumption during the project, and minimizing energy consumption throughout the lifespan of the project.

Climate Change

Climate change has the potential to adversely affect future conditions at Acadia National Park, including natural and cultural resources, visitor experience, and the transportation system (particularly low-elevation road corridors). As global and regional climate change continues, a management approach that enhances the protection and resilience of climate-sensitive resources, assets, and values is increasingly important. All of the action alternatives would incorporate the strategy outlined in this section, which incorporates the growing understanding of climate change influences and the effectiveness of management to contend with these influences.

Climate change science is a rapidly advancing field, with sophisticated models being refined and new information being collected and released. The full extent of climate change impacts on resource conditions is not fully understood; therefore, park managers and policy makers have not determined the most effective response mechanisms for minimizing impacts and adapting to change. As a result, the below-listed management strategies do not provide definitive solutions or directions; instead, they provide science-based and scholarship-based management principles to consider when implementing the Acadia transportation plan.

Acadia National Park would use the following management approach to address climate change throughout implementation of this transportation management plan. Many of these specific management strategies are adopted from the publication, *Some Guidelines for Helping Natural Resources Adapt to Climate Change* (Baron et al. 2008). Further elaboration and adaptation of these strategies is anticipated as implementation of the plan proceeds.

- Identify key natural and cultural resources, facilities, and processes that are at risk from climate change. Establish baseline conditions for these resources, identify their

thresholds, and monitor for change. Increase reliance on adaptive management to minimize risks.

- Apply best management practices to improve the resilience of ecosystem features and processes, cultural resources, and facilities.
- Use best management practices to reduce human-caused stresses (e.g., park infrastructure and visitor-related disturbances) that hinder the ability of species or ecosystems to withstand climatic events.
- Manage park transportation facilities and infrastructure (e.g., structures, trails, roads) in a way that prepares for and adapts to the effects of climate change.
- Manage transportation infrastructure (e.g., structures, trails, roads) in a manner consistent with NPS policy regarding climate change. Prepare for and adapt transportation infrastructure to climate change. Carefully evaluate storm-damaged infrastructure and the risk of further damage. If there is an unacceptable risk of continued damage, the damaged infrastructure would likely not be replaced unless extenuating circumstances were present.

The 2017 Coastal Hazards and Climate Change Asset Vulnerability Assessment identifies park assets threatened by sea level rise and inundation. That document and associated GIS databases list park assets identified in Acadia's Facilities Management Software System with minimal, low, moderate, and high vulnerability to climate change impacts. For the most part, the park's motor vehicle transportation systems are well shielded from negative impacts, but some parts of Park Loop Road and Schoodic Loop Road are at sufficiently low elevations that they could experience erosion or storm-related damage, including areas on Schoodic Point (Arey Cove) Road and along the Schoodic Loop Road, as well as several locations on Ocean Drive and at Sand Beach on Mount Desert Island. This transportation plan does not propose any new facilities or infrastructure in the threatened areas; nevertheless, climate change impacts could necessitate adaptive changes to the transportation corridor plan in the future. The National Park Service would evaluate any future proposed facility investments prior to project approval using the best scientific information and climate modeling available and the climate change strategies described above to ensure the long-term sustainability of these investments. The National Park Service may conclude that such financial investments would be unwise and that other options should be considered or, potentially, that the project should not be pursued or implemented.

Wildlife and Wildlife Habitat

- Employ temporary or seasonal use restrictions or area closures for all visitor uses—including pedestrians, bicyclists, and vehicles—to protect sensitive wildlife habitat and sensitive wildlife behavior or life stages.
- Implement standard construction measures to avoid or minimize wildlife impacts including the following:
 - Schedule construction during seasons that are least disruptive to wildlife behavior.
 - Evaluate habitat for species likely to occur prior to construction activities, and take steps to minimize impacts on those species determined to be especially vulnerable.
 - Monitor for adverse impacts on wildlife or wildlife habitat.
 - Install and maintain temporary fences or other barriers to protect sensitive resources adjacent to construction sites (as defined by wildlife-friendly fence specifications).

- Maintain routes of escape for animals that might fall into excavated pits or trenches and cover post holes and other narrow cavities or crevices.
- Minimize the potential for “taking” a nest or egg of a migratory bird species by (1) avoiding any activity that would destroy a nest or egg, or (2) conducting a survey for any nests in the project area prior to construction activities to avoid loss or disturbance of nests.
- Perform mitigation actions during normal park operations as well as before, during, and after construction to minimize immediate and long-term impacts on wildlife and wildlife habitat. These actions would vary depending on the type of project and its location. Many of the measures listed for vegetation would also benefit wildlife by preserving habitat.
- Limit the effects of light and noise on adjacent habitat through control of sources of light and noise during construction activities.
- Develop and implement restoration and/or monitoring plans, as warranted. Plans should include methods for implementation, performance standards, monitoring criteria, and adaptive management techniques.

Federally Listed Wildlife Species

- The northern long-eared bat (*Myotis septentrionalis*) is present in Acadia National Park and is federally listed as a threatened species under the Endangered Species Act. Appropriate conservation measures, such as avoidance of critical habitat and seasonal restrictions on activities, would be implemented in consultation with the US Fish and Wildlife Service. For example, all trees over 4-inch diameter at breast height would be cut at a time that avoids bat maternity periods.
- Site and design of facilities and actions would be applied to avoid adverse effects on rare, threatened, and endangered species. If avoidance is infeasible, adverse effects on rare, threatened, and endangered species would be minimized and compensated, as appropriate, and in consultation with the appropriate resource agencies.
- Inform construction workers and supervisors of the potential for special status species in the work vicinity. Contract provisions would require the cessation of construction activities if a special status species were discovered in the project area until park staff

could reevaluate the project. This would allow modification of the contract for any measures determined necessary to protect the discovery.

Vegetation

- Fence or clearly mark and enforce disturbance zones, construction limits, and staging areas to prevent impacts on vegetation outside the approved construction areas.
- Minimize construction effects on vegetation and ensure that no vegetation would be damaged or removed without prior approval through the project documents or by staff.
- Chip and spread cut woody materials no more than 2-inches thick in adjacent natural areas to avoid smothering regenerating plants, or store and manage the material to avoid moving nonnative invasive pests such as wood-boring insects or European red fire ants.
- Inspect and manage areas where vegetation has been disturbed by transportation activities for invasive nonnative plants for three growing seasons following restoration.
- Provide construction workers and supervisors with tree pruning guidelines to minimize damage to trees during project implementation.
- To the extent possible, salvage and preserve existing native vegetation for use in revegetating disturbed areas. Existing trees would be preserved to the extent possible.
- Ensure all off-site fill (e.g., dirt, gravel) is weed-free prior to being transported to the park.
- Implement measures to ensure that construction equipment and machinery entering the park are free of nonnative invasive species. All construction equipment that has the potential to leave the road would be pressure washed before entering the park.
- Develop a project revegetation plan that addresses, among other things, the use of native genetically appropriate species, plant salvage potential, and nonnative vegetation/noxious weed management. Disturbed areas would be replanted with native vegetation. Revegetation efforts would include imitating the natural spacing, abundance, and diversity of native plant species. Natural groupings of vegetation, rocks, or other natural features would be used for screening, as appropriate. Local native species would be used; no irrigation would be needed except during plant establishment.

Wetlands and Floodplains

- Avoid transportation-related activities in wetlands and floodplains whenever possible.
- Use the most up-to-date data on the extent of floodplains and wetlands, precipitation, and stormwater flows to anticipate and plan for climate-related changes in hydrology.
- Delineate all wetland boundaries and install protective fencing along adjacent wetlands to prevent accidental disturbance.
- Perform construction activities in a careful manner to prevent damage caused by equipment, erosion, siltation, etc.
- As appropriate, protect wetland resources by implementing the following:
 - avoid wetlands during construction, using properly sized and installed bridge crossings or retaining walls wherever possible

- exercise increased caution to protect wetland resources from damage caused by construction equipment, erosion, siltation, and other activities with the potential to affect wetlands
- take measures to keep construction materials from escaping work areas, especially near streams or natural drainages
- use elevated pathways over wetland sections where it is not feasible to avoid the wetland from trail construction

Soils

- Minimize soil erosion by limiting the time soil is left exposed and by applying other erosion control measures such as erosion matting, silt fencing, and sedimentation basins in construction areas to reduce soil erosion, surface scouring, and discharge to water bodies. Once work is completed, disturbed areas would be revegetated with native plants in a timely manner.
- Separate all soil stockpiles based on soil type. Topsoil materials would be stockpiled in a predetermined designated area away from excavations and future work sites without intermixing with subsoils. Stockpiles would then be graded and shaped to allow unimpeded surface water drainage. Stockpiles would be temporarily seeded and periodically treated to prevent wind from scattering topsoil and to prevent the introduction of nonnative plants.
- Re-spread topsoil as near to the original location as possible and supplement with scarification, mulching, seeding, and/or planting with species native to the immediate area. Conserving topsoil minimizes vegetation impacts and potential compaction and erosion of bare soils. The use of conserved topsoil preserves microorganisms and seeds of native plants.
- Follow existing contours to the degree possible for constructed elements. Locally excavated material would be used at fill locations.
- As appropriate, reuse excavated soil in the project area and store excess soil only in approved areas. Topsoil would be removed and returned to the same area once construction activities are completed. Live vegetation less than 3 feet in height and limbs less than 2 inches in diameter may be incorporated as topsoil in the stockpiles. Care would be taken to ensure that topsoil and fill material are not mixed and are stockpiled in separate areas (i.e., topsoil to the right of the trench and fill to the left).
- In an effort to avoid introduction of nonnative plant species, use only weed-free materials for erosion control. Any proposed materials would be reviewed on a case-by-case basis. Allowable materials for erosion control would be weed-free purchased and materials identified as unlikely to draw wildlife to construction sites or roadsides (e.g.,

wood excelsior fibers may be preferred over straw-filled waddles). This selection may be determined based on location, quantity, and duration of material use.

- Obtain any fill materials from a park-approved source, approved by the park biologist. Borrow and aggregate materials from sources outside the park would be inspected to avoid importation of nonnative plants.
- When construction is ended prior to a winter season, protect all disturbed areas and soil stockpiles from snowmelt impacts by using erosion control best management practices for subsoil and soil conservation practices for topsoil.

Air Quality

- Implement a dust abatement program. Standard dust abatement measures may include water spraying or otherwise stabilizing soils, covering haul trucks, employing speed limits on unpaved roads, minimizing vegetation clearing, and revegetating after construction.
- Reduce or eliminate idling of construction and private vehicles. Signs at entrance stations and messages in park materials would be used to encourage and educate visitors to not idle their vehicles while waiting in parking areas or queue lines. Maine State Law 38 MRSA §585-K which limits idling to 5 minutes in any 60-minute period would be referenced in signs at entrance stations and queueing locations. Environmental Protection Agency (EPA)-approved idle reduction technologies would be installed to limit idling from vehicles and equipment associated with the construction phase. Operator training to reduce unnecessary idling of equipment to supplement the adoption of these technologies would also be encouraged.
- Reduce diesel emissions of construction vehicles. Newer vintage diesel engines would be used where possible. Alternatively, diesel retrofits and the use of cleaner fuels would be required where practicable. Retrofit technologies may include EPA-verified emission control technologies and fuels, and California Air Resources Board-verified emission control technologies.
- Ensure that all construction equipment complies with EPA emission standards in effect at the time of manufacture.

Historic Structures, Sites, and Cultural Landscapes (also see appendix C)

- In accordance with The Secretary of the Interior's Standards for the Treatment of Historic Properties and the Guidelines for the Treatment of Cultural Landscapes, ensure all new construction within or adjacent to historic sites, districts, and cultural landscapes

would be compatible in terms of architectural elements, scale, massing, materials, and other character-defining features.

- Ensure new construction is carried out in accordance with The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes.
- To minimize the visual and auditory intrusions on cultural resources from new development, use screening or other sensitive design measures that are compatible with historic resources and cultural landscapes.
- Avoid adverse impacts on cultural resources to the extent possible in accordance with The Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation.
- If adverse impacts (under section 106 of the National Historic Preservation Act) cannot be avoided, develop appropriate mitigation measures in consultation with all interested parties.

Archeological Resources

- Routinely monitor known archeological sites to assess and document the effects of natural processes and human activities on the resources. Archeological resources would be left undisturbed and preserved in a stable condition to prevent degradation and loss of research values unless intervention could be justified based on compelling research, interpretation, site protection, or park development needs. Recovered archeological materials and associated records would be treated in accordance with 36 CFR Part 79, *NPS Management Policies 2006*, and the *NPS Museum Handbook*. All identified sites would be entered in the Archeological Sites Management Information System and previous records would be updated.
- As appropriate, conduct archeological surveys or monitoring prior to any ground disturbance. During construction, significant archeological resources would be avoided to the greatest extent possible. If such resources could not be avoided, an appropriate mitigation strategy (e.g., the excavation, recordation, and mapping of cultural remains prior to disturbance) would be developed in consultation with the Maine State Historic Preservation Office (SHPO) and, as necessary, associated American Indian tribes. The mitigation strategy would ensure that important archeological data is recovered and documented.
- If, during construction, previously unknown archeological resources are discovered, halt all work in the immediate vicinity of the discovery until the resources can be identified and documented. If the resources could not be preserved in situ, an appropriate mitigation strategy would be developed in consultation with the Maine SHPO and, as necessary, associated American Indian tribes. Archeological sites would be fenced

and/or appropriately marked by an NPS-approved archeologist. All project personnel would be briefed to stay out of areas with sensitive archeological resources.

- Avoid adverse impacts on cultural resources to the extent possible in accordance with The Secretary of the Interior’s Standards and Guidelines for Archeology and Historic Preservation.
- If adverse impacts (under section 106 of the National Historic Preservation Act) cannot be avoided, develop appropriate mitigation measures in consultation with all interested parties.

Visual Resources

- Fence off and consolidate construction areas and equipment to visually screen construction activity and materials if possible.
- Site and design trails to route people away from sensitive natural and cultural resources while allowing access to important viewsheds. Vegetation screening would be used where appropriate.

Quality of the Visitor Experience

- Implement measures to reduce adverse effects of construction on visitor experience. Measures may include (but are not limited to) noise abatement, visual screening, and directional signs so visitors are able to avoid construction activities.
- Conduct construction work to avoid peak visitor use times (e.g., weekends, holidays) to the extent practicable to minimize inconveniences to visitors.
- Make information public regarding implementation of projects in public areas.

Health and Safety

- Implement measures to reduce adverse effects of construction on safety.
- Develop an emergency notification plan that complies with park, federal, and state requirements and allows contractors to properly notify park, federal, and/or state personnel in the event of an emergency during construction activities. This plan would address notification requirements related to fire, personnel, and/or visitor injury; releases of spilled material; evacuation processes; etc. The emergency notification plan would be submitted to the park for review/approval prior to commencement of construction activities.
- As necessary, institute temporary closures of park transportation corridors to pedestrians, bicycles, and vehicles when construction activities are ongoing.

APPENDIX E: SELECTED REFERENCES, GLOSSARY, AND ACRONYMS AND ABBREVIATIONS

SELECTED REFERENCES

Anderson, Manning, and Valliere

- 2009 “Indicators and Standards of Quality across space and time.” *In Parks and People: Managing Outdoor Recreation at Acadia National Park.*

Bermello Ajamil & Partners, Inc. and Desman Associates

- 2014 “Town of Bar Harbor Backyard Parking Study, Phase 1 and 2 Findings - Summary.” Prepared for the Town of Bar Harbor Parking Committee. January 7, 2014.

Brown, Margaret Coffin

- 2006 Pathmakers, Cultural Landscape Report for the Historic Hiking Trail System of Mount Desert Island. Olmsted Center for Landscape Preservation, Boston, MA.

Cullinane, Thomas, C. and L. Koontz

- 2018 “2017 national park visitor spending effects: Economic contributions to local communities, states, and the nation. Natural Resource Report NPS/NRSS/EQD/NRR—2018/1616. National Park Service, Fort Collins, Colorado.”

- 2016 “2015 National Park Visitor Spending Effects: Economic Contributions to Local Communities, States, and the Nation.” Natural Resource Report NPS/NRSS/EQD/NRR—2016/1200. National Park Service, Fort Collins, CO.

Davidson Peterson Associates

- 2016 “Maine Office of Tourism Visitor Tracking Research: 2015 Calendar Year Annual Report, Regional Insights: Downeast & Acadia.” http://visitmaine.com/assets/downloads/2015_Regional_Report_Downeast.pdf. April 2016.

Foulds, Elliot

- 2006 Cultural Landscapes Inventory, Blackwoods Campground, Acadia National Park. Olmsted Center for Landscape Preservation, Boston, MA.

Foulds, Elliot and Jeffrey Killion

- 2015 Vista Management Plan for the Historic Motor Road System, Acadia National Park, Bar Harbor, Maine. Olmsted Center for Landscape Preservation, Boston, MA.

Gabe, Todd, Dominic Gayton, Patrick Robinson, James McConnon, and Sean Larkin

- 2017 “Economic Impact of Cruise Ship Passengers Visiting Bar Harbor (Maine) in 2016.” University of Maine, School of Economics Staff Paper 629.

Hallo, J. and R. Manning

- 2009 Transportation and Recreation: A case study of visitors driving for pleasure at Acadia National Park. *Journal of Transport Geography*, 17, 491-499.
- 2009 Analysis of Social Carrying Capacity of a National Park Scenic Road. *International Journal of Sustainable Transportation*, 4, 75-94.

Headwaters Economics

- 2017 “Demographics Report.” Data from the American Community Survey, 2011–2015 Five-year Survey, various tables, as reported in Economic Profile System. <https://headwaterseconomics.org/tools/economic-profile-system/>. Accessed February 9, 2017.

Holly, F.

- 2009 Incentives and disincentives for day visitors to park and ride public transportation at Acadia National Park. Master Thesis. Clemson University.

