



## Professional Report Series – Number 12

### *Reassessing the Development Footprint in Our National Parks*

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#### **Abstract**

*Infrastructure in the National Parks: What is necessary? What is sustainable?*

This paper contemplates the physical structures that have accumulated in the parks, and their impact on the agency's mission. It questions how the inventory relates to the agency's mission: Is it all needed to support park functions? Would removal of some enhance resource management? Can the parts that remain be modified to improve their sustainability? It considers these questions in light of existing management policies and several different recommendations expressed in a variety of professional reports produced over the last decade or so:

*“We recommend that the National Park Service minimize development of visitor facilities within park boundaries, while striving for excellence in visitor services.”*

- *National Parks for the 21<sup>st</sup> Century  
The Vail Agenda, page 85, 1992*

*“...the Service will not develop or redevelop a facility within a park until a determination has been made that the facility is necessary and appropriate, and that it would not be practicable for the facility to be provided outside the park.”*

- *Management Policies 2006, Park Facilities, Paragraph 9.1, page 124*

#### **The Coalition**

The Coalition of National Park Service Retirees (CNPSR) is an organization comprised of nearly 700 former National Park Service employees who, collectively, have served almost 20,000 years within the agency in every capacity and at all grades, including a substantial number of former Directors and Deputy Directors, former Regional Directors or Deputy Regional Directors, former Associate or Assistant Directors at the national or regional office level, former Division Chiefs at the national or regional office level, and former Superintendents or Assistant Superintendents.

In our personal lives, we come from the broad spectrum of political affiliations. As park managers, rangers and employees in the National Park Service's many disciplines, however, we devoted our professional lives to a common goal – maintaining and protecting our national parks for the benefit of all Americans, those living and those yet to be born. We remain committed to that goal.

This paper is one of a series on critical issues facing the National Park Service as it enters its second century. A complete listing of all current or planned papers appears at the end of this report as Appendix A.

### **Author**

The principal author of this paper is Deny Galvin, former Deputy Director of NPS, Associate Director of Planning and Development, and Manager of the Denver Service Center. He was assisted by John Reynolds, Mark Koenings, and Don Falvey. Maureen Finnerty coordinated these efforts. The paper was authorized by the Coalition of National Park Service Retirees and represents the interests of the organization.

## Problem Statement

As the National Park Service approaches its 100<sup>th</sup> anniversary, it is timely to contemplate the physical structures that have accumulated in the parks and their impact on the agency's mission. It is clear that the act creating the Service in 1916 envisioned an infrastructure. The secretary of interior was given authority to "...grant...leases...for the accommodation of visitors..." Indeed, the parks that existed prior to the Act had already accumulated roads, buildings, trails, and associated utilities. Today that inventory is considerable (numbers have been rounded):

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- 7,600 public use and administrative buildings
- 26,000 historic structures
- 8,500 monuments and statues
- 5,300 housing units
- 770 campgrounds
- 680 water and waste systems
- 200 solid waste systems
- 5,500 miles of paved roads
- 950 equivalent miles of paved parking areas
- 6,500 miles of unpaved roads
- 1,800 bridges and tunnels
- 110 transportation systems

How does this inventory relate to the agency's mission in the 21<sup>st</sup> century? Is all of it needed to support park functions? Would the removal of some of it enhance resource management? Can the parts that remain be modified to improve their sustainability?

Other questions that are pertinent include: How does modern technology affect what needs to be in a park? How can parks better relate to the surrounding communities? How can infrastructure enhance opportunity for connecting all Americans to their national parks?

There have been significant changes in park operations since the establishment of early parks, which became models for facility development. Policies have generally recognized this. The National Park Service's relatively new construction approval policy involving "choosing by advantages" initially spoke to the need to evaluate whether a facility was needed, not just facility attributes, but no process was put into place to implement this change in approach. There has been no Servicewide evaluation of the approach to siting decisions and to criteria for whether construction is needed; attention has been drawn instead to how construction is carried out and its costs. Moreover, the General Management Plans that evaluate this issue on a park-by-park basis are often dated. Given the changes that have taken place since the national park model was developed, there should be a Servicewide look at how and to what extent policies cited below are being implemented.

