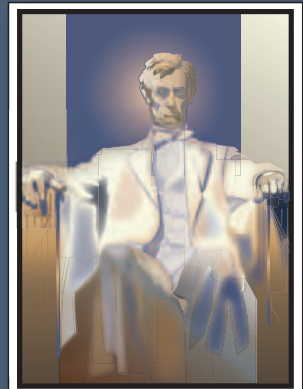


ENVIRONMENTAL CONSEQUENCES

DRAFT
NATIONAL MALL PLAN /
ENVIRONMENTAL IMPACT STATEMENT
THE NATIONAL MALL



LINCOLN
MEMORIAL

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ENVIRONMENTAL CONSEQUENCES

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METHODOLOGY FOR IMPACT ANALYSIS

Impacts of the alternatives are analyzed in accordance with the guidelines of the Council on Environmental Quality (CEQ) for implementing the National Environmental Policy Act (40 CFR Part 1500) and the National Historic Preservation Act. The impact analysis for all topics is qualitative and is based on research, knowledge of park resources, and the best professional judgment of planners and resource specialists. Federal laws, regulations, and policies that have a bearing on the impact analysis are summarized for each topic. The methodology for cumulative impacts is presented below.

The impact analysis considers direct, indirect, and cumulative impacts. Direct impacts are caused by an action and occur at the same time and place as the action. Indirect impacts are caused by the action and occur later or farther away but are still reasonably foreseeable.

Impacts are also analyzed as their context, intensity, duration, and type. Context generally refers to the geographic extent of the impact (e.g., site-specific, localized, regional). Intensity is the magnitude or degree to which a resource would be affected. The impact intensity is described in terms of negligible, minor, moderate, or major, with threshold definitions for these terms presented individually for each impact topic. Statements of impact intensity assume implementation of identified mitigation measures. Impact duration refers to how long an impact would last (i.e., short- or long-term), and the type of impact refers to whether the effect would be beneficial or adverse. These terms are also defined individually under each impact topic.

Impacts of the action alternatives are determined by comparing their effects to those of the no-action alternative. Impacts of the no-action alternative are determined by comparing current impacts of continuing present management with those projected at the end of the planning period.

CUMULATIVE IMPACTS

CEQ regulations to implement the National Environmental Policy Act require the assessment of cumulative impacts in the decision-making process for federal projects. A cumulative impact is 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 non-federal) or person undertakes such other actions” (40 CFR 1508.7). A cumulative impact can result from individually minor, but collectively significant actions, taking place over a period of time.

Cumulative impacts are analyzed and disclosed for all alternatives, including the no-action alternative, under each impact topic. Current projects that were discussed under “Interrelationships with Other Plans and Projects,” beginning on page 42, and that are also considered in the analysis of cumulative impacts include the following:

- Architect of the Capitol
Capitol Complex Master Plan
- District of Columbia
City Center Action Agenda
- National Capital Planning Commission
Extending the Legacy
Memorials and Museums Master Plan
Monumental Core Framework Plan
- National Park Service
Visitor Transportation Study for the National Mall and Surrounding Park Areas
Comprehensive Design Plan for the White House and President’s Park
Design Guidelines for the White House and President’s Park
- Interagency Planning Efforts
CapitalSpace — District of Columbia, National Capital Planning Commission, and National Park Service

Planning Together for Central Washington — Architect of the Capitol, Commission of

Fine Arts, District of Columbia, National Capital Planning Commission, and National Park Service

Because some of these cumulative actions are in the early planning or project development stages, the evaluation of cumulative effects was based on a general description of the project. Additional plans and projects are discussed below.

The locations of ongoing and proposed projects are shown on three different plan maps for NPS projects, NCPC *Monumental Core Framework Plan* opportunities, and recent and ongoing projects.

Interagency Planning Efforts

Interagency Initiative for National Mall Road Improvement Program. In 1992 the *Streetscape Manual* was developed to provide guidelines for a coordinated and consistent streetscape in the vicinity of the National Mall (Interagency Initiative for National Mall Road Improvement Program 1992). The manual identifies and provides specifications for streetscape components such as curbs, gutters, and step outs; curb cuts; bus pads; street lighting; tree planting areas, lawn curbs, and post-and-chain fencing. Updates and related issues are addressed during regularly scheduled interagency meetings. Other interagency efforts are underway to discuss signs, information, and technology.

Architect of the Capitol

United States Botanic Garden. The 7-acre Botanic Garden, which lies at the foot of the U.S. Capitol on the National Mall. The Botanic Garden is a living plant museum that demonstrates the ecological, economic, therapeutic, cultural, and aesthetic importance of plants. It includes outdoor ornamental gardens and greenhouses, including the Conservatory, Bartholdi Park, and the National Garden (which opened in October 2006).

Capitol Visitor Center. The Capitol Visitor Center opened in December 2008. Expanded space for the House and Senate will be completed later (Architect of the Capitol 2005).

Library of Congress. The library reopened renovated permanent history exhibits in 2008.

U.S. Senate Youth Park and U.S. Botanic Garden Education and Outreach Center.

Future projects are envisioned for the area north of Union Square and Pennsylvania Avenue.

District of Columbia

The 14th Street Bridge Corridor. The 14th Street bridge corridor is essential in connecting the traffic systems of northern Virginia and the District of Columbia. In December 2000 the Federal Highway Administration, in cooperation with the D.C. Department of Transportation (DDOT), the National Park Service, and the Virginia Department of Transportation, initiated studies and actions to address congestion in the 14th Street bridge corridor (DDOT 2008). With increasing commuters, travelers, public transit users, pedestrians, and bicyclists; the safety and mobility of this link has become a priority (DDOT 2008). An environmental impact statement is now being prepared to address current and future needs. Among the objectives that the alternatives are intended to address are the following:

- improve safety and mobility for all modes of transportation
- minimize long travel times and delays
- minimize driver confusion and distraction
- improve traveler information
- improve transportation system efficiency/enhance mobility
- protect/maintain parklands, wetlands, and the Potomac River
- enhance gateway corridor features, aesthetics, and appearance.

The Anacostia Waterfront Initiative Framework Plan. The Anacostia Waterfront plan is intended to guide the revitalization of the Anacostia waterfront area. The five themes in the plan include creating a clean and active river; eliminating barriers to neighborhoods and providing access to residents; improving the urban riverfront park system; providing cultural destinations of distinct character; and building strong waterfront neighborhoods (DC 2003a).

Recent, Ongoing, and Future Cumulative Projects

Southwest Waterfront Plan. The *Southwest Waterfront Plan* is a redevelopment framework for nearly 50 acres of waterfront in the southwest quadrant of Washington. The plan envisions replacing parking lots and underutilized streets with a mix of public plazas, cultural venues, restaurants, shops, and residences to create a vibrant neighborhood and regional waterfront destination. More than 2 million square feet of new construction are proposed, including 14 acres of new parks along the waterfront, three times the existing open space (DC 2003b).

The District of Columbia Bicycle Master Plan. The *Bicycle Master Plan* generally recommends more and better bicycle facilities, including a bike route system with more bike facilities on roadways, more bicycle friendly policies, and more bicycle-related education, promotion, and enforcement. It also suggests upgrades of National Mall roadways and multi-use trails, improved bridge access, bike-friendly traffic calming, exclusive bus and bicycle lanes, and intersection safety and visibility improvements to better accommodate bicycling (DDOT 2005a).

The District of Columbia Pedestrian Master Plan. The draft plan identifies pedestrian potential, as well as problems to be addressed, such as walking along roadways and crossing roads (DDOT 2008a). The plan recommends improved pedestrian access and safety at controlled crossings and intersections to meet the needs of pedestrians of all ability levels, as well as programs that support pedestrian travel. The related vision statement fits well with National Mall plan goals:

Washington, DC will be a city where any trip can be taken on foot safely and comfortably, and where roadways equally serve pedestrians, bicyclists, transit users and motorists.

L'Enfant Promenade Urban Planning Study. The D.C. Department of Transportation, in coordination with the Federal Highway Administration, the National Park Service, and the Washington Interdependence Council, is pursuing an urban planning study to identify and evaluate rehabilitation options and modifications to the existing roadway and sidewalks for the L'Enfant Promenade, in southwest Washington, including connections to the southwest

waterfront (DDOT 2003). One of the proposals is for a multi-level parking and intermodal transportation facility below the 10th Street Overlook, which would provide approximately 1,200 parking spaces and a terminal and parking facility for commuter and tour buses. The *Monumental Core Framework Plan* proposes an alternative intermodal transportation facility linked to the L'Enfant Metro station that could provide tour bus and visitor parking beneath 10th Street (NCPC 2009).

New York Avenue Corridor Study. The study's goals for New York Avenue from 7th Street NW to the intersection with Baltimore-Washington Parkway, and 7th Street from H to N streets NW (including three blocks to the east and west of 7th Street NW) are (1) to facilitate the more efficient and safe movement of people while minimizing the negative impacts of commuter traffic on nearby neighborhoods; (2) to provide a transportation system to include autos, trucks, rail, bus, bicycles, and pedestrians; (3) to investigate opportunities for an intermodal transportation center; (4) to accommodate local and regional transportation needs over the next 30 to 50 years; (5) to create capacity for new commercial and residential development; and (6) to avoid displacing residents or excluding income diversity (DDOT 2005b).

National Capital Planning Commission

The National Capital Urban Design and Security Plan. This plan for Washington's monumental core and the downtown focuses on perimeter building security to protect employees, visitors, and federal functions and property from threats generated by unauthorized vehicles approaching or entering sensitive buildings (NCPC 2002). It specifically addresses the proliferation of makeshift barriers and identifies various security design solutions, including "hardened" street furniture and landscaped planting walls, that can enhance local street-scapes, while still providing security.

NCPC's New Vision for South Capitol Street. As envisioned, South Capitol Street will include a combination of parkland, retail, residential, and cultural establishments, such as a museum or performing arts venue (NCPC 2005b).

Washington's Waterfronts. Six waterfront areas are identified for potential development: the east and west banks of the Anacostia River; the Bolling-Anacostia waterfront; the southeast waterfront; the southwest waterfront; and the Georgetown/northwest waterfront (NCPC 1999).

National Park Service

American Veterans Disabled for Life Memorial. The National Park Service and the Disabled Veterans' Life Memorial Foundation have proposed a national memorial for disabled veterans at Washington Avenue and 2nd Street SW, near the National Mall. The National Capital Planning Commission approved this site in August 2001. The memorial will consist of a grove of trees, a reflecting pool, and a central fire in the middle of a water element. Stone and glass walls will enclose the site and define pathways (NPS 2005a).

Anacostia Park — Anacostia Park's new general management plan will serve as the park's decision-making foundation over the next 10 to 15 years. Elements common to the alternatives include taking better advantage of existing Metro access, improving vehicular access within the park, and improving the trail system (NPS 2003c).

Anacostia Riverwalk. The proposed Anacostia riverwalk project would create a multi-use trail and connecting points on the east side of the Anacostia River from the Washington Navy Yard to Benning Road, and on the west side of the river from the Anacostia Naval Station to Bladensburg Trail in Prince George's County, Maryland (NPS 2004a).

Centennial Initiative. In 2006 President George W. Bush and Secretary of the Interior Dirk Kempthorne proposed a 10-year initiative to upgrade the condition of the national park system by its 100th anniversary in 2016 (NPS 2007c). Additional operating funds will be provided to supplement budgets, along with specific projects at parks. To provide incentives, matching funds are to be raised for projects by private/public partnerships.

The National Mall and Memorial Parks has been selected for the Centennial Initiative, and the

first project is for park signage and graphics. The Trust for the National Mall is providing matching funds (NPS 2008b). The project, which is underway, will develop and update a sign system for all National Mall and Memorial Parks, which will include pedestrian wayfinding signs and directories; identification signs for park areas, memorials, and monuments; orientation, information, and map locations; general information signs; park rules and regulations; temporary signs; and interactive signs. The project will be implemented in phases.

Constitution Avenue Roadwork. Constitution Avenue roadwork will repair and resurface the travel lanes and a concrete lane for bus drop-offs from 17th to 19th streets, as well as provide new granite curbs, curb cuts, new concrete sidewalks on both sides of the street, concrete walks connecting bus drop-offs to the main east-west sidewalk on the south side, new street lights, and a new stormwater drainage system. Portions of travel lane work could begin earlier. The project is scheduled for 2014, but it could be accelerated under the American Recovery and Reinvestment Act of 2009.

D.C. War Memorial. Rehabilitation of the D. C. War Memorial is being funded by the American Recovery and Reinvestment Act of 2009.

Eisenhower National Memorial. The Dwight D. Eisenhower Memorial Commission is in the planning stages to create an Eisenhower National Memorial. The approved site is directly south of the National Air and Space Museum, between 4th and 6th streets SW, and Independence Avenue SW and C Street SW (Dwight D. Eisenhower Memorial Commission 2006).

Georgetown Waterfront Park and C&O Canal National Historical Park. The National Park Service has submitted final site development plans for a portion of the Georgetown Waterfront Park, which were approved by the National Capital Planning Commission on June 2, 2005.

Lincoln Memorial Circle Roadway and Security Project. The purpose of this project is to improve bicycle and pedestrian safety, enhance traffic flow, upgrade visitor facilities, and reduce tour bus congestion. The project includes improving the pedestrian plaza on the east side of

the circle, adding concrete bus pads, improving drainage and lighting, replacing curbs and sidewalks, installing new signalized pedestrian crossings and drinking fountains, coordinating traffic patterns, and adding security barriers (NPS 2005b). This project was completed in 2008, with the exception of the design and construction of a permanent vehicular security barrier on the east side of the memorial. A new project that includes the permanent security barrier along with repairs to the reflecting pool, the lower approachway, and elm walkways is being funded by the American Recovery and Reinvestment Act of 2009.

Madison Drive Roadwork. Milling and overlay of road surfaces is proposed for 2011 but could be accelerated under the American Recovery and Reinvestment Act of 2009.

Martin Luther King, Jr. Memorial. A national memorial to Dr. Martin Luther King Jr. will be built on a 4-acre site on the northwest corner of the Tidal Basin. Plans were approved by the Commission of Fine Arts in September 2008. After construction, the National Park Service will maintain and operate the memorial (NPS 2005c).

National Mall and Memorial Parks Concession Contracts and Commercial Services. The National Mall and Memorial Parks has concession contracts to provide visitor services such as food/retail and recreation equipment rentals. Economic feasibility assessments would determine the nature and scope of commercial business services.

Ohio Drive Roadwork. The project will repair and resurface the travel lanes on Ohio Drive from 23rd Street and Independence Avenue to the Constitution Avenue belvedere, and it will realign the road by 2 feet away from the river to develop a wider, safer, multipurpose trail where it passes under Arlington Memorial Bridge and Parkway Drive. The project will add new granite curbs and a concrete sidewalk on the river side of the street, reset the granite cobble sidewalk on the memorial side of the street, and install a new stormwater drainage system. The project is scheduled for 2010, but it could be accelerated under the American Recovery and Reinvestment Act of 2009.

Potomac Park Levee Project. The National Park Service, in cooperation with U.S. Army Corps of Engineers and the National Capital Planning Commission, has evaluated three action alternatives and a no-action alternative to improve the reliability of river flood protection provided by the Potomac Park levee system to a portion of the monumental core and downtown Washington D.C. Without adequate flood protection measures, several downtown locations, including portions of the monumental core, portions of Pennsylvania and Constitution avenues, and other public and private facilities south of the U.S. Capitol to Fort McNair, are at risk of flooding from a major (100-year plus) flood event (NPS 2008d).

Rehabilitation of Rock Creek and Potomac Parkway. The National Park Service, in cooperation with the Federal Highway Administration's Eastern Federal Lands Highway Division, proposes to rehabilitate Rock Creek and Potomac Parkway from Virginia Avenue to the P Street bridge and the Thompson Boat Center, along with the access road, bridge, and parking area at the Thompson Boat Center (NPS 2005e).

Rock Creek Park. The National Park Service's preferred alternative for the *Final General Management Plan and Environmental Impact Statement* provides for the broadest use of the park by improving resource protection, enhancing recreational opportunities, and continuing the traditional visitor experience of automobile touring along the length of the park (NPS 2005f).

Thomas Jefferson Memorial Permanent Security Improvements. This project will create a vehicle barrier system around the memorial while maintaining pedestrian flow across the grounds. The design is scheduled to begin in 2009.

Thomas Jefferson Memorial Plaza Wall. The National Park Service is continuing to work on repairing the seawalls near the plaza. Construction is being funded by the American Recovery and Reinvestment Act of 2009.

Victims of Communism Memorial. The National Park Service and the Victims of Communism Memorial Foundation have proposed an international memorial as a tribute to the millions of people throughout the world who have

fallen victim to communism. The approved site is at the intersection of Massachusetts Avenue, New Jersey Avenue, and G Street NW (NPS 2005h).

Vietnam Veterans Memorial Center. The underground center will be west of the Vietnam Veterans Memorial along 23rd Street NW. It will affect circulation and visitor experiences in the vicinity of Lincoln Circle and Henry Bacon Drive from 21st to 23rd streets (NPS 2007f).

Washington Monument Permanent Security Improvements. Completed in 2007, this project reconfigured the grounds of the Washington Monument to create a vehicle barrier system around the monument while maintaining pedestrian flow across the grounds. Work included site walls, sidewalks and plaza, new flagpoles, lighting, irrigation, utility work, and rehabilitation of Monument Lodge (NPS 2002). Remaining work includes replacing the temporary screening facilities with permanent measures.

Washington Mall Plan 1973–1976. This plan was prepared for the National Park Service by Skidmore, Owings and Merrill in preparation for the 1976 Bicentennial (Skidmore, Owings and Merrill 1973). As a result of this plan, Adams and Washington drives were converted from streets to wide pedestrian walks. Early plan drafts also recommended tunneling more roads under the National Mall and providing underground parking. The plan recognized that “the Mall in its present form is not a satisfactory pedestrian environment” and intended to restore the pedestrian role by removing surface traffic; providing visitor amenities such as refreshments, orientation, and resting facilities; providing a visitor transportation system (Tourmobile); adding new plantings to enhance year-round attractiveness, and embellishing the 8th Street axis. Access would be provided for bicyclists, pedestrians, Tourmobile buses, and service vehicles on narrower roads. Visitor parking was to be removed. The plan illustrated several different approaches to the Mall tree planting, however additional tree planting was rejected.

Wetland Restoration and Canada Goose Management Plan for Anacostia. The National Park Service is preparing a wetland restoration plan, including resident goose management strategies

to control undesired impacts of Canada geese at Anacostia Park.

Smithsonian Institution

Arts and Industries Building. A stabilization program for the building is being funded by the American Recovery and Reinvestment Act of 2009.

National Museum of the American Indian. The museum at 4th Street and Independence Avenue SW opened on September 21, 2004 (Smithsonian Institution 2005b).

National Museum of American History Renovation. After three years of renovation the museum was reopened in November 2008. While the building footprint did not change, there is the potential for a future underground pedestrian and service connection to the National Museum of African American History and Culture. This potential connection could affect circulation near 14th Street and Madison Drive. The Smithsonian Institution is seeking a new home for the bandstand gazebo located west of the museum.

National Museum of African American History and Culture. The site for this new museum is Constitution Avenue between 14th and 15th streets NW. A draft environmental impact statement has been prepared, and design and compliance are to be started.

Smithsonian Institution Mall-Wide Perimeter Security Improvements. In consideration of the National Capital Planning Commission’s *National Capital Urban Design and Security Plan* (NCPC 2002), the Smithsonian Institution has proposed perimeter security improvements. In October 2004 the National Capital Planning Commission approved preliminary plans for perimeter security measures for nine Smithsonian Institution museums on the Mall. The plans include establishing security lines within the building yard rather than in the public space; incorporating security into already existing site features when possible; respecting the monumentality of Independence and Constitution Avenues; custom designing solutions at entryways and plaza areas; and establishing a comprehensive tree planting program. Along Independence Avenue, for

example, existing walls will be hardened and custom-designed bollards will be used to secure pedestrian and vehicular entrances. Along Constitution Avenue the design calls for new free-standing walls on the inside edge of the sidewalk. Custom-designed benches, light poles, and urns will complement the historic fabric of the Mall precinct (NCPC 2004b).

U.S. Department of Agriculture

The Jamie L. Whitten Building, the central administration headquarters for the U.S. Department of Agriculture, is located across from the National Mall at 1400 Independence Avenue, SW. The neoclassical building was completed in 1930. The NCPC *Monumental Core Framework Plan* (NCPC 2009) proposes that the Whitten building could become a cultural destination on the National Mall. Any such action would require congressional legislation.

U.S. Department of Defense

Air Force Memorial. The Air Force Memorial honors men and women who have served in the U.S. Air Force and its predecessors. On 3 acres of the Naval Annex site, the memorial includes three spires ranging from approximately 200 feet to 270 feet high, a parade ground, an honor guard sculpture, contemplative outdoor rooms and seating areas, pedestrian walkways, and a parking area (US DOD 2003).

Pentagon September 11th Memorial. The memorial honors those who lost their lives in the 2001 terrorist attack on the Pentagon. It opened on September 11, 2008.

U.S. Department of Transportation

The District of Columbia Tour Bus Management Initiative. The *Tour Bus Management Initiative* examines the impact of tour buses, explores best practices, identifies potential strategies, recommends counting methods and locations to get a better sense of the demand, and recommends the completion of a plan (US DOT 2003). The initiative identifies a shortage of parking and loading/unloading space, associated traffic and safety issues, adverse environmental impacts from buses, and obstruction of view corridors. The study also concluded that the National Mall does not have sufficient curbside

loading/unloading space for demand. Some potential strategies include increased peripheral parking outside the monumental core and downtown, centrally located parking facilities, encouraging walking among clustered destinations, pricing strategies for parking or permits/licenses, and defined routes and driver facilities/shuttles between parking lots and hotels.

Other Reasonably Foreseeable Actions

National Aquarium. Currently located in the basement of the Commerce Building, the aquarium entrance will be relocated to Constitution Avenue, making access more convenient for visitors on the National Mall.

United States Institute of Peace Headquarters — A permanent headquarters facilities is to be built on the northwest corner of the National Mall at the intersection of Constitution Avenue and 23rd Street NW.

Steamlines. The current replacement of the GSA steamline system under the Ellipse will have a short-term impact on circulation in the area north of the National Mall.

The steamline serving the Washington Monument will also be replaced in the near future. This will have a short-term impact on circulation on the east side of the monument grounds.

Maryland Avenue. Proposals for renovation of Maryland Avenue have included decking over rail lines to restore the avenue to the prominence envisioned in the L'Enfant plan.

Southwest Waterfront Development. A plan by a private developer aims to produce an active, mixed-use, urban riverfront that showcases distinctive cultural destinations and that builds on the existing, strong waterfront community.

IMPAIRMENT

In addition to determining the environmental consequences of implementing the alternatives, NPS *Management Policies 2006* require the analysis of potential effects to determine whether actions would impair park resources (NPS 2006e).

The fundamental purpose of the national park system, established by the 1916 Organic Act and reaffirmed by the General Authorities Act of 1970, as amended, begins with a mandate to conserve park resources and values. NPS managers must always seek ways to avoid, or to minimize to the greatest degree practicable, adverse impacts on park resources and values. However, the laws do give the National Park Service the management discretion to allow impacts to park resources and values when necessary and appropriate to fulfill the purposes of a park, as long as the impact does not constitute impairment of the affected resources and values. Nevertheless, that discretion is limited by the statutory requirement that the National Park Service must leave park resources and values unimpaired, unless a particular law directly and specifically provides otherwise.

The prohibited impairment is an impact that, in the professional judgment of the responsible NPS manager, would harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of those resources or values. An impact to any park resource or value might constitute impairment. According to the *NPS Management Policies 2006* (NPS 2006e, sec. 1.4.5), an impact would be more likely to constitute impairment to the extent that it affects a resource or value whose conservation is:

- necessary to fulfill specific purposes identified in the park's establishing legislation or proclamation;
- key to the park's natural or cultural integrity; or
- identified as a goal in the park's management plan or other relevant NPS planning documents.

Impairment may result from NPS activities in managing the park, visitor activities, or activities undertaken by concessioners, contractors, and others operating in the park. The potential for impairment is discussed in the conclusion section of each natural and cultural resource impact topic. In accordance with the criteria defined above for park resources and values, determinations of impairment are not required for topics such as demonstrations, events, and national celebrations, access and circulation,

visitor experience, socioeconomic environment, or park operations.

UNACCEPTABLE IMPACTS

The impact threshold at which impairment occurs is not always readily apparent. Therefore, the National Park Service will apply a standard that offers greater assurance that impairment will not occur. The National Park Service will do this by avoiding impacts that it determines to be unacceptable. These are impacts that fall short of impairment, but are still not acceptable within a particular park's environment. Park managers must not allow uses that would cause unacceptable impacts; they must evaluate existing or proposed uses and determine whether the associated impacts on park resources and values are acceptable.

Virtually every form of human activity that takes place within a park has some degree of impact on park resources or values, but that does not mean the impact is unacceptable or that a particular use must be disallowed. Therefore, for the purposes of these policies, unacceptable impacts are impacts that, individually or cumulatively, would

- be inconsistent with a park's purposes or values, or
- impede the attainment of a park's desired future conditions for natural and cultural resources as identified through the park's planning process, or
- create an unsafe or unhealthful environment for visitors or employees, or
- diminish opportunities for current or future generations to enjoy, learn about, or be inspired by park resources or values, or
- unreasonably interfere with park
 - programs or activities, or
 - an appropriate use, or
 - the atmosphere of peace and tranquility, or the natural soundscape maintained in wilderness and natural, historic, or commemorative locations within the park, or
 - NPS concessioner or contractor operations or services.

In accordance with *Management Policies 2006*, park managers must not allow uses that would cause unacceptable impacts to park resources. To determine if unacceptable impact could occur to the resources and values of the National Mall, the impacts of proposed actions in this environmental impact statement have been evaluated based on the above criteria. A determination on unacceptable impacts is made in the conclusion section for each of the natural and cultural resource topics carried forward in this chapter.

FUTURE COMPLIANCE

This environmental impact statement describes the impacts associated with a management plan for the National Mall. As specific elements of the plan are implemented, the NEPA environmental analysis will be reviewed to determine that (1) all impact topics have been analyzed in site-specific detail adequate for this particular action, (2) there are no changes to the proposal, (3) there

are no appreciable changes in the affected environment (e.g., listing of a resource on the National Register of Historic Places), and (4) there are no changes to impacts to environmental resources. If all of these criteria apply, a memo-to-file will be used to document that site-specific compliance with the National Environmental Policy Act has been documented in this environmental impact statement. If changes have occurred or if the site-specific detail is insufficient, additional compliance documentation will be required.

Projects would continue to be assessed for their impacts on historic properties, and consultation under section 106 of the National Historic Preservation Act would occur as needed (see “Consultation and Coordination”). Required reviews and approvals by the Commission of Fine Arts and the National Capital Planning Commission would occur in accordance with legislation, as would reviews by the U.S. Park Police.

CULTURAL RESOURCES

METHODOLOGY FOR ANALYZING IMPACTS

Potential impacts to contributing elements or character-defining features of a resource (direct, indirect, and cumulative) are described in terms of type, intensity, and duration, as described below. This analysis is consistent with the CEQ regulations for the National Environmental Policy Act. Unless otherwise noted, the context for all impacts would be direct and site-specific.

Memorials on the National Mall are protected by authorities under the Commemorative Works Act. Potential impacts to the memorials resulting from actions described in the alternatives are evaluated in this chapter by area.

Impact Intensity Levels

The following impact thresholds were defined for impacts on cultural landscapes:

- **Negligible** — Negligible impacts would be at the lowest levels of detection — barely perceptible and not measurable. There would be no change to defining features that contribute to the eligibility of a resource for listing on the National Register of Historic Places. For purposes of a determination under section 106 of the National Historic Preservation Act, the determination of effect would be *no adverse effect*.
- **Minor** — Impacts would not affect the character-defining features of a historic resource listed or eligible for listing on the National Register of Historic Places. Impacts would be detectable but would not diminish the overall integrity of the resource. For purposes of a determination under section 106 of the National Historic Preservation Act, the determination of effect would be *no adverse effect*.
- **Moderate** — Moderate impacts would alter a character-defining feature or features of a significant historic resource, and would diminish the overall integrity of the resource to the extent that its eligibility for

the National Register of Historic Places could be jeopardized. Mitigation measures would be identified to reduce the level of impact and would be implemented with a high degree of success. For purposes of a determination under section 106 of the National Historic Preservation Act, the determination of effect would be *adverse effect*.

- **Major** — Major impacts would result from substantial and highly noticeable changes that would alter the character-defining features of a historic resource, and diminish the integrity of the resource to the extent that it would no longer be eligible for listing on the National Register of Historic Places. Mitigation measures would be identified to reduce the level of impact and adopted not knowing the degree of success. For purposes of a determination under section 106 of the National Historic Preservation Act, the determination of effect would be *adverse effect*.

Type of Impact

Beneficial impacts would occur as a result of the restoration or rehabilitation of resources, or the removal of incompatible or noncontributing features. Adverse impacts would generally occur as a result of modifying a significant characteristic of a historic structure or landscape resource; removing a significant structure or landscape resource; or adding new, incompatible facilities in proximity to a historic site or structure.

Duration

Impacts could be temporary, short-term, long-term, or permanent.

- **Temporary** — The impact would last no longer than two days.
- **Short-term** — The impact would generally last up to one year or the life of a construction project.
- **Long-term** — The impact would last longer than one year or for the life of the plan (up to 50 years).

- **Permanent** — The impact would last beyond the life of the plan (or longer than 50 years).

Regulations and Policies

Current laws and policies that apply to the management of cultural resources include the following:

- National Historic Preservation Act of 1966, as amended (16 USC 470(f))
- Archeological and Historic Preservation Act of 1974 (16 USC 469 et seq.)
- *The Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation* (NPS 1983)
- *The Secretary of the Interior's Standards for the Treatment of Historic Properties, with Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings* (NPS 1995)
- *The Secretary of the Interior's Standards for the Treatment of Historic Properties, with Guidelines for the Treatment of Cultural Landscapes* (NPS 1996c)
- "Nationwide Programmatic Memorandum of Agreement between the National Park Service, the Advisory Council on Historic Preservation, and the National Council of State Historic Preservation Officers"
- *NPS Management Policies 2006* (NPS 2006e); *Director's Order #28: Cultural Resource Management; NPS-28: Cultural Resource Management Guideline* (NPS 1998b)

Historic structures are inventoried and evaluated under National Register of Historic Places criteria. The qualities that contribute to the listing or eligibility for listing of historic structures on the national register are protected in accordance with *The Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation*.