Jacobi, C.

- 2004 Monitoring and Management of Social Trails and Visitor Use on Little Moose Island, Acadia National Park: 1996–2002. ANP Natural Resource Report 2004-01.

Jacobi, C. & R. Manning

- 1997 Applying the Visitor Experience Resource Protection Process to Acadia National Park Carriage Roads: A Summary of Research and Decision-making. ANP Natural Resource Report 97-10.

Killion, Jeffrey and H. Elliot Foulds

- 2007 Cultural Landscape Report for the Historic Motor Road System, Acadia National Park. Olmsted Center for Landscape Preservation, Boston, MA.

Kiser, B., S. Lawson, and R. Itami

- 2008 Assessing the reliability of computer simulation for modeling low use visitor landscapes. *In* R. Gimblett, H. Skov-Peterson, & A. Muhar, *Monitoring, Simulation, and Management of Visitor Landscapes*. Tucson, AZ: The University of Arizona Press.

Koontz, Lynne

- 2016 (National Park Service economist, Fort Collins, CO). Personal communication. December 6, 2016.

Lawson, S.

- 2006 Computer simulation as a tool for planning and management of visitor use in protected natural areas. *Journal of Sustainable Tourism*, 14(6), 600-617.

Lawson, S., R. Chamberlin, J. Choi, B. Swanson, B. Kiser, C. Monz, L. Gamble

- 2011 Modeling the effects of shuttle service on transportation system performance and visitor experience quality in Rocky Mountain National Park. *Transportation Research Record*, No. 2244, 97-106.

Lawson, S., R. Itami, R. Gimblett, and R. Manning

- 2006 Benefits and challenges of computer simulation modeling of backcountry recreation use in the Desolation Lake Area of the John Muir Wilderness. *Journal of Leisure Research*, 38(2), 187-207.

Lawson, S. and B. Kiser

- 2014 Arapahoe-Roosevelt National Forest Transportation System Alternatives Study, Technical Memo 4.1, Need Identification by Site. Prepared for US Department of Transportation, Federal Highway Administration, Central Federal Lands and US Forest Service, Submitted by RSG.

Lawson, S. and B. Kiser

- 2013a Transportation & Visitor Use Data Collection, Analysis, & Modeling: Mount Rainier National Park. Natural Resource Technical Report NPS/NRTR—2013/10, NPS D-105/117351 & PMIS 88348.

Lawson, S. and B. Kiser

- 2013b Visitor Survey Report to Support Development of Visitor Facilities Zone Indicators & Standards: Mount Rainier National Park. Natural Resource Technical Report NPS/NRTR—2013/01, NPS D-105/117351 & PMIS 88348.

Lawson, S., P. Newman, J. Choi, D. Pettebone, and B. Meldrum

- 2009 The numbers game: Integrated transportation and user capacity research in Yosemite National Park. *Transportation Research Record*, No. 2119, 83-91.

Lawson, S., P. Newman, and C. Monz

- 2017 A systems-based approach to address unintended consequences of demand-driven transportation planning in national parks and public lands. *Journal of Sustainable Transportation*.

Maine Center for Workforce Research and Information

- 2016 “Unemployment and Labor Force.” Data derived from the Local Area Unemployment Statistics program. <http://www.maine.gov/labor/cwri/laus.html>. Accessed December 15, 2016.

Maine Department of Transportation and Federal Transit Administration

2006 Acadia Gateway Center Environmental Assessment, Trenton, Maine

Maine Office of Policy and Management

2017 “Maine Taxable Retail Sales.” <http://www.maine.gov/economist/state/retail.html>. Accessed March 2017.

2016 “Maine Demographic Projections.” <http://www.maine.gov/economist/state/projections.html>. Accessed December 2016.

Maine Revenue Services

2017 “Office of Tax Policy Research: Statistics for Taxable Sales.” <http://www.maine.gov/revenue/research/sales/homepage.html>. Accessed March 2017.

Manni, M., M. Littlejohn, and S. Hollenhorst

2010 Acadia National Park Visitor Study: Summer 2009. Report 221. University of Idaho, Parks Studies Unit.

Manning, R.

2009 “Parks & People: Managing Outdoor Recreation at Acadia National Park.” Lebanon, NH: University Press of New England.

2007 “Parks and Carrying Capacity: Commons Without Tragedy.” Washington DC: Island Press.

Manning, R., M. Budruk, W. Valliere, and J. Hallo

2005 Research to Support Visitor Management at Muir Woods National Monument and Muir Beach: Study Completion Report. Burlington: University of Vermont, Park Studies Lab.

Manning, R., J. Hallo, W. Valliere, and L. Anderson

2008 Simulation modeling of vehicle use on Acadia National Park’s Ocean Drive: Study Completion Report. University of Vermont Park Studies Laboratory.

Manning, R., S. Lawson, W. Valliere, J. Bacon, and D. Laven

2002 “Schoolic Peninsula Acadia National Park Visitor Study 2000–2001.” University of Vermont Park Studies Laboratory.

Manning, R., S. Lawson, P. Newman, J. Hallo, and C. Monz

2014 Sustainable transportation in the national parks: From Acadia to Zion. White River Junction, VT: University Press of New England.

Manning, R., J. Morrissey, and S. Lawson

- 2005 What's Behind the Numbers? Qualitative Insights into Normative Research in Outdoor Recreation. *Leisure Sciences*, 27, 205-224.

Manning, R., W. Valliere, L. Anderson, R. McCown, P. Pettengill, S. Lawson, P. Newman, M. Budruk, D. Laven, J. Hallo, L. Park, J. Bacon, D. Abbe, C. van Riper, and K. Goonan.

- 2011 Defining, Measuring, Monitoring, and Managing the Sustainability of Parks for Outdoor Recreation. *Journal of Park and Recreation Administration*, 29(3), 24-37.

Monz, C., J. Marion, K. Goonan, R. Manning, J. Wimpey, and C. Carr

- 2010 Assessment and Monitoring of Recreation Impacts and Resource Conditions on Mountain Summits: Examples From the Northern Forest, USA. *Mountain Research and Development* 30(4), 332-343.

National Park Service (NPS)

- 2018 "Visitor Spending Effects – Economic Contributions of National Park Visitor Spending," interactive website.
<https://www.nps.gov/subjects/socialscience/vse.htm>.
- 2017a Acadia Park Staff, Bar Harbor, Maine. Personal communication. December 5, 2017.
- 2017b "Vehicle Traffic and Visitor Use of the Cadillac Mountain Summit Road 2016," on file at Acadia National Park.
- 2016 Acadia National Park Public Use Counting and Reporting Procedures.
- 2014 "A Partial Census of Hiking Trail Use, 2013," on file at Acadia National Park. 2014.
- 2012 Cultural Landscape Inventory, Acadia National Park, Inventory Unit: Thunder Hole.
- 2009a Cultural Landscape Inventory, Acadia National Park, Inventory Unit: Jordan Pond House.
- 2009b Cultural Landscape Inventory, Acadia National Park, Inventory Unit: Sieur de Monts.
- 2007 Cultural Landscape Inventory, Acadia National Park, Inventory Unit: Cadillac Mountain Summit.
- 2007a Cultural Landscape Report for the Historic Motor Road System, Acadia National Park and Olmsted Center for Landscape Preservation.
- 2005 Schoodic General Management Plan Amendment and Final Environmental Impact Statement, Acadia National Park, Maine.

2004 Cultural Landscape Inventory, Acadia National Park, Inventory Unit: Schoodic Peninsula.

1992 General Management Plan, Acadia National Park, Maine.

Pettengill, P., R. Manning, L. Anderson, W. Valliere, and N. Reigner

2012 Measuring and managing the quality of transportation at Acadia National Park. *Journal of Park and Recreation Administration*, 30(1), 68-84.

Reigner, N., A. Belensz, and S. Lawson

2016 “Cadillac Mountain Transportation and Visitor Use Model: Final Report.” White River Junction: RSG.

Resource Systems Group

2015 “Acadia National Park Socioeconomic Monitoring Pilot Implementation.” Natural Resource Report NPS/ACAD/NRR—2016/1323. National Park Service, Fort Collins, CO.

Signature Travel

2017 “8-Nights Classic Fall Foliage from \$2,619.” http://web3.signaturetravelnetwork.com/SigNet/index.cfm/LandOffer?&agency_id=1132&offer_id=1245956&utp=consumer&type=consumer&userid=0&cid=0&CFID=42372962&CFTOKEN=33181412. August 7, 2017.

Tours4Fun

2017 “6-Day New England Fall Foliage Tour: Ogunquit, York Beach, Plymouth, Newport & Acadia National Park.” <http://www.tours4fun.com/boston-plymouth-newport-mount-washington-new-england-fall-foliage-6-day-tour.html>. Accessed August 7, 2017.

University of Maine Library

2016 “Government Publications: Maine Census.” <http://libguides.library.umaine.edu/c.php?g=149681&p=1043072>. Accessed December 2016.

US Census Bureau

2017 “OnTheMap.” MDI geography via “Draw Polygon (Freehand)” tool. <https://onthemap.ces.census.gov/>. Accessed February 26, 2017.

2016 “American Community Survey, 2011–2015 Five-year Survey, Table DP04: Selected Housing Characteristics.” Accessed December 2016.

2006 Cole, D., and T. Hall. “Trailheads in Oregon and Washington: Do They Differ From Most Wilderness Visitors?” Moscow: University of Idaho.

White, D.D.

- 2007 An interpretive study of Yosemite National Park visitors' perspectives toward alternative transportation in Yosemite Valley. *Environmental Management*, 39, 50–62.

GLOSSARY

Adaptive management: A process that allows the development of a plan when some degree of biological and socioeconomic uncertainty exists. It requires a continual learning process, a reiterative evaluation of goals and approaches, and redirection based on increased information and changing public expectations. Also see Departmental Manual 522-1 and associated technical guide.

Affected environment: Existing biological, physical, social, and economic conditions of an area that are subject to change, both directly and indirectly, as a result of a proposed human action.

Alternatives: Sets of management elements that represent a range of options for how, or whether, to proceed with a proposed project. An environmental impact statement analyzes the potential environmental and social impacts of the range of alternatives presented.

Archeological resources: Historic and prehistoric deposits, sites, features, structure ruins, and anything of a cultural nature found within, or removed from, an archeological site.

Area of potential effect: The geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if such properties exist. The area of potential effect is influenced by the scale and nature of the undertaking and may be different for different kinds of effects caused by the undertaking.

Best management practices: Effective, feasible (including technological, economic, and institutional considerations) conservation practices and land- and water-management measures that avoid or minimize adverse impacts to natural and cultural resources. Best management practices may include schedules for activities, prohibitions, maintenance guidelines, and other management practices.

CEQ Regulations: The Council on Environmental Quality (CEQ) was established by the National Environmental Policy Act (see NEPA) and given the responsibility for developing federal environmental policy and overseeing the implementation of the National Environmental Policy Act by federal agencies.

Commercial use authorization: A permit that authorizes suitable commercial services to park area visitors in limited circumstances.

Concession contract: Defined in 36 *Code of Federal Regulations* (CFR) Part 51 as a binding written agreement between the National Park Service and a concessioner to provide specified visitor services within a park area.

Cultural landscape: A geographic area—including both cultural and natural resources and the wildlife or domestic animals therein—associated with a historic event, activity, or person or exhibiting other cultural or aesthetic values. There are four general types of cultural landscapes, not mutually exclusive: historic sites, historic designed landscapes, historic vernacular landscapes, and ethnographic landscapes.

Cumulative impact: An impact on the environment that results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or nonfederal) or person undertakes such other actions.

Desired condition: Statements of aspiration that describe resource conditions, visitor experiences and opportunities, and facilities and services that an agency strives to achieve and maintain in a particular area.

Environmental consequences: This section of an environmental assessment or Environmental Impact Statement describes the impacts a proposed action would have on resources. Direct, indirect, and cumulative impacts, both beneficial and adverse, are analyzed. The context, duration, and intensity of impacts are defined and quantified as much as possible.

Environmental impact statement (EIS): A public document required under the National Environmental Policy Act that identifies and analyzes activities that might affect the human and natural environment.

Environmentally preferable alternative: The alternative within the range of alternatives presented in an environmental impact statement that best promotes the goals of the National Environmental Policy Act. In general, this is the alternative that causes the least damage to the environment and best protects natural and cultural resources. In practice, one alternative may be more preferable for some environmental resources while another alternative may be preferable for other resources.

Facilities: Buildings and the associated supporting infrastructure such as roads, trails, and utilities.

Historic building: For the purposes of the National Register of Historic Places, a building can be a house, barn, church, hotel, or similar construction, created principally to shelter human activity. “Building” may also refer to a historically and functionally related unit, such as a courthouse and jail, or a house and barn.

Historic district: An area that possesses a significant concentration, linkage, or continuity of sites, buildings, structures, or objects united historically or aesthetically by plan or physical development. To be eligible for the National Register of Historic Places, a district must be significant, as well as an identifiable entity. It must be important for historical, architectural, archeological, engineering, or cultural values.

Historic property: Any prehistoric or historic building, site, district, structure, or object that is included in, or eligible for, inclusion in the National Register of Historic Places. Types of historic properties can include archeological sites, historic cultural landscapes, and traditional cultural properties.

Historic site: The location of significant event that can be prehistoric or historic in nature. It can represent activities or buildings (standing, ruined, or vanished). It is the location itself that is of historical interest in a historic site, and it possesses cultural or archeological value regardless of the value of any structures that currently exist on the location. Examples of historic sites include shipwrecks, battlefields, campsites, natural features, and rock shelters.

Historic structure: For the purposes of the National Register of Historic Places, the term “structure” is used to distinguish from buildings those functional constructions made usually for purposes other than creating human shelter. Examples of structures include bridges, gazebos, and highways.

Indicator: Specific resource or experiential attributes that can be measured to track changes in conditions so progress toward achieving and maintaining desired conditions can be assessed.

Management zone: A geographical area for which management directions or prescriptions have been developed to determine what can and cannot occur in terms of resource management, visitor use, access, facilities or development, and park operations.

Mitigation: Activities that will avoid, reduce the severity of, or eliminate an adverse environmental impact.

National Environmental Policy Act (NEPA): The federal act that requires the development of an environmental impact statement or environmental assessment for federal actions that might have substantial environmental, social, or other impacts.

National Historic Landmark (NHL): A nationally significant historic place designated by the Secretary of the Interior because they possess exceptional value or quality in illustrating or interpreting the heritage of the United States.

National Historic Preservation Act (NHPA): In 1966, Congress established a program for the preservation of additional historic properties through the country. The NHPA requires federal agencies to evaluate the impact of all federally funded or permitted projects on historic properties through the section 106 process.

National Park Service Organic Act: In 1916, the National Park Service Organic Act established the National Park Service to “promote and regulate use of parks” and defined the purpose of the national parks as “to conserve the scenery and natural and historic objects and wild life therein and to provide for the enjoyment of the same in a manner and by such means as will leave them unimpaired for the enjoyment of future generations.” This law provides overall guidance for the management of the park.

National Parks and Recreation Act: The 1978 law that establishes national parks, monuments, recreation areas, and other recreation lands under the jurisdiction of the Department of the Interior. This law continues to be amended as new lands are acquired or boundaries of existing lands are changed.

National Register of Historic Places: As a result of the National Historic Preservation Act, the NPS’s National Register of Historic Places is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect historic and archeological resources.

No-action alternative: The alternative in a plan that proposes to continue current management direction. “No action” means the proposed activity would not take place, and the resulting environmental effects from taking no action would be compared with the effects of permitting the proposed activity or an alternative activity to go forward.

National Park Service management policies: A policy is a guiding principle or procedure that sets the framework and provides direction for management decisions. NPS policies are guided by and consistent with the US Constitution, public laws, executive proclamations and orders, and regulations and directives from higher authorities. Policies translate these sources of guidance into cohesive directions. Policy direction may be general or specific. It may prescribe the process by which decisions are made, how an action is to be accomplished, or the results to

be achieved. The primary source of NPS policy is the publication *Management Policies 2001*. The policies contained therein are applicable service-wide. They reflect NPS management philosophy. Director's Orders supplement and may amend management policies. Unwritten or informal "policy" and people's various understandings of NPS traditional practices are never relied on as official policy.

Planning: A dynamic, interdisciplinary, process for developing short- and long-term goals for visitor experience, resource conditions, and facility placement.

Preferred alternative: The alternative within the range of alternatives presented in an environmental impact statement that the agency believes would best fulfill the purpose and need of the proposed action. While the preferred alternative is a different concept from the environmentally preferable alternative, they may also be one and the same for some environmental impact statements.

Public comment process: A formalized process required by the National Environmental Policy Act in which the National Park Service must publish a Notice Of Availability in the Federal Register to provide public notice that a draft environmental impact statement and associated information, including scoping comments and supporting documentation, is available for public review and input pursuant to the Freedom Of Information Act. In addition, the National Park Service must conduct formal public hearings on the draft environmental impact statement when required by statute or the CEQ NEPA regulations.

Public scoping process: Scoping is a formalized process used by the National Park Service to gather the public's and other agencies' ideas and concerns on a proposed action or project. A Notice Of Intent is published in the Federal Register announcing the agency's intent to prepare an environmental impact statement and a request for written public/other agency scoping comments to further define the goals and data needs for the project. In addition, although not required by the National Environmental Policy Act nor the CEQ NEPA regulations, public scoping meetings may be held and integrated with any other early planning meetings relating to the proposed project.

Record of decision: The public document describing the decision made on selecting the "preferred alternative" in an environmental impact statement. See "environmental impact statement."

Site hardening: Any development that creates an impervious ground surface, usually as a way to direct visitor use and reduce impacts to resources.

Scoping: See "public scoping process."

Soundscape: The component of the acoustic environment that can be perceived and comprehended by humans.

Threshold: Minimally acceptable conditions associated with each indicator.