A concept useful in addressing the questions cited above and a Servicewide analysis is Pareto's Law, a principle of value engineering. Paraphrasing, it states that in any list, 80% of the value is found in 20% of the items on the list. Applying this to the parks, the greatest impact of any suggested action lies in about 80 parks (20% of 400). Thus, any suggested program should first concentrate on large parks, with considerable inventory, as opposed to small parks with few buildings and limited road mileage.

This paper is intended to provide a framework for thinking about the appropriateness of infrastructure in our national parks. It sets forth some categories that should be examined to lighten the impact of the built environment on today's parks. It also reflects on the concept of sustainability, an idea that might have considerable influence on the concept of "appropriate."

## **Policy**

There is ample direction in the current (2006) Management Policies to provide the context for this discussion. They all support minimum necessary facilities to the extent they do not impact park resources, criteria that change with alternative transportation, development outside parks, and technology. Here are some examples:

- 1.9.5.2 The National Park Service will provide visitor and administrative facilities that are necessary, appropriate, and consistent with the conservation of park resources and values.
- 9.1.1.4 Adaptive use of existing facilities before new construction
- 9.1.5 Utilities to be outside of the park where feasible
- 9.1.6.1 Disposal of solid waste inside a park is incompatible with park values
- 9.2 Work in partnership with others to develop alternative transportation systems
- 9.2.1.1 Roads may be reduced, expanded, re-oriented, eliminated or supplemented by other means of travel
- 9.3 Limit visitor facilities to what is necessary and appropriate; encourage private-sector visitor services in gateway communities
- 9.3.1.3 Visitor Centers may be located outside parks to avoid unacceptable environmental impacts
- 9.3.2 Overnight accommodations and food services in many cases are not needed within a park
- 9.4 Management facilities- where authorized by Congress- will be located outside park boundaries whenever the management functions being served can be adequately supported
- 9.4.1 The location of administrative offices will be determined by conditions specific to each park
- 9.4.3 The NPS will rely on the private sector to provide housing for employees

The challenge is in the implementation of these policies.

## **The Relationship of Infrastructure to Function**

A new analysis of the overall infrastructure issue should be conducted, paying close attention to function. To simplify the analysis, the inventory should be divided into two categories: visitor support and administration. These are not mutually exclusive; roads, for example, serve both functions, as do utility systems.

### Visitor Support

Direct visitor facilities include structures designed to orient and instruct, e.g., visitor centers, museums, wayside exhibits; places providing food and accommodations, e.g., lodges, motels, restaurants, stores, campgrounds, and associated utility systems; and trails and roads to get visitors to resources. The inquiry about these is simple and direct: Do they still provide needed support?

Current policy supports construction outside the parks for food and lodging except for remote locations, but many parks developed infrastructure when they were remote. Now they are not remote. Some of these structures are now historic or command such public affection that their proposed removal is controversial. Crater Lake Lodge is one such example: When the Park Service proposed removal, the public and the Congress objected so strenuously that the lodge was rehabilitated instead.

Most of the buildings designed to orient and instruct were built as part of Mission 66. The most recently constructed of these will be 50 years old in 2016. As they require replacement or rehabilitation, their continued usefulness needs to be questioned.

Consideration should also be given to the increasing means to communicate with visitors. Blackberrys, iPods, text messaging, pod-casting and other opportunities for interpretation may reduce or change the need for in-park structures.

For the most part, road and trail systems in parks are not being expanded. Efforts to reroute non-park traffic around parks by building by-pass roads have been successful at such parks as Morristown and Chickamauga-Chattanooga. Existing roads have been converted to transportation system pathways at Zion, Grand Canyon, and Yosemite. Such initiatives should continue to reduce the impact of the automobile.