National Historic Preservation Act Section 106 Analysis

The assessment of impacts on cultural resources for this project was made in accordance with

regulations of the Advisory Council on Historic Preservation for implementing section 106 of the National Historic Preservation Act (36 CFR 800). The project is being reviewed in accordance with the 2008 "Nationwide Programmatic Agreement between the National Park Service, the Advisory Council on Historic Preservation, and the National Council of Historic Preservation Officers." This programmatic agreement stipulates that section 106 compliance will be undertaken for all major planning efforts and will be in accordance with the servicewide programmatic agreement.

In accordance with the Advisory Council on Historic Preservation's (ACHP) regulations for implementing section 106 (36 CFR 800), impacts to cultural resources were identified and evaluated by (1) determining the area of potential effect; (2) identifying cultural resources present in this area that are either listed on or eligible for listing on the National Register of Historic Places; (3) applying the criteria of adverse effect to affected resources; and (4) considering ways to avoid, minimize or mitigate adverse effects. Each of these requirements is further described below:

- **Area of Potential Effect** — The area of potential effect is the area within which an action could be expected to have some effect upon cultural resources listed on, or eligible for listing on, the National Register of Historic Places. The impact could be direct or indirect, or possibly visual in nature. The area of potential effect for the National Mall plan was defined broadly during the historic preservation consultation process. The Area of Potential Effect map represents the area that the D.C. Historic Preservation Office and the National Park Service determined could potentially be affected.
- **Resources within the Area of Potential Effect** — Resources on the National Mall are discussed in the "Affected Environment" (beginning on page 260).
- **Determination of Effect** — Under the ACHP regulations a determination of either *adverse effect* or *no adverse effect* must also be made for affected properties that are listed on or eligible for listing on the National Register of Historic Places.

Area of Potential Effect

- **Adverse effect** — An adverse effect occurs whenever an impact alters, directly or indirectly, any characteristic of a cultural resource that qualifies it for listing on the National Register of Historic Places, e.g. diminishing the integrity (or the extent to which a resource retains its historic appearance) of location, design, setting, materials, workmanship, feeling, or association. An adverse effect also includes reasonably foreseeable effects caused by the alternatives that would occur later in time, be farther removed in distance, or be cumulative (36 CFR 800.5).
- **No Adverse Effect** — A determination of no adverse effect means there is an effect, but the effect would not diminish the characteristics of the cultural resource

that qualify it for listing on the National Register of Historic Places.

CEQ regulations and NPS *Director's Order #12: Conservation Planning, Environmental Impact Analysis and Decision Making* (NPS 2001a) also call for a discussion of mitigation, along with an analysis of how effective the mitigation would be in reducing the intensity of a potential impact, for example, reducing an impact intensity from major to moderate or minor. Any resultant reduction in impact intensity due to mitigation, however, is an estimate of the effectiveness of mitigation only under the National Environmental Policy Act. It does not suggest that the level of effect as defined by section 106 would be similarly reduced. Cultural resources are nonrenewable resources, and adverse effects generally consume, diminish, or destroy the original historic materials or form, resulting in a loss in the

integrity of the resource that can never be recovered. Therefore, although actions determined to have an adverse effect under section 106 might be mitigated, the effect would remain adverse.

The final assessment of effect for each action described in the management alternatives will be undertaken in consultation with D.C. Historic Preservation Office and the Advisory Council on Historic Preservation. All future consultation and compliance on the National Mall plan will be undertaken according to the terms and conditions of a programmatic agreement between the National Park Service, the D.C. Historic Preservation Office, and the Advisory Council on Historic Preservation. The agreement will be signed before the record of decision for the plan.

The Secretary of the Interior's Standards for the Treatment of Historic Properties

The Secretary of the Interior's Standards for the Treatment of Historic Properties, with Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings (NPS 1995) identifies four treatment approaches that apply to a wide variety of resource types, including buildings, sites, structures, objects, districts, and landscape features and patterns. Three of these treatments are included in this plan — preservation, rehabilitation, and restoration — and they are defined below (the fourth treatment, reconstruction, is not considered in this plan):

- **Preservation** — The act or process of applying the measures necessary to sustain the existing form, integrity, and materials of a historic property. Work, including preliminary measures to protect and stabilize the property, generally focuses on ongoing maintenance and repair of historic materials and features rather than extensive replacement and new construction.
- **Rehabilitation** — The act or process of making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features that convey its historical, cultural, or architectural values.
- **Restoration** — The act or process of accurately depicting the form, features, and character of a property as it appeared at a

particular period of time by removing features from other periods in its history and reconstructing missing features from the restoration period.

- **Reconstruction** — The act or process of depicting by means of new construction, the form, features, and detailing of a non-surviving site, landscape, building, structure, or object for the purpose of replicating its appearance at a specific period of time and in its historic location.

These treatment approaches apply to a wide variety of resource types, including buildings, sites, structures, objects, districts, and landscape features and patterns.

Most of the proposed actions for the National Mall fall under rehabilitation, and the standards that would apply to the National Mall include the following:

1. A property will be used as it was historically or be given a new use that requires minimal change to its distinctive materials, features, spaces, and spatial relationships.
2. The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided.
3. Each property will be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or elements from other historic properties, will not be undertaken.
4. Changes to a property that have acquired historic significance in their own right shall be retained and preserved.
5. Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.
6. Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture, and, where possible, materials.

Replacement of missing features will be substantiated by documentary and physical evidence.

7. [Relates to chemical or physical treatments.]
8. [Relates to archeological resources.]
9. New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work will be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment.
10. New additions and adjacent or related new construction will be undertaken in a such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

NPS Management Policies 2006

The NPS *Management Policies 2006* state that the National Park Service will protect, preserve, and foster appreciation of the cultural resources in its custody (NPS 2006e, ch. 5). The Park Service’s cultural resource management program involves

- research to identify, evaluate, document, register, and establish basic information about cultural resources
- planning to ensure that management processes for making decisions and setting priorities integrate information about cultural resources and provide for consultation and collaboration with outside entities
- stewardship to ensure that cultural resources are preserved and protected, receive appropriate treatments (including maintenance) to achieve desired conditions, and are made available for public understanding and enjoyment

The treatment of a cultural landscape will preserve significant physical attributes, biotic systems, and uses when those uses contribute to historical significance. Treatment decisions will

be based on a cultural landscape’s historical significance over time, existing conditions, and use, and they will consider both the natural and built characteristics and features of a landscape. There are three types of treatment for extant cultural landscapes: preservation, rehabilitation, and restoration (NPS 2006e, sec. 5.3.5.2). A cultural landscape may be rehabilitated for contemporary use if

- it cannot adequately serve an appropriate use in its present condition; and
- rehabilitation will retain its essential features and not alter its integrity and character or conflict with approved park management objectives (NPS 2006e, sec. 5.3.5.2.2).

Contemporary alterations and additions to a cultural landscape must not radically change, obscure, or destroy its significant spatial organization, materials, and features. New buildings, structures, landscape features, and utilities may be constructed in a cultural landscape if

- existing structures and improvements do not meet essential management needs;
- new construction is designed and sited to preserve the landscape’s integrity and historic character; and
- the alterations, additions, or related new construction is differentiated from yet compatible with the landscape’s historic character — unless associated with an approved restoration or reconstruction. New additions will meet *The Secretary of the Interior’s Standards for Rehabilitation* (NPS 2006e, sec. 5.3.5.2.7).

IMPACTS COMMON TO ALL ALTERNATIVES

Direct and Indirect Impacts

Because of the unusually long timeframe for the approved National Mall plan, the actions described are conceptual in nature and their effect on the historic character of contributing features of the National Mall cannot be definitively stated. The actions are referred to as potential effects. Final determinations of effect for all actions will be determined in future

consultations with the D.C. Historic Preservation Office and the Advisory Council on Historic Preservation. A park-specific programmatic agreement as previously described would be developed in consultation with the D.C. Historic Preservation Office and the Advisory Council on Historic Preservation to facilitate the compliance process.

Regarding impacts within the area of potential effect, land use and general vegetation patterns on the National Mall would not change, nor would the monumental character and essential relationships of the planned open space, memorials, and museums to the city. The National Park Service would continue consultation with the D.C. Historic Preservation Office, and if needed the Advisory Council on Historic Preservation, to address any potential adverse effects, which would be appropriately documented through compliance with section 106 of the National Historic Preservation Act.

As each action was more fully developed, appropriate compliance would be undertaken in consultation with the D.C. Historic Preservation Office and the Advisory Council on Historic Preservation.

A comprehensive design and consultation process would be undertaken for new projects resulting from the National Mall plan (see “Consultation and Coordination” beginning on page 543). Specific actions that could adversely affect cultural resources would be evaluated on a case-by-case basis as they were proposed for implementation, and appropriate compliance with section 106 of the National Historic Preservation Act, as amended, would be undertaken before implementation. Associated impacts could be direct, indirect, or cumulative over time; site-specific or localized within the area of potential effect; and negligible to major and adverse, depending on the action taken.

All memorials would be preserved and protected, along with receiving periodic preventive maintenance. Resulting impacts would be long-term and beneficial, but generally only negligible in intensity because visitors should not notice any change in the condition of a memorial, with the exception of restoration of the Ulysses S. Grant Memorial under the action alternatives,

which would result in a minor to moderate, beneficial impact.

The discussion of impacts below is based on assumptions about design decisions yet to be made. It is an estimate as to what the impacts would be based on an understanding of what the proposed alternatives might detail.

The Mall

Under every alternative, contributing elements of the Mall, such as the type of vegetation, circulation patterns, small-scale features, and views and vistas would be preserved. Impacts would be long-term, negligible to minor, and beneficial.

Washington Monument and Grounds

The Washington Monument and adjacent historic structures (Monument Lodge and Survey Lodge) and the historic theater function would be preserved. The impact would be long-term, negligible, and beneficial. The condition of the non-contributing German-American Friendship Garden would be improved, resulting in a long-term, negligible, beneficial impact. Contributing vegetation would be preserved, and many non-contributing tree plantings (cherry groves, street trees) would also be preserved, resulting in long-term, negligible, beneficial impacts.

West Potomac Park (North of Independence Avenue)

Vietnam Veterans Memorial

The Vietnam Veterans Memorial and its features (walks, vegetation, and an information station near the Lincoln Memorial) would be preserved and protected. Impacts would be long-term, negligible, and beneficial.

World War II Memorial

The World War II Memorial would be preserved and protected, a long-term, negligible, beneficial impact.

Lincoln Memorial and Grounds

The Lincoln Memorial would be preserved and protected. The impact would be long-term, negligible, and beneficial.

The renovation of the exhibit area and the restrooms on the lower level of the Lincoln Memorial, along with the bookstore relocation, would not affect contributing elements of the memorial. Therefore, impacts would be long-term, minor, and beneficial.

Braddock's Memorial Rock Well and the Constitution Avenue belvedere would both be preserved and protected under every alternative. Impacts would be long-term, minor, and beneficial.

Korean War Veterans Memorial

The Korean War Veterans Memorial would be preserved and protected, resulting in long-term, negligible, beneficial impacts.

West Potomac Park (South of Independence Avenue)

Tidal Basin Area

The Thomas Jefferson Memorial would be preserved and protected, and it would undergo regular preventive maintenance. The impact would be long-term, negligible, and beneficial. Implementing the recommendations of engineering studies to improve Tidal Basin flushing and to ensure seawall stability would have long-term, minor, beneficial impacts.

Franklin Delano Roosevelt Memorial

The Franklin Delano Roosevelt Memorial and the surrounding landscape (pools, lighting, walks, vegetation, and facilities) would be preserved and protected, and regular preventive maintenance would be undertaken. Impacts would be long-term, negligible, and beneficial.

George Mason Memorial

Rehabilitating the historic fountain at the George Mason Memorial, undertaken according to *The Secretary of Interior's Standards for the Treatment of Historic Properties*, would likely have no effect on this significant character-defining constructed water features. The impact would be long-term, negligible, and beneficial.

Conclusion

The impacts of actions common to all alternatives would be long-term, negligible to minor, and beneficial as the result of protecting and preserving contributing features, along with actions at the Lincoln Memorial (regular preventive maintenance, renovation of the exhibit area and restrooms, and protection of associated features), protection of cherry trees at the Tidal Basin, and rehabilitation of the historic fountain at the George Mason Memorial.

IMPACTS OF THE NO-ACTION ALTERNATIVE

Under the no-action alternative the National Park Service would continue to preserve and protect all identified cultural resources (buildings, sites, structures, objects, and districts) to the best of its ability given the limitation of available funds. Prioritization decisions would be based on such factors as listing on or eligibility for listing on the National Register of Historic Places, the identified fundamental resources, interpretive values, resource condition, and suitability for NPS operations. Individual actions would require consultation with the D.C. Historic Preservation Office and the Advisory Council on Historic Preservation, if needed, and would be appropriately documented through compliance with section 106 of the National Historic Preservation Act.

All preservation, rehabilitation, or restoration efforts would be undertaken in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties* (NPS 1995). Any materials removed during rehabilitation or restoration efforts would be evaluated to determine their value to the National Mall and Memorial Park's museum collection and/or for their comparative use in future preservation work at the sites. Preservation, rehabilitation, or restoration could result in beneficial impacts on cultural resources.

In addition to the impacts common to all alternatives, the following direct or indirect impacts would occur.

Direct and Indirect Impacts

The Mall

Union Square

The Ulysses S. Grant Memorial would be preserved and protected, resulting in a long-term, negligible, beneficial impact.

Union Square would be preserved in its current condition. Without rehabilitation efforts, the Capitol Reflecting Pool, walkways, and other contributing features would continue to deteriorate, which would result in long-term, minor to moderate, adverse impacts to contributing features such as the designed water feature.

The Mall

The historic landscape of the National Mall would be preserved in its existing condition. Without rehabilitation efforts, the tree panels, grass panels, walkways, and other contributing features would continue to deteriorate, which would result in long-term, minor to moderate (potentially major), adverse impacts on contributing features such as vegetation, which if lost could also alter the character and planned views and vistas.

Washington Monument and Grounds

Replacing the existing temporary visitor service tent with a more compatible facility designed to fit within the historic landscape would remove an adverse visual intrusion, resulting in long-term, minor, beneficial impacts. Depending on the location (examined in other alternatives), the facility would be a new element in the historic setting. Even though it would replace another facility, it would potentially affect components of the cultural landscape, such as views and vistas, spatial organization and noncontributing vegetation. Impacts would have the potential to be long-term, moderate, and adverse.

West Potomac Park (North of Independence Avenue)

Constitution Gardens

The area would be preserved, but some features of the cultural landscape (pool, walks, trees, refreshment stand) could be affected as a result of high visitor use, erosion, climate change, and

natural aging that routine maintenance might not be able to keep up with. Impacts would be long-term, negligible, and adverse.

The Lockkeeper's House would be preserved in its present location, a long-term, negligible, beneficial impact.

Korean War Veterans Memorial

While the Korean War Veterans Memorial would be preserved, designed landscape features could begin to deteriorate as a result of high visitation that could exceed the capacity of the circulation system (walks, vegetation). Impacts would be long-term, minor, and adverse.

Ash Woods

Ash Woods and the U.S. Park Police stables are not contributing features listed on the national register nomination for West Potomac Park. Preserving the woods as a naturalized, thickly wooded area would retain the historic character of this portion of West Potomac Park, resulting in long-term, negligible, beneficial impacts. Rehabilitating the restroom would have no impact because the structure is not historic.

West Potomac Park (South of Independence Avenue)

Tidal Basin Area

Repairs to the Tidal Basin seawalls would be made in kind. Impacts would be long-term, negligible, and beneficial. Ongoing high levels of use would continue to adversely affect contributing features of the cultural landscape, such as circulation and vegetation. Impacts would be long-term, minor to moderate, and adverse.

West Potomac Park Riverfront

Associated features of the cultural landscape (walks, vegetation) would continue to be preserved. Continuing to stabilize the river walls south of Arlington Memorial Bridge with riprap would result in long-term, negligible to minor, beneficial impacts.

The contributing feature of dry-laid seawalls would continue to deteriorate as a result of erosion due to wave action, periodic flooding,

and rising sea levels. Impacts would be long-term, minor, and adverse.

Summary

Impacts on cultural resources under the no-action alternative would be long-term and would range from negligible to minor, and would be adverse or beneficial. Some of the actions described under this alternative would likely pose long-term, negligible to minor, adverse impacts on the overall cultural landscape or its contributing resources.

Cumulative Impacts

Past Actions

Following the filling of the Potomac River tidal flats in the late 19th century to create East Potomac Park and West Potomac Park, a number of commemorative memorials and monuments were created. Park features were designed to provide an appropriate setting for the new monuments and to extend the National Mall to the west. The McMillan plan was largely responsible for the National Mall's present size, layout, and the completion of the Mall as well as the Grant, Lincoln, and Thomas Jefferson memorials.

From World War I until the 1970s temporary Department of Defense structures kept the various areas from being completed. Subsequent to the removal of these temporary facilities, additional memorials were added, along with more parklike amenities. The designed landscape for Union Square by Frederick Law Olmsted Jr., which implemented the McMillan plan, was removed in the 1970s to accommodate a freeway tunnel. Spatial organization, circulation, views and vistas, and vegetation were affected, resulting in a permanent, moderate, adverse impact.

In 2003 Congress declared the National Mall to be a completed work of civic art. That action was intended to stop the future addition of monuments, memorials, statues, and visitor centers throughout the National Mall. The memorials and monuments, as well as associated landscapes, are preserved in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties* (NPS 1995).

Altogether, the impacts of all of these actions have been long-term to permanent, major, and beneficial.

Present Actions

Present actions described in this plan either have already undergone or would undergo consultation with the D.C. Historic Preservation Office and/or the Advisory Council on Historic Preservation to minimize effects on the National Mall's cultural resources. Designs for projects funded under the American Recovery and Reinvestment Act of 2009 (the Lincoln reflecting pool area, the D.C. War Memorial, and the Thomas Jefferson Memorial seawall/plaza) are underway, as are designs for modifying the Potomac Park levee and installing security measures around the Thomas Jefferson Memorial. Other projects would include the rehabilitation of paving on Madison Drive between 3rd and 14th streets NW and the rehabilitation of Ohio Drive from 23rd Street to Rock Creek and Potomac Parkway. While every effort will be made to protect contributing elements of the cultural landscapes through a consultation process, the impacts could potentially be permanent, minor, and adverse.

The construction of the Martin Luther King, Jr. Memorial, the Smithsonian Institution's Museum of African American History and Culture, and the Vietnam Veterans Memorial Center would affect existing spatial organization and pedestrian circulation on the National Mall, as well as views and vistas. Consultations are ongoing. Impacts on the overall landscape would be permanent, negligible to minor, and potentially adverse.

The development and implementation of a way-finding and sign plan within the boundaries of the National Mall is also underway. Ongoing consultation, along with careful design and siting, would ensure that any signs erected would minimally affect the scale and visual relationships among landscape features. Impacts would be long-term, minor, and beneficial.

Other ongoing actions include mostly routine maintenance actions, such as the repair of walkways and roads, tree pruning and planting, sod replacement, addition of post and chain, and other landscape work. All stabilization, preser-

vation, and rehabilitation efforts would be undertaken in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties* (NPS 1995). Impacts would be long-term, negligible to minor, and beneficial.

Taken as a whole, the cumulative impacts of all present actions would be long-term to permanent, negligible to minor, and beneficial as a result of ongoing consultation to mitigate impacts on contributing features of the cultural landscape.

Reasonably Foreseeable Actions

Some of the reasonably foreseeable actions described in this plan will undergo consultation with the D.C. Historic Preservation Office and the Advisory Council on Historic Preservation, resulting in an agreement that will detail management strategies to minimize impacts.

A permanent security screening function for the Washington Monument would be developed, and the temporary structure located on the east side of the monument would be removed. The impact would be long-term, minor, and beneficial.

Installing parking meters or kiosks on Madison and Jefferson drives, as recommended by the 2006 NPS *Visitor Transportation Study*, would not be likely to impact views along these streets, resulting in long-term, negligible, adverse impacts. However, paid parking could improve circulation patterns on the drives, a possible long-term, minor, beneficial impact.

Future actions that would occur adjacent to the National Mall include security projects for the Smithsonian Institution museums, memorials for Dwight D. Eisenhower and American Veterans Disabled for Life, the U.S. Institute of Peace headquarters, improvements of the 14th Street Bridge corridor, and the development of the southwest waterfront. Sensitive designs of new structures and features, including the use of appropriate materials and colors and select vegetation plantings as visual buffers, if appropriate, would minimally affect the scale and visual relationships among important landscape features of the National Mall. In addition, the topography, circulation features, and land use patterns of the National Mall would remain

largely unaltered by such actions. Impacts would be long-term, minor to moderate, and beneficial.

The relocation of steamlines around the Ellipse would have little, if any, effect on existing topography, spatial organization, or land use patterns. Once the steamlines were installed and the trenches backfilled, the disturbed ground would be restored to its pre-construction contour and condition. Any impacts would be long-term, negligible, and adverse.

Summary

The impacts of past, present, and reasonably foreseeable actions would be long-term to permanent, negligible to minor, and adverse, as well as negligible to major and beneficial. The no-action alternative would result in long-term impacts on cultural resources that would be negligible to minor and adverse, as well as negligible to minor and beneficial. These impacts, in combination with the impacts of past, present, and reasonably foreseeable actions, would result in long-term, major, beneficial cumulative impacts. The beneficial impacts of the no-action alternative, however, would be a very small component of overall cumulative impacts.

Conclusion

The no-action alternative would result in long-term, negligible to minor impacts on cultural resources that would either be adverse or beneficial. The overall impacts of past, present, and reasonably foreseeable actions combined with the impacts of the no-action alternative would result in long-term, major, beneficial cumulative impacts. The impacts associated with the no-action alternative would be a very small component of the beneficial cumulative impacts. There would be no impairment of cultural resources under the no-action alternative.

NHPA Section 106 Summary

After applying the Advisory Council on Historic Preservation's criteria of adverse effects (36 CFR Part 800.5, "Assessment of Adverse Effects"), the National Park Service concludes that the no-action alternative would have potential *adverse effects* on cultural resources.

IMPACTS OF THE PREFERRED ALTERNATIVE

Under the preferred alternative all identified cultural resources (memorial, buildings, sites, structures, objects, landscapes, and districts) on the National Mall would continue to be preserved and protected by the National Park Service. Prioritization decisions would be based on such factors as listing on or eligibility for listing on the National Register of Historic Places, identified fundamental resources, interpretive values, resource condition, and suitability for NPS operations. Individual actions would require consultation with the D.C. Historic Preservation Office and the Advisory Council on Historic Preservation, and would be appropriately documented through compliance with section 106 of the National Historic Preservation Act.

All preservation, rehabilitation, or restoration efforts would be undertaken in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties* (NPS 1995). Any materials removed during rehabilitation or restoration efforts would be evaluated to determine their value to the National Mall and Memorial Park's museum collection and/or for their comparative use in future preservation work at the sites. Preservation, rehabilitation, or restoration conducted according to *The Secretary of Interior's Standards* could result in beneficial impacts on cultural resources.

In addition to the impacts common to all alternatives, the following impacts are analyzed.

Direct and Indirect Impacts

The Mall

Union Square (1st to 3rd Streets)

The Ulysses S. Grant Memorial would be restored, resulting in a long-term, minor to moderate, beneficial impact.

The redesign of Union Square would incorporate elements from the other action alternatives and would protect key contributing elements of the cultural landscape, such as the Grant Memorial, the preservation of historic vistas, the protection of historic trees, and the provision of

visitor services outside historic vistas. The redesign would alter the existing 1970s design by redesigning the Capitol Reflecting Pool, paving, and adding visitor facilities and demonstration/event infrastructure. These actions would meet anticipated use levels now and in the future and would protect the Mall's cultural landscape from overuse, but the 1970s design of Union Square would be altered, resulting in a permanent, major, adverse impact on the designed water feature that might be eligible for inclusion on the National Register of Historic Places. The square's redesign could also affect views to and from the Grant Memorial, the Mall, and the U.S. Capitol. Impacts on Union Square would be long-term, minor to major, and adverse.

The Mall (3rd to 14th Streets)

Compacted soils would be removed and replaced with engineered soils capable of withstanding intensive use, and new drainage and irrigation systems would be installed, resulting in beneficial impacts on the health of contributing features of grass and elm trees and the important views and vistas of the Mall. Installing underground event utility infrastructure would result in the removal of visually intrusive aboveground utilities and temporary utility support systems, such as generator trucks and power lines. Impacts would be long-term, minor to moderate, and beneficial.

Other actions proposed to address the impacts of overuse and permitted events on the Mall's cultural landscape could potentially adversely affect the Mall and would need to be carefully designed to minimize effects. These actions include such things as widening or removing walkways, replacing gravel with paved surfaces, installing curbing, paving walks or widened areas for event and staging purposes, developing a paved welcome plaza with a visitor contact station and restroom, developing a flexible office/restroom facility, developing a restroom near the National Air and Space Museum, and adding seating and pedestrian enhancements such as interactive water features. While the criteria for incorporating such actions would include preserving vistas and vegetation, these actions could pose potential changes to contributing characteristics of the Mall's cultural land-

scape, such as circulation. Impacts would likely be long-term, minor, and adverse.

Washington Monument and Grounds

Developing underground infrastructure for demonstrations and special events and adaptively reusing Survey Lodge could visually enhance the Washington Monument and grounds. Impacts would be long-term, negligible, and beneficial.

Constructing a new multipurpose indoor/outdoor visitor service facility to replace the Sylvan Theater facility and the existing circular restroom could have a long-term, minor, beneficial impact on the Washington Monument grounds. (Neither the restroom nor the Sylvan Theater structures are on or eligible for listing on the National Register of Historic Places, nor are they or related plantings a contributing feature of the grounds.) The location of the facility would be outside the planned vistas of the National Mall,

Replacing damaged walks would rehabilitate the overall appearance of this portion of the historic landscape, resulting in long-term, negligible, beneficial impacts on the visual quality of the historic landscape.

Redesigning roads and parking south of Independence Avenue, along with developing bicycle trails, could have long-term, negligible to minor, adverse impacts on historic vistas of the National Mall.

West Potomac Park (North of Independence Avenue)

Constitution Gardens

The possible relocation of the Lockkeeper's House, which is listed on the National Register of Historic Places, away from its current location immediately adjacent to Constitution Avenue could provide greater protection from potential damage by vehicles. The structure is significant for its historical association with the old Washington City Canal, which no longer exists. In 1915 the structure was relocated 49 feet west and 6 feet north of its original location, when 17th Street was extended. Since then, Constitution Avenue has been widened, reducing the amount of space between the avenue and the north side of the house. After the completion of

the Potomac Park levee project, the possible relocation of the Lockkeeper's House within the present grounds, keeping the structure's original orientation to the former canal, and adaptively rehabilitating it could result in long term, minor, beneficial impacts.

Important landscape features of Constitution Gardens would be rehabilitated. Soils and vegetation would be restored, walkways would be repaved, and the lake would be rebuilt to include circulation systems and self-sustaining aquatic vegetation. Rehabilitation would enhance the general appearance of important contributing features of this historic landscape. Impact would be long-term, minor to moderate, and beneficial.

A new food service facility with restrooms would be built in the area identified in the 1970s design for Constitution Gardens and would be compatible with existing spatial organization, vegetation, and circulation. Limited sidewalk widening would somewhat alter the completed design; therefore, the impacts of these actions would be long-term, minor, and adverse.

Vietnam Veterans Memorial

Potential circulation and pedestrian enhancements, such as seating, could affect the character of the memorial, but that effect would depend on the design and location. The impact would be long-term, negligible to minor, and adverse.

Lincoln Memorial and Grounds

Constructing a new restroom facility near the south concession refreshment stand would introduce a nonhistoric feature to meet visitor needs in this area. Depending on the design and location, the facility could potentially result in adverse impacts to vegetation and spatial organization in the Lincoln Circle and along the radial roads. The use of previously approved architectural styles would allow the restroom to appear as part of the recent design for the refreshment stand. Impacts would be long term, negligible to minor, and adverse.

Potentially removing the Vietnam Veterans Memorial information station once the Vietnam Veterans Memorial Center was completed would have a long-term, negligible, beneficial impact.

Korean War Veterans Memorial

Widening walks on the west side of the Korean War Veterans Memorial would affect the original design and circulation of the memorial and the view of the memorial from the west. However, the widened walks would be in areas leading to the memorial from the sidewalks along the diagonal road and would follow the existing walks and circulation patterns. Impacts would be long-term, negligible, and adverse.

Ash Woods

Ash Woods is not a contributing feature listed on the national register nomination for West Potomac Park. Converting Ash Woods road to pedestrian circulation would reuse a noncontributing circulation element in a manner that would better meet the needs of visitors today and retain a circulation function. Redeveloping the U.S. Park Police facilities at Ash Woods, including new stables (parking area, administrative and support facilities, and a new access road from Independence Avenue) would have long-term, negligible, beneficial impacts, since it would not affect contributing vistas or spatial organization.

West Potomac Park (South of Independence Avenue)

Tidal Basin Area

The Tidal Basin is a contributing feature of the West Potomac Park national register listing. Rebuilding the Tidal Basin seawalls and installing adequate width walks would better protect the cherry trees but would affect the historic characteristics of the Tidal Basin, such as shape, walks, and vegetation. The basin would be noticeably changed on the southeast side to accommodate pedestrian, bicycle, and vehicular circulation. While this would alter the historic appearance of the basin in this area, the scale of the Tidal Basin is so large that it could absorb these changes in a manner that would appear natural to new visitors.

Providing additional space for both bicyclists and pedestrians near Kutz, Inlet, and Outlet bridges would more safely meet today's level of visitation, but would alter the original design and shape of the Tidal Basin landscape, while retaining the appearance of the historic seawalls. The

design of the seawall and walks would consider the need for pedestrian lighting, additional seating, and some widened areas to accommodate safe pedestrian movement. Adding separate bicycle trails through the area for safety would change existing circulation patterns.

A new refreshment stand, new recreation equipment rental facilities, and new restrooms would replace noncontributing facilities but could also affect the appearance of the Tidal Basin area.

Altogether, impacts would be long-term, minor to moderate, and adverse

Franklin Delano Roosevelt Memorial

Providing food service and restrooms between the Franklin Delano Roosevelt Memorial and the future Martin Luther King, Jr. Memorial could result in long-term, negligible to minor, adverse impacts since the facility could potentially be seen from the north entry to the Roosevelt Memorial and from the south side of the King Memorial.

West Potomac Park Riverfront

Developing a partially vegetated shoreline and stabilizing the deteriorated dry-laid stone seawall against seasonal flooding and erosion would have long-term, negligible to minor, beneficial impacts. The vegetated shoreline and stabilized stone seawall could affect the visual appearance of the shoreline when seen from West Potomac Park, a long-term, negligible, adverse impact, because it would affect the historic fabric of a contributing feature of West Potomac Park. The overall impact would be long-term, negligible, and adverse.