Timed-entry reservation system: A system to reserve a permit for entry to an area or experience at a designated time of day.

Treatment: Work carried out to achieve a historic preservation goal. The four primary treatments are preservation, rehabilitation, restoration, and reconstruction (as stated in *The Secretary of the Interior's Standards for the Treatment of Historic Properties*).

Trigger: A point that reflects a condition of concern for an indicator that is enough to prompt a management response to ensure that desired conditions continue to be maintained before the threshold is crossed.

User: Visitors and employees in the park.

Visitor capacity: The maximum amounts and types of visitor use that an area can accommodate while achieving and maintaining desired resource conditions and visitor experiences consistent with the purposes for which the area was established. A component of visitor use management.

Visitor-created trail: An informal, nondesignated trail between two locations. Visitor-created trails often result in trampling and stresses to sensitive vegetation types.

Visitor experience: The perceptions, feelings, and reactions a park visitor has in relationship with the surrounding environment.

Visitor use: The types of recreation activities visitors participate in, numbers of people in an area and their behavior, the timing of use, and distribution of use within a given area.

Visitor use levels: The quantity or amount of use a specific area receives, or the amount of parkwide visitation on a daily, monthly, or annual basis.

Wetland: Wetlands are defined by the US Army Corps of Engineers (CFR, Section 328.3[b], 1986) as those areas that are inundated or saturated by surface or groundwater 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.

ACRONYMS AND ABBREVIATIONS

CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
dB	Decibel
dba	Decibel (on the “A-weighted” scale)
EIS	Environmental Impact Statement
EPA	US Environmental Protection Agency
FEIS	Final Environmental Impact Statement
GIS	Geographic Information System(s)
GMP	General Management Plan
IVUMC	Interagency Visitor Use Management Council
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NPS	National Park Service
NRHP	National Register of Historic Places
PPV	People per View
PAOT	People at One Time
PEPC	Planning, Environment, and Public Comment
RV	Recreational Vehicle
SHPO	State Historic Preservation Officer
USFWS	US Fish and Wildlife Service
VAOT	Vehicles at One Time

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APPENDIX F: COMMENT SUMMARY REPORT WITH NATIONAL PARK SERVICE RESPONSES

SUMMARY

Acadia National Park's draft transportation plan and environmental impact statement first became available for public review and comment beginning on Thursday April 26, 2018. Opportunities to comment were advertised through press releases, posts to the park website, targeted outreach, and an announcement on the National Park Service (NPS) Planning, Environment, and Public Comment (PEPC) website. The public review and commenting period ended June 26. A total of 489 unique correspondences were received via e-mail, mail, in person at meetings and information sessions, and on the PEPC website. An additional 5,750 form letters were submitted to the park (these represent one unique correspondence). All non-PEPC correspondences were entered into the PEPC website for analysis.

Members of the public were given opportunities to share comments via letter, e-mail, fax, online, in person, and virtually. Public Information Library sessions were held May 14 through 16, 2018, reaching a total of 108 participants. Library sessions were held at Southwest Harbor Public Library (Southwest Harbor, Maine), Northeast Harbor Library (Northeast Harbor, Maine), and Jesup Memorial Library (Bar Harbor, Maine). These meetings were streamed online courtesy of Friends of Acadia, with more than 6,000 participants viewing each session. Open House Public Comment sessions were held May 22 and 23, 2018, reaching a total of 70 participants. The open house events were held in the evenings at Mount Desert High School (Bar Harbor, Maine) and at Peninsula School (Prospect Harbor, Maine). Public comments from each meeting are summarized at the end of this report. Additionally, the park held briefings at town council or board of selectmen meetings in Bar Harbor, Mount Desert, Trenton, Tremont and at the League of Towns. Briefings were also held with the Bar Harbor Chamber of Commerce board, the Ellsworth Chamber of Commerce, the Acadia Regional Chamber of Commerce board, Maine Department of Transportation, Maine Office of Tourism, Maine State Historic Preservation Office, Maine Tourism Association.

To widen the geographic span of public participation, a virtual information session was also held online. The virtual information session was held in the evening of June 13, 2018, with a total of 15 participants. Three videos were also created to reach a wider network of the public. The videos were posted on YouTube, reaching over 10,000 views. To inform the public of the process, a newsletter describing the context of the plan and how to comment was posted to the PEPC website and made available in paper copy at the public open house events as well as at key locations in the park. This newsletter provided a summary of park goals, purpose and need for the Acadia National Park Draft Transportation Plan and Environmental Impact Statement, a summary of the NPS alternatives, and an overview of the planning schedule. During all of the outreach events, members of the public were invited to submit comments on the PEPC website.

The National Park Service collected public comments in order to understand the public's perspectives on the draft plan. In this National Environmental Policy Act (NEPA) process, thoughts and ideas from individuals, organizations, and agencies are analyzed and considered equally. For this reason, the unique content of comments, rather than the number of times a comment was received, was used to make refinements to the final plan. This summary report summarizes the content from the public comments received during the comment period.

PUBLIC COMMENT ON DRAFT PLAN AND ENVIRONMENTAL IMPACT STATEMENT

Correspondence Distribution

The following table provides the geographic distribution of public comments that were submitted directly to the PEPC website or to the park. Table F-1 depicts the distribution of these public comments by zip code.

TABLE F-1. DISTRIBUTION OF CORRESPONDENCES BY STATE

State	Percentage	Number of Correspondences
Maine	35%	173
New York	7%	36
Pennsylvania	5%	25
California	5%	22
Florida	3%	17
Massachusetts	3%	17
Colorado	3%	14
New Jersey	3%	13
Ohio	2%	12
Washington	2%	12
Virginia	2%	11
Indiana	2%	8
North Carolina	2%	8
New Hampshire	2%	8
29 Other States	23%	113
Total		489

In addition to general public comments, the National Park Service received letters from official representatives of the following agencies and organizations:

- Acadia Institute of Oceanography
- Acadia Mountain Guides
- Adventure Cycling Association
- Atlantic Climbing School
- Bar Harbor Chamber of Commerce
- Carnival Corporation
- Cruise Lines International Association
- Destinations North America
- Friends of Acadia
- Maine Coast Heritage Trust
- National Parks Conservation Association
- Natural Resources Council of Maine
- Royal Caribbean Cruises Ltd.
- Sierra Club Maine
- Tom Crikelair Associates
- Town of Bar Harbor

Definition of Terms

Correspondence. A correspondence is the entire document received from a commenter. It can be in the form of a letter, written comment form, note card, or open house transcript.

Comment. A comment is a portion of the text in a correspondence that addresses a single subject or issue. It could include such information as an expression of support or opposition to the use of a potential management tool, additional data regarding the existing condition, or an opinion debating the adequacy of an analysis.

Comment Summary. A comment summary is a grouping that is centered on a common subject. Comment summaries combine similar comments. Representative quotes from the comments may be presented to create a comment summary.

List of Acronyms

DEIS	Draft Environmental Impact Statement
FEIS	Final Environmental Impact Statement
GMP	General Management Plan
NEPA	National Environmental Policy Act
NPS	National Park Service
PEPC	Planning, Environment, and Public Comment
ROD	Record of Decision

ANALYSIS METHODOLOGY

The letters, e-mails, faxes, and public meeting comments represented in this Comment Summary Report were analyzed using the PEPC database, which was developed by the National Park Service and is used service-wide.

Correspondence received during the comment period was analyzed in a series of stages. Staff read each piece of correspondence to identify discrete points expressed by the author, each of which is considered to be a “comment.” Each comment was assigned a code in order to associate that comment with a particular resource topic or element of the plan (such as parking or reservations). Staff derived code categories from an analysis of the range of topics covered in relevant present and past planning documents, NPS legal guidance, and the contents of the correspondence. The coding structure enabled comment organization by topic area. Comments that discussed multiple issues (e.g., ferry service and bike safety) were assigned multiple codes. Once coded, individual comments were assigned subcategories to capture specific concerns and issues. This analysis yielded approximately 1,200 individual comments from the 489 correspondences.

The coded comments are stored in a database where they can be quickly accessed using a variety of query and reporting tools. Comments were reviewed as “in-scope” or “out of scope,” as well as “substantive” and “non-substantive.” In-scope comments were those that addressed the structure and findings of the Acadia National Park Draft Transportation Plan/Environmental Impact Statement, while out-of-scope comments included those comments addressing issues unrelated to the Acadia National Park Draft Transportation Plan/Environmental Impact Statement. Substantive comments are those comments that

- question, with reasonable basis, the accuracy of the information in the draft environmental impact statement
- question, with reasonable basis, the accuracy of the environmental analysis
- develop and evaluate reasonable alternatives other than those presented in the draft environmental impact statement
- cause changes to the proposal or alternatives
- suggest factual corrections

Consistent with Council on Environmental Quality (CEQ) guidelines and NPS *Management Policies 2006*, comments in favor of or against the proposed action or alternatives, or comments that only agree or disagree with NPS policy, are not considered substantive.

Similar substantive comments were grouped together to develop a unique “concern statement.” The concern statement summarizes the main points or common themes expressed across one or more substantive comments. Each statement is worded to give decision makers a clear sense of what action is being requested. Public concern statements are also intended to help guide the reader to comments on specific topics of interest. They do not replace the actual comments received from individuals. Rather, concern statements should be considered as one means of accessing information contained in original correspondence and the coded comment database.

The concern statements were framed to express the action requested of the National Park Service. The concern statements were then screened to determine whether the statement involved a request for further clarification or modification of the proposed action. In the latter case, concerns were brought to the interdisciplinary planning team (IDT) for further deliberation. As a result of this deliberation, modifications will be made to the alternatives considered, to the evaluation of impacts, and in particular, to the content of the agency preferred alternative and proposed action.

Substantive comments guided the development of concern statements and subsequent changes to the Acadia National Park Draft Transportation Plan/Environmental Impact Statement. The NPS responses to concern statements detail these changes. Other responses from the National Park Service point to sections of the Acadia National Park Draft Transportation Plan/Environmental Impact Statement for further information or clarification. Some responses provide background or relevant information in park policy that addresses the substance of the comment, but do not contain references to document revisions. Other responses explain why comments were considered, but ultimately dismissed from further analysis. No concern statements or responses were generated for non-substantive comments (such as personal opinion) or comments that misrepresented the proposed action.

All correspondences received during the public comment period were considered and are now part of the administrative record for this plan.

SUBSTANTIVE COMMENTS BY ISSUE AREA

Planning Process and the National Environmental Policy Act

Alternatives. When an individual expressed preference for an alternative in their comments, there was expressed support for all alternatives across the range of alternatives. For those that expressed support for a specific alternative, there was the least support for alternatives A and B and more support for alternative D. However, most of these individuals expressed support for the preferred alternative (alternative C).

Role of Schoodic into the Plan. Commenters noted that much of the plan does not mention Schoodic and requested it be modified to do so to be more comprehensive.

NPS Response: During the public scoping period of the transportation plan, the National Park Service presented several preliminary concepts to management of transportation on the Schoodic Peninsula. Public comment on those preliminary concepts indicated a strong desire for the National Park Service to take a more cautious approach to managing changing visitor use in that area, rather than pre-emptively implement strategies in anticipation of increased use. Largely in response to those public concerns, the Draft and Final Plan commit to a monitoring framework and adaptive management approach at

Schoodic. This approach is described in the actions common to all action alternatives in chapter 2 of the final plan.

Dismissal of Transit-Only Alternative. Commenters disagreed with the rationale for dismissal of a “transit-only” alternative on page 48 of the draft plan noting that the concept works at other parks such as Denali National Park and should therefore also work at Acadia.

NPS Response: As described in the section in chapter 2 titled "Alternatives and Actions Considered but Dismissed," the National Park Service believes that eliminating opportunities for visitors to tour the park in their private vehicle is inconsistent with the original design intent of the Park Loop Road. Removing this opportunity would impact both the historic character of the loop road, and eliminate an important experience for many visitors.

Goals and Desired Conditions. Commenters suggested various improvements to the goals and desired conditions for the park’s fundamental resources and values, including increasing their prominence in the document and clarifying the relationship between goals and desired conditions. Commenters also suggested the National Park Service explicitly state in the document that where there is a conflict between stated goals, the preservation of park resources must be given priority. Commenters suggested a new goal that explicitly calls for a reduction of private vehicle use in the park with expanded options for cyclists, pedestrians, and public transportation. Commenters also suggested broadening the plan’s seventh goal relating to integrating with other local transportation planning efforts to also include the need to integrate with regional and subregional transportation planning efforts in Maine and the northeastern United States. Commenters noted the importance of linking the park’s transportation systems with regional systems including rail, ferry, and bus services.

NPS Response: The final plan has been revised in chapter 1 to better describe the relationship between goals and desired conditions. The goals and desired conditions described for the park's fundamental resource and values, as well as the plan goals, are the guiding planning principles developed for the transportation plan. The National Environmental Policy Act and NPS policy discourage including content in environmental compliance documents that reiterate law or agency policy. Therefore, adding broad goals that reiterating the NPS mandate to preserve resources unimpaired, or reiterate Acadia's willingness to participate in regional or subregional planning efforts is unnecessary. In regards to adding a goal to reduce car use in the park, the NPS mission is to preserve unimpaired the natural and cultural resources and values of the national park system for the enjoyment, education, and inspiration of this and future generations. To meet this mission, the plan seeks to reduce car use in certain places at certain times where conditions are inconsistent with what is desired for the park’s fundamental resources and values. The National Park Service also strives to maximize opportunities for visitor access and accommodate a wide variety of visitors with varying needs, interests, and abilities in a way that ensures the preservation of the park’s fundamental resources and values. Because of this, the overarching intention of the transportation plan is primarily to manage traffic congestion and parking, and not to reduce vehicular use at Acadia. This plan identifies actions necessary to manage key locations in the park within the desired resource and experiential conditions of the sites.

Level of Detail. A commenter felt that the National Park Service needed to add additional detail to the plan alternatives in order to allow a more complete analysis of impacts and a reasoned choice between them.

NPS Response: The alternatives are described in chapter 2 of the final environmental impact statement. Prior to implementing certain portions of the plan, additional compliance may be necessary to identify site-specific impacts. This will be done in accordance with section 2.4 “Tiering” of the NPS NEPA Handbook.

Release of Public Comment. Commenters urged the National Park Service to make all submitted public comments on the transportation plan available for public review.

NPS Response: In response to a FOIA request, the NPS released public comments with all personally identifiable information redacted on August 13, 2018.

Implementation Timeline and Costs. Commenters suggested that the National Park Service should include in the plan a timeline for implementation as well as the associated costs of each proposed action.

NPS Response: While implementation timelines and costs are not required content for an environmental impact statement, the National Park Service anticipates implementation of the reservation system will begin around 2020. Both the timeline and costs for implementation of specific infrastructure projects—such as expansion of parking and redevelopment of the visitor center at Hulls Cove, and development of the parking lot at Liscomb Pit—will depend on the timing and availability of funding to support such proposals.

ACTIONS AND ALTERNATIVES

Parking

The National Park Service received many comments about the various proposed changes pertaining to parking lots. Some commenters were in support of reducing parking overall, while other commenters encouraged the park to expand parking by building new lots and/or not removing current lots. The concern statements related to this topic are provided below.

Support for Increases in Parking. Some commenters thought the park should add new parking lots and expand parking lots at popular destinations, rather than adopting a plan to manage visitation. Some specific locations suggested included Great Head, Acadia Mountain, Satterlee Pit, the Tarn, Sieur de Monts, Parkman and Brown Mountains, Wonderland, and Ship Harbor. Other commenters suggested the National Park Service should consider a multilevel parking garage (possibly underground or floating, possibly several, including one at the base of Cadillac Mountain, at Sand Beach, and Bluenose Ferry Terminal) to accommodate more vehicle parking.

NPS Response: The plan does involve new parking lot construction at a variety of locations, including the Acadia Gateway Center, Eagle Lake, and potentially at a variety of other locations on western Mount Desert Island. Expanded parking is also planned for Hulls Cove—the design could include a variety of options—not precluding many of these design suggestions. See table 4 in chapter 2 for an option that was considered but dismissed for adding parking capacity along the loop road.

Support for Reductions in Parking. Some commenters suggested that parking spaces should be removed. Commenters specifically suggested that half of the parking lot at Cadillac Mountain be removed and the area restored to natural conditions. Other commenters noted that many existing lots are rarely full and that visitor access should be accommodated by other means, including more public transit. Other commenters added that the National Park Service should be prioritizing resource protection over accessibility to visitors. Other commenters noted that if parking is expanded, then some existing parking should be removed because increasing the amount of available parking will increase visitation overall.

NPS Response: The plan seeks to provide some opportunities for visitors to drive up Cadillac as well as opportunities for commercial tours and shuttles. The park could not practically meet the needs of visitors with a transit-only option for Cadillac. Removing limited options for parking and shuttle and tour access would not meet the purpose and need of the plan.

Management of Other Areas Outside Park Loop Road. Many commenters felt that the plan should include specific strategies for management of parking and congestion in other areas of the park outside Park Loop Road. Specific suggestions were provided for strategies at Acadia Mountain, Brown Mountain, and elsewhere on the western side of Mount Desert Island.

NPS Response: Please refer to the “Management of Other Mount Desert Island Attractions and Trailheads” section under the “Actions Common to All Action Alternatives” section in chapter 2. As described in that section, the National Park Service anticipates shifting visitor use patterns as a result of the reservation system and will monitor these changes to identify incremental management actions needed to address future parking and congestion related issues.

Retention of Existing Eagle Lake Parking Lot. Commenters expressed concern that the rationale for proposed changes at Eagle Lake were not explained well in the plan. They also noted that the existing parking and restroom at Eagle Lake is better positioned and closer to the carriage roads than Liscomb Pit, particularly for people with limited mobility, for winter users on skis and snowshoes, and for visitors portaging canoes and kayaks. Commenters suggested that the National Park Service retain the existing parking and facilities at Eagle Lake even if the Liscomb Pit area is converted into a parking lot, as removing these facilities would be counterproductive for visitors and would not address the problems of congestion.