Transportation systems should be implemented where they reduce resource impacts and are feasible. This is frequently a complicated task. In parks where visitor travel involves multiple entrance and exit points, transportation systems may not work. Successful examples are found where, as in Zion Canyon, the visitor can park and return to the same location using the transportation system on a loop closed to private vehicle travel.

#### Park Operations

Park operations can be divided into management, resource protection, interpretation and education, administration, and facility maintenance, although interpretation and education, as well as protection, are to some extent covered under visitor support. The last is the largest function, comprising one third of Operations in the proposed 2009 budget. Where opportunities exist for relocation out of the park, or to the periphery, a considerable reduction in footprint could be achieved by removing maintenance activities such as shops and warehouses.

Examples of other types of operations that should be examined for their continued need inside parks include:

- Administrative support, which could be moved out of parks, relocated in nearby communities or even in regional centers;
- Museum storage and archives, which could be placed in regional centers, adding value by making these resources more accessible to the public; and
- Superintendents and staff offices, which in at least some cases could be in nearby communities, despite tradition.

Utility systems support the in-park existence of the park operations, visitor support, and more. To the extent that the footprint is reduced by moving activities out of parks so will the demand for their existence or expansion. As areas around once-remote parks have developed, they have afforded opportunities to partner with utilities provided by non-park sources.

Examples of infrastructure having been placed or moved to locations outside of the park include Yosemite, Mount Rainier, North Cascades, Joshua Tree, and Mojave. Functions in these areas are on the periphery or at some remove from the park (70 miles in the case of North Cascades). These on-the-ground examples should be studied to evaluate the effects of their location.

Three functions would seem to require some continued in-park presence: resource protection and management, law enforcement, and personal interpretation and education. Inquiry into the relationship between these functions and required support systems might yield additional opportunities to move facilities out of parks. For instance, while first-line interpreters and law enforcement personnel probably need to be on-site, do their supervisors also have to live there?

### Non-NPS Operations

In some parks the concession operation is a significant part of the footprint. Support functions such as vehicle storage and warehouses should be examined for off-park location. When a General Management Plan is undertaken, the continued requirement for a concession should be questioned.

The increased reliance on friends, volunteers, and partners raises the question of their location. Policies applicable to NPS facilities should be applied equally to facilities for concessioners and other partners.

### Housing

All these in-park activities —both NPS-conducted and concessioner and partner activities -- require a significant number of residences. Successful relocation of any or all of the above functions would reduce the demand for housing and meet current policies.

There are a number of parks in non-remote locations that have housing. Some (e.g., Golden Gate and Gateway) have inherited units from the military; others, like Cape Cod, have acquired them as a side-effect of authorization and acquisition; and there are historic structures that were and are residences (i.e., at Gettysburg). These parks have maintained housing, both seasonal and permanent, not because of remoteness, but as the result of scarcity of affordable housing in surrounding communities or the demands of historic preservation. The Office of Management and Budget (OMB) recognizes only remoteness as the justification for government provided housing. This policy should be modernized to achieve a more flexible approach.

### Historic Structures

While these must remain, their adaptive use may reduce the need for contemporary structures to house needed functions. Housing, research centers, and leasing are some of the uses parks have made of these buildings.

## **Sustainability and Infrastructure**

Any analysis of the appropriateness of park infrastructure is incomplete without examining all of its effects. Current policy requires the Service to “implement sustainable practices and tangibly demonstrate the highest levels of environmental ethic,” (1.8); and states that “...the Service will demonstrate...commitment to the principles of sustainability” (9.1). This imposes additional analysis requirements on infrastructure decisions. While it would seem that the policy direction to move facilities out of parks is consistent with these principles, an energy analysis should support the decision. All facilities in or out of parks should meet the highest sustainability standards. Each site will have individual characteristics that result in sustainable solutions.

## **Conclusion and Recommendation**

Current policy supports moving unnecessary facilities out of the parks as well as sustainability. The fact that little has been done in support of the policy is rooted in the decline of resources available to support the policies.