Constructing separate bike and pedestrian lanes to provide additional visitor safety could visually affect the grounds and circulation along the riverfront of West Potomac Park, resulting in long-term, minor, adverse impacts.

Thomas Jefferson Memorial and Grounds

Redesigning the tour bus drop-off and replacing the noncontributing refreshment stand and adding restrooms, as well as developing new bicycle lanes and trails, would alter existing spatial organization and circulation patterns, resulting in long-term, minor, adverse impacts.

Summary

Long-term impacts on cultural resources under the preferred alternative would be negligible to major and adverse, as well as negligible to moderate and beneficial. Some of the actions described under this alternative would likely pose an adverse effect for the landscape or its contributing resources, with long-term, negligible to moderate, adverse impacts.

Cumulative Impacts

The impacts of past, present, and reasonably foreseeable actions would be the same as described under the no-action alternative and would be long-term to permanent, negligible to moderate, and adverse, as well as negligible to major and beneficial.

As described above, implementing the preferred alternative would result in long-term, negligible to major, adverse impacts on cultural resources, along with long-term, negligible to moderate, beneficial impacts. These impacts, in combination with the impacts of past, present, and reasonably foreseeable projects, would result in long-term, major, beneficial cumulative impacts. The beneficial impacts of the preferred alternative would be a noticeable component of the beneficial cumulative impacts.

Conclusion

Impacts on cultural resources under the preferred alternative would be long-term, negligible to major, and adverse and also long-term, negligible to moderate, and beneficial. The overall impacts of past, present, and reasonably foreseeable actions, combined with the impacts of the preferred alternative, would result in long-term, major, beneficial cumulative impacts. The impacts associated with the preferred alternative would be a noticeable component of the beneficial cumulative impacts. There would be no impairment of cultural resources under the preferred alternative.

NHPA Section 106 Summary

After applying the Advisory Council on Historic Preservation's criteria of adverse effects (36 CFR 800.5), the National Park Service concludes that implementing the preferred alternative would

have potential *adverse effects* on cultural resources. Further consultation would be required to make a final determination of effect and to identify appropriate mitigation measures.

IMPACTS OF ALTERNATIVE A

Under alternative A all identified cultural resources on the National Mall would be preserved and protected by the National Park Service to the best of its ability. Prioritization decisions would be based on such factors as listing or eligibility for listing on the National Register of Historic Places, identified fundamental resources, interpretive values, resource condition, and suitability for NPS operations. Individual actions would require consultation with the D.C. Historic Preservation Office and the Advisory Council on Historic Preservation, if needed, and would be appropriately documented through compliance with section 106 of the National Historic Preservation Act.

All preservation, rehabilitation, or restoration efforts would be undertaken in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties* (NPS 1995). Any materials removed during rehabilitation or restoration efforts would be evaluated to determine their value to the National Mall and Memorial Park's museum collection and/or for their comparative use in future preservation work at the sites. Preservation, rehabilitation, or restoration conducted according to *The Secretary of Interior's Standards* could result in beneficial impacts on cultural resources.

In addition to the impacts common to all alternatives, the following impacts are analyzed.

Direct and Indirect Impacts

The Mall

Union Square (1st to 3rd Streets)

The Grant Memorial would be restored, resulting in a long-term, minor to moderate, beneficial impact.

A redesign for Union Square as a civic square focusing on the Grant Memorial would preserve historic vistas, provide visitors services outside historic vistas, preserve historic trees, and result

in a smaller reflecting pool that would recall the historic Washington City Canal. These actions would protect the cultural landscape of the Mall. While no redesign plans have been developed, any redesign would alter the existing 1970s design, affecting the reflecting pool and paving, and adding visitor facilities. The impact on a designed water feature that may be eligible for inclusion on the National Register of Historic Places would be long-term, major, adverse. Impacts on Union Square would be long-term, minor to major, and adverse.

The Mall (3rd to 14th Streets)

Actions designed to protect the lawns and elm trees, such as replacing compacted soils with engineered soils capable of withstanding intensive use, installing new drainage and irrigation systems, and installing underground event utility infrastructure, would have long-term, minor, beneficial impacts on the appearance of the Mall. The National Park Service would work with the city to remove vehicle parking along north-south streets (3rd, 4th, and 7th streets) within the east-west vista. Impacts would be long-term, minor, and beneficial as a result of enhancing views.

Washington Monument and Grounds

Actions on the Washington Monument grounds, such as the development of a partially underground visitor services/food service structure directly east of the monument between 14th and 15th streets would affect the east-west vista and would be highly visible from the monument and plaza, as well as somewhat change the terrain in the area. Impacts would be long-term, moderate, and adverse. Replacing the circular restroom facility southeast of the monument with a larger restroom structure that would continue to be screened from the monument would result in long-term, minor, beneficial impacts.

West Potomac Park (North of Independence Avenue)

Constitution Gardens

The lake within Constitution Gardens, a contributing feature of the West Potomac Park national register listing, would be rehabilitated. The existing restrooms and refreshment stand on the west

side would be replaced with new facilities. Impacts would be long-term, negligible, and adverse.

Lincoln Memorial and Grounds

Working with others to remove the cloverleaf ramp from Arlington Memorial Bridge to Rock Creek Parkway would affect historic circulation patterns at the Lincoln Memorial and Arlington Memorial Bridge. Impacts on historic circulation patterns would be long-term, minor, and adverse.

Korean War Veterans Memorial

As described under the no-action alternative, the Korean War Veterans Memorial would be preserved, but features of the designed landscape could begin to deteriorate as a result of high visitation that exceeds the capacity of the circulation system (walks, vegetation). Impacts would be long-term, minor, and adverse.

Ash Woods

Ash Woods is not a contributing feature listed on the national register nomination for West Potomac Park. Rehabilitating the U.S. Park Police stables and replacing the restroom would have long-term, negligible, beneficial impacts.

West Potomac Park (South of Independence Avenue)

Tidal Basin

The Tidal Basin is a character-defining feature of the West Potomac Park national register listing. Rehabilitating and raising the height of the Tidal Basin walls in their current location so they would not be overtopped by tidewater could have long-term, negligible to minor, adverse visual impacts.

Installing paving around the Tidal Basin and reconfiguring Kutz Bridge for safer pedestrian use would change historic circulation patterns and the existing appearance of the contributing elements of the cultural landscape around the Tidal Basin. Impacts would be long-term, minor to moderate, and adverse.

New visitor facilities to replace the noncontributing existing refreshment stand and recreation equipment rental facility on the northeast side of

the Tidal Basin would include new restrooms, rental facilities, and refreshment stands. Impacts could potentially be long-term, minor, and adverse on the portions of character-defining features of the West Potomac Park cultural landscape, including views and vistas, spatial organization, circulation, and vegetation.

West Potomac Park Riverfront

Rehabilitating the dry-laid stone river walls would result in long-term, negligible, beneficial impacts, but could be expected to be a high-cost ongoing activity due to changing water levels.

Summary

Overall long-term impacts on cultural resources under alternative A would be both adverse and beneficial; adverse impacts would be negligible to major, and beneficial impacts would be negligible to minor.

Cumulative Impacts

The impacts of past, present, and reasonably foreseeable actions would be the same as described under the no-action alternative and would be long-term to permanent, negligible to moderate, and adverse, as well as long-term, negligible to major, and beneficial.

Long-term impacts on cultural resources under alternative A, as described above, would be negligible to major and adverse, as well as negligible to minor and beneficial. These impacts, in combination with the impacts of other past, present, and reasonably foreseeable actions, would result in long-term, major, beneficial cumulative impacts. The beneficial impacts of alternative A, however, would be a very small component of the beneficial cumulative impacts.

Conclusion

Impacts on cultural resources under alternative A would be long-term, negligible to major, and adverse, as well as long-term, negligible to minor, and beneficial. The overall impacts of past, present, and reasonably foreseeable actions added to those of alternative A would result in long-term, major, beneficial cumulative impacts. The impacts associated with alternative A would be a very small component of the beneficial

cumulative impacts. There would be no impairment of cultural resources under alternative A.

NHPA Section 106 Summary

After applying the Advisory Council on Historic Preservation's criteria of adverse effects (36 CFR 800.5), the National Park Service concludes that implementation of alternative A would have potential *adverse effects* on cultural resources. Further consultation would be required to make a final determination of effect on these resources and identify appropriate mitigation measures.

IMPACTS OF ALTERNATIVE B

Under alternative B all of the identified cultural resources on the National Mall would continue to be preserved and protected by the National Park Service to the best of its ability. As described under the other alternatives, prioritization decisions would be based on such factors as listing on or eligibility for listing on the National Register of Historic Places, identified fundamental resources, interpretive values, resource condition, and suitability for NPS operations. Individual actions would require consultation with the D.C. Historic Preservation Office and the Advisory Council on Historic Preservation, if needed, and would be appropriately documented through compliance with section 106 of the National Historic Preservation Act.

All preservation, rehabilitation, or restoration efforts would be undertaken in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties* (NPS 1995). Any materials removed during rehabilitation or restoration efforts would be evaluated to determine their value to the National Mall and Memorial Park's museum collection and/or for their comparative use in future preservation work at the sites. Preservation, rehabilitation, or restoration conducted according to *The Secretary of Interior's Standards* could result in beneficial impacts on cultural resources.

In addition to the impacts common to all alternatives, the following impacts are analyzed.

Direct and Indirect Impacts

The Mall

Union Square (1st to 3rd Streets)

The Grant Memorial would be restored, a long-term, minor to moderate, beneficial impact.

A redesign of Union Square would include removing the Capitol Reflecting Pool to create a paved civic square, preserving historic vistas, providing visitors services outside historic vistas, and preserving historic trees. Removing the reflecting pool would alter the existing 1970s design, a long-term, major, adverse impact on a designed water feature that may be eligible for inclusion on the National Register of Historic Places.

The Mall (3rd to 14th Streets)

Installing interactive water features at the 8th Street cross axis and at other areas around the Mall would add nonhistoric features into a landscape listed on the National Register of Historic Places, intruding on the east-west vista and affecting turf grass. Resulting impacts would be long-term, minor to moderate, and adverse.

An underground parking facility below the Mall between 12th and 15th streets NW and entered from 15th Street would result in a short-term, minor, adverse impact during construction. While its impact cannot be known at this point, it is highly likely that the portals would be visible from the Washington Monument and that the garage could affect circulation patterns. These actions could cause long-term, moderate to major, adverse impacts.

Actions to protect the lawns and elm trees, such as replacing compacted soils with engineered soils capable of withstanding intensive use, installing new drainage and irrigation systems, and providing underground event utility infrastructure, would have long-term, minor to moderate, beneficial impacts on the health of contributing Mall features.

Constructing a visitor contact station and restroom facilities would introduce new elements into the cultural landscape. While these facilities would be outside vistas and tree panels, they could result in long-term, negligible to minor,

adverse impacts on the character-defining features of the Mall. Enlarging and paving walkways and providing additional paved areas for demonstrations and special events would add nonhistoric elements to the cultural landscape, resulting in long-term, minor, adverse impacts.

Washington Monument and Grounds

Removing the restroom facility and constructing a new multipurpose indoor/outdoor visitor service facility in the vicinity, which would also replace the Sylvan Theater, could have long-term, minor, beneficial impacts on the Washington Monument grounds. None of these features — the restroom facility, the Sylvan Theater, and related vegetation — is on or eligible for listing on the National Register of Historic Places, nor are they a contributing feature of the Washington Monument grounds. At the same time these elements could potentially affect spatial organization, a long-term, negligible to minor, adverse impact.

Providing infrastructure designed to facilitate demonstrations and events would have a long-term, negligible, beneficial impact since it would be underground and there are already visible utility boxes.

Providing pedestrian bridges or underpasses and underground parking below the south grounds to meet the needs to high levels of visitation, and covering over Maine Avenue on the south grounds would likely be very noticeable, could affect circulation patterns, some immediate views, and vegetation. Impacts would be short-term, moderate, and adverse during construction and long-term, minor, and adverse afterward.

West Potomac Park (North of Independence Avenue)

Constitution Gardens

Moving the Lockkeeper's House away from its current location immediately adjacent to Constitution Avenue would provide greater protection from potential damage by vehicles on Constitution Avenue. The structure is significant for its association with the Washington City Canal, which no longer exists, and it was relocated to its present site in 1915. After the completion of the

Potomac Park levee project, moving the structure to a nearby location, keeping its orientation to the former canal, and adaptively rehabilitating it could result in long term, minor, beneficial impacts.

A new food service and retail facility would be built on the east side of the lake, as included in the 1970s design. The introduction of new features would result in long-term, minor, adverse impacts.

Redesigning the lake to be shallow and drainable so that it could accommodate demonstrations and special events, would retain its reflective capability and pastoral character, but would temporarily result in the loss of character when it was drained for events. While the design intent for Constitution Gardens was for a festival grounds, draining the lake for events was not envisioned and would therefore affect a contributing designed water feature of the West Potomac Park national register nomination. The resulting impact would be long-term, minor, and adverse.

Lincoln Memorial and Grounds

Installing additional restroom facilities near the north and south concession refreshment stands could potentially affect the planting plan. The facilities would be designed to be architecturally compatible with the existing stands. Impacts would be long-term, minor, and adverse.

Removing the Vietnam Veterans Memorial information station once the Vietnam Veterans Memorial Center was completed would have a long-term, negligible, beneficial impact.

Korean War Veterans Memorial

East side entry walks would be constructed to accommodate high volumes of pedestrian traffic. This would somewhat alter the original design intent to approach the memorial from the west, resulting in a long-term, negligible to minor, adverse impact.

Ash Woods

Ash Woods is not a contributing feature on the national register nomination for West Potomac Park. Converting Ash Road into a pedestrian walkway, replacing the U.S. Park Police stables,

removing the existing restroom, and constructing a new restroom closer to the stables would not affect contributing views and vistas, spatial organization, vegetation, or circulation. Impacts would be long-term, negligible, and beneficial.

West Potomac Park (South of Independence Avenue)

Tidal Basin

The Tidal Basin is a contributing feature of the West Potomac Park national register listing. Widening walkways around the Tidal Basin would affect the size and appearance of the Tidal Basin somewhat, but the scale of the basin can absorb these changes. Constructing three pedestrian bridges, replacing the refreshment stand and restrooms, and upgrading the recreation equipment rental facilities would have long-term, minor, adverse impacts in terms of views, spatial organization, and circulation.

Franklin Delano Roosevelt Memorial

Providing food service and restrooms between the Franklin Delano Roosevelt Memorial and the future Martin Luther King, Jr. Memorial could result in long-term, negligible to minor, adverse impacts since the facility could potentially be seen from the north entry to the Roosevelt Memorial and from the south side of the King Memorial.

West Potomac Riverfront Park

The riverwalls are a contributing feature of the West Potomac Park national register nomination. Constructing higher stone-faced structural walls to limit overtopping by tidewater along the Potomac River would affect the remaining historic fabric of dry-laid stone walls. The higher wall would also likely affect the visual appearance of the shoreline from West Potomac Park, resulting in long-term, minor to moderate, adverse impacts.

Thomas Jefferson Memorial and Grounds

Replacing the noncontributing refreshment stand with a new structure that would be more compatible with the overall unified design scheme of the National Mall would result in a long-term, negligible to minor, adverse impact,

since it could potentially affect some views and spatial organization.

Summary

Overall long-term impacts on cultural resources under alternative B would be minor to major and adverse, as well as negligible to moderate and beneficial.

Cumulative Impacts

The impacts of past, present, and reasonably foreseeable actions would be the same as described under the no-action alternative and would be long-term to permanent, negligible to moderate, and adverse, as well as negligible to major and beneficial.

As described above, impacts to cultural resources under alternative B would be long-term, minor to major, and adverse, as well as long-term, negligible to moderate, and beneficial. The impacts of this alternative, in combination with the impacts of past, present, and reasonably foreseeable actions, would result in long-term, major, beneficial cumulative impacts. The beneficial effects of alternative B, however, would be a small component of the beneficial cumulative impacts.

Conclusion

Overall impacts on cultural resources under alternative B would be long-term, minor to major, and adverse and long-term, minor to moderate, and beneficial. The overall impacts of past, present, and reasonably foreseeable actions added to those described for alternative B would result in long-term, major, beneficial impacts. The impacts associated with this alternative would be a small component of the beneficial cumulative impacts. There would be no impairment of cultural resources under alternative B.

NHPA Section 106 Summary

After applying the Advisory Council on Historic Preservation's criteria of adverse effects (36 CFR Part 800.5), the National Park Service concludes that implementation of alternative B would have potential *adverse effects* on cultural resources. Further consultation is required to make a final

determination of the effect on this resource and to identify appropriate mitigation measures.

IMPACTS OF ALTERNATIVE C

Under alternative C identified cultural resources on the National Mall would continue to be preserved and protected by the National Park Service to the best of its ability. As described under the other alternatives, prioritization decisions would be based on such factors as listing on or eligibility for listing on the National Register of Historic Places, the identified fundamental resources, interpretive values, resource conditions, and suitability for NPS operations. Individual actions would require consultation with the D.C. Historic Preservation Office and, if required, the Advisory Council on Historic Preservation, and would be appropriately documented through compliance with section 106 of the National Historic Preservation Act.

All preservation, rehabilitation, or restoration efforts would be undertaken in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties* (NPS 1995). Any materials removed during rehabilitation or restoration efforts would be evaluated to determine their value to the National Mall and Memorial Park's museum collection and/or for their comparative use in future preservation work at the sites. Preservation, rehabilitation, or restoration conducted according to *The Secretary of Interior's Standards* could result in beneficial impacts on cultural resources.

Direct and Indirect Impacts

The Mall

Union Square (1st to 3rd Streets)

The Grant Memorial would be restored, resulting in a long-term, minor to moderate, beneficial impact.

The redesign of Union Square would protect key contributing elements of the cultural landscape, such as the Grant Memorial, the preservation of historic vistas, the protection of historic trees, and the provision of visitor services outside historic vistas. The redesign would alter the existing 1970s design by redesigning the Capitol Reflecting Pool, paving, and adding visitor

facilities and demonstration/event infrastructure. These actions would meet anticipated use levels now and in the future and protect the Mall's cultural landscape from overuse, but the 1970s design of Union Square would be altered, resulting in a long-term, major, adverse impact on the designed water feature that might be eligible for inclusion on the National Register of Historic Places. The square's redesign could also affect views to and from the Grant Memorial, the Mall, and the U.S. Capitol. Impacts on Union Square would be long-term, minor to major, and adverse.

The Mall (3rd to 14th Streets)

Compacted soils would be removed and replaced with engineered soils capable of withstanding intensive use, and new drainage and irrigation systems would be installed, resulting in beneficial impacts on the health of contributing features of grass and elm trees and the important views and vistas of the Mall. Installing underground event utility infrastructure would result in the removal of visually intrusive aboveground utilities and temporary utility support systems, such as generator trucks and power lines. Impacts would be long-term, minor to moderate, and beneficial.

Facilitating more informal recreation on the Mall by removing a few north-south walks near the 8th Street axis, installing interactive water features, a children's play area, and paving walkways, along with adding new restroom facilities and refreshment stands, could affect the character-defining features of the cultural landscape and circulation patterns. Recreation already occurs within the vista, and the scale of recreation does not alter the vista; removing some walks would make a more continuous swath of turf to support the concept of the *tapis verte* or green lawn. Additional amenities would be located outside the east-west vista along shaded walks and would affect some views. Impacts would be long-term, minor, and adverse.

A new 14th Street vehicular tunnel under the Mall would change the historic views up and down the Mall by removing vehicular traffic. It would also adversely affect historic circulation patterns and the spatial organization of the Mall. Impacts would be short-term, minor, and

adverse during construction, but long-term, minor, and beneficial as a result of removing traffic. Retaining the definition of the roadbed would adaptively reuse historic circulation patterns in a way that would create more space for pedestrians as well as increase sustainable space for temporary event facilities.

Washington Monument and Grounds

New restrooms and a reconstructed Sylvan Theater would replace existing facilities, but the historic uses of the site would remain. These facilities are not contributing features of the monument and grounds, and they are not usually visible from the monument. Impacts would be long-term, negligible, and beneficial.

Constructing a new permanent food service and retail facility between 14th and 15th streets and north of Independence Avenue would be outside primary view corridors. The proposed location is one that has not been previously disturbed, and it might be visible from the Washington Monument and grounds. It would also likely affect circulation, vegetation, and spatial organization. Impacts would be long-term, minor, and adverse.

Independence and Maine avenues would be redesigned and Maine Avenue would be decked over to connect the south grounds with the Tidal Basin area. While pedestrian circulation would be improved, motorists' views of the Tidal Basin would be affected, and the action could affect circulation patterns and some vegetation. Impacts on the Washington Monument and grounds would be long-term, minor, and adverse because of changes to historic circulation patterns.

West Potomac Park (North of Independence Avenue)

Constitution Gardens

Moving the Lockkeeper's House away from its current location immediately adjacent to Constitution Avenue would provide greater protection from potential damage by vehicles on Constitution Avenue. The structure is significant for its association with the Washington City Canal, which no longer exists, and it was relocated to its present site in 1915. After the completion of the

Potomac Park levee project, moving the structure to a nearby location, keeping its orientation to the former canal, and adaptively rehabilitating it could result in long term, minor, beneficial impacts. Constitution Gardens is a contributing feature of the West Potomac Park national register nomination.

The lake, an original constructed water feature of the garden's cultural landscape, would be rehabilitated to be self-sustaining but would keep the same configuration and edge. A new food service facility with restrooms would be built in the area identified in the 1970s design and would be compatible with existing spatial organization, vegetation, and circulation. Similarly, limited sidewalk widening would not alter the original finished design. The impacts of these actions would be long-term, minor, and adverse.

Lincoln Memorial and Grounds

Constructing a new restroom facility near the south refreshment stand would introduce a non-historic feature to meet visitor needs in this area. Depending on the design and location, the facility could potentially result in adverse impacts to vegetation and spatial organization in the Lincoln Circle and along the radial roads. The use of previously approved architectural styles would allow the restroom to appear as part of the recent design for the stand. Impacts would be long term, negligible to minor, and adverse.

Korean War Veterans Memorial

East side entry walks would be constructed to accommodate high volumes of pedestrian traffic. This would somewhat alter the original design intent to approach the memorial from the west, resulting in a long-term, negligible to minor, adverse impact.

Ash Woods

Ash Woods is not a contributing feature listed in the national register nomination for West Potomac Park. Rebuilding the U.S. Park Police stables, removing the restroom and providing a new restroom near the stables, and providing upgraded vehicular access and parking for park use and recreational activities would result in long-term, negligible to minor, beneficial

impacts, since vistas, circulation, or spatial organization would not be affected.

West Potomac Park (South of Independence Avenue)

Tidal Basin Area

The Tidal Basin is a character-defining feature of the West Potomac Park national register nomination. Filling in the bay north of Kutz Bridge to provide additional recreation fields would be a permanent, major, adverse impact to the original design of the Tidal Basin and West Potomac Park. The setting of the John Paul Jones Memorial, a national register property, would be significantly altered, resulting in a permanent, moderate, adverse impact.

Rehabilitating the Tidal Basin walls to address flooding would prevent damage to the walks and landscape, a long-term, minor, beneficial impact.

Altering the area surrounding the Tidal Basin by adding wider walkways, redesigning roads and parking, and constructing new pedestrian bridges, new recreation fields, a new restroom, and food service and recreation equipment rental facilities would change the original design, shape, and appearance of the Tidal Basin area. While the scale of the Tidal Basin is very large, the resulting impacts would be long-term, minor to moderate, and adverse.

West Potomac Park Riverfront

Developing a partially vegetated shoreline and stabilizing the deteriorated dry-laid stone seawall against seasonal flooding and erosion would have long-term, negligible to minor, beneficial impacts. The vegetated shoreline and stabilized stone seawall could affect the visual appearance of the shoreline when seen from the park, a long-term, negligible, adverse impact, because it would affect the historic fabric of a contributing feature of West Potomac Park national register listing. The overall impact would be long-term, negligible, and adverse.

Constructing separate bike and pedestrian lanes to provide additional visitor safety could have a visual impact on the grounds and circulation along the riverfront of West Potomac Park, resulting in long-term, minor, adverse impacts.

Thomas Jefferson Memorial and Grounds

The change in the bus drop-off area would not alter existing circulation patterns, visitor access, or circulation at the tour bus drop-off. Nor would these changes alter visual elements in the historic landscape. The impact of redesigning the tour bus drop-off would likely be long-term, negligible to minor, and beneficial. Relocating the refreshment stand would be long-term, negligible to minor, and beneficial.

Summary

Overall impacts of alternative C on cultural resources would be long-term to permanent, negligible to major, and adverse, as well as long-term, negligible to moderate, and beneficial.

Cumulative Impacts

The impacts of past, present, and reasonably foreseeable actions would be the same as described under the no-action alternative and would be long-term to permanent, negligible to moderate, and adverse, as well as long-term to permanent, negligible to major, and beneficial.

As described above, alternative C would result in long-term to permanent, negligible to major, adverse impacts to cultural resources, as well as long-term, negligible to moderate, beneficial impacts. These impacts, in combination with the impacts of other past, present, and reasonably

foreseeable actions, would result in long-term, major, beneficial cumulative impacts. The overall adverse impacts of alternative C would be a noticeable adverse component of the overall beneficial cumulative impacts.

Conclusion

Alternative C would result in long-term to permanent, negligible to major, adverse impacts, along with long-term, negligible to moderate, beneficial impacts on cultural resources. Under this alternative several actions could affect character-defining features. The overall impacts of past, present, and reasonably foreseeable actions added to those for alternative C would result in long-term, major, beneficial cumulative impacts. The impacts associated with alternative C would be a noticeable adverse component of the overall beneficial cumulative impacts. There would be no impairment of cultural resources from implementation of alternative C.

NHPA Section 106 Summary

After applying the Advisory Council on Historic Preservation's criteria of adverse effects (36 CFR Part 800.5), the National Park Service concludes that implementation of alternative C would have potential *adverse effects* on cultural resources. Further consultation is required to make a final determination of effect on Union Square and identify appropriate mitigation measures.

NATURAL RESOURCES

The analysis of anticipated impacts to natural resources was based on research, knowledge of park resources, and the best professional judgment of planners, biologists, hydrologists, and botanists who have experience with similar types of projects. Information on natural resources was gathered from several sources, including the U.S. Fish and Wildlife Service and site-specific resource inventories for wetlands, water quality, wildlife, fisheries, and vegetation. As appropriate, additional sources of data are identified under each topic heading.

Where possible, map locations of sensitive resources were compared with the locations of proposed developments and modifications. Predictions about short- and long-term site impacts were based on previous case studies of use and development impacts on natural resources.

The definitions and impact analyses used in this section assume that mitigation would be implemented. It is also assumed that NPS policies, sustainability guidelines, and other best practices would be adhered to in implementing any alternative.

For this document, the planning team qualitatively evaluated the impact intensity for natural resources using resource-specific methodology and the threshold definitions that are described below.

WATER RESOURCES

Methodology for Impact Analysis

This topic includes water quality, water quantity, floodplains and stormwater, and use of potable water. The impact topic on wetlands was dismissed from further consideration, as explained on page 36. Potential impacts of actions comprising the alternatives often cannot be defined relative to site-specific locations. Consequently, water resource impacts of the alternatives were assessed qualitatively.

Impact Intensity Levels

The following categories were used to evaluate the potential impacts on water resources:

- **Negligible** — Impacts on water resources would not be readily measurable or detectable and would have no impact outside the National Mall.
- **Minor** — Impacts on water resources would be small, detectable, and measurable, but with few impacts beyond the National Mall.
- **Moderate** — Impacts on water resources would be easily detectable, with potential effects outside the National Mall.
- **Major** — Impacts on water resources would be substantial and obvious, with impacts extending outside the National Mall.

Type of Impact

Impacts associated with water resources could be beneficial or adverse. Beneficial impacts would improve water quality or reduce the use of potable water. Adverse impacts would result in deteriorated water quality or increased use of potable water.

Duration of Impacts

Impacts could be short- or long-term.

- **Short-term** — The impact would generally last up to one year or the life of a construction project.
- **Long-term** — The impact would last longer than one year or for the life of the plan (up to 50 years).

NPS Policies

NPS *Management Policies 2006* state that the National Park Service will build a science-based understanding of park resources (NPS 2006e, sec. 4.1). The Park Service will determine the quality of park surface and groundwater resources and avoid, whenever possible, the pollution of park waters by human activities

occurring within and outside the parks (NPS 2006e, sec. 4.6.3). The Park Service will

- work with appropriate governmental bodies to obtain the highest possible standards available under the Clean Water Act for the protection for park waters
- take all necessary actions to maintain or restore the quality of surface waters and groundwaters within the parks consistent with the Clean Water Act and all other applicable federal, state, and local laws and regulations
- enter into agreements with other agencies and governing bodies, as appropriate, to secure their cooperation in maintaining or restoring the quality of park water resources.

NPS *Director's Order 77-2: Floodplain Management* (NPS 2003b) states that when it is not practicable to locate or relocate development or inappropriate human activities to a site outside the floodplain, the National Park Service will:

- prepare and approve a statement of findings, in accordance with procedures described in *Procedural Manual 77-2: Floodplain Management* (NPS 2004d)
- take all reasonable actions to minimize the impact to the natural resources of floodplains
- use nonstructural measures as much as practicable to reduce hazards to human life and property
- ensure that structures and facilities are designed to be consistent with the intent of the standards and criteria of the National Flood Insurance Program (44 CFR Part 60)

Impacts Common to All Alternatives

Under all alternatives water quality problems in designed water features would continue to be addressed, and alternative management methods, such as addressing algae growth in designed water features, would help improve water quality. This would be a long-term, minor, beneficial impact on water quality.

None of the alternative actions proposed in this plan would affect natural floodplains or cause a meaningful change in development or use of existing floodplains. For additional information, see the “Draft Statement of Findings for Floodplains” in appendix E. Under any alternative the National Park Service would work with the District of Columbia and other entities in designing and constructing structures such as retention ponds and other means to manage stormwater runoff within the National Mall.

Under any alternative, as projects were implemented, mitigation measures would need to be in place before construction permits were issued.

Park managers would monitor conditions affected by global climate change (e.g., temperature, rainfall, and sea level) and develop strategies to mitigate the effects of climate change, especially sea level rise.

Impacts of the No-Action Alternative

Direct and Indirect Impacts

The no-action alternative would allow existing water quality issues to continue. Most large man-made water features on the National Mall have a problem with algae growth caused by poor water circulation or aeration. This growth adversely affects aesthetics and the quality of water for other aquatic life. Treatments to control the algae include mechanical removal and the application of chemical algicides. This, in turn, may continue to cause a long-term, minor, adverse impact on regional water quality when the pools are periodically drained into the Tidal Basin or another water body.