NPS Response: The existing Eagle Lake parking lot is in need of significant repairs, and the National Park Service cannot afford to continue investing in repairing and maintaining duplicative infrastructure. Retaining the existing Eagle Lake parking lot could be an attractive nuisance, encouraging people to over-park along the roadside, a safety issue that the planning effort is intended to ameliorate. The existing parking lot is also impacting sensitive wetland habitat. The boat launch on the south side of Eagle Lake Road will remain available for kayaks and canoes, therefore removal of the parking lot on the north side of the road will not impact watercraft users. New restrooms would be constructed at the Liscomb Pit lot, therefore access to the old restrooms would no longer be needed. Regarding ease of access to the existing carriage roads for both winter and summer use, Liscomb Pit is less than 300 feet away from carriage roads and less than a mile (by carriage road) from the intersection with the Witch Hole carriage roads. Witch Hole carriage roads can also be accessed from Duck Brook Road or Hulls Cove Visitor Center.

Management of Bubble Pond. Some commenters thought the park should reopen the Bubble Pond parking area for better access to trails and for kayakers who need short distances for portage.

NPS Response: Bubble Pond was closed to visitor parking in 2016 while the Island Explorer is in operation due to recurring overparking problems. As part of the adaptive nature of this plan, the National Park Service will continue to evaluate this lot and consider if other solutions could be applied (such as an automated gate) that better regulate parking.

Management of The Jordan Pond Parking Lots. Some commenters felt that parking at Jordan Pond should remain first-come, first-served because of access to carriage roads and trails.

NPS Response: Currently, parking at the Jordan Pond House is one of the lots most likely to become overparked and therefore active management of this parking lot is needed. (See visitor access impact analysis for alternative A.) Active management of this lot through a reservation system is needed to maintain the lot within its desired conditions and functionality. Under all action alternatives, spontaneous access to this site would remain as it is today through Island Explorer service.

Increasing Bus Parking. Commenters noted that if the plan relies on an increase in public transportation, additional parking spaces for buses may be necessary.

NPS Response: The preferred alternative includes expanded parking for buses at Hulls Cove, as well as dedicated bus parking at Cadillac Mountain, Jordan Pond, and Ocean Drive. Under all alternatives, buses must fit the geometry of the park's historic roads.

Support for Resource Sensitive Parking Lot Design. Some commenters suggested any new parking lots should be built with drainage-friendly materials, should minimize impact on the environment, and should avoid sensitive habitats such as wetlands. New lots should only be built as a last option to solve the park's issues with congestion.

NPS Response: Green construction would be a primary concern in the future design of any new parking infrastructure. Additional analysis of impacts to natural and cultural resources associated with the construction of any new parking infrastructure will be considered once designs have been proposed, and negative impacts would be avoided or mitigated. No new lots have been proposed in association with the historic Park Loop Road or in sensitive environments. Most of the plan's actions revolve around the management of vehicle volume and timing, not in establishing new parking lots. Those proposed are the minimum deemed necessary to continue to service an appropriate population of visitors to the park.

Concerns with the Liscomb Pit and Hulls Cove Parking Expansion. Commenters thought the revegetation efforts proposed in the plan associated with removal of some roadside parking would represent positive impacts to natural resources; the new parking lot expansions at Hulls Cove and Liscomb Pit represent larger impacts to similar resources than what would be restored.

NPS Response: As discussed in chapter 1 under the "Issues and Impact Topics Considered but Dismissed from Further Analysis" section, impacts to vegetation would not be significant under any alternative in the plan. At Eagle Lake, the preferred alternative would result in some disturbance and loss of vegetation, wildlife, wetlands, and soil, primarily due to widening the access road and construction of a new connector trail. However, less than 1

acre would be altered, and impacts would be minimal with the application of best management practices. The preferred alternative also includes restoration of a wetland at the existing Eagle Lark parking area equal in size to the area of disturbance at the new lot, offsetting the wetland disturbance. Additionally, no special or unique vegetation, soil, or wildlife would be lost, and the abundance and distribution of vegetation and wildlife in the area would not substantially change.

Support for Liscomb Pit and Hulls Cove Parking Expansion. Many commenters indicated support for parking lot expansions at Liscomb Pit and Hulls Cove. Some commenters also suggested that the proposed new lot at Liscomb Pit be designed larger to absorb the demand for use.

NPS Response: The conceptual design included in this plan considers existing site constraints and seeks to minimize damage to resources by staying within an existing disturbed footprint. The National Park Service will finalize the design of this lot as funding becomes available and will conduct additional site-specific planning and applicable compliance as needed at the time that planning effort is undertaken.

Support Removal of Parking Management Stones. Some commenters felt that rather than requiring reservations or new parking, the park should focus on decentralizing visitation away from heavily visited areas, including by removal of existing barriers to parking. Some areas of roadside parking could be made permanent.

NPS Response: Barriers to roadside parking have been installed to protect or restore natural resources threatened or damaged by off-road parking. The presence of vehicles parked along the road greatly detracts from the scenic resources and historic character of the park and roadside barriers help to protect these aspects of the park. In addition, the amount of available parking controls the number of visitors at one time in any one location, and roadside barriers are a means of protecting both visitor experience and natural and cultural resources from overuse.

Bicycle and Pedestrian Access

Support for Improving Bicycle Access. Commenters thought the National Park Service should focus more effort on improving bicycle and pedestrian access to the park, including the consideration of a dedicated bike lane on the loop road, more bike racks at trailheads and on Island Explorer buses, expanded bicycle express routes (location and time/season) on the Island Explorer, bicycle rental opportunities, bicycle-specific maps, electric bike charging stations, and continuation or expansion of car-free days. Commenters suggested that the National Park Service should also improve safety for cyclists by painting white lines to demarcate the driving lane so these changes work with emerging technologies such as a lane departure warning system. A per-bike fee could help cover the costs of expanded service. Commenters also noted that the plan implies that managing vehicle access with reservations could cause more visitors to walk or bike, increasing possibilities for unsafe interactions with vehicles when, in fact, more bicyclists improve road safety.

NPS Response: Bicycle and pedestrian access and safety is a primary goal of the plan and is addressed in all three action alternative descriptions through the reduction or elimination of right-lane parking and the lessening of motorized traffic congestion overall. There is nothing in the current plan that precludes the continuation or expansion of the car-free day and

morning opportunities, the expansion of bicycle rental opportunities, the addition of bicycle racks or other amenities in appropriate locations, or the expansion of programs and materials that support bicycle access. However, physical changes to Park Loop Road to accommodate bicycles would likely not be implemented due to the damage they would cause to the historic character and design of the road and landscape. See the “Desired Conditions for Fundamental Resources and Values, Network of Historic Roads and Trails” section, bullet 1 in “Chapter 1: Purpose and Need.”

Support for Limiting Bicycle Access. Some commenters noted that the plan lacks a discussion of limiting, managing, or prohibiting cycling, particularly along Cadillac Mountain Road during busy times and days.

NPS Response: Managing traffic up Cadillac Mountain Road and requiring vehicles to fit the geometry restrictions of the road will improve safety for cyclists, thereby precluding the need to exclude cyclists from the roadway. Maintaining opportunities for bicycling is consistent with the plan's goal of providing a range of visitor experiences.

Roadway Congestion

Drive-Through Use. Commenters requested that the final selected action should allow for some pass-through (no-parking) access to Ocean Drive. This would allow scenic driving to still occur for those who don't want to park. There was concern that without a drive-through only pass, local residents would not be able to continue the tradition of dropping off/picking up family or friends at trailheads or beaches.

NPS Response: Visitors will still be able to drive through most of the park without a reservation during all hours, and will be able to drive through the Ocean Drive corridor during early morning and late afternoon and evening hours during the high-use season. (See response to “Time of Day for Reservations on Ocean Drive.”) The reservation system will also ensure that visitors wishing to have a scenic driving experience will be able to do so along Ocean Drive without significant congestion, thereby improving visitor experience.

Both Support and Opposition to Changes in Travel Direction. Some commenters affirmed that there were benefits to having one-way direction of travel on Park Loop Road. Others were concerned that the strategy of making the road one way in the counterclockwise direction (as in alternative D) would increase the driving distance to some of the most popular areas of the park. Commenters also suggested making Lower Mountain Road from Jordan Pond House to Cadillac Mountain one way in the northbound direction. These commenters noted that this action was neither considered or explicitly dismissed in the plan. Another commenter suggested that allowing buses to enter the Loop Road at Sieur de Monts (clockwise travel) or Otter Cliff Road (counterclockwise travel) and/or providing beach access from Schooner Head Road and the Great Head trailhead could provide a more direct way to travel between Bar Harbor and Sand Beach/Ocean Drive. An additional commenter noted that one-way travel will make things more difficult for staff and volunteers because they will have to travel the full loop to check on sites or closed gates (for example). Another commenter noted that further research should be done regarding the conversion of Park Loop Road to one-way travel between Jordan Pond House and Cadillac Mountain.

NPS Response: The one-way direction of travel on Park Loop Road in alternative D is designed partially to help spread out use along the roadway. Having some of the most popular attraction sites farther from the entrance stations provides time and space for

visitors to spread out before arriving at popular destinations (as most visitors will pick a variety of other destinations to stop at along the way). This should reduce the pulsing and high demands on these locations.

The loop road was designed for vista viewing in both directions. The existing one-way sections have resulted in abandoned views. However, previous studies have indicated that more and better views are promoted on the current one-way sections in the current direction of travel (see the “Cultural Resources” section in “Chapter 3: Affected Environment”).

Support for Further Reducing or Eliminating Private Vehicle Use. Some commenters felt that the plan doesn’t go far enough to reduce congestion and that further vehicle restrictions should be considered to eliminate congested roadway corridors beyond what is described in the alternatives. Some of these commenters expressed concerns that managing some corridors or lots will lead to increased roadway congestion in other areas of the park. Other commenters suggested the National Park Service restrict all private vehicle use up Cadillac Summit Road, citing that it would be more fair if everyone had to use Island Explorer or another tour service to reach the summit. There was support for a similar transit-only access alternative to both Schoodic and the rest of Park Loop Road. Commenters were also concerned that by continuing to allow private vehicle access at new points of entry, congestion will just be moved to these new bottlenecks and not necessarily eliminated altogether.

***NPS Response:** The NPS mission is to preserve unimpaired the natural and cultural resources and values of the national park system for the enjoyment, education, and inspiration of this and future generations. To meet this mission, the plan seeks to reduce car use in certain places at certain times where conditions are inconsistent with what is desired for the park’s fundamental resources and values. The National Park Service also strives to maximize opportunities for visitor access and accommodate a wide variety of visitors with varying needs, interests, and abilities in a way that ensures the preservation of the park’s fundamental resources and values. Because of this, the overarching intention of the transportation plan is primarily to manage traffic congestion and parking during peak times of day and season of the year. To do this will require some vehicle reductions. These proposed reductions and plan actions will help the park manage to their desired conditions, without needing to reduce overall vehicular use at Acadia. This plan seeks to analyze what acceptable levels of vehicle use are at one time, considering the desired conditions of park resources and values, and then to manage within those vehicular use levels. Eliminating private vehicle use entirely, however, would not be consistent with the Park’s purpose and need for action, as Park Loop Road was designed with such use in mind, and eliminating it would eliminate this experience.*

Shuttle and Transit Services/Island Explorer

Support for Expanded Island Explorer Service. Commenters expressed a variety of ways that Island Explorer service could be expanded on both Mount Desert Island and Schoodic. These included expanded park-and-ride lots, new routes, additional express routes, expanded bike shuttle routes, and additional shuttle stops. Specific suggestions for new park-and-ride lot locations included Gateway Center, central Mount Desert Island, Northeast Harbor, Southwest Harbor, and the west side of Mount Desert Island in general. Commenters noted that these new hubs could help disperse crowds away from busy areas.

***NPS Response:** The role of expanded Island Explorer Service is discussed in the plan (see “Chapter 2: Common to All Action Alternatives”). The National Park Service recognizes the importance of external park-and-rides and expanded Island Explorer service as having potential for accommodating the expanding parking needs at Acadia National Park and the local towns. During implementation of the plan, the National Park Service will work with Downeast Transportation, local towns, and other stakeholders to explore suitable park-and-ride locations and funding opportunities.*

Concerns and Ideas with Expanded Island Explorer and Commercial Transit. Some commenters felt that increasing commercial and public transit options will only worsen the problem of crowding and overuse in the park. Other commenters questioned the feasibility of expanding Island Explorer citing shortages in bus drivers as well as suggestions for how to address these shortages. Specifically, commenters suggested recruiting local school buses/drivers or managing the expansion of Island Explorer by using smaller vehicles such as vans that didn’t require drivers to have a commercial driver’s license, thereby expanding the pool of potential drivers. Other suggestions included increasing wages for drivers and offering housing. Lastly, some commenters felt that the riding the Island Explorer should also be subject to the reservation system.

***NPS Response:** One goal of the plan is to provide a range of options for visitors to access the park. Some visitors will continue to access the park via the Island Explorer transit system, while others use private vehicles, bicycles, or other means. This range of options is intended to accommodate visitor preferences for different forms of transportation while also encouraging increased use of Island Explorer and thereby decreasing crowding and congestion. Park staff will monitor resource and visitor experience conditions before, during, and after implementation to ensure desired conditions are maintained and crowding/congestion does not worsen.*

Support for Charging Island Explorer Ridership Fees. Some commenters felt that fees should be applied to Island Explorer ridership, but at a rate less than a reservation for private vehicles to encourage Island Explorer service over private vehicle use.

***NPS Response:** The Island Explorer is a free service to Acadia National Park visitors. It is free to incentivize use of this transit system and reduce the number of vehicles on park roads. A ridership fee would reduce this incentive and could have the impact of increasing the number of private vehicles on the roads, which would be contrary to the Park’s purpose and need for action, and frustrate its aim of reducing congestion.*

Shuttle Service to Cadillac Mountain. Commenters suggested that the National Park Service should provide shuttle service to the Cadillac Summit, originating from one or multiple stops or communities. This could be arranged through a concession or through an expansion of the Island Explorer. Visitors could be required to use this service, or it could be provided during peak times/seasons, and the Cadillac Summit Road may be closed to private vehicles. One commenter opposed allowing concessioners to have access to Cadillac Summit Road if no parking will be available. Some commenters suggested making shuttles the only form of transportation that could be used to access key locations such as Cadillac Mountain and Jordan Pond, while another proposed that the park use the same type of vans used by the Eagle Lake bike shuttle. Other commenters suggested that shuttles offer a “hike up, ride down” option (or vice versa). There was also a suggestion to allow a concessioner to operate a shuttle between Hulls Cove and Cadillac Mountain to serve cruise passengers. Some commenters suggested

generally increasing the Island Explorer service and limiting commercial buses to tours and interpretive services.

***NPS Response:** The National Park Service appreciates the variety of suggestions for how to provide transit service to the summit of Cadillac Mountain. The National Park Service will consider the role of Island Explorer and other suggestions as it conducts further financial feasibility analysis of providing that service through concession bus contracts and other means.*

Concerns with the Village Green Bus Hub. Some commenters suggested that the National Park Service, in cooperation with Downeast Transportation and the towns, should relocate the Island Explorer's transit hub away from the Village Green in downtown Bar Harbor due to lack of parking, as well as the congestion that slows bus service.

***NPS Response:** Connecting the park with its neighboring communities is a key feature of the Island Explorer, and the town of Bar Harbor is a critical location for lodging and other visitor services. The NPS works with the towns, Downeast Transportation, and other partners to continually improve transit service and to respond to concerns. Providing a new transit hub at Hulls Cove Visitor Center will also take some of the pressure off of the Village Green site. See chapter 2 for actions related to transit services.*

Accessibility and Island Explorer. Some commenters felt that the Island Explorer buses need to be made more accessible. People with mobility challenges find them difficult to use because, for example, the steps are too steep. Priority should be given to those with disabilities.

***NPS Response:** The accessibility of the Island Explorer buses is important to the National Park Service. The buses, which are equipped with wheelchair lifts, are owned and operated by Downeast Transportation. This feedback will be shared with Downeast Transportation management.*

Right-Lane Parking

Support and Opposition to Removal of Right-Lane Parking. Commenters felt that the National Park Service should immediately eliminate all right-lane parking as a part of the plan. Doing so will improve safety for cyclists and pedestrians, and help eliminate congestion that detracts from the visitor experience. Commenters noted that previous planning efforts have proposed the elimination of right-lane parking at a future date, but that date has never come. Other commenters suggested that the National Park Service incrementally remove right-lane parking, starting first in areas that are the least safe, or are causing congestion. There was a suggestion that in lieu of right-lane parking, new parking, picnic, and picnic areas be constructed between Otter Creek and Seal Harbor.

Others suggested that the park should not eliminate right-lane parking, it has been used for many years to provide space for RV parking, relieve pressure on over-filled parking lots, provide access to trailheads, and provide relatively close parking for people with limited mobility.

***NPS Response:** The National Park Service proposes that eventual removal of right-lane parking would improve the character of the historic motor road and increase safety for cyclists and pedestrians using the road. The final plan and environmental impact statement has provided greater clarity to these changes in the "Actions Common to All Action Alternatives" section of chapter 2.*

Vehicle Size Limits

Support for Vehicle Size Limits. Commenters expressed strong support for limiting the height and length of oversize vehicles entering the park including tour buses, RVs, and campers. Commenters noted that buses and RVs currently entering the park are too big, sometimes taking one and a half or two lanes, creating unsafe conditions for drivers and bicyclists. Commenters suggested that only vehicles that can fit in a regular lane, make the road turns, pass under Park Loop Road bridges, and fit in a regular parking space should be allowed. In particular, Cadillac Mountain was noted by many commenters as an area where oversize vehicles should not be allowed due to the narrowness of the road and the difficulty of large vehicles making turns there. Multiple implementation suggestions were made including adding signs at the park entrance with maximum vehicle size dimensions, accelerating the phase-in schedule for vehicle size limits, adding an Island Explorer route to the summit of Cadillac Mountain, as well as working with local tour companies to provide access to Cadillac Mountain using smaller vans or minibuses.