Two appropriations support the creation of infrastructure in the parks - Construction and the Federal Lands Highway Program. The former is at 43% of its 2001 level without considering the eroding effects of inflation. The highway program is at about 50% of the estimated need.

At these levels only the most pressing needs are met. Any strategic overview cannot begin until adequate funding is available.

First steps should include revitalizing the General Management Plan function. This legally-mandated document is the appropriate vehicle to outline the strategic vision in all categories, including infrastructure.

Initiating action in the approximately 80 parks with the most infrastructure, at an estimated cost of \$8 million per year, would result in relevant plans in 10 years.

As these plans are completed, the cost of infrastructure removal would be calculated. Similarly, the need for supporting legislation would become apparent. Adequate construction and roads (including alternative transportation) funding would have to follow.

## APPENDIX A

### This Series Of Papers

The imminent arrival of the centennial of the National Park Service's birth, which will occur in 2016, has led to reflection on its past, evaluation of its successes and failures, and discussion of its future goals and priorities – both within the agency and among its many friends and supporters.

As an organization containing more professional experience and knowledge than any comparable entity anywhere in the country, we believe that we are uniquely placed to offer our professional perspectives on the array of issues that are and will be discussed over coming months and years.

This series of papers offers our professional evaluation of the key issues that the agency is now facing or will be dealing with in coming years. Current papers in the series, either completed or in development, include the following. Others may be added:

- Report 1      *America's Crown Jewels: The National Park System* – A paper on the philosophic and legislative foundation of the NPS and an evaluation of the need for more effective national engagement in protecting parks.
- Report 2      *The National Parks Centennial Commission* – An evaluation of the commission and recommendations on how it should work, what its goals should be, and what issues it should focus on.
- Report 3      *The National Park Centennial Institute* – A paper that explores the need and concept for a formalized academic institute to study a wide variety of park-related issues in order to inform and educate agency staff and political leaders and better manage our parks in a new century.
- Report 4      *Competitive Sourcing, Privatization, and Philanthropy in our National Parks* – A paper on these key issues and the bearing they have on the agency and its efforts to attain its goals.
- Report 5      *The Future of Entrance Fees and Their Connection to Visitation* – An examination of the problem of over reliance on entrance and user fees and the potential fees have to “price publics out of their parks.”
- Report 6      *Reasserting International Environmental and Park Leadership* – This paper looks at the reasons why the NPS has lost its standing as an international leader in parks and what needs to be done to become a more effective member of the international parks community.
- Report 7      *A Renaissance of Park Interpretation and Education Reaffirms the Mission of the National Park Service* – A paper that looks at the present dire straits of the NPS interpretive and education program and calls for a “renaissance” and a renewal of excellence in our on-site and off-site educational programs.
- Report 8      *Toward A Second Century Of Excellence For The National Park System* – This paper presents a ten-point vision of the attributes that the National Park Service needs to have by the time its centennial arrives on August 25, 2016. It also outlines qualities that must be sought and fostered in its leaders for it to retain its integrity, serve the public and meet its goals, and identifies core values that underlie “principled leadership.”

- Report 9 *It Is Not A Matter Of Money – It Is A Matter of Priorities* – This paper exposes the budgetary quagmire the National Park Service finds itself in and discusses ways out of the situation. It also presents a 15 year review and analysis of NPS budgets and compares the Clinton and Bush administration’s budgets.
- Report 10 *The Renewal of the Park Ranger Profession* – A review of the present state of the park ranger profession, which is increasingly called upon to specialize in the narrow niche of law enforcement, and how it might be reformed to better serve the agency in the future.
- Report 11 *Global Climate Change Creates New Park Environments and New Organizational Challenges for Park Science Programs* – This paper looks at the coming changes to our national and global ecosystems and impacts upon society and where our national parks can serve as effective barometers of global change.
- Report 12 *Reassessing the Development Footprint in our Parks* – This paper looks at the planning, development and construction process in the parks, examining the lessons learned from the first century of park development and how they need to be reconsidered for the second century.