Due to soil compaction, some of the lawn treatment chemicals (fertilizers, etc.) used on turfgrass areas would continue to wash into the area's surface waters, resulting in the continuation of short- and long-term adverse impacts to water quality. This impact varies greatly depending on the level of soil compaction, by timing of application, and precipitation, so it is difficult to determine the level of impact.

The Potomac River walls along West Potomac Park were constructed by the Army Corps of

Engineers in the 1880s and 1890s, and they have begun to deteriorate. Some erosion along the Potomac River would continue to introduce a low level of sediment to river waters, a long-term, negligible, adverse impact to water quality.

Large volumes of potable water provided by the District of Columbia would continue to be used annually in ornamental water features as the result of loss to evaporation and the need to refill pools during semi-annual cleaning. This would continue long-term, moderate, adverse impacts on potable water use.

Nothing in this alternative would increase or reduce the amount of impervious surfaces in the planning area more than negligibly; however, constrained water infiltration caused by these surfaces would continue to contribute to accelerated stormwater runoff and potential for urban drainage flooding.

Cumulative Impacts

Water quality and quantity have been adversely affected to various degrees since the region has been settled. Water has been removed from the streams for domestic, agricultural, and industrial uses for about 200 years. Several types of pollutants as well as sediment are contained in effluent discharges that return to surface waters, causing long-term, minor to moderate, adverse impacts to water quality. Previously free-flowing streams and other drainages have been channeled, rerouted, or shunted underground through pipes, resulting in long-term, minor to moderate, adverse impacts on water resources.

Approximately 68% of the drainage area that encompasses the planning area currently consists of surfaces that are more than 50% impervious (see the Impervious Surfaces map on page 295). Soil compaction is so great in some areas of the National Mall that even the soil may be considered impervious. The reduction in precipitation retention results in increased sediment discharge into local waterways and a decrease in the percolation of water to the water table, both long-term, adverse impacts. The construction of the National Museum of African American History and Culture, the Vietnam Veterans Memorial Center, and the Martin Luther King, Jr. Memorial would increase the amount of impervious surfaces in the study area. A goal of

ongoing planning efforts in the Washington area is to minimize any increase in the amount of impervious surfaces.

The National Park Service has been cooperating with the Army Corps of Engineers and the District of Columbia to design and build a permanent solution for the flood control levee as it crosses 17th Street. This would reduce the potential for river overflow flooding north of the National Mall, a long-term, major, beneficial impact on the protection of buildings as well as flood insurance costs for facilities within the 100-year floodplain, but it would have no effect on natural floodplains within the National Mall.

The ongoing Chesapeake Bay Program, of which the National Park Service is a partner with other federal and state agencies, was established to protect and improve the quality of water resources in the greater Chesapeake Bay watershed. Implementing sustainability guidelines for urban resource management would also improve the condition of water resources. The long-term effects of these ongoing programs are expected to be moderate and beneficial.

The National Park Service recognizes that global climate change could lead to a rise in sea level, with estimates of between 5 and 37 inches (0.13–0.95 meter) in the United States over the next century (Resources for the Future 2009). A sea level rise of 20 inches or more could result in the inundation of large areas of the National Mall. Adaptive management and regional cooperation would be used to plan and implement strategies for dealing with the effects of global warming and for reducing the contribution of NPS operations to global warming.

In summary, long-term, minor to moderate, adverse impacts to water quality would continue as a result of pollutants and sediment discharges in surface water runoff; the channeling, rerouting, or shunting underground of streams and other drainages; and reduced percolation of water and increased runoff because of impervious surfaces. Long-term, beneficial impacts would result from a flood-control levee at 17th Street (a major, beneficial impact on the downtown area, but no effect on natural floodplains within the National Mall), and from improved water quality in the greater Chesapeake Bay (a moderate, beneficial impact).

These adverse actions and impacts would be reduced somewhat by implementing mitigation and sustainability practices. This alternative would make a large contribution to the effects of other past, present, and reasonably foreseeable actions. The overall cumulative effects would be long-term, moderate, and adverse.

Conclusion

Implementing the no-action alternative would result in the continuation of short- and long-term, minor to moderate, adverse impacts on potable water use, groundwater, and surface water resources. The overall cumulative impacts would be long-term, moderate, and adverse. There would be no impairment of a key park resource.

Impacts of the Preferred Alternative

Direct and Indirect Impacts

Under the preferred alternative nonpotable water sources would be used in ornamental features, resulting in a reduction in potable water use, and water infiltration would be enhanced as a result of improved soil conditions that would, in turn, reduce runoff. Water features would be rehabilitated and water quality improved through recirculation, filtration, and improved equipment. The National Park Service would seek sound, natural ways to improve water quality. The National Park Service would seek to manage more stormwater on-site, as well as seek sustainable water use and reuse of graywater. These actions would result in long-term, moderate, beneficial impacts on water resources.

The Capitol Reflecting Pool would be redesigned for sustainable water management in order to substantially reduce the volume of water needed. It could be redesigned to be drained for events or frozen for ice skating. Changing the management of this pool would result in long-term, negligible, beneficial impacts on water use.

Constitution Gardens Lake would be redesigned to be self-sustaining and support fish and desirable plant populations. This change would reduce the need for chemical and mechanical

algae control, and nonpotable water sources would be explored. These actions would result in long-term, minor, beneficial impacts on water quality and use.

Some areas of turf south of the National Gallery of Art Sculpture Garden and along 3rd, 4th, 7th, and 14th streets would be paved. In addition some existing sidewalks could be widened in Constitution Gardens, at the Korean War Veterans and the Vietnam Veterans memorials, and around the Tidal Basin. These actions would increase the area of impervious surfaces by about 5 acres. However, new and replaced paving would use sustainable materials and methods to increase water infiltration and reduce water runoff. Paving would result in long-term, minor, adverse impacts on groundwater percolation and quality.

Constructing or replacing visitor amenities (e.g., restrooms, food service facilities, and retail spaces) near Union Square, the Washington Monument, and the Lincoln Memorial would increase the amount of impervious surfaces, resulting in long-term, negligible, adverse impacts because of the small, previously disturbed areas affected. These adverse impacts would be essentially offset by improved soil management techniques on large areas of the Mall, which would reduce compaction and use of chemicals and would increase percolation of precipitation, resulting in long-term, minor, beneficial impacts on water quality, quantity, and groundwater replenishment.

Naturalized riverbanks would be established in some areas along the Potomac River frontage where existing river walls have deteriorated. Aging and deteriorating seawalls around the Tidal Basin would be rebuilt in accordance with engineering studies and would eliminate regular overflowing and bank erosion while allowing wider pedestrian sidewalks. These actions would reduce the amount of sediment being washed into the river, resulting in long-term, negligible, beneficial impacts to water quality. Short-term, moderate, adverse impacts to water quality could occur from increased siltation during construction.

In summary under the preferred alternative nonpotable water sources would be used in ornamental features where feasible, resulting in

a reduction in potable water use. The National Park Service would seek to manage more storm-water onsite, as well as seek sustainable water use and reuse of graywater. Water infiltration would be improved as a result of improved soil conditions, which would reduce runoff. These actions would result in long-term, minor, beneficial impacts on water quality and use.

Cumulative Impacts

Impacts of other past, present, and reasonably foreseeable actions would be the same as those described for the no-action alternative. In summary, long-term, minor to moderate, adverse impacts to water quality would continue as a result of pollutants and sediment discharges in surface water runoff; the channeling, rerouting, or shunting underground of streams and other drainages; and reduced percolation of water and increased runoff because of impervious surfaces. Long-term, beneficial impacts would result from a flood-control levee at 17th Street (a major, beneficial impact on the downtown area, but no effect on natural floodplains within the National Mall), and from improved water quality in the greater Chesapeake Bay (a moderate, beneficial impact).

The impacts on water resources of the preferred alternative, in combination with the impacts of other past, present, and reasonably foreseeable actions, would result in long-term, moderate, adverse cumulative impacts. The preferred alternative would have a slight beneficial contribution to cumulative impacts.

Conclusion

Implementing the preferred alternative would result in short-term, moderate, adverse impacts during construction activities at the Tidal Basin and along the Potomac River, but over the long-term impacts on potable water use and on groundwater and surface water resources would be minor and beneficial. Cumulative impacts would be long-term, moderate, and adverse, with this alternative making a slight beneficial contribution. Because there would be no major, adverse impacts to a key park resource, there would be no unacceptable impacts or impairment of a key park resource.

Impacts of Alternative A

Direct and Indirect Impacts

Under alternative A water features would be rehabilitated and water quality improved through recirculation, filtration, and improved equipment.

Under this alternative Constitution Gardens Lake would be redesigned to be self-sustaining and to support desirable plant populations. Less chemical and mechanical algae control would be needed. This would result in long-term, minor, beneficial impacts on water quality. There would be no other impacts to wetlands.

Constructing or replacing visitor amenities (e.g., restrooms, food service facilities, or gift shops) near the Washington Monument, Constitution Gardens, and the Lincoln Memorial would also increase the amount of impervious surfaces, causing long-term, negligible, adverse impacts because of the relatively small areas affected. Improved soil management techniques would reduce compaction, require less chemical use, and increase percolation of precipitation on large areas of the Mall, having long-term, minor, beneficial impacts on water quality and flows.

Seawalls along the Tidal Basin and the Potomac River would be rebuilt in place. Short-term, moderate, adverse impacts would occur to water quality from increased siltation during construction.

Cumulative Impacts

Impacts of other past, present, and reasonably foreseeable actions would be the same as those described for the no-action alternative. In summary, long-term, minor to moderate, adverse impacts to water quality would continue as a result of pollutants and sediment discharges in surface water runoff; the channeling, rerouting, or shunting underground of streams and other drainages; and reduced percolation of water and increased runoff because of impervious surfaces. Long-term, beneficial impacts would result from a flood-control levee at 17th Street (a major, beneficial impact on the downtown area, but no effect on natural floodplains within the National Mall), and from improved water quality in the greater Chesapeake Bay (a moderate, beneficial impact).

The impacts of alternative A, when considered with the impacts of other past, present, and reasonably foreseeable actions, would result in long-term, moderate, adverse cumulative impacts to water resources. Alternative A would make a slight beneficial contribution to these impacts.

Conclusion

Implementing alternative A would result in short-term, negligible, adverse impacts to water resources during the construction of new Tidal Basin seawalls but long-term, negligible to minor, beneficial impacts. Cumulative impacts under this alternative would be long-term, moderate, and adverse, with a slight beneficial contribution from this alternative. Because there would be no major adverse impacts to a key park resource, there would be no unacceptable impacts or impairment of a key park resource.

Impacts of Alternative B

Direct and Indirect Impacts

Under alternative B, like alternative A, water features would be rehabilitated and water quality improved through recirculation, filtration, and upgraded equipment.

Under alternative B some existing sidewalks in Constitution Gardens and around the Tidal Basin would be widened and repaved. These actions could increase the area of impervious surfaces by about 3.25 acres. However, new and replaced paving would use sustainable materials and methods to increase water infiltration and reduce water runoff. Paving would result in long-term, negligible to minor, adverse impacts on groundwater percolation and quality.

Constructing or replacing visitor amenities (e.g., restrooms, food service facilities, or gift shops) near the Washington Monument, Constitution Gardens, and the Lincoln Memorial would increase the amount of impervious surfaces, causing long-term, negligible, adverse impacts because of the relatively small areas affected. Improved soil management techniques on large areas of the Mall would reduce compaction and chemical use and would increase percolation of precipitation, resulting in long-term, minor, beneficial impacts on water quality and flows.

Seawalls along the Tidal Basin and the Potomac River frontage would be reconstructed to eliminate regular overflowing and bank erosion. This would reduce the amount of sediment being washed into these waterways, resulting in long-term, negligible, beneficial impacts to water quality. Short-term, moderate, adverse impacts to water quality would occur from increased siltation during construction.

If underground parking garages were determined to be feasible by engineering, security, geotechnical, and economic studies, any impacts on water resources as a result of garage construction would be assessed during the subsequent environmental analysis for these projects.

Cumulative Impacts

Impacts of other past, present, and reasonably foreseeable actions would be the same as those described for the no-action alternative. In summary, long-term, minor to moderate, adverse impacts to water quality would continue as a result of pollutants and sediment discharges in surface water runoff; the channeling, rerouting, or shunting underground of streams and other drainages; and reduced percolation of water and increased runoff because of impervious surfaces. Long-term, beneficial impacts would result from a flood-control levee at 17th Street (a major, beneficial impact on the downtown area, but no effect on natural floodplains within the National Mall), and from improved water quality in the greater Chesapeake Bay (a moderate, beneficial impact).

The impacts of alternative B, in combination with the impacts of other past, present, and reasonably foreseeable actions, would result in long-term, moderate, adverse, cumulative impacts to water resources. Alternative B would have slight adverse and beneficial contributions to these effects.

Conclusion

Implementing alternative B would result in short-term, moderate, adverse impacts during construction at the Tidal Basin and along the Potomac River. Over the long-term impacts on potable water use, and on the park's groundwater and surface water resources, would be

both adverse and beneficial, with the combined impacts being neutral. Cumulative impacts would be long-term, moderate, and adverse, with this alternative having slight adverse and beneficial contributions. Because there would be no major adverse impact to a key park resource, there would be no unacceptable impacts or impairment of a key park resource.

Impacts of Alternative C

Direct and Indirect Impacts

Under alternative C water features would be rehabilitated and water quality improved through recirculation, filtration, and improved equipment. Additionally, the National Park Service would seek environmentally sound, natural ways to improve water quality.

Constitution Gardens Lake would be redesigned to be self-sustaining and to support fish and desirable plant populations. Less chemical and mechanical algae control would be needed. This would result in long-term, minor, beneficial impacts on water quality. The Capitol Reflecting Pool could be drained for events or frozen for ice skating.

Some existing sidewalks in Constitution Gardens and around the Tidal Basin would be widened and repaved.

These actions could increase the area of impervious surfaces by about 3.25 acres. However, new and replaced paving would use sustainable materials and methods to increase water infiltration and reduce water runoff. Paving would result in long-term, negligible to minor, adverse impacts on groundwater percolation and quality.

Constructing visitor amenities (e.g., restrooms, food service facilities, or retail spaces) near the Washington Monument and the Lincoln Memorial would also increase the amount of impervious surfaces, causing long-term, negligible, adverse impacts. These adverse impacts would be essentially offset by improved soil management techniques on large areas of the Mall, which would reduce compaction and chemical use and would increase percolation of precipitation, resulting in long-term, minor, beneficial impacts on water quality and flows.

The results of engineering studies to maximize the ability of the Tidal Basin to flush and absorb tidal surges would be implemented. This would result in long-term, minor, beneficial impacts. The northern bay of the Tidal Basin would be filled in under this alternative. This action would eliminate a small area (5.6 acres) of the shallow, human-made basin that is not currently serving any hydrologic purpose and so would most likely not result in any impacts to water resources. Seawalls along the Tidal Basin and Potomac River frontage would be rebuilt to eliminate regular overflowing and bank erosion. Seawalls in some areas along the Potomac River would be replaced with sustainable wetland shorelines. These actions would reduce the amount of sediment being washed into these waterways, resulting in long-term, negligible beneficial impacts to water quality. Short-term, moderate, adverse impacts could occur to water quality from increased siltation during construction.

Cumulative Impacts

Impacts of other past, present, and reasonably foreseeable actions would be the same as those described for the no-action alternative. In summary, long-term, minor to moderate, adverse impacts to water quality would continue as a result of pollutants and sediment discharges in surface water runoff; the channeling, rerouting, or shunting underground of streams and other drainages; and reduced percolation of water and increased runoff because of impervious surfaces. Long-term, beneficial impacts would result from a flood-control levee at 17th Street (a major, beneficial impact on the downtown area, but no effect on natural floodplains within the National Mall), and from improved water quality in the greater Chesapeake Bay (a moderate, beneficial impact).

The impacts on water resources of alternative C, when considered in combination with the impacts of other past, present, and reasonably foreseeable actions, would result in long-term, moderate, adverse cumulative impacts. Alternative C would make a slight beneficial contribution to these effects.

Conclusion

Implementing alternative C would result in short-term, moderate, adverse impacts to water quality during construction at the Tidal Basin and along the Potomac River. Over the long-term impacts on potable water use, and on groundwater and surface water resources, would be negligible to minor and beneficial. Cumulative impacts would be long-term, moderate, and adverse, with this alternative having a slight beneficial contribution. Because there would be no major adverse impact to a key park resource, there would be no unacceptable impacts or impairment of a key park resource.

SOILS

Methodology for Impact Analysis

Predictions about site impacts were based on knowledge of soil characteristics and the impact on soils from use and the development of other visitor and operation facilities under similar circumstances.

Impact Intensity Levels

The following thresholds were used to evaluate the potential impacts on soils:

- **Negligible** — Impacts on soils would be slight and largely unnoticeable compared to healthy native soils typical of the soil type and profile. Any effects on productivity, compaction, infiltration, subsidence, or erosion potential would not be measurable.
- **Minor** — Impacts on soils would be noticeable compared to healthy native soils typical for the soil type and profile. Any effects on productivity, compaction, infiltration, subsidence, or erosion potential would be measurable but localized to a small area.
- **Moderate** — Impacts on soils would be readily apparent compared to healthy native soils typical for the soil type and profile. Any effects on productivity, compaction, infiltration, subsidence, or erosion potential would be measurable and would cover several acres.
- **Major** — Impacts on soils would substantially alter healthy native soils typical for the soil type and profile. Any

effects on productivity, compaction, infiltration, subsidence, or erosion potential would be measurable and would affect a relatively large area (more than 5 acres).

Type of Impact

Soil-related impacts could be beneficial or adverse. Beneficial impacts would improve soil conditions in terms of productivity, compaction, infiltration, subsidence, or erosion potential. Adverse impacts would degrade these soil conditions.

Duration of Impacts

Impacts could be short- or long-term.

- **Short-term** — The impact would generally last up to one year or the life of a construction project.
- **Long-term** — The impact would last longer than one year or for the life of the plan (up to 50 years).

NPS Policies

The NPS *Management Policies 2006* state that action will be taken by superintendents to prevent or at least minimize adverse, potentially irreversible impacts on soils. Soil conservation and soil amendment practices may be implemented to reduce impacts. Importation of off-site soil or soil amendments may be used to restore damaged sites (NPS 2006e, sec. 4.8.2.4).

Impacts Common to All Alternatives

Soils would be rehabilitated and managed to restore natural processes and functions, with long-term, moderate, beneficial impacts.

Impacts of the No-Action Alternative

Direct and Indirect Impacts

Under the no-action alternative existing adverse impacts on soil conditions would continue. There would be no change in how quickly various areas of the National Mall would be able to sustain continued high levels of use and recover because of the impacts of demonstrations and

events. Some locations would be more affected than others because of near nonstop use from spring through fall. Certain events like the annual spring Public Employees Roundtable (which displays large vehicles such as mobile laboratories and military equipment) and the biennial autumn Solar Decathlon (with displays of solar houses) would continue to have disproportionate impacts because of the weight of delivery vehicles and heavy displays that affect extensive areas of soil for several days.

Poor soil quality and productivity resulting from severe compaction would continue on heavily used portions of the Mall. This would continue a long-term, moderate to major, adverse impact on soils. Indirectly, these conditions would have long-term adverse effects on hundreds of American elm trees and many acres of turf, affecting the historic *tapis verte* (see the cultural resource sections).

Adverse impacts caused by social trails (compaction, wind and water erosion) would continue and could increase unless corrective actions were taken. Compacted trail impacts are generally localized and less than 3 acres total. Conditions in affected areas are being improved through aeration and resodding. Because of this mitigation, the impacts would be long-term, adverse, and minor.

Until permanent fixes can be completed, land subsidence along the southern side of the Tidal Basin would continue to cause sinking of the seawall. This land subsidence would be a long-term, minor, adverse impact.

Cumulative Impacts

Soil conditions throughout large parts of the planning area are less than ideal because of adverse impacts from past and present heavy daily foot traffic, recreational activities, and large events. Soils in some test pits on the National Mall have been found to be “as dense as concrete” when density and pore space are calculated (NPS 1975). This compaction has resulted in long-term, moderate to major, adverse impacts to soil quality and productivity because of the reduced capacity to hold water and air. Concentrated visitor use along certain routes has created social trails that compact the soil and

destroy vegetative cover, which leads to soil loss from wind and water erosion.

The National Park Service manages three concerts annually (Memorial Day, Fourth of July, and Labor Day) on the west grounds of the Capitol, reducing direct impacts on the National Mall and resulting in a long-term, major, beneficial impacts. The impacts on natural resources in areas managed by the Architect of the Capitol would continue to be temporary, moderate, and adverse. However, these impacts are somewhat mitigated by using a number of best practices, which include requiring a minimum one-month scheduling gap between concerts, locating the stage and related facilities in the same space, and using temporary surfacing for vehicular access to reduce compaction, closing 1st Street near the Ulysses S. Grant Memorial for support facilities, and restoring the site at the end of the season. Also, the overall event duration is four months.

New paved walkways constructed near the Lincoln Reflecting Pool would add to the amount of hardened surfaces but would reduce the level of impacts to adjacent soils, resulting in long-term, minor, beneficial and adverse impacts.

The construction of the National Museum of African American History and Culture, the Martin Luther King, Jr. Memorial, and the Vietnam Veterans Memorial Center would cause short- and long-term, minor, adverse impacts on soils in these areas. Site-specific impacts would be addressed in subsequent environmental analyses for these projects.

The no-action alternative would allow the continuation of these adverse actions and effects, although they would be reduced somewhat by implementing mitigation and sustainability practices. The effects of this alternative when combined with the effects of other past, present, and reasonably foreseeable actions would result in overall cumulative effects being long-term, moderate to major, and adverse. This alternative would contribute a considerable amount to the overall impacts on soils.

Conclusion

Implementing the no-action alternative would result in continuing short- and long-term adverse impacts on soils that range from minor

to major because of heavy daily foot traffic, recreational activities, and large events, affecting soil quality and productivity. Combining the impacts of this alternative with the impacts of other past, present, and reasonably foreseeable actions would result in long-term, moderate to major, adverse cumulative impacts, with a large adverse contribution from the no-action alternative. This level of impact is considered unacceptable because it would continue to impede the attainment of the park's desired future conditions for natural and cultural resources. There would be no impairment of a key park resource.

Impacts of the Preferred Alternative

Direct and Indirect Impacts

Actions taken under the preferred alternative would improve the physical ability of areas on the National Mall to sustain high levels of use and to recover quickly. The improvements would be both highly visible and subtle, improving convenience and creating sustainable spaces for all. Measures would be taken to ensure that natural resources would be protected from injury and compaction during setup and takedown operations, as well as during the events themselves.

Soil conditions would be improved under the preferred alternative by replacing or augmenting soils or implementing other sustainable technologies in heavily used areas in the center of the Mall. Soil conditions would be improved in areas such as Constitution Gardens as well. These measures would decrease compaction and increase soil quality and productivity by increasing the soil's capacity to hold water and air and enhance the soils' ability to naturally filter percolating water. This would result in long-term, moderate, beneficial impacts to soil resources.

Installing barriers (e.g., curbs, fencing, or some other measure) in various places and closing elm tree panels on the Mall to event facilities would reduce the amount of pedestrian and vehicle trampling. The National Park Service would undertake efforts to restore and improve soil conditions in the top 2 feet of soil that comprises the tree root zone. As trees die and were re-

placed, efforts to restore soil would become more extensive. This would result in long-term, moderate, beneficial impacts to soil resources.

This alternative would result in paving turf areas in Union Square, south of the National Gallery of Art Sculpture Garden, and along 3rd, 4th, 7th, and 14th streets, and in widening some sidewalks in Constitution Gardens and at the Korean War Veterans and the Vietnam Veterans memorials. Paving materials would be as sustainable as possible, but these actions would reduce the area of "natural" surfaces by about 5 acres, resulting in long-term, minor, adverse impacts on soil resources.

Constructing or replacing visitor amenities (e.g., restrooms, food service facilities, or retail space) near the Washington Monument, the Lincoln Memorial, Union Square, Constitution Gardens, the Tidal Basin, and along the Mall would result in short-term, adverse impacts on soil due to wind and water erosion. However, mitigating measures would make these impacts negligible. Long-term effects would be adverse but negligible because most development would occur on unnatural fill soils.

Seawalls along the Potomac River frontage would be rebuilt or replaced with self-sustaining naturalized shorelines to eliminate soil loss due to bank erosion. This would result in long-term, negligible to minor, beneficial impacts.

Cumulative Impacts

Impacts of past, present, and reasonably foreseeable actions would be the same as those described under the no-action alternative. In summary, compacted soils throughout large parts of the planning area have resulted in long-term, moderate to major, adverse impacts to soil quality and productivity because of the reduced capacity to hold water and air. Future construction projects would cause short- and long-term, minor, adverse impacts on soils in specific areas, including new paved walkways near the Lincoln Reflecting Pool, which would add to the amount of hardened surfaces but would reduce the level of impacts to adjacent soils.

The impacts of the preferred alternative on soil resources, when considered with the effects of other past, present, and reasonably foreseeable

actions, would result in long-term, moderate to major, adverse cumulative effects. The preferred alternative would have modest beneficial and adverse contributions to these impacts.

Conclusion

Implementing the preferred alternative would result in short-term, minor, adverse impacts to park soil resources from construction and long-term, moderate, beneficial impacts from soil augmentation or replacement. The overall cumulative impacts of combining the impacts of this alternative with the impacts of other actions would be long-term, moderate to major, and adverse, with this alternative making a modest adverse and beneficial contribution. Because there would be no major adverse impact to a key park resource, there would be no unacceptable impacts to or impairment of a key park resource.

Impacts of Alternative A

Direct and Indirect Impacts

Compared to the no-action alternative, lower use levels under alternative A and no use of the elm tree panels during special events would result in long-term, negligible to moderate, beneficial impacts on the ability of various venues to sustain use and recover quickly.

Soil conditions on the Mall would be improved under alternative A by replacing or augmenting soils or implementing other sustainable technologies in heavily used areas (about 33 acres), similar to the preferred alternative. Augmentation or similar technologies would decrease soil compaction, which would improve soil quality and productivity by increasing the capacity to hold water and air. This would result in long-term, moderate, beneficial impacts to soil resources.

Installing barriers (e.g., curbs or fencing) in various places and widening sidewalks would reduce the amount of trampling and social trails. This would result in long-term, minor, beneficial impacts to soil resources.

This alternative calls for constructing or replacing visitor amenities (e.g., restrooms, food service facilities, or retail space) near the Washington Monument, Constitution Gardens, the

Lincoln Memorial, and along the Mall. Construction activities would result in short-term, adverse impacts on soils from wind and water erosion, but mitigating measures would make these impacts negligible. Long-term impacts would be adverse but negligible because most development would occur on unnatural fill soils.

Seawalls along the Potomac River frontage would be rebuilt to eliminate loss of soil due to bank erosion. This would be a long-term, negligible to minor, beneficial impact.

Cumulative Impacts

Impacts of past, present, and reasonably foreseeable actions would be the same as those described under the no-action alternative. In summary, compacted soils throughout large parts of the planning area have resulted in long-term, moderate to major, adverse impacts to soil quality and productivity because of the reduced capacity to hold water and air. Future construction projects would cause short- and long-term, minor, adverse impacts on soils in specific areas, including new paved walkways near the Lincoln Reflecting Pool, which would add to the amount of hardened surfaces but would reduce the level of impacts to adjacent soils.

The impacts of alternative A on soil resources, in combination with the impacts of other past, present, and reasonably foreseeable actions, would result in long-term, moderate to major, adverse cumulative effects. Alternative A would make a modest beneficial contribution to these effects.

Conclusion

Alternative A would result in short-term, negligible, adverse impacts from construction and long-term, moderate, beneficial impacts on the park's soil resources from soil augmentation or replacement. The overall cumulative impacts of combining the impacts of this alternative with the impacts of other actions would be long-term, moderate to major, and adverse, with this alternative having a modest beneficial contribution. Because there would be no major adverse impact to a key park resource, there would be no unacceptable impacts to or impairment of a key park resource.

Impacts of Alternative B

Direct and Indirect Impacts

Soil conditions would be improved under this alternative by replacing or augmenting soil or implementing other sustainable technologies on about 33 heavily used acres on the Mall, similar to the preferred alternative. Augmentation or similar technologies would increase the soil's capacity to hold water and air, thus enhancing soil quality and productivity. This would result in long-term, moderate, beneficial impacts to soil resources.

Installing barriers (e.g., curbs or fencing) in various places and widening sidewalks would reduce the amount of trampling and social trails. This would result in long-term, minor, beneficial impacts to soil resources.

Constructing or replacing visitor amenities (e.g., restrooms, food service facilities, or retail space) near the Washington Monument, Constitution Gardens, the Lincoln Memorial, and the Mall would result in short-term, adverse impacts on soils during construction from wind and water erosion, but mitigating measures would make these impacts negligible. Long-term effects of these actions would be adverse but negligible because most development would occur on unnatural fill soils.

Seawalls along the Potomac River frontage would be rebuilt to eliminate soil loss due to bank erosion. This would be a long-term, negligible to minor, beneficial impact.

If underground parking garages were determined to be feasible by engineering, security, geotechnical, and economic studies, there would be impacts on soils as a result of garage construction. These site-specific impacts would be assessed during the subsequent environmental analysis for this construction project.

Cumulative Impacts

Impacts of past, present, and reasonably foreseeable actions would be the same as those described under the no-action alternative. In summary, compacted soils throughout large parts of the planning area have resulted in long-term, moderate to major, adverse impacts to soil quality and productivity because of the reduced

capacity to hold water and air. Future construction projects would cause short- and long-term, minor, adverse impacts on soils in specific areas, including new paved walkways near the Lincoln Reflecting Pool, which would add to the amount of hardened surfaces but would reduce the level of impacts to adjacent soils.

The impacts of alternative B on soil resources, when considered with the impacts of other past, present, and reasonably foreseeable actions, would result in long-term, moderate to major, adverse cumulative effects. Alternative B would make a modest beneficial contribution to these effects.

Conclusion

Implementing alternative B would result in short-term, negligible, adverse impacts from construction and long-term, moderate, beneficial impacts from soil augmentation or replacement. The overall cumulative impacts of combining the impacts of this alternative with the impacts of other actions would be long-term, moderate to major, and adverse, with this alternative making a modest beneficial contribution. Because there would be no major adverse impact to a key park resource, there would be no unacceptable impacts to or impairment of a key park resource.