NPS Response: The National Park Service appreciates the strong support for increasing safety in the park by restricting access to Park Loop Road to only vehicles that fit within the historic road geometry. As full-size motor coaches often dwarf the roadway and obscure views, smaller-sized vehicles will also be more consistent visually with the historic character of the roadway. The final environmental impact statement has been modified to extend these size restrictions to the entire Park Loop Road. Please refer to the "Vehicle Size Requirements" subsection under the "Actions Common to All Action Alternatives" section in chapter 2 for further details.

Modification of Bridges for Commercial Vehicles. One commenter suggested that the National Park Service excavate and lower the road grade under bridges to allow large coach buses to safely pass underneath them.

NPS Response: The National Park Service considered but dismissed an option to make physical changes to Park Loop Road to accommodate large vehicles (see chapter 2, table 4). This proposal would have similar, if not greater impacts.

Role of New Bus Technology. One commenter noted that newer 45-foot-long buses have rear wheels that make them more flexible in maneuvering turns. It was requested for this information to be taken into account when considering vehicle size limits.

NPS Response: The National Park Service appreciates this information. Flexibility in making turns, while helpful, does not address concerns with height, bridges, views, or safety or space. The final environmental impact statement has been modified to uniformly align oversize vehicle sizes with the historic character of the roadway and improve safety for cyclists, the visitor experience for passengers of commercial buses, cyclists, and drivers of private vehicles. The National Park Service will continue the dialogue with commercial operators to inform the transition to smaller buses.

Number of Buses on the Road and Associated Passenger Capacity. Some commenters were concerned that by decreasing the size of the buses allowed in the park, it would double the number of smaller buses required to transport the same number of visitors and increase the number of parking spaces required. There was also concern that transportation companies would not have enough capacity to support shore excursion programs.

***NPS Response:** The selected alternative assumes that commercial operators would bring up to the allocated number of visitors allowed at a location at any one time, which would reduce the number of commercial vehicles per location. The number of visitors arriving via commercial tour providers will remain unchanged or slightly increase from current conditions but will make full use of the available commercial vehicle parking across all hours and days of the reservation season, thereby spreading use and decreasing parking needs and road congestion. Based on prospectus and financial feasibility, there may be an opportunity for multiple commercial operators to invest in smaller buses and serve the park's road-based commercial tour needs.*

Width of smaller buses. Commenters expressed concern that shorter buses may not translate into narrower buses, which would not alleviate the problems on Cadillac Mountain Road.

***NPS Response:** The National Park Service appreciates the feedback received on vehicle size restrictions and the strong support for increasing safety in the park by restricting access to Park Loop Road to only vehicles that fit within the historic road geometry. The final environmental impact statement has been modified to clarify that only vehicles that are consistent with the dimensions of the park's historic roads and bridges would be permitted to operate on Park Loop Road. Please refer to the "Vehicle Size Requirements" section in chapter 2 for more information. This change will uniformly align vehicle sizes with the historic character of the roadway; improve safety for cyclists; and improve the visitor experience for passengers of commercial buses, cyclists, and drivers of private vehicles.*

Continue Use of Oversize Vehicles at Certain Locations. A commenter suggested that current commercial vehicles in high-use areas such as Ocean Drive and Jordan Pond be allowed to continue operation to support current traffic flow.

***NPS Response:** Use of oversize vehicles outside Park Loop Road would continue. Based on public feedback and to simplify management and enforcement of the restrictions, as well as simplify understanding of the regulations for commercial operators, only vehicles that fit within the historic road geometry will be allowed on Park Loop Road.*

Emissions. Commenters expressed concern that by decreasing the size of commercial vehicles allowed, emissions would be doubled. There was a suggestion that tour companies use electric vehicles, and it was also suggested that the Island Explorer vehicles use a different engine.

***NPS Response:** In chapter 1 of the Final Environmental Impact Statement (see the "Issues and Impact Topics Considered but Dismissed from Further Analysis" section) the National Park Service considered the issue of emissions as it relates to this plan. Additionally, to remain consistent with Executive Order 13149 (Greening the Government through Federal Fleet and Transportation Efficiency), the National Park Service will incorporate alternative fuels and advanced vehicles into fleet operations where practicable and feasible in order to reduce the greenhouse gas emissions of transportation-related activities.*

Communications

Commenters suggested a variety of communication strategies the National Park Service could employ to help with implementing the plan. These included creating physical signage, coordination with lodging providers, and apps that would provide information about reservations, crowding, congestion, and parking, as well as the website indicating which roads and rest facilities are open or closed throughout the year; providing signage displaying

information about how bicyclists and hikers can show they have paid their entrance fee; providing educational material related to multiuse (“Rules of the Road”) to be made available to park visitors, especially considering the potential for increased buses and vehicles in the future; and making Junior Ranger materials available at transit hubs for use with Island Explorer and at areas with lower visitor densities.

Additionally, some commenters suggested that the National Park Service should install digital boards at park entrances that would display information about crowding and parking availability at key locations, while an additional commenter indicated that they would also be needed at intersections where visitors will be making decisions based on the availability of parking and reservations. Some of these locations include the Sieur de Monts entrance, Bar Harbor Visitor Center, Acadia Gateway Center, Hulls Cove Visitor Center, Cadillac Mountain Entrance Station, and at the intersection of Eagle Lake Road State Route (SR) 233, SR 3, and SR 198.

Concerns Over Too Much Signage. Commenters cautioned that too many directional and parking signs start to negatively impact the viewscape of the park.

NPS Response: The National Park Service appreciates this concern. The contribution of signage to the current condition of Park Loop Road is discussed in the “Park Loop Road” section of “Chapter 3: Affected Environment.”

Cell Phone Coverage. Commenters expressed concern and support of the proposal to improve cellular service throughout the park. There was concern that improving connectivity would significantly change the ability to disconnect from the modern world and enjoy the natural and serene nature of the park. Furthermore, there was concern that improving connectivity would require additional infrastructure including antennas that would affect the historical landscape of the park. Improving ability to disseminate park congestion conditions as well as supporting visitor safety were cited as reasons to support improved cellular service in Mount Desert Island. It was also noted that adequate cell phone coverage should be in place for increased taxi and on-demand ride services to be supported. One commenter suggested using cell towers mounted on trailers that could be installed in the park seasonally.

NPS Response: The National Park Service will look at expanding cellular connectivity in a way that is strategic and compatible with the landscape, fundamental values of the park, and operational needs.

Enforcement

Reservation System Enforcement Concerns. Commenters cautioned that creation of a reservation system will confuse visitors and lead to negative interactions with park staff. These commenters noted that there is already poor enforcement of existing parking rules and little enforcement of compliance with park-pass requirements. Some commenters felt that the National Park Service should take more action enforcing current regulations, including more ticketing and towing, before enacting a plan. Many vehicles in the park currently do not have a pass, and buses idle in violation of the rules to protect air quality. If the park enforced the entry-pass requirements and other regulations, traffic and parking issues would be solved.

NPS Response: The analysis in the “Visitor Experience Quality” section for the “Alternative A: No Action” subsection in “Chapter 4: Environmental Consequences” acknowledges that current “parking that is not actively and directly managed often leads to sites that are

overcrowded, diminishing the quality of the experience.” Similarly, the impact to visitor experience for implementing a reservation system is discussed in the “Actions Common to All Action Alternatives” section. There may be a period of adjustment to any new reservation system, but the plan includes enhanced visitor information and orientation to help prevent confusion (see the “Visitor Information, Orientation, Enforcement, and Safety” subsection in the “Actions Common to All Action Alternatives” section of “Chapter 2: Alternatives”).

Speed Limits. Commenters suggested strategies to reduce vehicle speeds including use of permanent rumble strips to slow traffic, particularly where trails from town meet with Park Loop Road. In some locations, commenters felt that the National Park Service should consider speed limit reductions. Specific locations noted include near Acadia Mountain parking and Route 102.

NPS Response: The installation of permanent traffic-calming infrastructure on Park Loop Road would damage the historic road's character, but is not precluded by any decisions of this plan. The park does enforce speeding regulations to the best of its ability with a limited staff. The National Park Service does not set speed limits on state highways; those designations are the responsibility of the town and Maine Department of Transportation.

SUGGESTIONS AND PREFERENCES FOR NEW ALTERNATIVES AND STRATEGIES

Queuing on Cadillac Mountain. Some commenters suggested the park should use a one-in, one-out queuing method for parking at Cadillac Mountain, rather than reservations. Such queuing systems should also be considered for other sites including Jordan Pond House and lots not on Park Loop Road, such as Echo Lake.

NPS Response: Queuing as a method for managing congestion and overparking was considered during the planning process, but was ultimately dismissed because it would result in traffic backups outside of lots and on Park Loop Road. See table 4 in chapter 2 for an option that was considered but dismissed for traffic management via queuing.

Hand-Carried Watercraft Access to Boat Trailer Spaces. Commenters thought that the National Park Service should allow vehicles with hand-carried watercraft, such as canoes and kayaks, to park in designated spaces near the boat launches at the Jordan Pond North Parking Lot and the parking lot at the north end of Eagle Lake. Commenters noted that a significant portion of boat use at both Jordan Pond and Eagle Lake is by hand-carried craft (canoes or kayaks) and these users have a physical limitation on how far they can carry their crafts.

NPS Response: The National Park Service understands the challenge of transporting a hand-carried craft long distances and the desire for these users to be allocated spaces within the boat trailer parking area. However unlike trailered boats, the vehicles transporting hand carried watercraft are able to fit within a standard parking space. The National Park Service recommends these users at Jordan Pond follow the same procedures as users of trailered boats, and drop off their watercraft at the water/launch and then go park their vehicle in a standard-sized parking space. Alternative C in chapter 2 of the final environmental impact statement has been modified to clarify that hand-carried watercraft may use the boat launch parking lot on the north side of Eagle Lake.

Expand Vistas. Commenters suggested the National Park Service should remove trees and vegetation along Lower Mountain Road to clear larger vistas of Jordan Pond for tour bus passengers. Doing so wouldn't require tour bus operators to slow down as much as they do now to view narrow vistas and would improve traffic flow on Lower Mountain Road.

NPS Response: The National Park Service manages vistas in the park in accordance with the 2016 "Vista Management Plan for the Historic Motor Road System." These vistas were intentionally created by the park's original designers to highlight specific views and are an important part of the park's cultural landscape, which is one of Acadia's fundamental resources. Making significant alternations to these vistas is outside of the scope of this plan.

Close Lower Mountain Road. Some commenters thought the National Park Service should close the southern end of Lower Mountain Road past the overlook parking lot. Allowing bikes, pedestrians, and shuttles only on the closed section would allow better use of the overlook parking lot.

NPS Response: The National Park Service appreciates this suggestion to improve safety and the visitor experiences for cyclists and pedestrians; however, permanently closing a portion of Park Loop Road would likely cause greater congestion and crowding in other areas of Park Loop Road and therefore would not meet the purpose and need of the plan. It would also require significant modifications to historic portions of the roadway in order to accommodate turning around where Park Loop Road would dead end.

Changes to Alternative D. Commenters felt the National Park Service should modify alternative D to reroute Park Loop Road between Stanley Brook Road and Wildwood Stables onto a gravel roadway paralleling Park Loop Road. Doing so would mitigate the need for a separate parking reservation at Jordan Pond in this alternative. Commenters also suggested that alternative D should be modified so that the road from Hulls Cove Visitor Center to the SR 233/Eagle Lake Road entrance would be two way rather than one way in a southbound direction as is currently stated. Routing Island Explorer buses back through Bar Harbor town streets would be too slow and expensive.

NPS Response: Alternative D takes the use of the gravel service road into account in the potential design of this option. If this alternative were chosen, the design team could take into account ideas like this when developing a site-specific design.

Close Great Head Road. Some commenters thought the National Park Service should close the Great Head Road and use it as a pedestrian and bicycle route accessing the Great Head trail system and Sand Beach.

NPS Response: The National Park Service has revised the preferred alternative in chapter 2 of the final environmental impact statement to incorporate this suggestion.

Autonomous Vehicles. Commenters suggested that the National Park Service should consider the role of autonomous taxi vehicles as a means to replace all private vehicles in the park.

NPS Response: The National Park Service believes that emerging technologies such as autonomous vehicles will play an important role in the park's transportation system in the future. The plan's encouragement of related transportation trends, such as on-demand rideshare services, is consistent with this broader trend. As new technologies such as autonomous vehicles become increasingly prevalent, the National Park Service will evaluate

their potential use in the transportation system in a way that is protective of visitor safety as well as the parks fundamental resources and values.

Motorcycle and Scooter Parking. Some commenters suggested the National Park Service should allow motorcycle or scooter parking areas with less restrictive parking reservation requirements. Other commenters were opposed to scooters and electric bikes, noting they've been detrimental to the character of other places where they are allowed.

NPS Response: The park does not have designated parking spaces for motorcycles (and there is not currently the demand for this type of parking to justify allocating parking spaces for just this use). Therefore, this plan does not have a separate parking reservation system for these types of vehicles. Scooters and electric bike access will continue to be regulated by the Superintendent's Compendium to determine where and when this use is appropriate.

Remove the Causeway. Commenters suggested the National Park Service should remove the causeway over Otter Cove and use a ferry instead.

NPS Response: The Otter Cove Causeway is part of the historic Loop Road and also, therefore, an integral part of the driving experience on the historic roadway. Removing it would not meet the need for the plan to preserve the historic roadway and experience. Additionally the only technically feasible way to transport the volume of vehicles passing through this section of the park loop is via the existing bridge.

Meter Park Entry. Commenters thought the National Park Service should meter entry into the park by allowing vehicles with even-numbered license plates in on even days and odd-numbered license plates on odd days.

NPS Response: The NPS believes that this strategy would not go far enough to managing the total vehicle demand on the roads and parking lots during peak times of day and season; therefore, the alternatives consider more active management techniques that have associated maximum use levels defined to ensure the protection of desired conditions.

Establish Visitation Cap. Some commenters noted that the National Park Service should manage congestion by limiting the total number of park passes sold each year, giving local residents priority in purchasing such passes.

NPS Response: The park has a need to more actively manage when visitors access certain locations to address crowding and congestion (see "Chapter 3: Affected Environment" section on "Visitor Use and Experience"). Visitation caps that are managed annually would not impact visitation peaks during high use times of day and high use seasons.

Parking Meters. Commenters suggested the National Park Service should install parking meters or parking time-limit signs at parking lots to force turnover of spaces and keep costs down for visitors.

NPS Response: One of the goals of the reservation system is that it allows visitors to better plan their trips in advance of their arrival in the park (in a way that metered access does not). The National Park Service believes that the ability for visitors to plan their trip is a value that should be promoted. Additionally, the reservation systems allow visitors to change the time of day or day of season for their trip strategically, which has the additional benefit of reducing roadway congestion.

Incremental Implementation. Some commenters thought the National Park Service should incrementally implement the reservation system in order to apply lessons learned from initial lots to subsequent lots or corridors.

NPS Response: The National Park Service may add additional lots or corridors to the reservation system if monitoring of these lots shows the need for this strategy. For more information, see the indicators in appendix A.

Partial First-Come First-Serve Parking Lots. Commenters suggested the National Park Service should consider only putting a certain percentage (i.e., 50%) of the parking lots in each lot on the reservation system, rather than the entire lot.

NPS Response: Part of the role of the reservation system is to help visitors trip plan and to manage expectations for parking availability during peak use times of day and year. If portions of lots were left off the reservation system, it is very unlikely that vehicle demand would be reduced and therefore adverse conditions on roadways and in parking lots would persist (similar to the no-action alternative). Therefore this strategy (of partial lot management) does not meet the purpose and need of the plan.

Rely on Improved Trip Planning Resources. Commenters suggested the park should consider a real-time parking information system that allows visitors to know which lots are full and which are not before they enter Park Loop Road. This would be implemented instead of a reservation system to manage parking at the busiest locations in the park.

NPS Response: While real-time parking information would help visitors plan their visit the day of, it would not help visitors plan their visit further in advance. Parking or timed-entry reservations that are available by advanced reservation serve a dual purpose by managing vehicle volume and also serving as a part of a larger trip-planning toolbox to distribute use throughout the summer season. The goal of the reservation system is to have information about the number of reservations open available on a real-time basis for visitors who want to spontaneously purchase and then visit those areas of the park.

Close Access. Commenters suggested the park should manage entry more simply, similar to Baxter State Park, and should just close when full.

NPS Response: This alternative has been added to the plan's description of "Alternatives Considered but Dismissed." Please see chapter 2 for a description and rationale for dismissal.

Build Additional Recreation Facilities. Some commenters thought the National Park Service should develop more visitor infrastructure such as hiking and mountain biking trails. Specific locations suggested included Bernard Mountain and Seal Cove Pond, as well as developing Thompson Island as a hiking and sunset viewing area.

NPS Response: Development of additional trails is outside the scope of this plan.

Commercial Services

Support for Reducing or Removing Commercial Vehicles in the Park. Commenters generally supported managing the number of oversize commercial buses in and around the park, or eliminating them from the park entirely. Among the reasons cited for these included safety,

parking logistics, traffic, noise, pollution, impact on viewsheds, and generally the need to alleviate existing conditions. There was a suggestion to implement vehicle size limits without limiting the vehicle passenger capacity and creating a threshold for the number of oversize tour buses that can enter the park at one time per day. Increasing the capacity of Island Explorer was preferred over increasing commercial traffic.