Impacts of Alternative C

Direct and Indirect Impacts

Soil conditions would be improved in this alternative by replacing or augmenting soils or implementing other sustainable technologies in heavily used areas on the Mall (on about 33 acres), similar to the preferred alternative. Augmentation or similar technologies would decrease the level of soil compaction, which would increase soil quality and productivity by increasing the capacity to hold water and air. This would result in long-term, moderate, beneficial impacts to soil resources.

Installing barriers (e.g., curbs or fencing) in various places and widening sidewalks would reduce the amount of trampling and social trails. This would result in long-term, minor, beneficial impacts to soil resources.

Constructing or replacing visitor amenities (e.g., restrooms, food service facilities, or retail space) near the Washington Monument, the Lincoln Memorial, and along the Mall would result in short-term, adverse impacts from wind and water erosion, but mitigating measures would make these impacts negligible. Long-term impacts would be adverse but negligible because most facilities would be on unnatural fill soils.

Seawalls along the Potomac River would be rebuilt or replaced with self-sustaining wetland shorelines to eliminate soil loss due to bank erosion. This would result in long-term, negligible to minor, beneficial impacts.

Cumulative Effects

Impacts of past, present, and reasonably foreseeable actions would be the same as those described under the no-action alternative. In summary, compacted soils throughout large parts of the planning area have resulted in long-term, moderate to major, adverse impacts to soil quality and productivity because of the reduced capacity to hold water and air. Future construction projects would cause short- and long-term, minor, adverse impacts on soils in specific areas, including new paved walkways near the Lincoln Reflecting Pool, which would add to the amount of hardened surfaces but would reduce the level of impacts to adjacent soils.

The impacts on soil resources of alternative C, when considered with the impacts of other past, present, and reasonably foreseeable actions, would result in long-term, moderate to major, adverse cumulative impacts. Alternative C would have a modest beneficial contribution to these effects.

Conclusion

Alternative C would result in short-term, negligible, adverse impacts from construction and long-term, moderate, beneficial impacts from soil augmentation or replacement. The overall cumulative impacts of combining the impacts of this alternative with the impacts of other actions would be long-term, moderate to major, and adverse, with this alternative making a modest beneficial contribution. Because there would be no major adverse impact to a key park

resource, there would be no unacceptable impacts or impairment of a key park resource.

VEGETATION

Methodology for Impact Analysis

Impacts to the health of vegetation (individual plants and/or communities) were assessed qualitatively. Information was taken from general documents such as the park's "Resource Management Plan" and the results of site-specific surveys. Predictions about impacts were based on previous experience with development impacts on natural resources.

Impact Intensity Levels

The following impact thresholds were defined:

- **Negligible** — Impacts on vegetation would not be measurable. The abundance or distribution of native or cultivated vegetation would be only slightly affected. Ecological processes, biological productivity, or sustainability would not be affected. Irrigation would not be needed or would function properly to support healthy vegetation.
- **Minor** — Impacts on vegetation would be measurable. The abundance or distribution of native or cultivated vegetation would affect small areas or affect several trees. Ecological processes, biological productivity, or sustainability would be affected slightly. Irrigation would not be needed or would function properly to support healthy vegetation.
- **Moderate** — Impacts on vegetation would be measurable and clearly evident in visible areas. The abundance or distribution of native or cultivated vegetation would affect areas of up to 10 acres or up to two dozen trees. Ecological processes, biological productivity, or sustainability would be affected. Irrigation would or would not function properly to support healthy vegetation.
- **Major** — Impacts on vegetation would be measurable and clearly evident in areas that are prominent and highly visible. The abundance or distribution of native or

cultivated vegetation would affect areas of more than 10 acres or several dozen trees. Ecological processes, biological productivity, or sustainability would be affected. Irrigation would or would not function properly to support healthy vegetation.

Type of Impact

Impacts could be beneficial or adverse. Beneficial impacts would improve growing conditions and the health of vegetation growing on the National Mall. Ecological processes, biological productivity, or sustainability would be enhanced. Adverse impacts would result in deteriorated growing conditions and/or the loss of vegetation, and ecological processes, biological productivity, or sustainability would be affected.

Duration of Impacts

Impacts could be short- or long-term:

- **Short-term** — The impact would generally last up to one year or the life of a construction project.
- **Long-term** — The impact would last longer than one year or for the life of the plan (up to 50 years).

NPS Policies

The NPS *Management Policies 2006* state that where necessary to preserve and protect the desired condition of specific cultural resources and landscapes, plants and plant communities generally will be managed to reflect the character of the landscape that prevailed during the historic period (NPS 2006e, sec. 4.4.2.5).

More specifically with regard to cultural landscapes, the policies state that the treatment of a cultural landscape will preserve significant physical attributes, biotic systems, and uses when those uses contribute to historical significance (sec. 5.3.5.2). Biotic cultural resources, which include plant and animal communities associated with the significance of a cultural landscape, will be duly considered in treatment and management. The cultural resource and natural resource components of the park's resource stewardship strategy will jointly identify acceptable plans for the

management and treatment of biotic cultural resources (sec. 5.3.5.2.5).

Impacts Common to All Alternatives

Vegetation health would be managed to improve health and appearance, with long-term, moderate, beneficial impacts.

Impacts of the No-Action Alternative

Direct and Indirect Impacts

Under the no-action alternative existing conditions and situations affecting vegetation would continue. There would be no change in how quickly various areas of the National Mall would be able to sustain continued high levels of use and recover from the impacts of large demonstrations and events. Some locations would be more affected than others because of near nonstop use from spring through fall.

The growth and health of trees, shrubs, and turfgrass would continue to be adversely affected by poor soil quality on heavily used portions of the Mall. Severely compacted soils have inhibited the health and vitality of vegetation because pore space water capacity is reduced and the physical hardness of the soil often forces shrub and tree roots out of the ground. The continuing lack of a functioning irrigation system in the center grass panels (due to damage from tent stakes and other factors) contributes to the inability to maintain healthy turf areas.

Even though the National Park Service has installed some post-and-chain fencing to confine use to walkways, trampling of exposed tree roots (especially elms and cherry trees) would continue on the Mall and around the Tidal Basin. Of the approximately 600 American elm trees lining the Mall, approximately 40% (246–261) are potentially subject to adverse effects caused by facilities and visitor use during the Smithsonian Folklife Festival in July. The impacts would continue to be long-term, major, and adverse because of the large number of American elm and cherry trees and the large areas of turf affected.

Events like the annual spring Public Employees Roundtable (which displays large vehicles such as mobile laboratories and military equipment) and the biennial autumn Solar Decathlon (with displays of solar houses) have disproportionate impacts because of the weight of delivery vehicles and heavy displays that cover extensive areas of turf for several days. Large crowds and special events would continue to have short-term, moderate to major, adverse impacts on turfgrass due to trampling and destruction of grass in concentrated use areas.

Cumulative Impacts

Vegetation in and around the National Mall has been highly manipulated for over 200 years, so there is no resemblance to the native vegetation patterns of the Atlantic Coastal Plain and Piedmont provinces. Nonetheless, the current urban forest possesses important ecological and social values (see the “Affected Environment,” page 298).

Turfgrass conditions throughout large parts of the planning area are poor because of adverse impacts from heavy daily foot traffic, recreational activities, large crowds, and special events. Concentrated use along certain routes has created social trails and jogging paths that have destroyed vegetation.

Severe soil compaction has resulted in long-term, moderate, adverse impacts to all types of vegetation: turfgrass cannot reseed correctly, weeds proliferate, and water does not percolate enough to encourage proper root growth; shrubs and trees become rootbound because the surrounding soil is too hard to penetrate; tree roots are forced to the surface where they become subject to abrasion and trampling. All these conditions can result in the premature death of trees and other vegetation.

Moderate adverse impacts from regular inundation of turf and cherry trees along the southern side of the Tidal Basin have occurred due to subsidence of the seawall in that area.

New paved walkways constructed near the Lincoln Reflecting Pool would add to the amount of hardened surfaces but would reduce the level of impacts to adjacent vegetation,

resulting in long-term, minor, beneficial and adverse impacts.

The construction of the National Museum of African American History and Culture, the Martin Luther King, Jr. Memorial, and the Vietnam Veterans Memorial Center would cause short- and long-term adverse effects on vegetation in those areas. Site-specific impacts would be addressed in subsequent environmental analysis for these projects.

Under the no-action alternative these adverse actions and impacts would continue, although they would be reduced somewhat by implementing mitigation and sustainability practices. The overall cumulative effects would be long-term, moderate to major, and adverse, with a large contribution from this alternative.

Conclusion

The no-action alternative would result in the continuation of short- and long-term, major, adverse impacts on the National Mall’s vegetation. The overall cumulative impacts would be long-term, moderate to major, and adverse. The impacts are considered severe enough to be unacceptable impacts because they would continue to impede the attainment of the park’s desired future resource conditions and diminish opportunities for current or future generations to enjoy or be inspired by park resources. The impacts could lead to impairment of a key park resource unless successful mitigating measures were employed.

Impacts of the Preferred Alternative

Direct and Indirect Impacts

Actions taken under the preferred alternative would substantially improve the physical ability of areas on the National Mall to sustain high levels of use and to recover quickly. The improvements would be both highly visible and subtle, improving convenience and creating sustainable spaces for all. Measures would be taken to ensure that natural resources would be protected from injury during setup and take-down operations as well as during the events themselves.

Turfgrass conditions would be substantially improved under the preferred alternative by replacing or augmenting soils and installing new irrigation systems on about 33 acres of heavily used areas. This would result in long-term, moderate, beneficial impacts to vegetation.

Installing barriers (e.g., curbs, post-and-chain or other fencing) in tree panels would reduce the amount of vegetation trampling and social trails. Temporary facilities or staging areas for special events would no longer be allowed in the elm tree panels. These actions would result in long-term, moderate, beneficial impacts to vegetation in these areas.

Under the preferred alternative new areas would be paved in Union Square, south of the National Sculpture Garden, and along 3rd, 4th, 7th, and 14th streets; and some sidewalks would be widened in Constitution Gardens and at the Korean War Veterans and Vietnam Veterans memorials. These actions would reduce the area of vegetation by about 5 acres total, but some of these areas are or have been devoid of vegetation due to overuse. Impacts on existing vegetation would be long-term, minor, and adverse.

Not allowing special events in the elm tree panels would avoid adverse impacts on the trees, especially because midsummer heat is the highest stress time for vegetation. The health of cherry trees and turf around the Tidal Basin would be improved under this alternative by rebuilding the basin's seawalls to prevent overflowing and by widening the walkways and installing barriers to curtail root trampling by people straying off the walkways. These actions would result in long-term, moderate, beneficial impacts.

Constitution Gardens Lake would become a self-sustaining wetland ecosystem capable of supporting aquatic vegetation. This would result in long-term, negligible, beneficial impacts.

A wetland shoreline using native plant materials would be created to replace river walls in some areas along the Potomac River frontage, which would improve sustainability and restore ecological processes. This action would result in long-term, moderate, beneficial impacts.

Constructing or replacing visitor amenities (e.g., restrooms, food service facilities, or retail space) near the Washington Monument, Union Square, Constitution Gardens, the Lincoln Memorial, near the Tidal Basin, and along the Mall would result in a temporary and permanent loss of vegetation. In most cases this ground is already trampled, occupied by facilities, and devoid of vegetation, so impacts would be short- and long-term and adverse but negligible in intensity.

Cumulative Impacts

The impacts of past, present, and reasonably foreseeable actions would be the same as those described under the no-action alternative. In summary, vegetation has been affected by severe soil compaction, resulting in long-term, moderate, adverse impacts because of improper root growth and rootbound shrubs and trees. Future construction would cause short- and long-term, adverse, localized effects on the vegetation. New paved walkways near the Lincoln Reflecting Pool would add to the amount of hardened surfaces but would reduce the level of impacts to adjacent vegetation, resulting in long-term, minor, beneficial and adverse impacts.

The impacts of the preferred alternative on vegetation, when considered with the impacts of other past, present, and reasonably foreseeable actions, would result in long-term, minor, adverse cumulative impacts. This alternative would make modest beneficial and adverse contributions to these effects.

Conclusion

Implementing the preferred alternative would result in long-term, minor, adverse impacts from new or widened sidewalks and long-term, moderate, beneficial impacts from actions to improve growing conditions for park vegetation. Cumulative impacts would be long-term, minor, and adverse, with a modest adverse and beneficial contribution from this alternative. Because there would be no major adverse impact to a key park resource, there would be no unacceptable impacts to or impairment of a key park resource.

Impacts of Alternative A

Direct and Indirect Impacts

Compared to the no-action alternative, natural resources on the National Mall would be able to recover more quickly as a result of improved conditions, but improvements would not be able to sustain current levels of use.

Under alternative A fewer visitor facilities and amenities on the National Mall would likely reduce the rate of increase than under the other alternatives. This could allow more time for areas to recover from intensive use during demonstrations and special events. Turfgrass conditions would be substantially improved under this alternative by augmenting soils and installing new irrigation systems on about 33 heavily used acres, similar to the preferred alternative. This would result in long-term, minor to moderate, beneficial impacts on vegetation.

Installing barriers (e.g., curbs or fencing) in elm tree panels would reduce the amount of trampling and social trails. Temporary event facilities such as tents or stages would no longer be allowed in the elm tree panels. These actions would result in long-term, minor, beneficial impacts to vegetation in these areas.

The health of cherry trees and turf around the Tidal Basin would be improved by rebuilding the seawalls to prevent overflowing and by installing barriers to stop root trampling by visitors. Impacts would be long-term, minor, and beneficial. However, the actions might be insufficient to control use levels, with long-term, moderate, adverse impacts.

Replacing sidewalks would affect some areas of vegetation, but in most cases this ground is already trampled and devoid of vegetation, so impacts would be long-term and adverse but negligible in intensity.

Constitution Gardens Lake would become a self-sustaining wetland ecosystem capable of supporting aquatic vegetation. This would result in long-term, negligible, beneficial impacts.

Constructing or replacing visitor amenities (e.g., restrooms, food service facilities, or retail space) near the Washington Monument, Constitution

Gardens, the Lincoln Memorial, and along the Mall would result in temporary and permanent losses of vegetation. Impacts would be short- and long-term and adverse but negligible in intensity because previously disturbed areas would be used.

Cumulative Impacts

The impacts of past, present, and reasonably foreseeable actions would be the same as those described under the no-action alternative. In summary, vegetation has been affected by severe soil compaction, resulting in long-term, moderate, adverse impacts because of improper root growth and rootbound shrubs and trees. Future construction would cause short- and long-term, adverse, localized effects on the vegetation. New paved walkways near the Lincoln Reflecting Pool would add to the amount of hardened surfaces but would reduce the level of impacts to adjacent vegetation, resulting in long-term, minor, beneficial and adverse impacts.

The impacts of alternative A on vegetation, when considered in conjunction with the impacts of other past, present, and reasonably foreseeable actions, would result in long-term, minor, adverse cumulative impacts. Alternative A would make a small beneficial contribution to these impacts from improved growing conditions.

Conclusion

Implementing alternative A would result in long-term, negligible, adverse impacts on park vegetation due to construction and in long-term, moderate, beneficial impacts. Cumulative impacts would be long-term, minor, and adverse, with a small beneficial contribution from this alternative from improved growing conditions. Because there would be no major adverse impact to a key park resource, there would be no unacceptable impacts to or impairment of a key park resource.

Impacts of Alternative B

Direct and Indirect Impacts

Under alternative B the physical ability of the National Mall to sustain high levels of use and to recover quickly would be substantially improved for many areas compared to the no-action alternative. Turfgrass conditions would be substantially improved on about 33 heavily used

acres by replacing or augmenting soils and installing a new irrigation system, the same as the preferred alternative. In addition, under this alternative more frequent restoration of smaller areas would be undertaken. These actions would result in long-term, moderate, beneficial impacts to vegetation.

Installing barriers (e.g., curbs or fencing) around or in elm tree panels on the Mall would reduce the amount of trampling and social trails. Within the elm tree panels an upgraded irrigation system and better soil conditions would improve post-event recovery. Use of the elm tree panels could continue if turf/root zones and soils were protected through an acceptable and authorized method. Resulting impacts to trees and other vegetation in these areas would be long-term, moderate, and beneficial.

The health of cherry trees and turf around the Tidal Basin would be improved under this alternative by rebuilding the basin's seawalls to prevent overflowing and by installing barriers to stop root trampling by visitors. Rebuilding the seawalls along the Potomac River frontage would prevent the loss of vegetation due to bank erosion. These actions would result in long-term, minor, beneficial impacts.

Constructing new sidewalks and widening existing sidewalks would remove some areas of vegetation, but in most cases this ground is already heavily trampled and sparsely vegetated, so it is anticipated that impacts would be long-term and adverse but negligible in intensity.

Constitution Gardens Lake would become a landscape feature that could be drained for use in public events. This would result in the loss of an artificial wetland habitat, a long-term, minor, adverse impact.

Constructing or replacing visitor amenities (e.g., restrooms, food service facilities, or retail space) near the Washington Monument, Constitution Gardens, the Lincoln Memorial, and along the Mall would result in a temporary and permanent loss of some vegetation. Impacts would be short- and long-term and adverse but negligible because most construction would replace existing facilities.

If an underground parking garage was determined to be feasible by engineering, security, geotechnical, and economic studies, any impacts on vegetation as a result of garage construction would be assessed during the subsequent environmental analysis for this project.

Cumulative Impacts

The impacts of past, present, and reasonably foreseeable actions would be the same as those described under the no-action alternative. In summary, vegetation has been affected by severe soil compaction, resulting in long-term, moderate, adverse impacts because of improper root growth and rootbound shrubs and trees. Future construction would cause short- and long-term, adverse, localized effects on the vegetation. New paved walkways near the Lincoln Reflecting Pool would add to the amount of hardened surfaces but would reduce the level of impacts to adjacent vegetation, resulting in long-term, minor, beneficial and adverse impacts.

The impacts on vegetation of alternative B, when considered with the impacts of other past, present, and reasonably foreseeable actions, would result in long-term, minor, adverse cumulative impacts. Alternative B would have a slight beneficial contribution to these impacts.

Conclusion

Implementing alternative B would result in long-term, negligible, adverse impacts from new and widened sidewalks. The continued use of the Mall elm tree panels could result in long-term, major, adverse impacts if turf/root zones and soils were not properly protected through an acceptable and authorized method. Overall, long-term impacts would be moderate and beneficial because of improved growing conditions for park vegetation. Cumulative impacts would be long-term, minor, and adverse, with a slight beneficial contribution from this alternative. Because there would be no major adverse impact to a key park resource, there would be no unacceptable impacts to or impairment of a key park resource.

Impacts of Alternative C

Direct and Indirect Impacts

Under alternative C the physical ability of National Mall resources to sustain high levels of use and to recover quickly would be substantially improved. Turfgrass conditions would be substantially improved by replacing or augmenting soils and installing new irrigation systems on about 33 acres of heavily used areas, similar to the preferred alternative. This would result in long-term, minor to moderate, beneficial impacts to vegetation.

Installing barriers (e.g., curbs or fencing) in elm tree panels would reduce the amount of trampling and social trails. Temporary event facilities such as tents or stages would no longer be allowed in the tree panels. These actions would result in long-term, moderate, beneficial impacts to vegetation in these areas.

The health of cherry trees and turf around the Tidal Basin would be improved by rebuilding the seawalls to prevent overflowing and by installing barriers to curtail root trampling by people walking off the paved walkways. A self-sustaining wetland shoreline would be created to replace seawalls in some areas along the Potomac River. These actions would improve sustainability and natural ecological processes, resulting in long-term, moderate, beneficial impacts.

Constructing new sidewalks and widening existing sidewalks would remove some areas of vegetation, but in most cases this ground is already trampled and devoid of vegetation, so impacts are anticipated to be long-term and adverse but negligible in intensity.

Constitution Gardens Lake would become a self-sustaining wetland ecosystem capable of supporting aquatic vegetation. This would be a long-term, negligible, beneficial impact.

Constructing or replacing visitor amenities (e.g., restrooms, food service facilities, or retail space) near the Washington Monument, the Lincoln Memorial, and along the Mall would result in a temporary and permanent loss of vegetation. Impacts would be short- and long-term and adverse but negligible because most of the

actions would occur in previously disturbed areas.

Cumulative Impacts

The impacts of past, present, and reasonably foreseeable actions would be the same as those described under the no-action alternative. In summary, vegetation has been affected by severe soil compaction, resulting in long-term, moderate, adverse impacts because of improper root growth and rootbound shrubs and trees. Future construction would cause short- and long-term, adverse, localized effects on the vegetation. New paved walkways near the Lincoln Reflecting Pool would add to the amount of hardened surfaces but would reduce the level of impacts to adjacent vegetation, resulting in long-term, minor, beneficial and adverse impacts.

The impacts of this alternative on vegetation, in combination with the impacts of other past, present, and reasonably foreseeable actions, would result in long-term, minor, adverse cumulative effects. Alternative C would have a small beneficial contribution to these effects.

Conclusion

Implementing alternative C would result in long-term, negligible, adverse impacts from new and widened sidewalks and long-term, moderate, beneficial impacts from improved growing conditions for park vegetation. Cumulative impacts would be long-term, minor, and adverse, with a small beneficial contribution from this alternative. Because there would be no major adverse impact to a key park resource, there would be no unacceptable impacts to or impairment of a key park resource.

FISH AND WILDLIFE

Methodology for Impact Analysis

Impacts on fish and wildlife are closely related to impacts on habitat. The analysis considered whether actions would be likely to displace some or all individuals of a species in the park or would result in loss or creation of habitat conditions needed for the viability of local or regional populations.

Impact Intensity Levels

The following impact thresholds were defined:

- **Negligible** — Impacts would not be measurable on the abundance or distribution of native, naturalized, or introduced populations or the viability of regional populations and their habitats.
- **Minor** — Impacts would be slight but measurable on the abundance or distribution of native, naturalized, or introduced populations but would not affect the viability of local or regional populations and their habitats.
- **Moderate** — Impacts would be measurable on the abundance or distribution of native, naturalized, or introduced populations and could affect a documentable change in the abundance of local populations and their habitats.
- **Major** — Impacts would be measurable on the abundance or distribution of native, naturalized, or introduced populations and could affect a visible change in the abundance and viability of local populations and their habitats.

Type of Impact

Impacts associated with fish and wildlife might include any change in habitat quality, food supply, protective cover, or distribution or abundance of species. Beneficial impacts would improve conditions or the viability of native populations whether locally or regionally or reduce the abundance and viability of nonnative populations. Adverse impacts are those that reduce the abundance or viability of native populations.

Duration of Impacts

Impacts could be temporary, short- or long-term.

- **Temporary** — The impact would last for a few hours or a few days, such as the displacement of animals while construction was being undertaken.
- **Short-term** — The impact would generally last up to one year or the life of a construction project.

- **Long-term** — The impact would last longer than one year or for the life of the plan (up to 50 years).

NPS Policies

NPS *Management Policies 2006* state that the National Park Service will maintain as parts of the natural ecosystems of parks all plants and animals native to park ecosystems (NPS 2006e, sec. 4.4.1). Whenever possible, natural processes will be relied upon to maintain native plant and animal species and influence natural fluctuations in populations of these species (sec. 4.4.2). Whenever the Park Service identifies a possible need for reducing the size of a park plant or animal population, scientifically valid resource information obtained through consultation with technical experts, literature review, inventory, monitoring, or research will be used to evaluate the identified need for population management; this information will be documented in the appropriate park management plan (sec. 4.4.2.1).

The National Park Service will pursue opportunities to improve natural resource management within parks and across administrative boundaries by pursuing cooperative conservation with public agencies (NPS 2006e, sec. 4.1.2). Cooperation may involve coordinating management activities in two or more separate areas, integrating management practices to reduce conflicts, coordinating research, and sharing data and expertise.

The *Management Policies 2006* (sec. 4.4.4.2) state that all exotic plant and animal species that are not maintained to meet an identified park purpose will be managed if control is prudent and feasible, and if the exotic species

- interferes with natural processes and the perpetuation of natural features, native species or natural habitats, or
- disrupts the genetic integrity of native species, or
- disrupts the accurate presentation of a cultural landscape, or
- damages cultural resources, or
- significantly hampers the management of park or adjacent lands, or

- poses a public health hazard as advised by the U. S. Public Health Service (which includes the Centers for Disease Control and the NPS public health program), or
- creates a hazard to public safety.

Impacts of the No-Action Alternative

Direct and Indirect Impacts

Existing conditions and situations affecting wildlife would continue under the no-action alternative. Some existing artificial waters, such as Constitution Gardens Lake and the Tidal Basin, would continue to be available to aquatic species and waterfowl.

Fish would continue to get stranded during spawning season on walks or turf areas along the south side of the Tidal Basin, a long-term, minor, adverse impact on native and some naturalized, nonnative species.

Urban wildlife would continue to rely on humans for some or all of their food, whether from garbage or direct feeding by some visitors. Non-native bird species that became less migratory in nature and stayed in the area year-round could affect on the viability of native populations. Long-term, minor, adverse impacts to other wildlife and aesthetics caused by unnaturally large congregations of these birds would continue. The park has a goal of reducing the ever expanding numbers of Canada geese. Regional and local approaches to controlling populations of Canada geese would result in long-term, moderate, beneficial impacts on native wildlife.

Cumulative Impacts

Most of the metropolitan area has been disturbed by development, and open space are being converted to maintained landscapes over the last 200 years or more. This loss of undisturbed habitat and the almost continuous presence of human activity have resulted in the near total displacement of many native species, a long-term, moderate, adverse impact. Ideal conditions (low turf) for nonnative populations of Canada geese have been perpetuated as the area was increasingly cultivated. Species such as

nonmigratory Canada geese and mallard ducks have adapted to human presence and are becoming year-round (nonmigratory) residents, which is an unnatural behavior and results in long-term, moderate, adverse impacts on the viability of waterfowl populations as large areas are taken over by these unnatural populations.

The construction of the National Museum of African American History and Culture, the Martin Luther King, Jr. Memorial, and the Vietnam Veterans Memorial Center would cause short- and long-term, negligible to minor, adverse effects on urban habitat in these areas.

The no-action alternative would result in the continuation of long-term, minor, adverse impacts on fish and wildlife. When combined with the impacts of other past, present, and reasonably foreseeable actions, cumulative impacts would be long-term, moderate, and adverse. This alternative would make a modest contribution to these impacts.

Conclusion

The no-action alternative would result in the continuation of long-term, moderate, adverse impacts to native and naturalized populations of fish and wildlife. Cumulative impacts would be long-term, moderate, and adverse. There would be no unacceptable impacts to or impairment of a key park resource under this alternative.

Impacts of the Preferred Alternative

Direct and Indirect Impacts

Public stewardship messages about not feeding wildlife and proper trash disposal would reduce the dependence of urban wildlife on human-related food sources. This would have a long-term, negligible to minor, beneficial impact on urban wildlife species.

Constitution Gardens Lake would become a self-sustaining pond/wetland ecosystem capable of supporting introduced and naturalized fish populations. This would be a long-term, negligible, beneficial impact to fish and waterfowl. Removing the present Capitol Reflecting Pool and adding some ornamental water features would have a long-term, negligible, adverse

impact because this pool provides only small habitat for some waterfowl.

Constructing or replacing visitor amenities (e.g., restrooms, food service facilities, or retail space) near the Washington Monument, Union Square, Constitution Gardens, the Lincoln Memorial, near the Tidal Basin, and along the Mall in previously disturbed areas, along with adding or widening sidewalks, would temporarily disrupt habitat and displace individual animals from construction areas. Resulting impacts from the loss of some urban habitat used by terrestrial species and bats would be long-term, negligible, and adverse. These impacts would be negligible due to the relatively small area of habitat affected.

Rebuilding the Tidal Basin seawalls and widening the walkways would have temporary impacts during construction, but long-term impacts during fish spawning would be beneficial and minor because rebuilt walls would be higher and would prevent fish from being stranded. Widening the walkways could require moving the basin wall into the basin, resulting in the loss of about 5 acres of warm and shallow water habitat used by fish and other aquatic organisms. Short-term, moderate, adverse impacts from habitat disturbance and sedimentation would occur during construction. However, since the Tidal basin is artificial, long-term impacts would be adverse but negligible.

Portions of the wall along Potomac River frontage would be replaced with a more natural wetland using native materials. This would cause short-term, minor, adverse impacts from habitat disturbance and sedimentation during construction but long-term, minor, beneficial impacts on fish and wildlife.

Cumulative Impacts

Impacts of past, present, and reasonably foreseeable actions would be the same as those described for the no-action alternative. In summary, impacts have been long-term, moderate, and adverse because of nearly total displacement of many native species by habitat loss and human activity and increased nonnative populations, such as year-round Canada geese, that adversely affect the viability of native populations. Regional or local approaches to

controlling introduced nonnative species and nonnative populations of Canada geese would result in long-term, moderate, beneficial impacts. The construction of future projects would cause short- and long-term, negligible to minor, adverse impacts on the urban habitat in those areas.

The preferred alternative would have both beneficial and adverse impacts on wildlife. Adding these impacts to the effects of past, present, and reasonably foreseeable actions would result in long-term, moderate, adverse cumulative effects on fish and wildlife. This alternative's contribution would be slight but adverse overall.

Conclusion

Implementing the preferred alternative would result in long-term, minor, beneficial impacts to fish and wildlife from stewardship messages to visitors, a self-sustaining pond/wetland ecosystem at Constitution Gardens Lake, higher seawalls along the Tidal Basin, and a naturalized Potomac River shoreline. There would also be short- and long-term, negligible to moderate, adverse impacts to fish and wildlife from various projects throughout the National Mall. Cumulative impacts would be long-term, moderate, and adverse, with a slight but adverse contribution from this alternative. This alternative would not result in unacceptable impacts to or impairment of a key park resource.

Impacts of Alternative A

Direct and Indirect Impacts

Constitution Gardens Lake would become a self-sustaining wetland capable of supporting aquatic plants, but all fish would be removed. This would be a long-term, negligible, adverse impact to the artificially maintained fish population and a long-term, negligible, beneficial impact to ducks and other plant-eating waterfowl.

The construction or replacement of visitor amenities (e.g., restrooms, food service facilities, and retail space) near the Washington Monument, Constitution Gardens, the Lincoln Memorial, and along the Mall would occur in previously disturbed areas. Impacts from this construction would be temporary, minor, and adverse because urban habitat would be dis-

rupted and individual animals displaced. Long-term, negligible, adverse impacts would occur from the loss of some urban habitat used by terrestrial species and bats.

Rebuilding the failing Tidal Basin seawalls in place would result in short-term, minor, adverse impacts because of physical habitat disturbance and sedimentation during construction, with no long-term effects to fish or wildlife after construction. Impacts during fish spawning would be long-term, minor, and beneficial because rebuilt walls would be higher and would prevent fish from being stranded.

Cumulative Impacts

Impacts of past, present, and reasonably foreseeable actions would be the same as those described for the no-action alternative. In summary, impacts have been long-term, moderate, and adverse because of nearly total displacement of many native species by habitat loss and human activity and increased nonnative populations, such as Canada geese, that adversely affect the viability of native populations. Regional or local approaches to controlling nonnative populations of Canada geese would result in long-term, moderate, beneficial impacts. The construction of future projects would cause short- and long-term, negligible to minor, adverse impacts on the urban habitat in those areas.

Alternative A would have beneficial and adverse impacts on wildlife. Adding these impacts to the effects of other past, present, and reasonably foreseeable actions would result in long-term, moderate, adverse cumulative impacts on fish and wildlife. This alternative's contribution would be slight but adverse overall.

Conclusion

Implementing alternative A would result in long-term, negligible to minor, beneficial impacts from actions at Constitution Gardens Lake and along the Tidal Basin, and in short- and long-term, negligible to minor, adverse impacts from construction projects at other sites. Cumulative impacts on fish and wildlife would be long-term, moderate, and adverse, with a slight but adverse contribution from alternative A. This alternative

would not result in unacceptable impacts to or impairment of a key park resource.

Impacts of Alternative B

Direct and Indirect Impacts

Under alternative B the Capitol Reflecting Pool would be removed. This pool provides only a very small habitat need for some waterfowl, so the impact would be negligible.

Constitution Gardens Lake would become a landscape feature that could be drained for use in public events. This would result in the loss of an artificial wetland habitat currently used by fish and waterfowl, a long-term, negligible, adverse impact.

Constructing or replacing visitor amenities (e.g., restrooms, food service facilities, or retail space) near the Washington Monument, Constitution Gardens, the Lincoln Memorial, and along the Mall, along with adding some paved sidewalks, would occur in previously disturbed areas. Temporary, minor, adverse impacts during construction would occur from the disruption of urban habitat and the displacement of individual animals. Long-term, negligible, adverse impacts would occur from the loss of some urban habitat used by terrestrial species and bats.

Under this alternative the failing Tidal Basin seawalls would be rebuilt and the walkways atop the walls would be widened. Widening the walkways could require moving the basin walls into the basin. This would result in the loss of about 5 acres of warm and shallow water habitat used by fish and other aquatic organisms. Short-term, minor, adverse impacts would occur from the physical disturbance of habitat and sedimentation during construction. However, since the Tidal Basin is artificial, the long-term impacts would be adverse but negligible. Impacts during fish spawning would be long-term, minor, and beneficial because the rebuilt walls would be higher and would prevent fish from being stranded.

If underground parking garages were determined to be feasible by engineering, security, geotechnical, and economic studies, any impacts on fish and wildlife as a result of garage construction would be assessed during the

subsequent environmental analysis for this project.

Cumulative Impacts

Impacts of past, present, and reasonably foreseeable actions would be the same as those described for the no-action alternative. In summary, impacts have been long-term, moderate, and adverse because of nearly total displacement of many native species by habitat loss and human activity and increased nonnative populations, such as Canada geese, that adversely affect the viability of native populations. Regional or local approaches to controlling nonnative populations of Canada geese would result in long-term, moderate, beneficial impacts. The construction of future projects would cause short- and long-term, negligible to minor, adverse impacts on the urban habitat in those areas.

Alternative B would have short- and long-term, negligible to minor, adverse impacts on wildlife. When added to the impacts of other past, present, and reasonably foreseeable actions, the cumulative impacts on fish and wildlife would be long-term, moderate, and adverse. This alternative's contribution would be small.

Conclusion

Implementing alternative B would result in short- and long-term, negligible to minor, adverse impacts to fish and wildlife from a drainable lake at Constitution Gardens, modifications of the Tidal Basin, and various construction projects, along with long-term, minor, beneficial impacts from a more natural Potomac River shoreline in some areas. Cumulative impacts would be long-term, moderate, and adverse, with a small contribution from this alternative. This alternative would not result in unacceptable impacts to or impairment of a key park resource.

Impacts of Alternative C

Direct and Indirect Impacts

Stewardship messages about not feeding wildlife and proper trash disposal would have long-term, negligible to minor, beneficial impacts on urban wildlife species.

The Capitol Reflecting Pool could be drained for events or frozen for ice skating. This pool provides only a very small habitat need for some waterfowl (mostly year-round nonnative populations), so the impact on wildlife would be negligible.

Constitution Gardens Lake would become a self-sustaining pond/wetland ecosystem capable of supporting fish populations. This would result in long-term, negligible, beneficial impacts to fish and waterfowl.

Constructing or replacing visitor amenities (e.g., restrooms, food service facilities, or retail space) near the Washington Monument, the Lincoln Memorial, and along the Mall in previously disturbed areas, along with adding some paved sidewalks, would result in temporary, negligible, adverse impacts during construction due to habitat disruption and displacement of individual animals. Long-term, negligible, adverse impacts would occur from the loss of some urban habitat used by terrestrial species and bats.

Under this alternative the Tidal Basin seawalls would be rebuilt and the walkways widened, which could require moving the basin wall into the basin. In addition, the small bay north of the Kutz Bridge would be eliminated (walled off and filled in). These actions would result in the loss of about 15 acres (14%) of the Tidal Basin's warm and shallow water habitat used by fish and other aquatic organisms. Short-term, minor, adverse impacts would result from habitat disturbance and sedimentation during construction. Since the Tidal Basin is artificial, the long-term impacts of these actions would be adverse but negligible. Impacts during fish spawning would be long-term, minor, and beneficial because the rebuilt walls would be higher and would prevent fish from being stranded.

Cumulative Impacts

Impacts of past, present, and reasonably foreseeable actions would be the same as those described for the no-action alternative. In summary, impacts have been long-term, moderate, and adverse because of nearly total displacement of many native species by habitat loss and human activity and increased nonnative populations, such as Canada geese, that ad-

versely affect the viability of native populations. Regional or local approaches to controlling nonnative populations of Canada geese would result in long-term, moderate, beneficial impacts. The construction of future projects would cause short- and long-term, negligible to minor, adverse impacts on the urban habitat in those areas.

Alternative C would have beneficial and adverse impacts on wildlife. These impacts, in combination with the impacts of other past, present, and reasonably future actions, would result in long-term, moderate, adverse cumulative impacts on fish and wildlife. This alternative's contribution would be slight but adverse overall.

Conclusion

Implementing alternative C would result in long-term, negligible to minor, beneficial impacts from stewardship messages to visitors, a self-sustaining pond/wetland ecosystem at Constitution Gardens Lake, and work around the Tidal Basin. There would also be short- and long-term, negligible to moderate, adverse impacts to fish and wildlife from various projects throughout the National Mall. Cumulative impacts would be long-term, moderate, and adverse, with a slight but adverse overall contribution from this alternative. This alternative would not result in unacceptable impacts to or impairment of a key park resource.

DEMONSTRATIONS, SPECIAL EVENTS, AND NATIONAL CELEBRATIONS

METHODOLOGY FOR ANALYZING IMPACTS

The analysis looks at how the alternatives would affect demonstrations, national celebrations, and special events in the following areas:

- *Impacts on demonstration and event participants* — This topic analyzes the beneficial and adverse impacts on the numbers of people who can participate in demonstrations, national celebrations, and special events as a result of the physical capacity of the National Mall and specific sites, as well as ease of access.

An essential purpose of the National Mall is to provide space for the expression of First Amendment rights, and in accordance with in the U.S. Constitution the courts have determined that no limits may be placed on the number of people who can participate in First Amendment activities, regardless of any impacts that might otherwise be considered unacceptable.

This impact topic considers how varying degrees of crowding would affect participants. The following assumptions were made, based on input from the U.S. Park Police and George Mason University:

- Space of 3 square feet per person would constitute a high level of crowding, such as during a concentrated demonstration or on pleasant days during the peak of the National Cherry Blossom Festival or during the 2009 inauguration.
- Space of 7–10 square feet per person would be equivalent to a seated or standing audience at an event performance.
- *Impacts on demonstration and event organizers* — The topic analyzes how organizers would be affected by permitting, scheduling, and managing processes, by the type and range of venues for demonstrations, national celebrations, and

special events; by measures to protect the historical context, vistas, and symbolic character of the National Mall; by the convenience of access; and by any changes in management processes.

Impact Intensity Levels

The following impact thresholds were defined for demonstrations, national celebrations, and special events:

- *Negligible* — The impact would not be detectable or would be barely detectable to most participants and organizers, and there would be no discernible effect on the sustainability of park resources and the ability of the National Park Service to support demonstrations, national celebrations, or special events.
- *Minor* — The impact would be detectable to some participants or organizers, or it would have a limited effect, either adversely or beneficially, on the sustainability of park resources and the ability of the National Park Service to support demonstrations, national celebrations, or special events.
- *Moderate* — The impact would be readily apparent; it would have an appreciable impact on many participants and organizers; and it would clearly affect, either adversely or beneficially, the sustainability of park resources and the ability of the National Park Service to support demonstrations, national celebrations, or special events.
- *Major* — The impact would be severely adverse or exceptionally beneficial and apparent to most participants and organizers, and it would dramatically affect the sustainability of park resources and the ability of the National Park Service to support demonstrations, national celebrations, or special events.

Type of Impacts

Impacts can be beneficial or adverse. Beneficial impacts would enhance the management of and participation in demonstrations, national celebrations, and special events. Adverse impacts would have the opposite effect.

Duration of Impacts

Impacts could be temporary, short-term, long-term, or permanent.

- **Temporary** — The impact would usually last for a few hours or up to two days, such as a road closure for a day or less or limited access to an area during a demonstration.
- **Short-term** — The impact would generally last up to one year and could include setup / takedown times for large special events or national celebrations, seasonal closures for restoration, or limited access to an area to facilitate park operations or construction.
- **Long-term** — The impact would last longer than one year or for the life of the plan (up to 50 years).
- **Permanent** — The impact would last beyond the life of the plan (or longer than 50 years).

User Capacity Estimates

User capacity estimates do not include capacity estimates for NPS and D.C. roadways, which may be closed during major events (such as the Fourth of July or a presidential inauguration).

Maximum capacities of venues for demonstrations and special events were decreased by a certain percentage to allow for safe circulation, with more circulation needed at higher capacity levels

- **Union Square** — A 15% allowance for circulation at 3 sq. ft. / person with a reflecting pool, and a 10% allowance without a pool.
- **Mall center panels** — A 25% circulation allowance at 3 sq. ft. / person.
- **Mall tree panels** — A 30% circulation allowance at 7 sq. ft. / person due to trees.

- **General open areas** — A 10% circulation allowance at 7–10 sq. ft. / person.
- **Lincoln Memorial elm walks and reflecting pool area** — A 30% circulation allowance at 3 sq. ft. / person because of grade changes, the reflecting pool, and trees.

Regulations and Policies

Federal Regulations

Federal regulations that could affect the management of demonstrations, national celebrations, and special events are discussed in chapter 1. As previously stated, the superintendent may limit public use or close areas to use; designate areas for specific uses; and terminate restrictions, limits, closure or visitor hours to protect public health and safety, environmental or scenic values, or natural or cultural resources; or to implement management responsibilities, equitable allocation and use of facilities, or the avoidance of conflict among visitor use activities (36 CFR 1.5; 36 CFR 7.96).

Furthermore, permitted activities are to be consistent with legislation, administrative policies, and based on a determination that public health and safety, environmental or scenic values, natural or cultural resources, scientific research, implementation of management responsibilities, proper allocation and use of facilities, or the avoidance of conflict among visitor use activities will not be adversely affected (36 CFR 1.6; 36 CFR 7.96). A permit may be denied if the capacity of the area or facility would be exceeded by one or more of these factors.

An essential purpose of the National Mall is to provide space for the expression of First Amendment rights. This purpose, anchored in the U.S. Constitution, does not include limits on the number of people who can participate in First Amendment activities on the National Mall, regardless of any impacts that might otherwise be considered unacceptable.

Regulations at 36 CFR 7.96 specifically relate to the National Capital Region and define permit requirements for demonstrations and special events, as well as limitations, for park areas managed by the National Mall and Memorial

Parks, including the National Mall. The determination whether to approve permits for special events will be based on the following criteria (36 CFR 7.96(g)(5)(vi):

- (A) Whether the objectives and purposes of the proposed special event relate to and are within the basic mission and responsibilities of the National Capital Region, National Park Service.
- (B) Whether the park area requested is reasonably suited in terms of accessibility, size, and nature of the proposed special event.
- (C) Whether the proposed special event can be permitted within a reasonable budgetary allocation of National Park Service funds considering the event's public appeal, and the anticipated participation of the general public therein.
- (D) Whether the proposed event is duplicative of events previously offered in National Capital Region or elsewhere in or about Washington, D.C.
- (E) Whether the activities contemplated for the proposed special event are in conformity with all applicable laws and regulations.

NPS Management Policies 2006

First Amendment Rights

The *NPS Management Policies 2006* affirm the use of park land for public assemblies, meetings, demonstrations, religious activities, and other public expressions of views protected under the First Amendment of the U. S. Constitution, in accordance with 36 CFR 2.51 or 36 CFR 7.96.

There must be equal opportunities for differing sides of an issue to be heard, and NPS staff must remain neutral toward the activity while remaining responsible for the protection of participants, spectators, private property, public property, and park resources.

Special Events

Special events may be permitted when there is a meaningful association between the park area and the event, and when the event will contribute to visitor understanding of the park area

(NPS 2006e, sec. 8.6.2.1). An event will not be permitted when it is conducted for the material or financial benefit of a for-profit entity, it awards participants an appearance fee or prizes, it requires in-park advertising or publicity, or it charges a separate public admission fee (NPS 2006e, sec. 8.6.2.1).

Special events will not be permitted if they would result in unacceptable impacts, such as impeding the ability to achieve desired natural and cultural resource conditions; diminishing opportunities for current or future generations to enjoy, learn about, or be inspired by park resources or values; or unreasonably interfere with park programs or activities, appropriate uses, the atmosphere of peace and tranquility, or NPS concessioner or contractor operations (NPS 2006e, sec. 8.2 and 1.4.7.1).

Recreational use permits are required for use of designated fields and areas (DC Recreation Board 1972).

Filming and Photography Policy

Filming and photography, whether commercial or non-commercial, are allowed provided the activity does not cause unacceptable impacts (NPS 2006e, sec. 8.6.6). Commercial filming requires a permit (NPS 2006e, sec. 8.6.6.2).

IMPACTS COMMON TO ALL ALTERNATIVES

Direct and Indirect Impacts

Impacts on Demonstration and Event Participants

Public transportation access varies by location, with many sites having excellent transit access, such as Union Square (two subway stations within a five-minute walk), the Mall (the Smithsonian Metro entrance is on the Mall and four other subway stations are within a five-minute walk), and the Washington Monument (two subway stations are within a five-minute walk). Some sites such as Constitution Gardens, the Lincoln Memorial, the Thomas Jefferson Memorial, and the Tidal Basin are farther from public transit, and most athletic fields are a 15–25 minute or more walk from the nearest Metro station. Activities at sites farther from public

transportation could result in additional parking demand or participants having to use supplemental transportation. Access impacts on demonstration and special event participants would continue to be short- and long-term, minor to moderate, and beneficial depending on the location of the activity.

The following examples are typical of use capacities and experiences that could be expected on the National Mall. The physical capacity of different types of spaces is based on ranges of how much space (in square feet) is needed for each person in different types of situations, and the expected social experience that level of use would entail.

- **Maximum Daily Capacity (Union Square to the Lincoln Memorial)** — An estimated 2.1 million people could be accommodated on the National Mall from east end to the west end, including Constitution Gardens. This capacity is based on 3 square feet per person in high-use areas and 7–50 square feet per person in multipurpose areas. Experiences would be highly crowded, with minimal opportunities for more contemplative experiences.
- **Fourth of July Celebration** — An estimated 750,000 people could be accommodated on the National Mall at 10–50 square feet per person, which is the average level of use and accommodates informal picnicking. (Note: An additional 100,000 people could view fireworks from the Capitol grounds, and thousands more from George Washington Memorial Park in Virginia.) Since the Fourth of July is a major national celebration, visitors could expect many other people.
- **National Cherry Blossom Festival** — The National Cherry Blossom Festival largely takes place around the Tidal Basin, and estimates assume an 8-hour day, with people spending about two hours walking around the basin. At a maximum capacity of 3 square feet per person on walks, 25,000 people could be accommodated on the walks at any one time, plus 15,000 at the Thomas Jefferson Memorial plaza, the Tidal Basin parking lot, and related areas, with a maximum daily capacity of 200,000

people. Visitor experiences would be highly social, with opportunities for less crowded conditions only in the early morning or evening.

- **Smithsonian Folklife Festival** — Assuming that only the center panels on the Mall would be used, the capacity of the festival at any one time would be around 44,000. This assumes 10 square feet per person on the Mall, 50 square feet per person on walks, and 200–1,000 square feet per person in adjacent areas.

Impacts on Demonstration and Event Organizers

Demonstrations and special events would continue to be scheduled on a space available basis 12 months in advance, so there would be no new impacts on organizers. Cost reimbursement for damages would continue to be required in the permitting process for special events.

Demonstrations would continue to be managed in accordance with federal regulations at 36 CFR 7.96 and NPS *Management Policies 2006* under all alternatives. Permits would continue to be required generally for all demonstrations with more than 25 people. Demonstration periods could be extended unless a previously permitted use would preclude double occupancy. For example, a limited number of demonstrations related to the Vietnam Veterans Memorial have continued for many years. Typically demonstrations are temporary, lasting a very short time, with setup and takedown occurring within one or two days. For some demonstrations and events stages and sound systems are used, and facilities such as restrooms and temporary trash containers are provided by the organizers. Annually it is likely there would continue to be fewer than a dozen very large demonstrations that would limit the ability of other event or demonstration organizers to find space available. There would be no new impacts.

Some demonstrations and events would continue to use stages, sound systems, and large video screens to simulcast events or to locally improve visibility of events. There would be no new impacts.

Permits for special events and commercial filming would continue to be required.

Different areas of the National Mall would continue to be closed for construction, restoration, or maintenance projects, making them unavailable for demonstrations, national celebrations, special events, or other permitted activities. This could result in short- to long-term, minor, adverse impacts on event organizers because some venues might not be available. During these times, such as when the Martin Luther King, Jr. Memorial is constructed, the National Park Service would make every effort to ensure that public access to other sites would remain in order to minimize the impact.

Conclusion

There would be no change in permit regulations for demonstrations and special events under any alternative. Impacts common to all alternatives related to public access would be short- and long-term, minor to moderate, and beneficial or adverse depending on the distance of an activity from public transportation. Infrastructure improvements at the Lincoln Memorial would improve the ability to host performances and demonstrations, as well as facilitate setup and takedown operations, resulting in long-term, moderate, beneficial impacts. Closing different areas of the National Mall for construction, restoration, or maintenance projects could result in short- to long-term, minor, adverse impacts on event organizers because some venues might not be available. Cumulative impacts of past, present, and reasonably foreseeable actions could be long-term, major, beneficial impact if some events were relocated from the National Mall, thus reducing impacts. There would be long-term, major, beneficial impacts on event organizers and participants if a new subway stop was provided near the Thomas Jefferson Memorial.

IMPACTS OF THE NO-ACTION ALTERNATIVE

Direct and Indirect Impacts

The National Mall was never designed for the current high levels of use that occur during some demonstrations and national celebrations. The

number of special events on the National Mall has increased dramatically, at least in part because of the prestige and status that comes from being at the heart of the nation's capital. However, this degree of use, along with longer than necessary setup and takedown times, has caused damage to resources and infrastructure, resulting in undesirable landscape conditions and appearance. Locations of existing venues for demonstrations and special events are shown on the Civic Stages plan map.

Impacts on Demonstration and Event Participants

Under the no-action alternative there would be no change in the ability to participate in demonstrations, national celebrations, or special events. The user capacities of individual venues for demonstrations and special events, allowing for circulation space, would be as follows:

- *Union Square* — 100,000 (3 sq. ft. / person)
- *Mall center panels (between 3rd and 14th streets)* — 500,000 (3 sq. ft. / person), plus 80,000 in the elm tree panels (7 sq. ft. / person)
- *Washington Monument grounds* — 700,000 (3 sq. ft. / person)
- *Lincoln Memorial* — 7,000 on the steps and plaza (7 sq. ft. / person), and 90,000 along the reflecting pool (3 sq. ft. / person)
- *JFK hockey fields* — 60,000 (7 sq. ft. / person)
- *West Potomac Park ballfields / polo grounds (west of the Franklin Delano Roosevelt Memorial)* — 220,000 (7 sq. ft. / person)
- *D.C. War Memorial area* — 425 (10 sq. ft. / person)
- *Tidal Basin* — Parking area: 5,000 (10 sq. ft. / person), walks: 25,000 (3 sq. ft. / person)
- *Jefferson Memorial steps and plaza* — 4,000 (10 sq. ft. / person)

There would be no change to public access to the National Mall. No sites have sufficient public restrooms to accommodate the needs of demonstrations, national celebrations, or special events, and all venues necessitate the use of

Civic Stage — No-Action Alternative

sponsor-provided portable restrooms. There would be no change in short- or long-term impacts on demonstration or event participants. Conditions in some venues would continue to be less than desirable for some participants. Dust, resulting in breathing and vision problems, would continue to affect some participants on the Mall. During hot and humid weather participants would find most venues uncomfortable and would seek shade and seating, as well as require water.

Many event stages have been relocated so that they do not block important views, thus enhancing the experience for participants, and preserving historic views from and to various monuments or memorials, as well as the U.S. Capitol and the White House.

Impacts on Demonstration and Event Organizers

Permitting, Scheduling, and Management Processes

Under the no-action alternative the permitting process for special events would continue to require application in person; no on-line process would be available. The limited number of program staff would continue to preclude consistent support for and monitoring of events. Planning information about event venues could remain limited. Very few events would be turned down except when venues had been previously scheduled; however, organizers would not know that in advance. There would be no change in impacts on demonstration and event organizers.

Venues

Organizers of demonstrations, national celebrations, and special events would continue to have a wide variety of venues with views of national symbols as their backdrop. As described in the

“Affected Environment,” the National Mall contains a number of venues of varying sizes that are attractive to demonstration and event organizers. Some of these venues would be temporarily closed during future construction, restoration, or maintenance projects, resulting in temporary to short-term, minor to moderate, adverse impact on organizers because of the availability of specific venues. Other sites would remain available and could be used. The National Park Service would make every effort to ensure that public access remained to the greatest degree possible and that the size of the impact would be minimized.

Impacts at specific venues are discussed below.

Union Square. Union Square would continue to be used periodically as a highly visible venue for demonstrations and events up to 100,000 people due to its proximity to the U.S. Capitol and views of Washington Monument. However, its desirability as a venue would continue to be limited by the stepped level changes, logistical and access challenges, lack of visitor facilities, and the line of bollards running through the center of the site. The very large Capitol Reflecting Pool would continue to make circulation and the placement of support facilities awkward, and the occasional malodorous conditions from the uncirculated water would continue. Portable restrooms would have to continue to be brought into the site for demonstrations and special events. There would be no change in impacts on event organizers.

The Mall. Under the no-action alternative the Mall would continue to host demonstrations, national celebrations, and special events, and use would continue nearly nonstop from spring to fall. The large open turf areas in the center provide flexible space for event layout. This highly visible location, with superb background views of the U.S. Capitol to the east and the Washington Monument to the west, along with the historic landscape, make this a very desirable venue.

Organizers of larger demonstrations or events are required to use temporary flooring to reduce impacts and to provide restrooms. Refreshment stand owners would continue to coordinate with event organizers to provide additional food items. Organizers would have to safely provide

for utilities and to cover power and water lines so they are not tripping hazards; stringing power and communication lines through tree canopies is not allowed. Both the 12th Street side panels and north side panels near 9th and 8th streets are gaps in the regularly spaced elm trees, and these gaps would continue to be used for event logistics, storage, and construction staging. Unattractive visual impacts of fenced construction storage sites and the presence of large trucks for long periods of time would continue. Portable restrooms would continue to be lined up along Madison and Jefferson drives, creating a temporary wall and blocking visual access to adjacent areas. Dust generated by the gravel walkways would continue to create adverse effects for organizers, as well as participants.

The elm tree panels along the Mall may be used during First Amendment demonstrations that require this additional space because of size. In accordance with federal regulations, the Smithsonian Folklife Festival is authorized for a two-week period in late June or early July between 7th and 14th streets on the Mall (36 CFR 7.96 (g)(4) (D)); a recent rule change designates an eight-week period for setup and takedown. The elm tree panels are used as a shady location (where it can be 10 degrees cooler) for temporary event facilities during the festival. NPS concession food service providers also use nearby turf areas under the elm trees during events such as the Library of Congress Book Festival, the Smithsonian Folklife Festival, and the Black Family Reunion. Other event organizers are not allowed to use the elm tree panels for these purposes, creating a perception of dual standards and unequal treatment. This policy would continue to result in long-term, moderate, adverse impacts on other event organizers.

Washington Monument Grounds. Under the no-action alternative the Washington Monument grounds would continue to host a wide variety of demonstrations, national celebrations, and special events since the grounds are conveniently accessible to two Metro stations and provide large open turf areas that can be flexibly used. One of the Independence Day concerts would continue to be presented on the grounds, as authorized by federal regulation. Temporary facilities such as portable restrooms, stages and related

backstage areas, and first-aid stations are provided.

The Sylvan Theater would continue to be used for all sizes of events despite the awkward orientation of the theater area to circulation patterns and hillside seating. The theater stage would continue to lack many of the amenities desired by organizers, who may need to provide temporary upgrades for sound and lighting systems.

The northeast, northwest, and southwest corners of the north portion of the main grounds would continue to be used as venues for stages and event facilities, with temporary utility connections provided by organizers. Temporary events facilities would still occasionally block the planned historic view between the White House and the Thomas Jefferson Memorial. There would be no change in impacts on demonstration or event organizers under the no-action alternative.

Constitution Gardens. Constitution Gardens would continue to be a desirable location for a few small to moderate size activities, traditionally related to Veterans Day and Memorial Day. Tents would continue to be placed along walkways, and the open turf area west of the lake would provide a larger area for demonstrations and events. A perceived lack of transit access makes the location less attractive to some organizers. There would be no change in impacts on demonstration or event organizers under the no-action alternative.

Lincoln Memorial. Under the no-action alternative the east plaza and lower approachway of the Lincoln Memorial would continue to be a desirable venue for small to large demonstrations and events because of its iconic status and historic role in hosting activities related to civil rights and liberties, as well as the spectacular vista toward the Washington Monument and the U.S. Capitol. Demonstrations and special events would continue to be managed according to the 2009 *Guidelines for Special Events and Demonstrations* to protect cultural resources.

Activities would continue to be primarily located on paved surfaces, with the memorial stairs and lower approachway providing informal seating. Turf areas alongside the reflecting pool would

also continue to be used. Because subway access is 0.75 mile away, occasionally organizers have provided bus transportation to the memorial.

West Potomac Park Riverfront. The West Potomac Park riverfront and athletic fields under the no-action alternative would continue to see regular use spring through fall for special events, especially walks, runs, and races, which may use Ohio Drive and West Basin Drive or the athletic fields as staging areas. Because the riverfront area is within a short walk from parking lots, participants may arrive by bicycle or cross the bridge from Virginia, and organizers do not have to provide access. There would be no change in impacts on demonstration or event organizers under the no-action alternative.

Tidal Basin. The Tidal Basin would remain the center of the highly attended annual National Cherry Blossom Festival, and it would continue to be available for other activities. It is a desirable location for special events because of the concentration of spring flowering trees, the relationship to nearby memorials, and the visibility of the Washington Monument in the background. An untapped seasonal opportunity is the vibrant fall color of cherry trees around the Tidal Basin.

Management changes that were made in 2008 for the festival would continue, including closing the parking lot and using it for temporary facilities. Free shuttles would be provided from parking areas in East Potomac Park. The lack of pedestrian lighting around the Tidal Basin may continue to make the venue less attractive for nighttime use, and lantern-led tours are provided. There would be no change in impacts on demonstration or event organizers under the no-action alternative.

Thomas Jefferson Memorial. Under the no-action alternative the Thomas Jefferson Memorial steps and plaza would continue to be an attractive location for demonstrations and special events because of opportunities for informal seating, with the plaza functioning as a performance area. Vistas to the White House and the U.S. Capitol from areas on the plaza and steps are an important part of the memorial's appeal to organizers. Utility connections on the plaza would continue to be available to organizers. The large paved plaza and wide walks near

the memorial would continue to provide flexible space for temporary facilities, and these areas can support the weight of delivery vehicles. As a result of changes in 2008, organizers are encouraged to locate stages so they do not block views between the memorial and the White House. There is parking for 300 vehicles within a 5-minute walk, but the 15- to 20-minute walk from the nearest Metro station would mean that event organizers might want to provide shuttle transportation. Until a permanent security perimeter is completed, the presence of temporary concrete barriers would remain unattractive, and controlled access would continue to be inconvenient. There would be no change in impacts on demonstration or event organizers under the no-action alternative.

Cumulative Impacts

Past Actions

The number of requests for permitted events annually has substantially increased over the last thirty years. Past court decisions have reaffirmed First Amendment rights, and there would be no change in the ability of First Amendment demonstrators to use available and allowable venues, including the Mall elm tree panels.

Current Actions

Other federal park areas in Washington, D.C., where demonstrations may be held include Franklin Park, McPherson Square, U.S. Reservation 31 (west of 18th Street and south of H Street NW), Rock Creek and Potomac Parkway (west of 23rd Street and south of P Street NW), and U.S. Reservation 46 (north of Pennsylvania Avenue, west of 8th Street, and south of D Street SE). However, none of these areas is able to accommodate the scale of demonstrations that have been accommodated on the National Mall just because of the physical space. The ability of a group to host an event or demonstration on the National Mall has become increasingly prestigious.

As areas around the National Mall have been or are being developed, such as the construction of the National Museum of the American Indian and the National Museum of African American History and Culture, space available for demonstrations and events has become more concen-

trated onto the Mall, particularly between 3rd and 14th streets. The volume of events has increased dramatically in the last 30 years, although the number has been fairly stable since the mid 1990s. Also, locations and seasons for events have become traditional, and more special events have become annual events, adding to the pressure on park resources as multiple demonstrations and events are accommodated.

Improvements under all alternatives funded by the American Recovery and Reinvestment Act of 2009 would improve infrastructure at the Lincoln Memorial for hosting performances and demonstrations. Wider paved areas along the reflecting pool would also improve pedestrian access, and utility and communication connections would be provided. These improvements would facilitate setup and takedown operations for organizers, resulting in long-term, moderate, beneficial impacts.