NPS Response: The National Park Service appreciates the strong support for increasing safety in the park by restricting access to Park Loop Road to only vehicles that fit within the historic road geometry. As full-size motor coaches often dwarf the roadway and obscure views, smaller-sized vehicles will also be more consistent visually with the historic character of the roadway. The final environmental impact statement has been modified to extend these size restrictions to the entire Park Loop Road. Please refer to the "Vehicle Size Requirements" subsection under the "Actions Common to All Action Alternatives" section in chapter 2 for further details.

Support for Identifying Commercial Vehicle Capacities. Multiple commenters suggested that the National Park Service should consider creating a threshold for the maximum number of oversize commercial vehicles that enter the park at one time on any given day and indicate these in the final plan. Particular areas mentioned as needing more active park management of commercial tours and buses included Park Loop Road and Cadillac Summit Road. Commenters also wanted additional detail on how commercial vehicles would be managed in the reservation system relative to limits on their use. It was further suggested that if demand for CUA reservations exceeds capacity, that a lottery system is implemented similar to the one used at Arches National Park and work with an outside consultant to manage these reservations as it is being done in Muir Woods National Monument. Others suggested that there should be no limit on the number of commercial operators.

NPS Response: Indicators and visitor capacities including the number of visitors arriving via commercial tour providers are described in appendix A and are considered a part of the alternatives. Traffic and resource conditions would be monitored throughout the park after the reservation system is implemented using these indicators to inform any necessary adjustments needed to maintain desired conditions of the transportation system, fundamental resources and values, or other desired conditions of the park.

Support for Not Limiting Commercial Vehicle Access to the Park. A comment submitted asked that the National Park Service not reduce or limit access for commercial vehicle access to the park.

NPS Response: Use of oversize vehicles outside Park Loop Road would continue. Based on public feedback and to simplify management and enforcement of the restrictions, as well as simplify understanding of the regulations for commercial operators, only vehicles that fit within the historic road geometry will be allowed on Park Loop Road.

New Destinations for Smaller Commercial Vehicles. One commenter requested more details in the final plan on the areas envisioned for greater access to smaller commercial vehicles. These include more details on locations and the size of vehicles that would be allowed at these new locations. There was also a request to collaborate with the cruise industry to broaden access to areas of the park previously not accessible by oversize commercial vehicles.

***NPS Response:** Road-based commercial tour operators are an important component of the overall transportation system for Acadia National Park. While some of the more detailed aspects of providing safe and efficient transportation and a variety of high-quality experiences to visitors to Acadia National Park have not been identified, the environmental impact statement identified the comprehensive approach and its impact on the environment such as historic roads, visitor experience, and socioeconomics. The operation details will be the subject of further refinement during design and implementation. The National Park Service will engage with commercial operators and neighboring communities in the implementation of this plan and looks forward to improving park access while enhancing cultural and natural resource protections.*

Feasibility of Smaller Buses. Commenters voiced concern that transportation companies using smaller buses would not have another market where small buses could be used. This would potentially limit the financial viability of a business recapitalizing a bus fleet with smaller buses.

***NPS Response:** The National Park Service understands that requiring oversize vehicles to fit within the historic road geometry of Park Loop Road will change current operating conditions for road-based tour operators. With 3.5 million annual park visitors and increased demand for road-based tours under the reservation system, the National Park Service expects this will provide enough financial incentive for several commercial operators to justify capitalizing such a fleet of smaller transit vehicles.*

Support for Removing Gift Shops and the Restaurant. Commenters suggested that the park should close the gift shops at Cadillac Mountain and Thunder Hole as well as the restaurant and gift shop at Jordan Pond House and use the buildings as satellite visitor contact stations/covered bus stop/restroom facilities. Some commenters noted that the services provided at these locations are neither necessary nor appropriate. Multiple commenters suggested that these services be terminated once the current concession contract expires in 2023. Commenters noted these sites are already popular with visitors and that services offered at these locations contribute to extended visitor stays and crowding. Some commenters suggested relocating these services to the proposed new visitor center in Halls Cove to reduce visitor length of stay in those popular sites. Commenters noted the lack of need to have gift shops and restaurants in the park due to their availability in the surrounding towns, and that Jordan Pond House Restaurant does not provide a traditional dining experience and those facilities are detracting from the historic landscape in that area. Finally, there was a suggestion to close all concession services in the park other than horse stables at Wildwood, once the contracts expire.

***NPS Response:** The role of the Jordan Pond House restaurant and gifts shops in the park was evaluated in the 2000 Acadia National Park Commercial Services Plan. The management of these commercial services is outside the scope of this transportation plan.*

Commercial Transit to Supplement Island Explorer. A commenter suggested the National Park Service allow additional concession contracts for shuttles to move people around the park. The suggested service would be transportation only, without interpretive services, that would supplement the Island Express shuttle service.

***NPS Response:** Commercial visitor services, including the possibility of adding new contracts, are included in all four alternatives under the heading “Commercial Visitor Services.”*

Safety Concerns. Commenters noted that having a vehicle on site is necessary for climbing businesses as it can help during emergencies and can help adjust climbing plans to match client abilities, weather, and other climbing activities.

NPS Response: The National Park Service will continue discussions with all concerned parties including recreation.gov to determine the best method to work with commercial operators.

Reservations for Bus Tours. Commenters suggested that reservations for bus tours that serve popular destinations in the park be required.

NPS Response: Under all action alternatives, the number of oversize commercial services allowed at key locations of the park will be actively managed through requirements established in their operating conditions. The National Park Service will monitor commercial use according to the indicators and thresholds described in appendix A, which may include a reservation system for bus tours if needed to manage parking demand at popular destinations in the park.

Taxi and On-Demand Rider Services. Commenters noted that if the park does not require reservations for taxis and cars for hire, and these vehicles transport the same number of passengers as a private vehicle, then there would not be any fewer vehicles entering the park and the visitor experience would not be improved. Commenters also noted that these vehicles should be subject to the same CUA requirements as other commercial vehicles in the park.

NPS Response: The park will be monitoring the conditions of parking lots and roadways, as well as key visitor areas, to ensure that desired conditions are maintained. Should visitor access volumes or access patterns change (as a result of increased taxi use, cycle access, or other causes), actions will be taken to ensure that conditions remain within their desired state (and below thresholds, as established in appendix A).

All commercial use of the park (including taxi service) is subject to needing concession contracts and/or commercial use authorizations to operate.

Enforcement and Education. A commenter suggested educating those holding commercial driver's licenses on park rules, and enforcing park rules if broken. There was also a request to limit the number of random document checks that CUA holders are subjected to, especially on Cadillac Mountain, due to the delays these document checks cause to the operators running on tight schedules.

NPS Response: Enforcement and education is described in actions related to all alternatives in chapter 2.

Shuttle Options. Commenters made a suggestion to allow custom in-town pickups at Bar Harbor hotels by concessioners to avoid having them travel off the island to the Gateway Center. A commenter questioned the efficiency of shuttling visitors from the Bar Harbor pier to Trenton Gateway Center to the Island Explorer back to the park.

NPS Response: Island Explorer service between park destinations and neighboring village centers would continue and would be expanded as needed. Commercial visitor services would continue to be authorized through concession contracts and/or commercial use authorizations under all of the action alternatives. Operations of commercial services

outside the park boundary are up to the discretion of commercial operators. The National Park Service will continue to work with the commercial operators to provide opportunities for visitor use and enjoyment while ensuring desired conditions are maintained.

Tour Bus Access to the Right Lane. Commenters made a suggestion to allow tour buses to stop for 1 or 2 minutes in the right lane of Park Loop Road to allow tour passengers to see interesting sights along the way.

NPS Response: To meet the goals of the plan related to congestion reduction and improved safety, the right lane will be maintained as a travel lane. Allowing any vehicles to park in this travel lane disrupts the flow of traffic and increases risks to those traveling along the roadway. Therefore, right-lane parking will be phased out for all vehicle types (see chapter 2).

Additional Details about Concession Contracts. Commenters requested additional details be provided about the potential concession contracts for commercial tour vehicles. Specifically, commenters were interested in the operating plans for concession buses, management of the volume and timing of buses, how it relates to the fee structure, and specific regulations for tours.

NPS Response: Helpful information for concessioners regarding rate administration, standards and evaluations, and operations issues can be found at <https://www.nps.gov/subjects/concessions/index.htm>. This planning effort does not propose changes to commercial services fee structure. The volume of visitors arriving via commercial tour providers will be informed by the indicators, thresholds, and visitor capacity described in appendix A. Furthermore, the number of oversize commercial vehicles allowed at key park locations will be actively managed through requirements in the operating plans for concessioners. Traffic and resource conditions would be monitored throughout the park after the reservation system is implemented using these indicators to inform any necessary adjustments needed to maintain desired conditions of the transportation system, fundamental resources and values, or other desired conditions of the park.

Concessions Contracting Process. A commenter recommended changing the concessions contracting process so the surrounding communities have more of a say in the process and outcome. Specifically, local investment, knowledge and experience should be prioritized, and the community should be able to provide input through the development of a concessions contract prospectus. Furthermore, more transparency was requested throughout the concessions process including allowing the community to weigh in on business proposals and opening the process to community feedback.

NPS Response: The process for the National Park Service to solicit proposals for concessions contracts is defined in 36 Code of Federal Regulations (CFR) Part 51. These regulations set out what the National Park Service must include in a prospectus and the information the National Park Service solicits. The regulations also describe how the National Park Service assigns scores to the various selection factors and requires the director to select the proposal with the highest score. The National Park Service developed a confidential evaluation and selection process that protects both the integrity of the process and the confidentiality of information submitted by offerors. All members of the evaluation panel must sign non-conflict and confidentiality statements. Only federal employees vote on the scoring, but non-federal experts can provide technical expertise and advice. The National Park Service seeks information on the ability of offerors to provide the services

required under a concessions contract in conditions similar to what they will experience operating at a specific park. Except for operations in some parks in Alaska, the National Park Service has no authority to prefer local companies for concessions contracts; however, the evaluation panel likely would consider local knowledge and experience favorably.

Coordination on Implementation. Commenters requested confirmation that there will be a transition period to allow companies to acquire smaller buses. Commenters suggested that vehicle size restrictions be implemented no earlier than 24 months or over a number of years from when a final plan is approved. Commenters noted that 2019 would be too soon to implement vehicle size restrictions. There was also a request for consistent and reliable business rules with the implementation of the plan as it will require significant investment from current operations. Finally, there was a request to consult with the cruise industry and commercial vehicle contractors prior to the release of the final plan to further discuss the implementation of the plan.

NPS Response: Road-based commercial tour operators are an important component of the overall transportation system for Acadia National Park, providing point-to-point transportation service and reducing vehicle trips. The National Park Service will continue the discussion with tour operators on plan implementation. By engaging with commercial operators, the National Park Service intends to achieve and maintain desired conditions for resources and visitor experience while considering the experience and input of these operators.

Reservation Systems

When an individual expressed support or opposition for reservation systems in the park, there was more support than opposition to the concept of implementing these systems in the park. Visitors were more in support of proposals to have reservations that allow for spontaneous departure (with no fixed duration of stay) than those proposals that have fixed duration of stay and exit time.

General

Parking Turnover. Commenters wondered if reservations are implemented, will visitors park in the morning and hold the spaces all day. This means that fewer visitors will be able to see the park.

NPS Response: Prior to this planning effort, the National Park Service collected data on average duration of stay at key destinations in the park and assumes length of stays would remain the same. The reservation system will be flexible and dynamic in order to meet actual conditions observed once implementation starts.

Reservation System Design Characteristics. Commenters had many suggestions for design characteristics of a reservation system. These suggestions included both online and telephone-based reservations, the ability to purchase in person at multiple locations (Gateway Center, kiosks in towns, etc.), and the development of a mobile device application that would show available reservations and allow for purchasing.

NPS Response: The National Park Service appreciates the design suggestions for the reservation system. These will all be considered during implementation.

Bulk Purchase and Re-Sales. Commenters expressed concern that some individuals, groups, or businesses may purchase big blocks of reservations to ensure that they have access to the park during their stay on multiple days, but then only use 1 or 2 of the days, thereby leaving portions of lots or corridors under-used. Commenters were also concerned about the potential for individuals to purchase reservations with the expressed intent of reselling them for a higher price (also known as “ticket scalping”). Some suggested that prices should be sufficiently high to de-incentivize this behavior. There was also concern with allowing tour operators to have greater access to the park than the public and suggestion to maintain the first-come, first-served system.

NPS Response: The National Park Service recognizes the concern for reservations being purchased in bulk. During implementation, the National Park Service will work with the parking reservation sales system to ensure that the reservations for parking reservations are provided equitably and fairly to all citizens. Scalping will be prohibited. Details on the maximum number of reservations purchasable will be established during implementation.

Short-Term Reservation Purchase. Many commenters affirmed the need to have a portion of reservations set aside for short-term purchase. Most commenters on this topic suggested that the short-term passes be available 48 hours in advance; some suggested up to a week in advance, and others suggested short-term passes are held until a few hours in advance. Commenters expressed a desire for the plan to be more explicit about the intervals when reservations would be available. Other commenters, suggested the National Park Service should consider allowing additional temporary, spontaneous vehicles into areas without a reservation if the reservations are undersold for that day or time or if monitoring of traffic volumes shows that a lot or area is unlikely to fill.

NPS Response: Upon initial implementation, the park service anticipates roughly half of parking reservations becoming available for reservation approximately 4 months in advance, with the other half of reservations available 48 hours in advance. All unsold reservations would be available on a first-come, first-served basis. This provides a balance to allow for advance planning while also preserving the option for spontaneity.

Vehicle Re-Entry. Commenters expressed that the plan should provide greater clarity on whether or not vehicles would be allowed to “re-enter” after their initial entry period if they depart the corridor or system.

NPS Response: Once vehicles depart the corridor or system, they would not be allowed to re-enter without a new reservation.

Reservation Verification and Queueing. Commenters expressed concerns about queueing at entrance stations resulting from passes or reservations needing to be checked or from visitors needing to be turned around due to lack of having an appropriate entry pass. Relatedly, commenters expressed concerns about these queues delaying tour or transit (Island Explorer) services. Some expressed the need for some kind of bypass lane for buses and for more entrance stations than currently exist.

NPS Response: The timed-entry reservation system is designed to spread use throughout the day. This will reduce at-one-time demand on entrance gates. During implementation the park managers will evaluate the best way to allocate use at the entrance gates near Sand

Beach to best optimize access to this corridor for private vehicle access, commercial tour access, and Island Explorer service.

Reservation System Enforcement. Some commenters expressed concern about how the reservations will be enforced. This includes issues of visitors overstaying their reservation window (in a fixed duration of stay alternative), visitors who are parked in the lot before the reservation time starts for the day, and visitors who show up without a reservation.

NPS Response: In alternative B, where there is a fixed duration of stay, rangers will have to enforce parking permits (similar to parking meter enforcement). In other alternatives (C and D), there is no fixed duration of stay, therefore no need to enforce the time visitors spend in a lot. Visitors who park in the lot before the reservation times start will not be required to vacate the lot during initial implementation (the impacts of this are discussed in the "Visitor Experience Quality" section of "Chapter 4: Environmental Consequences"). However, if this "before reservation time" use begins to displace visitors with reservations, the times where reservations are required may need to be adjusted.

Annual Pass Holders. Commenters requested that the park clarify how the park annual pass is related to the reservation system.

NPS Response: All parking reservations will need to have a park entrance pass (annual or otherwise) to validate the parking reservation.

Financial Feasibility. Commenters expressed concern over the operational and financial burden of implementing a reservation system. These commenters expressed that the operational and financial constraints make these proposals unrealistic to implement as a long-term and sustainable solution for the park.

NPS Response: There is cost associated with this system and these costs were considered in both the selection of the alternatives as well as the selection of the preferred alternative. The goal is to price the parking permit reservations such that the reservations generate enough revenue to cover cost of implementing, enforcing, and maintaining the system.

Timing

Seasonal Timing. Commenters expressed that the season where reservations would be required (under any alternative configuration) should be shortened to just the busiest seasons of the year. All commenters on this topic agreed that the season should include July and August, most agreed that June should also be included. Commenters expressed a range of potential seasonal start and end dates that ranged from early as mid-May to as late as Columbus Day. Some commenters expressed that the reservations season could start or end earlier than the major holidays (Memorial Day, Labor Day, Columbus Day), but that reservations could still be used as a tool for those weekends specifically.

NPS Response: Based on comments received during the public comment period, the final environmental impact statement has been amended to include a shorter season under which the parking reservation system would be in place. During initial implementation of the system, it will be in place from the second Friday in June (targeting for June 12th, 2020) and will end the Sunday after Columbus Day weekend. As the intent of the plan is to have Island Explorer service running parallel with the parking reservation system, these dates are

contingent on Island Explorer service beginning 1 week sooner and running 2 weeks later than its current season of operation.

The NPS did consider beginning the parking reservation system to include Memorial Day weekend, however, an analysis of forecasted supply and current (2017) demand profiles showed that at this time there was a greater need to actively manage use into October than in early June, and for the initial years of implementation it would not be practical to expand Island Explorer service on both sides of the season. However, the park will continue to monitor visitor arrival patterns to the managed corridors of the park, and may amend the season for the parking reservation system if demand for use during unregulated weeks requires more active management to maintain desired conditions of these areas of the park.

For additional information on this decision please see the “Actions Common to All Action Alternatives” section in chapter 2 and the “Visitor Access” section in chapter 4.

Daily Timing. Commenters were mostly in support of the time of day for reservations on Cadillac be retained (for before sunrise to after sunset). However, commenters expressed that other areas (Ocean Drive, Jordan Pond House, etc.) should have later starts and early end times than the system for Cadillac Summit. Commenters suggested that reservations could start as early as 8:00 a.m. or as late as 11:00 a.m. and should end as early as 5:00 p.m. or as late as 6:00 p.m. or 8:00 p.m. Other commenters suggested that the reservations should only be needed on weekends.