Reasonably Foreseeable Actions

In the future some traditional event locations could change because of a strong meaningful connection to future facilities and locations. For example, the Library of Congress Book Festival could move to the paved areas around the Capitol Visitor Center east plaza and 1st Street, which would provide an excellent, highly visible, accessible, and sustainable location adjacent to the Library of Congress. The Black Family Reunion might choose to relocate to outdoor spaces at the future National Museum of African American History and Culture or near the future Martin Luther King, Jr. Memorial. The relocation of some events to other sites could have a long-term, major, beneficial impact on the ability of the entire National Mall to accommodate events and for resources to recover.

The NCPCC *Monumental Core Framework Plan* has identified an opportunity to create a new event venue of approximately 30 acres south of the Thomas Jefferson Memorial, which could host events from 100 to 200,000 people. The Thomas Jefferson Memorial and Washington Monument would be visible from this venue. This venue, however, would more likely appeal to special events rather than demonstrations since neither the U.S. Capitol nor the White House is visible from this location. Other future

projects include consolidating the 14th Street / I-395 and railroad bridges and developing a new subway stop within a five-minute walk of the Thomas Jefferson Memorial. This would result in long-term, major, beneficial impacts for participants and organizers of demonstrations, national celebrations, and special events held at that location.

Cumulative Impact Summary

Present rehabilitation projects for the Lincoln Memorial lower approachway and reflecting pool, the Thomas Jefferson Memorial plaza, and the D.C. War Memorial would have long-term, minor, beneficial impacts on organizers and negligible to minor beneficial impacts on participants because of improved infrastructure. It is also possible that some event organizers could select other venues in the future, resulting in long-term, minor to moderate, beneficial impacts because events would be better dispersed, thus taking pressure off high-demand locations on the National Mall. It is also possible that a large event and recreation venue could be developed south of the Thomas Jefferson Memorial, as proposed in the *Monumental Core Framework Plan*, with access from a new Metro station. This action could have long-term, moderate, beneficial impacts on both event organizers and participants.

The impacts of these past, present, and reasonably foreseeable actions on event organizers would be long-term, moderate, and beneficial because of rehabilitated and new event venues. However, taken together with the impacts of the no-action alternative, cumulative impacts would be long-term, moderate to major, and adverse, with an appreciable contribution from the no-action alternative because venues and visitor services and amenities would become increasingly inadequate.

Conclusion

Present impacts on participants and organizers would continue, with the National Mall continuing to host a large number of events and demonstrations at current venues, including the Mall elm tree panels, with growing demand for space (particularly the Mall, the Washington Monument grounds, and the Lincoln Memorial)

because of the status and visibility conferred on events due to the presence of national icons in the background. Over the life of this plan impacts would become moderate to major and adverse because of inadequate venues and the lack of visitor facilities and amenities. These impacts, together with the impacts of past, present, and reasonably foreseeable actions, would result in long-term, moderate to major, adverse cumulative impacts because venues, as well as visitor services and amenities, would become increasingly inadequate.

IMPACTS OF THE PREFERRED ALTERNATIVE

Direct and Indirect Impacts

Existing and proposed venues under the preferred alternative for demonstrations and special events are shown on the Civic Stage plan map.

Impact on Demonstration and Event Participants

The preferred alternative recognizes that the National Mall will continue to see high levels of use because of its symbolism and its location in the core of the nation's capital. Under the preferred alternative the National Mall could accommodate more participants in demonstrations and events. The National Mall could accommodate about 230,000 more people compared to the no-action alternative because of increased capacities at the following venues:

- *Union Square* — 290,000 people (3 sq. ft. / person) with a smaller reflecting pool that could be drained for special events; this is nearly triple the current capacity of 100,000.
- *Constitution Gardens* — 4,000 (200 sq. ft. / person).
- *Tidal Basin walks* — 50,000 (3 sq. ft. / person), an increase of 25,000 over the no-action alternative due to wider walks
- *Thomas Jefferson Memorial south plaza* — 10,000 (10 sq. ft. / person)

Maximum capacities at the following venues would be the same as the no-action alternative,

Civic Stage — Preferred Alternative

except that the Mall elm tree panels could not be used during special events:

- *Mall center panels* — 500,000 (3 sq. ft. / person), plus an additional 80,000 (7 sq. ft. / person) in the elm tree panels during First Amendment demonstrations only
- *Washington Monument grounds* — 700,000 (3 sq. ft. / person)
- *Lincoln Memorial* — 7,000 (7 sq. ft. / person) with an additional 90,000 along the reflecting pool (3 sq. ft. / person)
- *JFK hockey fields* — 60,000 (7 sq. ft. / person)
- *West Potomac Park ballfields / polo grounds* — 220,000 (7 sq. ft. / person)
- *Tidal Basin parking area* — 5,000 (3 sq. ft. / person)
- *D.C. War Memorial area* — 425 (10 sq. ft. / person)

- *Jefferson Memorial steps and plaza* — 4,000 (50 sq. ft. / person)

The impact of more people being able to participate in a wide range of demonstrations, celebrations, and special events would be long-term, major, and beneficial. This would primarily be as a result of redesigning Union Square so it could accommodate many more people.

There would be no change in terms of access to various venues around the National Mall.

Impacts on Demonstration and Event Organizers

Permitting, Scheduling, and Management Processes

Event permitting processes under the preferred alternative would be revamped. The public and organizers would be able to go on-line and check venue availability and capacity, as well as explore venue facilities, requirements, and general information. Event standards for each venue (such as temporary surfacing materials

and acceptable locations for event staging and restrooms) would ensure the protection of park resources and facilitate setup and takedown operations for organizers.

Additional NPS staff would be dedicated to provide consistent advance planning information for every venue, along with support and monitoring that would be useful to event organizers. Event organizers would be encouraged to use venues that have a meaningful association with their group and that would be suited to their needs and goals. Event setup and takedown times would be included in permit applications. Additional staff would oversee events to prevent adverse resource impacts. Intense recovery procedures would be required following events.

Compared to the no-action alternative, changes in the permitting, scheduling, and management process for demonstrations and special events under the preferred alternative would result in long-term, major, beneficial impacts to organizers.

Venues

Under the preferred alternative several venues on the National Mall used for civic activities, national celebrations, and special events would be redesigned to better sustain high levels of use. These venues would be able to accommodate more people; utilities, communications, and facilities would be provided to reduce setup and takedown times; information about daily activities and wayfinding to venues would be provided; and spaces that could accommodate temporary facilities such as portable restrooms or event offices and staging facilities would be designated to minimize the visual impact on planned vistas and the historic landscape. These actions would affect the majority of organizers and would result in long-term, major, beneficial impacts on organizers' ability to stage demonstrations, national celebrations, and special events on the National Mall.

To preserve the character and symbolism of the National Mall, limited onsite space would be available in some locations for storage and construction supplies for event setup and takedown. This would have a temporary, moderate, adverse impact on organizers who may in the past have used larger areas for longer periods of time.

Like the no-action alternative, technology would continue to be used to increase the capacity of various venues and to extend venue areas.

Under the preferred alternative technology could also be used to provide opportunities for people to vicariously participate in offsite demonstrations through simulcasts or to take part in events at multiple venues. This action would be consistent with NPS policies to use websites to reach a broader audience.

The following discussion analyzes the impacts of demonstrations and special events in high-use areas on the National Mall.

Union Square. Under the preferred alternative Union Square would be developed into a desirable National Mall destination that could be easily transformed to accommodate or support a demonstration, national celebration, or special event. The site would also be able to support a variety of entertainment that could accompany some of these permitted activities and help take pressure off venues on the Mall.

A context-sensitive redesign would highlight the Grant Memorial and respect the historic landscape, witness trees, and the area's history, and it would nearly triple the square's physical capacity. Actions that would support the needs of organizers and make this venue more desirable for demonstrations and events include redesigning the reflecting pool and water features; providing hard surfaces to accommodate temporary facilities, as well as setup and takedown operations; developing utilities and communication system connections; improving pedestrian access and wayfinding; eliminating grade changes; and developing permanent visitor facilities. Providing restrooms that could be opened in sections to meet higher use demands as needed would make the site more convenient for organizers and would reduce the need to provide portable restrooms. If additional portable restrooms were needed, they could be grouped on paved surfaces in locations that could be easily serviced but outside historic viewsheds. Compared to the no-action alternative, actions at Union Square under the preferred alternative would result in long-term, major, beneficial impacts for organizers.

The Mall. The intent of actions on the Mall under the preferred alternative would be to

accommodate very high levels of use at areas that would be designed to respect the historic design and character of the National Mall and to recover quickly after demonstrations or events. Circulation would be improved, gravel pathways replaced, off-Mall pedestrian connections improved, and orientation and wayfinding enhanced. Areas would be designed to accommodate operational and logistical needs of organizers, such as staging space in the air rights over the 12th Street tunnel and flexible office space that could be used by event organizers, and onsite NPS staff for event support, monitoring, emergency services, or first aid. This would reduce the need for trailers and trucks to be placed on the site for long periods of time. Permanent utility and communication connections would be provided in convenient locations to support all demonstrations, national celebrations, and special events. This would facilitate setup and takedown times, along with reducing tripping hazards from covered power and telephone lines.

Two new large, permanent restrooms would be conveniently located in the 12th Street corridor. The northside restroom would be designed so that stalls could be opened in sections as needed, and the southside restroom would be located near the Metro station entry. A small self-cleaning restroom would be located near the refreshment stand by the National Air and Space Museum. Required placement areas for additional portable restrooms would be conveniently dispersed on the Mall, and areas would be designed so that restrooms could be grouped to be easily serviced, to limit odors, and to minimize visual clutter.

Areas adjacent to roadways that are regularly used for portable stages or screens would be paved and easy access developed. Areas adjacent to refreshment stands would be renovated to be pleasant locations for more seating and more efficient food service during special events. Additional site furnishings would enhance the pedestrian experience, such as permanent seating (including group seating and shaded seating) along the north-south walks in the elm panels, cooling water features, and potted plants. Turf-grass would be installed along the tree-lined boulevards along Madison and Jefferson drives. New paving and facilities would be compatible

with the character of the Mall, and new irrigation systems would improve the appearance of the turf.

The elm tree panels along the Mall would continue to be available for demonstrations that require all available space, and they would also be available to general visitors for relaxation and recreation. However, under the preferred alternative the elm tree panels could no longer be used during special events for activities or temporary event facilities, such as tents and stages. This would result in long-term, moderate, beneficial impacts on organizers of demonstrations because general conditions on the Mall would be improved and all organizers would be treated equitably.

However, the impact on a few event organizers would be long-term, adverse, and major because the elm tree panels could no longer be used for temporary event facilities, such as tents and stages. Under this alternative all facilities for the Smithsonian Folklife Festival and one other special event would have to be located on the center grass panels, where there is sufficient space for their needs. Event organizers would benefit from other actions under the preferred alternative, such as permanent restrooms and flexible office space, as well as paved spaces to temporarily store events supplies and equipment. Under the preferred alternative event organizers would need to reorganize their layout plans.

Best practices, as well as visitor health concerns, indicate that major special events are better scheduled during off-peak seasons, and in the past events have been held at different times of year and in differing locations. Offering improved venues would enhance their desirability for demonstrations and events, resulting in long-term, major, beneficial impacts for most demonstration and event organizers compared to the no-action alternative because paved areas would provide convenient flexible venues that could be used more frequently and stay in desired condition.

Washington Monument Grounds. Under the preferred alternative the Washington Monument grounds would continue to host a wide variety of demonstrations, national celebrations, and special events, including one of the Inde-

pendence Day concerts. Improving infrastructure for events and replacing the Sylvan Theater with a multipurpose performance venue would continue the historic function of the theater along with reinvigorating this space as a desirable event venue. High-capacity restrooms and food service would further meet organizers' needs. Utility and communication connections would be developed on the southwest side of 15th and Constitution Avenue NW, southeast of 17th and Constitution Avenue NW, and northwest of Survey Lodge, making these venues more attractive to organizers. Compared to the no-action alternative, the preferred alternative would result in long-term, major, beneficial impacts to demonstration and event organizers because of a new, flexible multipurpose facility better oriented for participant enjoyment and visibility as well as convenient infrastructure.

Constitution Gardens. Under the preferred alternative Constitution Gardens would be a new special events venue with a unique informal garden character and outdoor performance space that could be appealing to moderate sized events and programs. Improved circulation, space for small special events or demonstrations, and support infrastructure would make venues at this site more desirable. Compared to the no-action alternative, impacts on demonstration and event organizers would be long-term, moderate, and beneficial for event organizers of smaller events.

Lincoln Memorial. The Lincoln Memorial would continue to be a desirable venue for small to large activities under the preferred alternative because it is readily recognized throughout the country and it provides spectacular views toward the Washington Monument and the U.S. Capitol. Demonstrations and special events would continue to be managed according to the 2009 guidelines to protect the cultural resources. Because Metro access would be 0.75 mile away, organizers of some events could have to provide shuttle transportation. Resulting impacts on the Lincoln Memorial as an event and demonstration venue would be long-term, negligible, and beneficial compared to the no-action alternative.

West Potomac Park Riverfront. The West Potomac Park riverfront would continue to attract a number of special events, many of

which are athletic in nature. Charity walks, runs, and races would still be able to use roads in the area or the athletic fields as staging areas. Compared to the no-action alternative, the preferred alternative would result in long-term, minor to moderate, beneficial impacts on the attractiveness of venues in this area to organizers, primarily as the result of the improved appearance, separate bicycle routes or lanes, and reconfigured parking along Ohio Drive, and if warranted by demand, food service near Ohio Drive and West Basin Drive.

Tidal Basin. The Tidal Basin would continue to be available for a variety of activities because of the concentration of spring flowering trees, the relationship to nearby memorials, and the visibility of the Washington Monument in the background. It would remain the center of the highly attended annual National Cherry Blossom Festival. The Tidal Basin area would be more desirable to demonstration and event organizers under the preferred alternative because of widened walks, separate bicycle lanes, improved pedestrian connections, revised parking, upgraded visitor facilities (permanent restrooms, food service), and pedestrian lighting. Management changes made during the 2008 Cherry Blossom Festival would continue, including closing the parking lot to accommodate temporary facilities and providing shuttles to parking areas in East Potomac Park. The impact of changes under the preferred alternative, as compared to the no-action alternative, would be long-term, major, and beneficial because of numerous improvements, such as wider walkways and additional permanent visitor facilities that would make the National Cherry Blossom Festival and other special events much easier to host.

Thomas Jefferson Memorial. Under the preferred alternative the Thomas Jefferson Memorial plaza would be a more desirable venue for organizers of demonstrations, national celebrations, and special events because of improved infrastructure and use of the south side of the memorial for special events, as well as continued opportunities for informal seating and performance areas, with vistas to the White House and the U.S. Capitol. Utility connections on the plaza would continue to be available to organizers.

The large paved plaza and wide walks near the memorial would still provide flexible space for locating temporary event facilities. As described for the no-action alternative, organizers would be encouraged to locate stages so they do not block views between the memorial and the White House. Nearby parking for 300 vehicles would remain, while Metro access would be a 15- to 20-minute walk, requiring some event organizers to consider providing shuttle access. Compared to the no-action alternative, the preferred alternative would have long-term, moderate to major, beneficial impacts, primarily as a result of improved conditions and a large flexible venue using space south of the memorial.

Cumulative Impacts

Cumulative impacts would be long-term, moderate, and beneficial, the same as those described under the no-action alternative, because of rehabilitated and new venues. The impacts of the preferred alternative would be long-term, major, and beneficial because of new venues on the National Mall, improved infrastructure that would facilitate event operations, and improved visitor facilities and amenities. These impacts, in combination with the impacts of past, present, and reasonably foreseeable actions, would result in long-term, major, beneficial cumulative impacts, with a substantial beneficial contribution from the preferred alternative.

Conclusion

The overall impacts of the preferred alternative on participants and organizers for demonstrations, national celebrations, and special events would be long-term, major, and beneficial because of changes in the permitting, scheduling, and management process, additional and more sustainable venues in highly desirable locations; equitable requirements for organizers; conveniently located civic infrastructure to facilitate event operations; permanent visitor facilities such as restrooms; a redesigned Union Square that could accommodate larger crowds; a flexible multipurpose space at the Sylvan Theater location; and a new venue at Constitution Gardens. However, impacts on the few organizers who could no longer use the elm tree panels on the Mall for temporary event facilities

(such as tents and stages) would be long-term, major, and adverse. The impacts of past, present, and reasonably foreseeable actions combined with the impacts of the preferred alternative would result in long-term, major, beneficial cumulative impacts for all event organizers and participants, with a substantial beneficial contribution from the preferred alternative.

IMPACTS OF ALTERNATIVE A

Direct and Indirect Impacts

Existing and proposed venues under alternative A for demonstrations and special events are shown on the Civic Stage plan map.

Impacts on Demonstration and Event Participants

Alternative A would be similar to the no-action alternative except that the use of the Mall elm tree panels would not be allowed during special events. The maximum capacities of individual venues would be as follows:

- *Union Square* — 100,000 (3 sq. ft. / person)
- *Mall center panels* — 500,000 (3 sq. ft. / person), plus an additional 80,000 (7 sq. ft. / person) in the elm tree panels during First Amendment demonstrations only
- *Washington Monument grounds* — 700,000 (3 sq. ft. / person)
- *Lincoln Memorial* — 7,000 on the steps and plaza (7 sq. ft. / person), and 90,000 along the reflecting pool (3 sq. ft. / person)
- *JFK hockey fields* — 60,000 (7 sq. ft. / person)
- *West Potomac Park ballfields / polo grounds* — 220,000 (7 sq. ft. / person)
- *D.C. War Memorial area* — 425 (10 sq. ft. / person)
- *Tidal Basin* — parking area: 5,000 (10 sq. ft. / person); walks: 25,000 (3 sq. ft. / person)
- *Jefferson Memorial steps and plaza* — 4,000 (10 sq. ft. / person)

Under alternative A events would be required to have a meaningful association with the National Mall venues (36 CFR 7.96(g)(5)(vi)(A)). As a

Civic Stage — Alternative A

result, some special events would no longer be permitted on the National Mall, resulting in a long-term, moderate, adverse impact on participants.

Impacts on Demonstration and Event Organizers

Permitting, Scheduling, and Management Processes

Under alternative A the permitting process for special events would be revised similar to the preferred alternative, with on-line access for permit applications, a dedicated staff to provide consistent support and monitoring, and improved advance planning information useful to event organizers. The public and organizers would be able to go on-line and check venue availability and capacity as well as explore venue facilities, requirements, and general information. Event standards would be defined for each venue, including temporary surfacing materials, tent and facility installation methods, generator decibel levels, and acceptable locations for

temporary facilities (e.g., portable restrooms, incident command centers, and event staging). These standards would ensure the protection of park resources and facilitate setup and take-down operations for organizers.

Setup and takedown times would be included in permits. Special events would have to relate to and be within the basic mission and responsibilities of the NPS National Capital Region (36 CFR 7.96(g)(5) (vi)(A)). This would result in somewhat fewer special events being permitted on the National Mall, with long-term, moderate, adverse impacts on event organizers. Intense recovery procedures would follow events, with better cost recovery procedures to reduce expenses to the federal government.

Compared to the no-action alternative, alternative A would result in long-term, major, beneficial impacts on demonstration and most event organizers because of improvements in permitting, scheduling, and management processes.

Venues

Under alternative A the renovation of some venues would help organizers in the staging of demonstrations, national celebrations, and events, resulting in long-term, minor, beneficial impacts compared to the no-action alternative. However, because alternative A would require a meaningful association to sites in accordance with 36 CFR 7.96(g)(5)(vi)(A) and NPS *Management Policies 2006*, the number of events would be reduced; this requirement would not apply to demonstrations, which would continue to be fully accommodated. Alternative A would not increase the capacity of sites to accommodate more people, and additional limitations would be placed on where temporary facilities could be located in order to protect historic vistas. These actions would result in temporary, moderate to major, adverse impacts on the use of venues compared to the no-action alternative. At the same time these actions would protect the character of the venues that make them popular to organizers, a long-term, moderate to major, beneficial impact. Technology would continue to be frequently used to increase the capacity of venues or extend them. Impacts at specific venues are discussed below.

Union Square. Under alternative A Union Square would be redesigned as an attractive civic square, emphasizing the site's history. Further restrictions would be placed on where temporary facilities could be located in order to keep planned historic vistas free of visual intrusions. The pool would be redesigned to facilitate pedestrian circulation, paving and access would be improved, and walks would be widened. Like the no-action alternative, no permanent visitor facilities (such as restrooms) would be provided. Despite the square's redesign as a more attractive destination, it would not be able to accommodate more people, and the maximum capacity would remain about 100,000 people. Compared to the no-action alternative, alternative A would result in long-term, minor to moderate, beneficial impacts for event organizers from improved circulation and paving while at the same time further restricting the placement of temporary facilities, resulting in long-term, moderate, adverse impacts on the ability of organizers to stage events.

The Mall. The Mall would be preserved primarily as a historic space that would accommodate less use than the no-action alternative because fewer special events would be permitted since a meaningful association to venues would be required. However the health and appearance of the Mall would improve and that could make venues more attractive for organizers. Stages and screens for special events would have to be relocated in order to protect the eye-level east-west vista in the center of the grass panels. These facilities could be angled or placed off to the side as they were for the 2009 inauguration to take advantage of iconic backdrops. While this action would probably not make the Mall a less desirable venue, it would cause organizers to rethink event layout. Gravel walks would remain, and small restrooms would be provided near existing refreshment stands. Utility and communications infrastructure for events would be provided.

As described for the preferred alternative, no temporary facilities for events would be allowed in the elm tree panels, and the impacts would be similar — long-term, moderate, beneficial impacts for organizers of demonstrations because of a general improvement in the resources and appearance of the Mall, while impacts on event organizers would be long-term, major, and adverse on a few organizers. As described under the preferred alternative, some event organizers would have to reorganize their layout plans.

Compared to the no-action alternative, the Mall would likely be less attractive to event organizers under alternative A because of restrictions on the placement of temporary facilities to protect views and the requirement for a meaningful association with the park, even though better infrastructure, an improved appearance, and small permanent restrooms would be provided. The resulting impacts would be long-term, moderate, and adverse. Restrictions on the use of the side elm tree panels for temporary event facilities and tents would result in a long-term, moderate, adverse impact on a few event organizers.

Washington Monument Grounds. Use of the Washington Monument grounds would be similar to that described under the no-action alternative. The grounds would continue to host a wide variety of demonstrations, national

celebrations, and special events, including one of the Independence Day concerts. Temporary facilities such as portable restrooms, stages, and related backstage areas, first-aid stations would continue to be provided.

The Sylvan Theater would continue to be used for all sizes of events despite the awkward orientation of the theater area to circulation patterns and hillside seating. Organizers might need to provide temporary upgrades for sound and lighting systems in the theater.

The northeast, northwest, and southwest corners of the north portion of the main grounds would continue to be used as venues for stages and event facilities, with temporary utility connections provided by organizers. Under alternative A no temporary event facilities, such as tents or vehicles, would be allowed to block the planned historic view between the White House and the Thomas Jefferson Memorial. Impacts would be long-term, minor to moderate, and beneficial for organizers because viewed protection requirements would retain a strong visual connection with national symbols.

Constitution Gardens. Constitution Gardens would continue to provide several small venues for a variety of demonstrations and events. These venues would provide paved walks and adjacent areas for small demonstrations and events, as well as a larger turf area west of the lake that could accommodate larger demonstrations and events. Facility improvements would include replacing the existing restroom and refreshment stand and adaptively reusing the Lockkeepers House as a staffed visitor contact station. Compared to the no-action alternative, impacts under alternative A would be long-term, minor, and beneficial, primarily as a result of improved visitor facilities making the area more attractive and visible to organizers of small to mid-size demonstrations and special events.

Lincoln Memorial. Under alternative A the east plaza and the lower approachway of the Lincoln Memorial would continue to be a desirable venue for small to large demonstrations and events. Demonstrations and special events would continue to be managed according to updated *Guidelines for Special Events and Demonstrations* to protect cultural resources.

Activities would continue to be primarily located on paved surfaces, with the memorial stairs and lower approachway providing informal seating. Turf areas along the reflecting pool would also continue to be used. Because Metro access is 0.75 mile away, organizers might have to provide shuttle transportation. Impacts would be long-term, negligible, and beneficial, the same as the no-action alternative.

West Potomac Park Riverfront. Under alternative A, like the no-action alternative, the West Potomac Park riverfront and athletic fields would continue to see regular use spring through fall for special events. Walks, runs, and races would still use Ohio Drive or the athletic fields as staging areas. Because the riverfront area is within a short walk of parking lots, and participants may arrive by bicycle or cross the bridge from Virginia, organizers do not have to provide access. Compared to the no-action alternative, impacts would be long-term, negligible, and beneficial, primarily because of the improved appearance of natural resources.

Tidal Basin. As described under the no-action alternative, the Tidal Basin would continue to be a desirable venue for special events, primarily the National Cherry Blossom Festival. The Tidal Basin parking lot would continue to be closed during the Cherry Blossom Festival to provide ample paved surfaces for temporary facilities, but narrow walks would continue to limit movement. Shuttles would be provided from parking areas in East Potomac Park. The lack of pedestrian lighting around the Tidal Basin could continue to make the venue less attractive for nighttime use, and lantern-led tours would continue to be provided. Increasing educational programs by means of roving ambassadors during the Cherry Blossom Festival would help improve overall conditions for special events. An untapped opportunity for events at the Tidal Basin is during the vibrant fall color season. Compared to the no-action alternative, impacts would be long-term, negligible, and beneficial.

Thomas Jefferson Memorial. Under alternative A the Thomas Jefferson Memorial plaza would continue to be attractive for demonstrations and special events because of opportunities for informal seating and performance areas, with vistas to the White House and the U.S. Capitol

from areas on the plaza and steps. Utility connections on the plaza would continue to be available to organizers. The large paved plaza and wide walks near the memorial would continue to provide flexible space for temporary event facilities. As described for the no-action alternative, since 2008 organizers are encouraged to locate stages so that they do not block views between the memorial and the White House. Nearby parking would remain for 300 vehicles, while a 15- to 20-minute walk to the nearest Metro station would prompt some event organizers to provide shuttle access. Controlled access would continue to be inconvenient. Compared to the no-action alternative, improved conditions under alternative A would have long-term, minor, beneficial impacts on the attractiveness of this area as a venue for special events.

Cumulative Impacts

Cumulative impacts would be long-term, moderate, and beneficial, the same as those described under the no-action alternative, because of rehabilitated and new venues. Alternative A would result in long-term, minor, beneficial impacts. These impacts, in combination with the impacts of past, present, and reasonably foreseeable actions, would result in long-term, moderate, beneficial cumulative impacts, with a small beneficial contribution from alternative A.

Conclusion

The overall impacts of alternative A would be long-term, minor, and beneficial because of changes in the permitting, scheduling, and management process; somewhat improved venue conditions; and permanent small visitor facilities such as restrooms. However, the user capacity of desirable venues would remain the same, and mandated recovery time between events would mean fewer events could take place in high visibility venues such as the Mall and the Washington Monument grounds. However, impacts on the few organizers who could no longer use the elm tree panels on the Mall for temporary event facilities (such as tents and stages) would be long-term, major, and adverse. The impacts of past, present, and reasonably foreseeable actions, combined with the impacts of alternative A, would result in long-term, moderate, beneficial cumulative

impacts, with a small beneficial contribution from this alternative.

IMPACTS OF ALTERNATIVE B

Direct and Indirect Impacts

Existing and proposed venues under alternative B for demonstrations and special events are shown on the Civic Stage plan map.

Impacts on Demonstration and Event Participants

The National Mall will continue to see high levels of use because of its symbolism and its location in the core of the nation's capital. Under alternative B about 240,000 more people than under the no-action alternative could be accommodated at demonstration, national celebrations, and special events because capacities would be increased at the following venues:

- *Union Square* — 290,000 (3 sq. ft. / person) without a reflecting pool; this is nearly triple the current capacity of 100,000.
- *Constitution Gardens* — 4,000 (200 sq. ft. / person); if the lake was drainable for an event, a maximum of 20,000 people at 10 square feet per person could be accommodated. Constitution Gardens is less likely to see maximum use capacity because the visual backdrop is not readily identified as being in the national capital, even though the Washington Monument is highly visible.
- *Tidal Basin walks* — 50,000 (3 sq. ft. / person), double the current capacity due to wider walks.

Maximum capacities at the following venues would be the same as the no-action alternative, except that the Mall elm tree panels could not be used during special events:

- *Mall center panels* — 500,000 (3 sq. ft. / person), plus an additional 80,000 (7 sq. ft. / person) in the elm tree panels if turf/root zones and soils were protected through an acceptable and authorized method
- *The Washington Monument grounds* — 700,000 (3 sq. ft. / person)

Civic Stage — Alternative B

- *The Lincoln Memorial* — 7,000 (7 sq. ft. / person) with an additional 90,000 along the reflecting pool (3 sq. ft. / person)
- *JFK hockey fields* — 60,000 (7 sq. ft. / person)
- *West Potomac Park ballfields / polo grounds* — 220,000 (7 sq. ft. / person)
- *Tidal Basin parking area* — 5,000 (3 sq. ft. / person)
- *D.C. War Memorial area* — 425 (10 sq. ft. / person)
- *Jefferson Memorial steps and plaza* — 4,000 (50 sq. ft. / person)

The impact on the ability to participate in a wide range of demonstrations, celebrations, and events would be long-term, major, and beneficial, primarily as a result of redesigning Union Square so it could accommodate many more people.

Impacts on Demonstration and Event Organizers

Permitting, Scheduling, and Management Processes

Under alternative B the permit process would be revamped so that organizers could apply for permits on-line. Staff would be dedicated to provide consistent support and monitoring, and advance planning information useful to event organizers would be improved. The public and organizers would be able to go online and check venue availability and capacity as well as explore the venue facilities, requirements, and general information, such as standards for specific venues, including temporary surfacing materials, tent installation methods, generator decibel levels, and acceptable locations for temporary facilities (e.g., portable restrooms, incident command centers, and event staging). These standards would ensure the protection of park resources and facilitate setup/takedown opera-

tions for organizers. Event organizers would be encouraged to use venues that would have a meaningful association to their group and that would be suited to their needs.

Additional staff would oversee events to prevent adverse resource impacts. Intense recovery procedures would follow events, and setup and takedown times would be built into permits. Compared to the no-action alternative, alternative B would make considerable changes in the processes for permitting, scheduling, and managing events, resulting in long-term, major, beneficial impacts.