NPS Response: Based on comments received during the public comment period, the final environmental impact statement has been amended to include a shorter time of day under which the parking reservation system would be in place. During initial implementation of the system, parking reservations will be required to access managed areas (depending on the alternative) from 7:00 a.m. to 5:00 p.m. for Ocean Drive and the Jordan Pond House lots. These amended times will allow for more opportunity for spontaneous arrivals during the morning and evening hours to managed lots or corridors. No change is being made to the timing for the Cadillac Summit Lots due to current high volumes of arrivals starting an hour or more before sunrise and concluding at sunset.

The park will continue to monitor visitor arrival patterns to the managed corridors of the park, and may amend the timing of the parking reservation system if demand for use during unregulated times of day require more active management to maintain desired conditions of these areas of the park.

For additional information on this decision please see the “Actions Common to All Action Alternatives” section in chapter 2 and the “Visitor Access” section in chapter 4.

Reservation Entry Window. Commenters suggested that the National Park Service consider having a 3- to 4-hour window for the timed entry to increase visitor flexibility. Others suggested that smaller time slots for entry (as small as 45-minute increments) would better spread out the arrivals to an area or lot.

NPS Response: The timed-entry windows will be developed during implementation and may change in accordance with the flexible management framework depending on how best to optimize the system to maximize access opportunities without compromising desired conditions.

Locations

Cadillac Summit Road. Commenters noted that the plan doesn't make it clear as to whether or not the proposed Cadillac Mountain Road reservations will apply to parking only or all access.

NPS Response: The proposed Cadillac Mountain Road reservations will apply to all road-based vehicle access to Cadillac (see chapter 2).

Jordan Pond Parking Lots. Commenters requested that both lots at the Jordan Pond House should be subject to the reservation system, or reservations at Jordan Pond House should be linked to restaurant reservations.

NPS Response: Per the preferred alternative, the Jordan Pond House lot would be managed by the National Park Service and the south lot would be managed by the concessioner (per the terms of their agreement). How the concessioner decides to manage this lot is not within the decision space of this plan.

Extent of Ocean Drive Corridor. Commenters noted that by making Otter Cliff Road exit only, the extent of the Ocean Drive Corridor reservation system is longer than it appears on the maps. Functionally, this makes the managed corridor extend all the way to Wildwood Stables. Commenters noted that this alternative should allow some entry at/near Fabbri to provide access to the section of Park Loop Road between Otter Cliffs and Wildwoods Stable.

NPS Response: The agency preferred alternative (alternative C) has been updated in the final environmental impact statement to amend the timed-entry corridor to begin at the Ocean Drive entrance station and end after the Gorham Mountain parking lot. Otter Cliff Road will therefore remain open as a two-way road during initial implementation of the plan (see chapter 2). This change will maximize visitor opportunities for this portion of Park Loop Road by providing spontaneous access to the scenic driving and trailhead opportunities along this segment (see chapter 4). If monitoring of this roadway segment and associated lots starts to depart from desired conditions for these resources (see appendix A), the National Park Service may consider making Otter Cliff Road exit only, and extending the segment of road included in the timed-entry system to manage this segment of roadway and its associated lots.

Support for Expanding the Reservation System. Some commenters suggested that more areas should be managed under alternatives B and C, including the Bubbles Lot and Echo Lake.

NPS Response: There are other areas of the park that are very popular destinations with full parking lots during busy days. However, the National Park Service is choosing to focus primarily on implementing a parking reservation system for the busiest lots along the busiest corridors in the park. The National Park Service will continue to monitor parking in other locations (like the Bubbles and Echo Lake) to assess the need for a future parking reservation system in those locations (see indicators and thresholds in appendix A).

Allocation

Support and Objection to Local Accommodation. Many commenters submitted comments both in favor, and opposed to the National Park Service providing special exemptions to the reservation system for local users. Many commenters believed that a reservation system should have some accommodation for locals. They identified the implementation of a “local pass” or

annual “Acadia pass” that would allow access without reservations; or offer a local pass that could be obtained for immediate access. Some commenters expressed that the reservation system should not apply to locals at all. Others believed that if a reservation system is applied to locals, that allowances could be made for them such as discounted passes, unlimited pass-through (drive-through) access with a special pass available only to locals, specific number of spaces or lots designated for local users only, unlimited hours for locals during off-peak hours, and access to roads closed to other visitors. Some commenters suggested ways these passes could be targeted to locals or frequent visitors, including selling them in the off-season or requiring documentation showing proof of residency.

Some commenters stated that no priority should be given to local residents. These commenters expressed that this is a national park and that no class of individuals or residency status should allow preference for access. These commenters also expressed that while change may be difficult, a reservation system is likely the best option to address the pressing need to reduce vehicular impact on the park.

It is important to note that across the range of comments, “local” was defined as people living near the park boundary, people who pay taxes or are residents in the four Mount Desert Island towns, Bar Harbor residents, people who have residency on Mount Desert Island, people who own property on Mount Desert Island, state of Maine residents, residents of Hancock County, and residents of states with a national park in them.

NPS Response: Actions in this plan provide for the majority of the park’s parking areas to be accessible without a parking reservation (i.e., areas accessed from state highways or other areas that will not initially require reservations). Those areas subject to parking reservations (see chapter 2 for these areas by alternative) may continue to be accessed via the free Island Explorer system, bicycling, and walking/hiking. With regard to fees and seasonal parking reservations, the NPS Recreation Fee Reference Manual (RM22A: Recreation Fee Collection) states fees will be collected “fairly and equitably.” For these reasons, the National Park Service believes that the best way to provide fair and equitable access to Acadia National Park, is to provide all potential visitors with the same opportunities for access.

Limits to “Non-Local” Vehicles. Commenters suggested that the National Park Service should limit the amount of nonresident vehicles and people allowed onto Mount Desert Island. Commenters also suggested that the National Park Service construct an additional access point and bridge onto Mount Desert Island to help alleviate regional traffic issues and provide an additional route if an evacuation were necessary.

NPS Response: The National Park Service does not have jurisdiction to take actions such as these on lands not managed by the agency.

Reservation Set Asides. Commenters expressed that specific allocations for access be set aside for a variety of user groups or uses. These include volunteers working in the park, locals, American Indian communities, seniors, visitors needing to use blue parking spaces, visitors who have a national park in their home state, American citizens, CUA holders, emergency vehicles, and frequent visitors.

NPS Response: The timed-entry system (as currently designed and envisioned) sufficiently accounts for administrative (park employees and volunteers on official duty, and emergency vehicles) parking needs. For the plan and environmental analysis, no other allocations are

made for private vehicle spaces for specific user groups or access types as those levels of use are so low, that accounting for those types of accommodations wouldn't noticeably change the analysis presented in this document. As the park begins implementation of this plan, the National Park Service will continue discussions with CUA holders and the operator of the parking reservation system to determine the optimal means of providing fair and equitable access to Acadia National Park resources for all users and visitors in a way that is practical for commercial operators. This could include potentially disseminating reservations for CUA holders through a separate, but similar, reservation system.

Flexibility

Weather Concerns. Commenters expressed concerns that if they have a reservation on a day that the weather turns out to be less than ideal (i.e., rainy or cloudy) that there would be a limited possibility to change to another day during their trip. Commenters were also concerned that they could not adjust their planned destinations based on last-minute changes in desired activities. Also, commercial operators who rely on clients to use their personal vehicles (for convenience and safety reasons) would have to plan their intended destination earlier than is their current practice and without knowledge of the weather for that specific day.

NPS Response: This is an acknowledged adverse impact of these systems. Please see the "Visitor Experience" section of chapter 4 for a discussion of these trade-offs to the visitor experience with regard to reservation flexibility. Visitors who have adverse weather on the day of their planned visit are encouraged to check the parking reservation inventory for day-before or day-of reservations for parking in reservable areas.

Limits to Spontaneous Visitation. Commenters expressed that reservation systems limit the ability for visitors to participate in spontaneous travel or trip planning decisions and will complicate the trip planning process. The ability to participate in spontaneous travel was especially important for those visitors who live near the park.

NPS Response: For those visitors who cannot or chose not to make decisions about where and when to visit areas subject to parking reservations in advance, they will be encouraged to seek a parking reservation during the short-term purchase window. Reservations that go unsold during either sales window will remain available for purchase up until the time of entry for that reservation (for those who have the opportunity to make spontaneous arrival decisions). See the "Actions Common to All Action Alternatives" section in chapter 2.

Proximity to Island Explorer Stops. Commenters noted that visitors who live or are staying farther from Island Explorer stops will have difficulty adapting their trips away from private vehicles and onto Island Explorer shuttles in the absence of being able to acquire a private vehicle reservation.

NPS Response: For those who cannot leave their vehicle at overnight lodging to access Island Explorer, expanded parking will be available at Hulls Cove and Acadia Gateway Center to facilitate transfers to transit service.

Predicting Turnover Rates. Commenters expressed concern that with a flexible system that allows for spontaneous departure, there is limited ability to predict how long a vehicle will stay, and this will limit the ability of the National Park Service to guarantee that visitors will have a parking spot when they show up with their reservation.

***NPS Response:** The parking reservation system models that were developed to analyze the impacts and benefits of a timed-entry parking reservation system for those areas proposed in the plan use length-of-stay factors that are unique to each area and are based on multiple years of social science research in the park and studies in Acadia National Park's parking lot efficiencies. The system is designed to be adaptive, so if monitoring parking lot use and turnover shows that reservation sales should be increased or decreased to protect and maintain the desired conditions of the lot, the park will make the necessary adjustments.*

Fees

Refunds. Commenters requested additional details on whether reservations would be refundable if cancelled.

***NPS Response:** This is an operational consideration of the plan that will be considered in system implementation if feasible with the reservation sales vendor.*

Cost of Reservations. Commenters expressed some concern that having to purchase a reservation on top of purchasing a park entrance fee could displace some visitors or dramatically increase the cost for those visitors who still choose to come. Additionally, there was concern that the cost of reservations for those who visit the park frequently (visitors living near the park and others) would add up to a substantial cost over the year (when compared to the ability to purchase an unlimited entry park pass currently). Some commenters expressed having discounts on reservations available for frequent visitors or exempting some visitors from the fees (locals, visitors with small children, senior pass holders, Acadia pass holders, etc.). Commenters recommended that fees be kept as low as possible to administer the system to ensure fair access to the broadest range of visitors. Some commenters expressed that while they were in support of getting a reservation, they thought the reservations should be free since visitors already pay a park entry fee and additional fees would be overly burdensome.

***NPS Response:** The National Park Service appreciates the desire for frequent visitors to the parking lots on the reservation system to have discounted access in order to keep total costs of visiting low. One of the simplest ways for these users to keep costs low would be to utilize other means of access to these areas including the free Island Explorer, biking, or hiking in. However, during implementation of the plan, the National Park Service will seek to pilot other ways of providing discounts for frequent visitors through sales of "discount packs" administered in a manner similar to the Acadia Annual Pass Sale. Details of these opportunities will be developed during implementation of the plan.*

Congestion Pricing. Commenters suggested that the National Park Service should consider congestion pricing (or another variable entrance pass pricing) to manage use levels instead of a reservation system. Others expressed concern that congestion pricing would create a pricing structure that unfairly allocates use to those who are most able to afford the higher cost of entry. These commenters recommended that the system would be most fair if the prices for access were the same for all times of day and days of the summer season.

***NPS Response:** The National Park Service's fee authority does not allow for congestion pricing. Additionally, congestion pricing would create inequality in terms of opportunity for access to the park, which would be inconsistent with NPS mission and values.*

IMPACT ANALYSIS

Cultural Resources

Segmenting the Park Loop Road. Commenters noted that segmenting Park Loop Road with reservation-only areas is in contradiction to the historic design of the road and its traditional use.

NPS Response: The National Park Service acknowledges in chapter 1 that “Proposed changes in circulation and methods of transport affect the historic character-defining experience of touring Park Loop Road. . .” This issue is analyzed in chapter 4 under the “Historic Motor Road” and “Cultural Landscapes” impact topic sections.

Visual Impacts. A commenter requested the National Park Service should describe the visual impacts of the booths and new parking required for the reservation areas. Similarly, there was concern on how Cadillac Mountain would be altered and the detrimental impact to the park in general by building additional infrastructure.

NPS Response: Discussion of the visual impacts of parking-related infrastructure is contained within chapter 4 under the analysis of cultural landscapes. While it is anticipated that these installations would have few visual impacts, the design and placement of new parking and potential permanent reservation-validation booths are not at the point where these impacts could be analyzed in detail. Future planning and consultation efforts, tiered from the analysis contained in the environmental impact statement will be needed when design has been clarified and placement of entry boots (if necessary) has been finalized.

Natural Resources

Air Quality Impacts. A commenter noted that the National Park Service should consider the impacts to air quality associated with the transportation plan. Specifically the National Park Service should ensure that increased use of the Island Explorer and other public transit not cause air quality damage.

NPS Response: As discussed in chapter 1, air quality was dismissed as an impact topic because the actions proposed in the plan are designed to reduce congestion and should positively influence associated idling and reduce associated emissions. Public transportation options described under the plan, particularly those proposed under a concession, would include consideration of green technologies during the NPS concession prospectus process.

Natural Resource Impacts. A commenter requested that the plan should further analyze impacts to natural resources and consider actions associated with transportation infrastructure that could improve natural resource conditions (particularly associated with wildlife crossings).

NPS Response: As discussed in chapter 1, natural resources were dismissed as an impact topic because impacts are small and sensitive areas are avoided. Improvements to wildlife crossings are outside of the scope of this transportation plan. However, all of the major development proposals of the plan, if undertaken, will require additional evaluation of impacts to natural and cultural resources once their final design and placement consideration has been completed.

Climate Change and Sea Level Rise. A commenter requested that the plan address specific actions associated with transportation infrastructure and other park facilities that are vulnerable to damage associated with rising sea levels and increasing storms. The commenter noted that the National Park Service should accept that some features are not sustainable in the face of climate change.

NPS Response: The plan does not propose any improvements or hardening of any infrastructure currently known to be threatened by climate change, nor any new development in areas expected to be vulnerable in the future. As described in appendix D, consideration of climate change impacts and resiliency is a best practice for the implementation of any actions proposed in the plan.

Visitor Access

Impacts to Trailhead Access. A couple of commenters noted that some of the proposed actions would further reduce the already-reduced parking access to hiking trails, particularly at Cadillac North Ridge, North Gorge, Stratheden, Hemlock, and Jesup Path.

NPS Response: The goal of the alternatives is to find ways to better manage vehicle demand for parking and roadway access such that desired conditions at key destinations and along access routes to those destinations are not compromised. The National Park Service believes that the alternatives provide appropriate levels of access to park recreation resources, including trails.

Traffic Simulations. Some commenters requested that traffic simulation modeling be used to help the park make decisions and/or share information about how the proposed changes will affect use in the park and in the surrounding areas.

NPS Response: A number of studies and transportation demand models were used to understand current conditions of roadways and parking lots and to project future use patterns under the conditions of the alternatives. These results are summarized and represented in chapters 3 and 4.

Limitations to First-Come, First-Served Access. Commenters requested that the impact analysis should acknowledge that reservation systems limit first-come, first-served access, which is a reduction in access from the current condition and therefore an adverse impact.

NPS Response: For those visitors who cannot or chose not to make decisions about where and when to visit areas subject to parking reservations, they will be encouraged to seek a parking reservation during the short-term purchase window. Reservations that go unsold during either sales window will remain available for purchase up until the time of entry for that reservation (for those who have the opportunity to make spontaneous arrival decisions). See the “Actions Common to All Action Alternatives” section in chapter 2.

Supply and Demand Profiles. A commenter requested that the analysis in the plan should include not only supply and demand profiles by season but also by time of day.

NPS Response: The impact analysis in chapter 4 has been updated to include seasonal as well as time of day supply and demand profiles to show both the daily and season benefits and consequences for visitor access under the alternatives.

Visitor Experience

Shifting Visitation Patterns. Commenters asked the National Park Service to consider the fact that less frequented sites that are not on Park Loop Road will be pressured by any restrictions on popular sites. Also, the proposed restrictions will divert visitors to less-used parts of the park, Island Explorer hubs, Mount Desert Island, and/or the surrounding areas and will encourage visitation during times/seasons that are less busy. Some commenters expressed that the park should encourage people to visit less-crowded areas and during less-busy times, while other commenters were in opposition to this idea.

NPS Response: The park has included an adaptive management strategy to all plan alternatives that would involve continued monitoring of parking, traffic, and associated resource conditions and visitor experience. Under the plan, other parking areas could be added to the reservation system or gated for first-come, first-served access if overparking or congestion become a concern.

Effectiveness of the Reservation System. Commenters suggested that implementing parking reservations won't reduce congestion or the amount of illegal parking that occurs in the park, and may even increase it.

NPS Response: The concerns about how parking reservations or timed-entry reservations may impact roadway congestion and parking in other areas of the park are discussed in the "Visitor Experience Quality" section of chapter 4.

Visitor Experience Qualities. Commenters suggested that a reservation system will be detrimental to the quality of visitor experience. It will cause stress (as visitors attempt to reach their destination so that they don't lose their reservation or as they may have to worry about being penalized for overstaying their reservation), it will reduce the time and flexibility a visitor has when exploring the park, and it may mean that some visitors can't see the park at all if all spots are sold out ahead of the season. Many other commenters noted that the current levels of traffic in the park is degrading the quality of visitor experience and that the bus noise, stress of finding a place to park, and damage to resources can all contribute to unpleasant visits.

NPS Response: There could be experiential impacts (related to quality, flexibility, and other factors) associated with changing the way visitors access the park. To help mitigate these impacts, visitors are encouraged to use the reservation system as one of many trip-planning tools to improve the quality of experiences. See the "Visitor Experience Quality" section of chapter 4 for the analysis of these concerns.

Purchasing Multiple Reservations. Commenters noted that the need to purchase multiple reservations to visit different sites in the park will be confusing and expensive.

NPS Response: This factor could result in experiential impacts to the visitor experience. The National Park Service will work during implementation to use a variety of communication tools to help visitors easily access reservation systems. See the "Visitor Experience Quality" section of chapter 4 for the analysis of these concerns.

Noise. Commenters requested the National Park Service develop strategies to limit excessive noise, specifically asking that unmuffled engines and other loud vehicles should be prohibited.

***NPS Response:** The purpose and need of this planning effort is to address resource and visitor experience impacts as a result of traffic and congestion. Because measures to address excessive noise from unmuffled engines and loud vehicles would not be responsive to the purpose and need of the transportation plan, these actions fall outside the scope of this plan.*

Safety

Changes to Safety Analysis Relative to Cyclists. Commenters suggested that the analysis of safety impacts from increased use of Park Loop Road by cyclists and pedestrians is inaccurate. Chapter 4 of the plan identifies that managed access to the entire Park Loop Road, particularly in alternative D, may cause more use by pedestrians and cyclists. The plan goes on to note that could cause increased conflict with vehicles. Commenters suggested this increased nonvehicular use may actually lower vehicle speeds, increase driver awareness, and actually increase safety for cyclists and pedestrians. Commenters also suggested that the plan's safety analysis should include that managing access to specific corridors will reduce vehicle volumes and therefore make Park Loop Road safer for cyclists and pedestrians.

***NPS Response:** The analysis has been updated in chapter 4 to reflect that increased bike and pedestrian use of the roadways will likely reduce the likelihood for severe crashes.*

Socioeconomics

On-Demand Rideshare Services. Commenters expressed concern with the round-trip cost of on-demand rideshare services to access the park as being too high for people to actually use this option.

***NPS Response:** Under all of the action alternatives, the fare-free Island Explorer service inside the park would continue to be provided during the peak season (late June through early October) and expanded as necessary up to the park's visitor capacity and as funding permits to facilitate and maintain equitable access to the park.*

Concerns Over Increasing Congestion in Towns. Commenters expressed concern that moving parking outside the park will cause congestion and crowding in the towns and villages on Mount Desert Island. There was also concern about increased wear and tear on town roads, specifically on Schooner Head Road and Miller Garden Road.

***NPS Response:** Visitors who cannot leave their cars at overnight accommodations can park and board the Island Explorer buses at Hulls Cove and the Acadia Gateway Center parking areas.*

Effect on Local Businesses. Commenters raised multiple concerns regarding the effects of the proposed changes on local businesses. Particularly there was concern that local artists such as photographers and painters would no longer be able to use the park when the right conditions (lighting, weather) were right to create their art. There was also concern on the effect a reservation system may have on vacation rentals if a reservation is implemented and guests are not able to access the park. Other commenters noted that there are other things to do in Bar Harbor and Mount Desert Island and therefore having visitors wait for their reservation time may increase business to local shops. Finally, it was noted that alternative D could have a negative impact on the relationship the park has with surrounding communities who depend on park visitation for their economies.

NPS Response: These concerns are analyzed in the “Socioeconomics” section of chapter 4.

Demographic Analysis. A commenter questioned whether the park had collected demographic information to help understand the increase in visitation. The commenter questioned whether the visitation increase would be short-lived if it is driven by retired baby boomers.

NPS Response: The park has collected some demographic data in the past, but these studies mostly pre-date the latest increase in visitation (since approximately 2013). Visitation changes are typically driven by tourism-related marketing campaigns for states or regions, advantageous economic conditions, population growth, and favorable weather patterns, in addition to baby boomer retirements. Therefore the National Park Service does not believe this trend is short-lived or self-correcting.

Cruises. Commenters expressed support for alternative C as it does not seek to reduce the number of visitors to the park. It was noted that maintaining access to the park for cruise passengers without restrictive measures that make visiting the park too difficult or costly was important to continue supporting the economic benefits from cruise ship visits. Other commenters noted that the number of cruise ships and passengers have increased and the need to manage them. Some commenters proposed limiting the number of cruise ships and if necessary institute a lottery for a limited number of spots cruise companies could use.

NPS Response: The National Park Service appreciates the strong support for implementing a comprehensive approach that will provide safe and efficient transportation and a variety of high-quality experiences to visitors in the park while ensuring that park resources and values are protected. Limiting the number of cruise ships and associated passengers is outside the NPS jurisdiction, however the park looks forward to continued collaboration with neighboring communities to address local and regional transportation-related issues, sustainable public transit service, and enhanced cultural and natural resource protection.

Marketing. A commenter noted concern with the heavy marketing of the park and suggestions to have it stopped to get visitation levels under control.

NPS Response: Other than managing the park's digital presence—including the park's website—and creating and publishing content in various digital platforms (web, social media, and video) that help the public understand the opportunities available at Acadia National Park, the National Park Service typically does not engage in marketing of the park.

Indicators, Thresholds and Visitor Capacity

Visitor Capacity. Commenters noted that the number of visitor reservations per day should be based on the number of people that could sustainably access the park.

NPS Response: The projected number of reservations per day is based on the National Park Service's analysis of how many people and vehicles could sustainably access specific areas of the park under the conditions of that alternative to achieve desired conditions. The analysis takes into account the number of parking spaces in each alternative, the anticipated visitor use patterns, desired conditions for the lots and transportation system performance, and other factors to project how many parking permits per day could be available under the conditions of each alternative. The results of this analysis are represented in chapters 2 and 4, and appendix A.

Modifications to Thresholds. Some commenters thought the National Park Service should consider establishing additional triggers for indicators to ensure that values and resources are protected before thresholds are reached.

NPS Response: The National Park Service will be monitoring all indicators to ensure conditions remain above their respective thresholds. If monitoring reveals that a condition is approaching a threshold, the park will leverage an adaptive action to correct the condition. This can be done in the absence of a specific trigger. Where the National Park Service has established triggers, it is because a very specific management action will be taken at that point.

Rationale for Thresholds. Some commenters thought the National Park Service should clarify the rationale used to establish thresholds.

NPS Response: Per guidance from the Interagency Visitor Use Management Council, thresholds are management decisions determined by the interdisciplinary planning team. In establishing thresholds, the interdisciplinary planning team reviewed the best available science related to the topic and the area, as well as where the current conditions were in relationship to desired conditions. This analysis, along with the actions described in the alternatives, was used to establish thresholds that were relevant to the area, consistent with available science, and would ensure that desired conditions are maintained. For additional detail on this process see appendix A.

Suggestions for Additional Monitoring. Commenters suggested the National Park Service should include monitoring Island Explorer stops outside the park, including the Village Green, into its adaptive management plan.

NPS Response: Management of Island Explorer stops outside of the park is outside the management jurisdiction of the National Park Service. As the National Park Service cannot take independent action to manage these areas, the park does not believe it is appropriate to monitor these locations as a part of this plan.

Commitment to Monitoring. Commenters suggested the adaptive management approach proposed by the park should be accompanied in the plan by a statement of the park's commitment to carry out monitoring of the effects of its actions, as well as to maintaining the necessary funding to implement it.

NPS Response: The implementation of indicators, associated thresholds, and visitor capacity are considered as a part of the proposed action. The park is committed to implementing them along with the rest of the action that is selected. Identifying funding sources for any plan action is not within the scope of this plan (as they may vary over time). All actions within the proposed action are subject to available funding to implement.

Clarification of Terms. Commenters thought the National Park Service should define what qualifies as a “low-use trail” in the context of this analysis and future monitoring program.

NPS Response: The plan has been amended to refer to the monitored trails as low- and medium-use trails (see appendix A).

APPENDIX G: CONSULTATION LETTERS

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UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
GREATER ATLANTIC REGIONAL FISHERIES OFFICE
55 Great Republic Drive
Gloucester, MA 01930-2276

JUL 21 2015

Chris Buczko
National Park Service
Acadia National Park
P.O. Box 177
Bar Harbor, Maine 04609

Re: Acadia National Park Transportation Plan

Dear Mr. Buczko:

Thank you for seeking our comments concerning the National Park Service's proposal to develop a Transportation Plan for Acadia National Park on Mount Desert Island, Maine. We understand the purpose of the transportation plan is to determine how best to provide safe and efficient transportation and a variety of high quality experiences to visitors within Acadia while ensuring the protection of park resources and values. The plan will comprehensively examine several management options to improve safety on park roads and reduce crowding and congestion at key visitor destinations and travel corridors. This letter provides technical assistance regarding the National Park Service's responsibilities for section 7 consultation pursuant to the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531-1543),.

Section 7(a)(2) of the ESA requires all federal agencies, in consultation with us, to 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 or result in the destruction or adverse modification of habitat of such species. As your plans to develop a transportation plan for Acadia National Park do not authorize, fund, or carry out any activity that would affect listed species under our jurisdiction, we do not believe a consultation in accordance with section 7 of the ESA is necessary at this time. If in the future, work is proposed in the water, please contact us to discuss the potential need for consultation. Please contact Jeff Murphy of my staff (207-299-7339 or Jeff.Murphy@noaa.gov) should you have any questions regarding these comments.

The consultation requirements of §305(b) of the Magnuson-Stevens Fishery Conservation and Management Act (MSA; 16 U.S.C. 1855(b)) provide that federal agencies must consult with us on all actions, or proposed actions, authorized, funded, or undertaken by the agency, that may adversely affect essential fish habitat (EFH). As the transportation plan for Acadia National Park will not authorize, fund, or undertake any activity that would affect EFH, a consultation in accordance with the MSA is also not necessary at this time. If National Park Service proposes



Appendix G: Consultation Letters

projects that involve in-water work as part of implementing a transportation plan for Acadia National Park, then a consultation for EFH would likely be required. If you have any questions concerning the MSA or essential fish habitat, please contact Mike Johnson at 978-281-9130 or Mike.R.Johnson@noaa.gov.

Sincerely,



Julia E. Crocker
Endangered Species Coordinator

EC: Wende Mahaney, USFWS
M. Johnson, F/GAR4

File Code: Sec 7 National Park – Acadia Tech Assist



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
Maine Field Office
P.O. Box A
306 Hatchery Road
East Orland, Maine 04431
207/469-7300 Fax: 207/902-1588



October 19, 2018

Kevin B. Schneider
Superintendent
National Park Service
Acadia National Park
P.O. Box 177
Bar Harbor, Maine 04609

Dear Mr. Schneider:

Thank you for your letter dated August 15, 2018 regarding the Draft Environmental Impact Statement (DEIS) for the proposed transportation plan at Acadia National Park in Hancock and Knox Counties, Maine. The following comments are provided pursuant to section 7 of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 et seq.).

The National Park Service (NPS) previously obtained an official species list from the Fish and Wildlife Services (Service) indicating that three federally listed species could potentially occur within Acadia National Park as follows: 1) the endangered Atlantic salmon (*Salmo salar*), 2) the endangered roseate tern (*Sterna dougallii dougallii*), and 3) the threatened northern long-eared bat (*Myotis septentrionalis*). Currently, there is no designated critical habitat for any listed species present within the park.

The DEIS presents a preferred alternative for a transportation plan (Alternative C) that offers a comprehensive approach to providing safe and efficient transportation and a variety of high-quality experiences to visitors while ensuring protection of park resources and values. Alternative C is a multi-faceted approach that involves a variety of strategies and management actions including a new reservation system to manage parking, expanded use of public transit, increasing information provided to visitors, and several others. Alternative C also proposes some actions that would result in on-the-ground construction activities, such as relocating the Hulls Cove visitor center while adding additional parking. The DEIS, however, only contains conceptual plans for these types of projects.

Projects involving activities, like construction, may disturb habitat and have effects that warrant consultation under section 7 of the ESA. As discussed in the DEIS, proposed projects are most likely to affect the northern long-eared bat, which is currently known to occur within the park.

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For example, if a new parking lot is constructed at the Jordan Pond House, this would likely involve removal of forest habitat which may affect the bat and create an impact to roosting and foraging habitat for this species.

The NPS has proposed that we engage in section 7 consultation on a project-by-project basis at the time when a specific project is actually proposed. We agree that this is a reasonable approach that will allow us to thoroughly evaluate likely project impacts to listed species at a time when more refined project plans have been developed. This approach will also allow us to address changes in the listing status of any species.

Thank you for your ongoing coordination during the Acadia National Park transportation planning process. If you have any questions, please contact Wende Mahaney by telephone at 207/902-1569 or by email at wende_mahaney@fws.gov.

Sincerely,

ANNA
HARRIS

Anna Harris

Project Leader

Maine Fish and Wildlife Service Complex

Maine Field Office

Digitally signed by
ANNA HARRIS
Date: 2018.10.19
16:19:37 -0400



PAUL R. LEPAGE
GOVERNOR

MAINE HISTORIC PRESERVATION COMMISSION
55 CAPITOL STREET
65 STATE HOUSE STATION
AUGUSTA, MAINE
04333

KIRK F. MOHNEY
DIRECTOR

October 19, 2018

Mr. Kevin B. Schneider
Superintendent
Acadia National Park
P.O. Box 177
Bar Harbor, ME 04609

Project: MHPC# 0658-18 Acadia National Park
1.A.2 (ACAD)
Transportation Plan and Environmental Impact Statement
Town: Bar Harbor, ME

Dear Mr. Schneider:

In response to your recent request, I have reviewed the information received October 15 and October 18, 2018 to continue consultation on the above referenced project in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended (NHPA).

Based on the information provided, it is our understanding that the initial implementation of the timed-entry reservation system will include the following measures: 1) temporary or mobile infrastructure located at the Jordan Pond House North Parking Lot and the base of Cadillac Summit Road; 2) new signage and striping at the existing entrance station for Ocean Drive near Sand Beach; and 3) additional new signage near the Sieur de Monts area.

The Commission concludes that the initial implementation of the timed-entry reservation system will have no adverse effect upon historic properties. However, this finding is made on condition that further consultation with our office will be necessary for the design and location of the temporary structures.

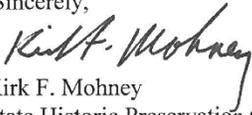
It is our understanding that Alternative C will take several years to fully execute. Based on the monitoring and/or success of the initial implementation of the timed-entry reservation system, it is possible that temporary infrastructure will become permanent and that other measures will be undertaken. The Commission concludes that the full implementation of the Alternative C as described in the Draft Transportation Plan/Environmental Impact Statement (May, 2018) is likely to have an adverse effect upon historic properties. Therefore, as the elements of Alternative C are developed beyond the initial implementation, the National Park Service will continue to consult with

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our office. In an email dated October 18, 2018 to Megan Rideout of our staff, Gail Gladstone stated that a programmatic agreement would be developed during and following the initial implementation of the timed-entry reservation system to address as yet unknown impacts of the Preferred Alternative (Alternative C) on historic properties. The Commission agrees with this approach.

Please contact Megan Rideout at (207) 287-2992 or megan.m.rideout@maine.gov if you have any questions regarding our comments.

Sincerely,



Kirk F. Mohney
State Historic Preservation Officer



STATE OF MAINE
DEPARTMENT OF MARINE RESOURCES
21 STATE HOUSE STATION
AUGUSTA, MAINE
04333-0021

PATRICK C. KELIHER
COMMISSIONER

June 18, 2018

Mr. R. Michael Madell, Deputy Superintendent
National Park Service
Acadia National Park
P.O. Box 177
Bar Harbor, Maine 04609



RE: CZMA Consistency; Acadia National Park; draft transportation plan

Dear Mr. Madell:

I am writing in response to your letter dated April 29, 2018, regarding the above-referenced matter which specifies the National Park Service's ("NPS") desire that its proposed transportation plan for Acadia National Park, when finalized, be consistent, to the maximum extent practicable, with the enforceable policies of the Maine Coastal Program. The letter clarifies that the plan contains "preliminary drawings of infrastructure alternatives" for several parking facilities and other transportation-related development activities and that the NPS intends to submit a separate federal consistency determination for each such activity "when and if those projects are implemented." Accordingly, the federal action proposed at this time is adoption of the transportation plan itself, as opposed to siting and construction of one or more of the projects it addresses.

Please note that adoption of the transportation plan for Acadia National Park as articulated in the draft referenced in your letter does not itself trigger review under an enforceable policy of Maine's coastal zone management program and that federal consistency review of the plan *per se* pursuant to the Coastal Zone Management Act ("CZMA") is not required.

As you have noted, development activities that the NPS may undertake in the future pursuant to the plan may well trigger review under an enforceable policy and thus be subject to CZMA consistency review. We note that your letter, while adequate for present purposes, does not provide the NPS's consistency determination regarding the draft transportation plan, e.g., a statement that the NPS has determined the plan is consistent with the enforceable policies of the Maine Coastal Program. The NPS would need to provide such a determination and information to support it for each activity subsequently proposed under the plan for which CZMA consistency review is appropriate. As we have discussed in the past, we encourage the NPS to submit completed state license or permit application(s) under applicable core law(s) of the Maine Coastal Program as the most efficient means to provide information required for CZMA consistency review. In order to achieve our shared objective of ensuring that development activities proposed in the future to implement the plan are consistent with Maine's coastal zone management program, we encourage the NPS to consult with the Department of Environmental Protection as early as possible in the development process for each such project to identify which enforceable policies are applicable, the pertinent state license and permit application(s), and data and information for submission with such applications that are needed to demonstrate consistency.

OFFICES AT 32 BLOSSOM LANE, AUGUSTA, MAINE
<http://www.Maine.gov/dmr>

PHONE: (207) 624-6550

FAX: (207) 624-6024

c

Please contact Todd Burrowes (207-287-1496; todd.burrowes@maine.gov) if you have questions or need additional information.

Sincerely,



Kathleen Leyden
Director, Maine Coastal Program

cc:\
Mark Bergeron, DEP



As the nation’s principal conservation agency, the Department of the Interior has 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 environmental 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.

NPS/ACAD/123/143914A MARCH 2019

Acadia National Park