Venues

Under alternative B several venues would be redesigned to sustain high levels of use for civic activities, national celebrations, and special events. Venues would accommodate more people; provide utilities, communications, and facilities that would reduce setup and takedown times; improve information about daily activities and wayfinding to venues; and provide paved or identified spaces that could flexibly accommodate temporary facilities such as portable restrooms, event offices, and staging facilities while minimizing the visual impact on planned vistas and the historic landscape. Some of the actions would be similar to the preferred alternative, which would also seek to accommodate a very high level of use. Like the preferred alternative, alternative B would affect the majority of organizers, resulting in long-term, major, beneficial impacts on the ability to stage, demonstrations, national celebrations, and events on the National Mall. Actions at specific sites are described below.

Union Square. Under alternative B Union Square would be redesigned as a desirable civic square that could be transformed to a demonstration or event site or to support national celebrations. The site would also be able to support a variety of entertainment that might accompany some of these permitted activities. The redesign would highlight the Grant Memorial and respect the historic landscape, witness trees, and site history. The physical capacity of the space would be nearly doubled. A context-sensitive redesign would accommodate more people by removing the reflecting pool,

developing utilities and communications connections to facilitate flexible use, improving pedestrian access and wayfinding, adding pavement to facilitate setup and takedown, and providing permanent multipurpose facilities such as restrooms and food service that could support the needs of organizers. Restrooms could be incrementally opened as needed to meet higher use demands, providing convenience for organizers and reducing the need to provide portable restrooms. Compared to the no-action, alternative B would result in long-term, major, beneficial, impacts for organizers.

The Mall. Under alternative B the Mall would be recognized as a venue that must accommodate very high levels of use and yet be able to recover quickly. Like the preferred alternative, the Mall's improved appearance and facilities would enhance its desirability for use by demonstration and event organizers. Additional actions under alternative B would include closing Madison and Jefferson drives to allow them to be used more frequently for event facilities and constructing an underground parking garage to provide onsite public parking. These changes would result in long-term, major, beneficial impacts for organizers compared to the no-action alternative.

Under alternative B some temporary facilities for events could be placed in the side elm tree panels only if turf and root zones could be protected through effective, authorized methods. This difference would primarily affect the organizers of the Smithsonian Folklife Festival, with a long-term, negligible to minor, beneficial impact. However, dual standards and unequal treatment of organizers, as described under the no-action alternative, would result in a long-term, moderate, adverse impact on other event organizers.

Washington Monument Grounds. As described for the no-action alternative, the Washington Monument grounds would continue to host a wide variety of demonstrations, national celebrations, and special events under alternative B. Changes would be similar to those described for the preferred alternative and would include improved infrastructure to support events and a multipurpose performance venue to replace the Sylvan Theater, which would continue the historic function of the theater and

would reinvigorate this space as a desirable venue for events. High-capacity restrooms and food service would meet organizers' needs. Utility and communication connections would be developed on the southwest side of 15th and Constitution Avenue NW, the southeast side of 17th and Constitution Avenue NW, and northwest of Survey Lodge, making these venues more useful to organizers. If an underground parking garage was developed south of Independence Avenue, the site would be more desirable for demonstrations and special events because of improved parking. Compared to the no-action alternative, alternative B would result in long-term, major, beneficial impacts on event organizers because of infrastructure improvements and a new multipurpose venue.

Constitution Gardens. Under alternative B Constitution Gardens would be developed as a visitor destination with nearby performance space that has infrastructure, as well as improved circulation routes to accommodate small special events and demonstrations. In addition, Constitution Gardens Lake would be redesigned so that it could be drained to provide a large paved venue for demonstrations and special events. As a result of these actions, alternative B would have long-term, major, beneficial impacts.

Lincoln Memorial. The Lincoln Memorial would continue to be a desirable venue for small to large activities, similar to the preferred alternative. Well-attended events and demonstrations would also continue to use the turf areas along the reflecting pool. Activities would continue to be primarily located on paved surfaces, with the memorial stairs and lower approachway providing informal seating. Demonstrations and special events would continue to be managed according to updated guidelines to protect the cultural resources. Because Metro access would remain 0.75 mile away, occasionally organizers would have to provide shuttle access. Impacts would be long-term, negligible, and beneficial, the same as the no-action alternative.

West Potomac Park Riverfront. Under alternative B, like the no-action alternative, the West Potomac Park riverfront area would continue to attract numerous special events, many of which are athletic in nature. Charity walks, runs, and races would continue to use roads in the area or

the athletic fields as staging areas. Developing a small staging area for demonstrations and events (grass pavement and utilities) south of 23rd Street and Independence Avenue would make this area more useful for organizers. Compared to the no-action alternative, alternative B would result in long-term, negligible to minor, beneficial impacts, primarily because the venues would be more attractive to organizers as a result of better infrastructure and the improved appearance of natural resources.

Tidal Basin. As described under the no-action alternative, the Tidal Basin would continue to be an attractive venue for special events, including the National Cherry Blossom Festival, because of the concentration of spring flowering trees, the relationship to nearby memorials, and the visibility of the Washington Monument in the background. Under alternative B the Tidal Basin would be more desirable as a venue because of widened walks, improved pedestrian connections, a nearby underground parking garage, improved visitor facilities (permanent restrooms and food service), pedestrian lighting, and more choice in recreation equipment rentals.

Management changes that were made in 2008 for the Cherry Blossom Festival would continue, including closing the Tidal Basin parking lot and using it for temporary facilities, and providing shuttle transportation from parking areas in East Potomac Park. The impact of alternative B on the attractiveness of the Tidal Basin for events and demonstrations, compared to the no-action alternative, would be long-term, major, and beneficial, primarily as a result of the numerous improvements to visitor facilities.

Thomas Jefferson Memorial. Under alternative B the Thomas Jefferson Memorial plaza would continue to be a desirable venue for organizers of demonstrations, national celebrations, and special events because of opportunities for informal seating and performance areas, with vistas to the White House and the U.S. Capitol from areas on the plaza and steps. Utility connections on the plaza would continue to be available to organizers, and the large paved plaza and wide walks would continue to provide space for temporary facilities. As a result of management changes made in 2008, organizers are encouraged to locate stages so they do not block

views between the memorial and the White House. Parking for 300 vehicles within a five-minute walk would remain, but a longer walk from the nearest Metro station (15–20 minutes) would prompt some event organizers to provide a shuttle service. Controlled access would continue to be inconvenient. Compared to the no-action alternative, impacts under alternative B would be long-term, minor, and beneficial, primarily as a result of improved conditions.

Cumulative Impacts

Cumulative impacts, which would be the same as those described under the no-action alternative, would be long-term, moderate, and beneficial because of three rehabilitated venues and a new venue south of the Thomas Jefferson Memorial. The impacts of alternative B would be long-term, major, and beneficial. These impacts, in combination with the impacts of past, present, and reasonably foreseeable actions, would result in long-term, major, beneficial cumulative impacts, with a substantial beneficial contribution from alternative B.

Conclusion

Taken as a whole, alternative B would result in long-term, major, beneficial impacts because of changes in the permitting, scheduling, and management process; more sustainable venues in highly desirable locations; conveniently located civic infrastructure to facilitate event operations; permanent visitor facilities such as restrooms; a redesigned Union Square that could accommodate larger crowds; a flexible multipurpose space at the Sylvan Theater location; and a new venue at Constitution Gardens. The impacts of past, present, and reasonably foreseeable actions combined with the impacts of the preferred alternative would result in long-term, major, beneficial cumulative impacts, with a substantial beneficial contribution from alternative B.

IMPACTS OF ALTERNATIVE C

Direct and Indirect Impacts

Existing and proposed venues under alternative C for demonstrations and special events are shown on the Civic Stage plan map.

Impacts on Demonstration and Event Participants

Under alternative C the National Mall could accommodate about 215,000 more people than under the no-action alternative because capacities would be increased at the following venue:

- *Union Square* — 290,000 people (3 sq. ft. / person) with a smaller reflecting pool that could be drained for special events; this is nearly triple the current capacity of 100,000.
- *Tidal Basin walks* — 50,000 (3 sq. ft. / person), double the current capacity due to wider walks.

Maximum capacities at the following venues would be the same as the no-action alternative, except that the Mall elm tree panels could not be used during special events:

- *Mall center panels* — 500,000 (3 sq. ft. / person), plus an additional 80,000 (7 sq. ft. / person) in the elm tree panels during First Amendment demonstrations only
- *Washington Monument grounds* — 700,000 (3 sq. ft. / person)
- *Lincoln Memorial* — 7,000 (7 sq. ft. / person) with an additional 90,000 along the reflecting pool (3 sq. ft. / person)
- *JFK hockey fields* — 60,000 (7 sq. ft. / person)
- *West Potomac Park ballfields / polo grounds* — 220,000 (7 sq. ft. / person)
- *Tidal Basin parking area* — 5,000 (3 sq. ft. / person)
- *D.C. War Memorial area* — 425 (10 sq. ft. / person)
- *Jefferson Memorial steps and plaza* — 4,000 (50 sq. ft. / person)

Impact on demonstration and event participants participate would be long-term, major, and beneficial, primarily as a result of redesigning Union Square so it could accommodate many more people.

Civic Stage — Alternative C

Impacts on Demonstration and Event Organizers

Permitting, Scheduling, and Management Processes

Under alternative C, similar to the other action alternatives, the event permitting process would be revamped with on-line access to apply for a permit. The public and organizers would be able to go on-line and check venue availability and capacity, as well as explore venue facilities, requirements, and general information. Event standards would be defined for each venue, helping ensure the protection of park resources and facilitating setup/takedown operations for organizers. Under alternative C event scheduling (not First Amendment demonstrations) would ensure that part of the Mall's grass panels would be open for public recreation at all times, part available for events, and part available for landscape recovery/restoration.

Staff would be dedicated to providing consistent support and monitoring. Organizers would be

encouraged to use venues with a meaningful association with their group and that would be suited to their needs. Compared to the no-action alternative, impacts under alternative C on event permitting, scheduling, and management would be long-term, major, and beneficial.

Venues

Under alternative C, similar to the preferred alternative and alternative B, the venues for demonstrations and special events would be improved, with long-term, moderate to major, beneficial impacts. As described in the preferred alternative, sustainable venues would be attractive to organizers, and more frequent but smaller scale restoration projects would mean that venues would stay in better shape and that more space would be available to organizers.

To maximize sustainability, organizers would be encouraged to pursue nontraditional approaches to expand participation. For example,

demonstrations of unity could be simulcast from several locations, rather than having all participants onsite, similar to the 2007 Live Earth concerts that took place around the world. The Kennedy Center periodically simulcasts performances taking place in their auditoriums to audiences on the National Mall. These special events have been very popular.

Organizers would be encouraged to provide transportation to venues and would be required to provide bicycle parking for events of more than 2,000 people. Similar to alternative A, no eye-level obstructions of planned historic vistas would be allowed, requiring changes to event facility locations, a long-term, minor to moderate, adverse impact on organizers. Compared to the no-action alternative, overall alternative C would result in long-term, major, beneficial impacts to organizers. Impacts at specific sites are discussed below.

Union Square. Under alternative C Union Square would provide an attractive, sustainable destination with flexible event and demonstration space that would maximize sustainable building practices. Context-sensitive design would include more paved surfaces and the elimination of grade changes to make the space more flexible and accessible to all people; a year-round water feature that could be drained for additional event space or that could be frozen for winter ice-skating; event utility infrastructure and connections, with the ability to view simulcasts or broadcasts of demonstrations and events occurring elsewhere, or to broadcast free-speech or civic activities from here; and a convenient refreshment stand for use by organizers. Self-cleaning public restrooms would be provided, but organizers would still have to provide additional portable restrooms for large events. As a result, Union Square would provide a venue that would almost double the number of potential participants. Impacts under alternative C would be long-term, major, and beneficial compared to the no-action alternative.

The Mall. Under alternative C the Mall would be recognized as a venue that must accommodate very high levels of use and yet be able to recover quickly, similar to the preferred alternative. Actions would include improved circulation and off-Mall pedestrian connections, re-

placement of gravel pathways, better orientation and wayfinding, areas to accommodate operational and logistical needs, permanent utility and communication connections, and two large permanent restrooms plus designated areas for additional portable restrooms. The Mall's improved appearance and facilities would enhance its desirability for organizers. These changes would result in long-term, major, beneficial impacts for organizers compared to the no-action alternative.

Like the preferred alternative and alternative A, no events would be allowed to use areas within the elm tree panels for activities or temporary event facilities such as tents and stages. The tree panels would continue to be available for demonstrations that require all available space and by general visitors for relaxation and recreation. The impact on the event organizers that use these areas would be long-term, major, and adverse. However, the resulting improvement in the appearance of the Mall for other event organizers would be long-term, moderate, and beneficial. Alternative C would require some event organizers to reorganize their layout plans.

Washington Monument Grounds. As described for the no-action alternative, the Washington Monument grounds would continue to host a wide variety of demonstrations, national celebrations, and special events because of the large open turf areas that can be flexibly used. Temporary facilities such as portable restrooms, stages and related backstage areas, and first-aid stations would be provided.

The Sylvan Theater would continue to see high levels of use for all sizes of events despite the awkward orientation of the theater to circulation patterns and hillside seating. Because the theater stage does not provide many of the desired amenities, organizers might need to provide temporary upgrades for sound and lighting systems.

The northeast, northwest, and southwest corners of the north portion of the main grounds would continue to be used as venues for stages and event facilities, and temporary utility connections would continue to be provided by organizers. Temporary event facilities, such as tents, would continue to occasionally block the planned historic view between the White House

and the Thomas Jefferson Memorial. Impacts under alternative C would be long-term, minor to moderate, and adverse because no changes would be made to event infrastructure.

Constitution Gardens. Constitution Gardens would be developed as a visitor destination with nearby performance space under alternative C, similar to the preferred alternative and alternative B. Circulation would be improved in a way to provide space for small special events or demonstrations, and infrastructure would be provided, making the area more desirable for organizers of small events. Compared to the no-action alternative, impacts would be long-term, moderate, and beneficial.

Lincoln Memorial. Under alternative C the east plaza and lower approachway to the Lincoln Memorial would continue to be a desirable venue for small to large demonstrations and events. Demonstrations and special events would continue to be managed according to updated *Guidelines for Special Events and Demonstrations* to protect cultural resources.

As described for the no-action alternative, activities would continue to be primarily located on paved surfaces, with the memorial stairs and lower approachway providing informal seating. Turf areas along the reflecting pool would also continue to be used. Organizers would have to consider providing shuttle transportation because the nearest Metro station is 0.75 mile away. Impacts would be long-term, negligible, and beneficial, the same as the no-action alternative.

West Potomac Park Riverfront. Under alternative C the West Potomac Park riverfront area would continue to attract a number of special events, many of which are athletic in nature. Charity walks, runs, and races would continue to use roads in the area or the athletic fields as staging areas. Parking would be improved along Ohio Drive, and separate bicycle lanes or routes would be provided to enhance access. Compared to the no-action alternative, alternative C would result in long-term, minor to moderate, beneficial impacts on the attractiveness of venues to organizers, primarily as the result of the improved appearance of natural resources, separate bicycle routes or lanes, and revised parking along Ohio Drive.

Tidal Basin. The Tidal Basin would continue to be an attractive location for special events. It would remain the center of the highly attended annual National Cherry Blossom Festival, but would also continue to be available for other activities. The Tidal Basin would be more desirable as an event venue under alternative C, similar to the preferred alternative, because of widened walks, separate bicycle lanes, improved pedestrian connections, revised parking, better visitor facilities (permanent restrooms, food service), pedestrian lighting, and more choice in recreation equipment rentals. Management changes made for the 2008 Cherry Blossom Festival would continue, including closing the parking lot to accommodate temporary facilities and providing shuttles to parking areas in East Potomac Park. The impacts to the attractiveness of the Tidal Basin as a venue under alternative C, compared to the no-action alternative, would be long-term, major, and beneficial because of numerous improvements to visitor facilities.

Thomas Jefferson Memorial. Under alternative C the Thomas Jefferson Memorial plaza would continue to be a desirable venue for organizers of demonstrations, national celebrations, and special events because of opportunities for informal seating and performance areas, with vistas to the White House and the U.S. Capitol from areas on the plaza and steps. Utility connections on the plaza would continue to be available to organizers. The large paved plaza and wide walks near the memorial would still provide flexible space for temporary event facilities. As a result of operation changes made in 2008, organizers are encouraged to locate stages so they do not block views between the memorial and the White House. Nearby parking for 300 vehicles within a five-minute walk would remain, but the 15- to 20-minute walk from the nearest Metro station would mean that event organizers might want to provide shuttle transportation. The continued need to control access would be inconvenient. Compared to the no-action alternative, impacts under alternative C would be long-term, minor, and beneficial because of improved conditions.

Cumulative Impacts

Cumulative impacts would be the same as those described under the no-action alternative. The

impacts of past, present, and reasonably foreseeable actions would be long-term, moderate, and beneficial because of three rehabilitated existing venues and a new venue south of the Thomas Jefferson Memorial. These impacts, in combination with the long-term, major, beneficial impacts of alternative C, would result in long-term, major, beneficial cumulative impacts, with a substantial beneficial contribution from alternative C.

Conclusion

The overall impacts of alternative C on participants and organizers for demonstrations, national celebrations, and special events would be long-term, major, and beneficial because of changes in the permitting, scheduling, and

management process, additional and more sustainable venues in highly desirable locations; conveniently located civic infrastructure to facilitate event operations; permanent visitor facilities such as restrooms; a redesigned Union Square that could accommodate larger crowds; a reoriented Sylvan Theater to improve viewing from the hillside; and a new venue at Constitution Gardens. However, impacts on the few organizers who could no longer use the elm tree panels on the Mall for temporary event facilities (such as tents and stages) would be long-term, major, and adverse. The impacts of past, present, and reasonably foreseeable actions combined with the impacts of alternative C would result in long-term, major, beneficial cumulative impacts, with a substantial beneficial contribution from alternative C.

ACCESS AND CIRCULATION

METHODOLOGY FOR IMPACT ANALYSIS

This section analyzes the impacts of the alternatives on public access to the National Mall and wayfinding. The analysis takes into consideration adopted goals of local and federal transportation plans, NPS policy, best practices, the 2003 visitor survey and staff observations of visitor use patterns, and best professional judgment.

The following categories of impacts are analyzed:

- **Impacts on visitor access to the National Mall** — The beneficial and adverse impacts of alternatives on convenient access to the National Mall are analyzed, including vehicle access, parking, and transit access (Metro system as well as taxis).
- **Impacts on the pedestrian environment** — The beneficial and adverse impacts of the alternatives on pedestrian experiences on the National Mall and pedestrian connections to adjacent areas are analyzed.
- **Impacts on bicycle users** — This topic analyzes the beneficial and adverse impacts of alternatives on bicycle users.
- **Impacts on motorized uses and the road system** — The analysis looks at the degree to which the alternatives, in accordance with policy, either beneficially or adversely address the needs of motorists, whether they are visitors, through-travelers, or commuters.

Impact Intensity Levels

The following thresholds were established for impacts on circulation:

- **Negligible** — The impact would not be detectable or would be barely detectable to most park pedestrians, bicycle users, motorists, or commuters. There would be a negligible effect on local transportation plans and policies.

- **Minor** — The impact would be detectable to some park pedestrians, bicycle users, motorists, or commuters. There would be some consistency or inconsistency with local transportation plans and policies.
- **Moderate** — The impact would be readily apparent and would have an appreciable impact, either beneficial or adverse, on many pedestrians, bicycle users, motorists, or commuters. Actions would be generally consistent or inconsistent with local transportation plans and policies.
- **Major** — The impact would be severely adverse or exceptionally beneficial on most pedestrians, bicycle users, motorists, or commuters. Actions would be mostly consistent or inconsistent with local transportation plans and policies.

Type of Impact

Impacts could be either beneficial or adverse. Beneficial impacts would comply with federal regulations and NPS or local policies and plans; would incorporate appropriate best practices; would be convenient for users; and would improve circulation for all types of users. Adverse impacts would be inconsistent with federal regulations or with NPS or local policies and plans; would not address current challenges or obstacles to circulation; would be less convenient for some users of the system; or fail to incorporate relevant improvements from best practices.

Duration of Impacts

Impacts could be temporary, short-term, long-term, or permanent.

- **Temporary** — The impact would usually last for a few hours or up to two days, such as a road closure for a day or less or limited access to an area during a demonstration.
- **Short-term** — The impact would generally last up to one year or the life of a construction project.

- **Long-term** — The impact would last longer than one year or for the life of the plan (up to 50 years).

Regulations and Policies

Transportation Goals and Policies for Washington, D.C.

The National Capital Planning Commission adopted the *Comprehensive Plan for the National Capital: Federal Elements* on August 5, 2004. The plan discusses transportation under two elements — transportation and visitors. The goal for the transportation element is to develop and maintain a multi-modal regional transportation system that meets the travel needs of residents, workers, and visitors, while improving regional mobility and air quality through expanded transportation alternatives and transit-oriented development. The plan recommends placing parking structures below ground for efficient land use and good urban design; and it supports walking, bicycling, and bicycle lanes.

Under the visitor element the plan supports increased information about transportation; encourages walking and bike riding; supports supplementary transit aimed at visitors, including shuttles to and from Metro stations; promotes increased awareness about long-term parking facilities; supports better tour bus management in the monumental core; and promotes a pedestrian friendly environment.

The *District of Columbia Bicycle Master Plan* (DDOT 2005a) discusses the benefits of bicycling, which include traffic relief, improved air quality, reduced need for motor vehicles, and improved health. Generally the plan recommends more and better bicycle facilities, including a bike route system with more bike facilities on roadways; more bicycle friendly policies; and more bicycle-related education, promotion, and enforcement. Additionally, it suggests upgrades of National Mall roadways and multi-use trails; improved bridge access; bike-friendly traffic calming (e.g., clearly marked intersections); exclusive bus and bicycle lanes; and intersection safety and visibility improvements to better accommodate bicycling.

The draft *District of Columbia Pedestrian Master Plan* (DDOT 2008b) identifies pedestrian

potential as well as deficiencies, such as barriers to walking. Benefits of walking include an additional transportation option, reduced congestion, improved health, quality of life, and reduced pollution. The plan recommends improved pedestrian access and safety at controlled crossings and intersections that would meet the needs of pedestrians of all ability levels, and programs that support pedestrian travel.

The District of Columbia Tour Bus Management Initiative (US DOT 2003) examines the impact of tour buses; explores best practices; identifies potential strategies; recommends counting methods and locations to get a better sense of the demand; and recommends the completion and adoption of a comprehensive plan. The initiative identifies a shortage of parking and loading/unloading spaces; associated traffic and safety issues; adverse environmental impacts from buses; and obstruction of view corridors. The study also concluded that Mall areas do not have sufficient curbside loading/unloading space. Some potential strategies include increased peripheral parking outside the monumental core and downtown; centrally located parking facilities; encouraging walking among clustered destinations; pricing strategies for parking or permits/licenses; defined routes and driver facilities/shuttle between parking lots and hotels.

As previously described, *Planning Together for Central Washington* (NCPC 2008a) identifies common objectives of visionary planning efforts being undertaken by the Architect of the Capitol, the Commission of Fine Arts, the DC Office of Planning, the National Capital Planning Commission, and the National Park Service. Objectives include distinguished, accessible, well-connected public spaces served by a comprehensive, flexible, convenient, and coordinated network of public and visitor transit options. Walking and bicycling would be encouraged, and various travel demand strategies would be used to reduce congestion, improve air quality, and address parking and tour bus issues. Plan priorities are walkable corridors and state-of-the-art transportation for visitors, workers, and residents.

NPS Management Policies 2006

The NPS *Management Policies 2006* recognize that transportation systems and alternative transportation systems all strongly influence the quality of the visitor experience. Where appropriate, alternative transportation systems (a mix of buses, trains, ferries, etc.) are to be emphasized and encouraged, and non-motorized modes of access are preferred for moving within parks (NPS 2006e, sec. 9.2). The National Park Service will work with the U.S. Department of Transportation in the construction of new roads or the expansion of existing roads that may impact park lands (sec. 9.2.1.2.2).

Visitor facilities within park boundaries should be situated to stimulate the use of alternative transportation systems, bicycle routes, and pedestrian walkways (NPS 2006e, sec. 9.1.1.2).

Park roads should be sensitive to natural and cultural resources, and they should provide for safe and efficient travel (sec. 9.2.1). The National Park Service will work with other governmental authorities to maintain non-NPS roads consistent with park goals (sec. 9.2.1.2). It will also work with other governments to minimize the impacts of traffic on park resources and values and to accommodate necessary commercial traffic (sec. 9.2.1.2.1).

Walks and trails are to be sited to reduce conflicts with automobiles and incompatible uses, to allow for a satisfying experience, to allow accessibility by the greatest number of people, and to protect park resources. Heavily used walks will be surfaced for safety, accessibility for persons with disabilities, resource protection, and/or erosion control (sec. 9.2.2).

Bicycle trails are to be considered an alternative to motor vehicle access. They can be integrated with roads when determined safe and feasible (sec. 9.2.2.4).

Parking areas are to be located so that they do not unacceptably intrude (by sight, sound or other impact) on park resources or values. They should be limited to the smallest size and designed to accommodate other modes as well as parking motorized vehicles (sec. 9.2.4).

IMPACTS COMMON TO ALL ALTERNATIVES

Direct and Indirect Impacts

Impacts on Visitor Access

The National Park Service would work with the Washington Area Metropolitan Transportation Authority to add “National Mall” to the Smithsonian Metro station name to facilitate public access. The impact of this change would be long-term, major, and beneficial since it would affect the majority of visitors and improve their ability to identify and access the National Mall.

Impacts on Motorized Uses and the Road System

Continuing to redesign tour bus drop-off and pickup locations and to redesign the road system near the Thomas Jefferson Memorial to better accommodate tour buses, vehicular access, and pedestrian access for bus passengers would result in long-term, moderate, beneficial impacts because most tour buses would be affected. The National Park Service would work with tour bus companies to address the impacts of trash from tour bus passengers. Measures would include efforts to reduce the volume of waste and the provision of appropriate trash containers and a recycling program at tour bus drop-offs. Impacts would be long-term, moderate, and beneficial because better trash management would improve the appearance for the majority of visitors.

The National Park Service would continue to work with the city and the local business community to provide an appropriate amount of convenient parking for tour buses and visitors. Parking would comply with policies of the National Park Service, the National Capital Planning Commission, and the District of Columbia. Parking would be designed so as not to intrude on park resources or values, and it would not result in an unacceptable level of noise or unpleasant odors. Any parking would be in areas capable of withstanding the impacts of parking.

Because the monumental core is well served by public transportation, providing less parking would be consistent with transit-oriented transportation systems. Resulting impacts on tour bus

parking would be long-term, moderate to major, and adverse, affecting most tour buses until a citywide strategy was implemented. The impact on visitor parking would be long-term, minor to moderate, and beneficial because only 25% to 30% of visitors are motorists.

Conclusion

The impacts of actions common to all alternatives would generally be long-term, moderate to major, and beneficial as a result of adding the National Mall name to the Smithsonian Metro station, continuing to redesign tour bus drop-off and pickup locations, addressing the impacts of trash from tour bus passengers, and working with the city and the local business community to provide an appropriate amount of convenient parking for tour buses and visitors. However, temporary to long-term, minor to major, adverse impacts would result from constructing previously approved projects, which could interrupt the local transportation system.

IMPACTS OF THE NO-ACTION ALTERNATIVE

Direct and Indirect Impacts

Under the no-action alternative the National Park Service would continue present measures of responding to increased demand for personal vehicle access and parking. Since the 1960s the city has increasingly emphasized public transit to provide more convenient and energy-efficient access. Other less consumptive and healthy modes of circulation such as walking and bicycling have not been emphasized, so comparable amenities have not been provided.

Impacts on Visitor Access to the National Mall

Access to the National Mall by various public transportation systems (Metro system, premium circulator bus service, and public bus routes) would continue to meet the needs of two-thirds of visitors. Seven taxicab / pedicab pickup locations would continue to provide options for visitors who need some form of transportation and are not using a tour service or public transit. Parking for visitors with disabilities would continue to exceed the standards of the Amer-

icans with Disabilities Act, but would remain insufficient in areas such as the World War II Memorial, which attracts large numbers of elderly people who may have difficulty walking. Wheelchairs would remain available at five locations, providing access to six memorials; but limiting use to these areas would not be convenient for people who may want to visit multiple locations or walk between them.

In summary, visitor access would remain easy for the majority of visitors largely because of the convenient transportation system, but it would remain less convenient to motorists and tour buses. The long-term impacts on visitor access would be moderate and adverse because the demand for tour bus drop-off and pickup locations would continue to grow, resulting in more vehicle congestion as buses circulate or wait for pickup and drop-off spots.

Impacts on the Pedestrian Environment

Walking would continue to be the most popular way for visitors to move between the large number of attractions on and near the National Mall, but the pedestrian environment would remain dominated or interrupted by roads, traffic, and related noise.

Many walks would continue to be too narrow for the level of use, resulting in social trails adjacent to many walks. In addition, the pedestrian environment offers less than optimum accessibility, safety, and surface conditions, and desired amenities such as shaded seating, drinking fountains, and restrooms are not always within a reasonable range of a 5- to 10-minute walk (or about 2,000 feet).

Walking surface materials would remain uncoordinated and would distract from a coherent pedestrian circulation system and identity. Surface conditions have deteriorated in a number of areas, and walks may be uneven or patched. Gravel walks would continue to be difficult for people with disabilities and others, and the attendant dust would generally contribute to a less pleasant environment and could affect the breathing or health of visitors.

Circulation — No-Action Alternative

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Stop signs and stop lights would remain the primary methods to slow traffic and accommodate pedestrian crossings. Striped crosswalks are provided at designated crossing points and intersections. Crosswalk timing continues to be too short for many visitors, and visitors would continue to jaywalk or take shortcuts that could endanger them or degrade park resources by creating social trails.

In summary, the long-term impacts on the pedestrian environment would become moderate to major and adverse because walkways and amenities were not designed to accommodate current high-use levels, walkways need to be repaired, and the pedestrian experience is overwhelmed by roadways and vehicle traffic. Present conditions do not achieve the desired conditions for pedestrians, and many common best practices and sustainable approaches are not taken advantage of.

Impacts on Bicycle Users

Bicycling would continue as a popular means of commuting as well as recreation. Bicycling frequently takes place on the National Mall on the same walks used by pedestrians, and generally the walks are not wide enough to accommodate both uses and pedestrians travel at much slower speeds. While most bicyclists have some form of bell, pedestrians distracted by sights may not react in time.

The Washington Area Bicycle Association would continue to work to improve bicycling opportunities and safety. Bicycle parking during large events and national celebrations would continue to be staffed by local volunteers and NPS staff. The use of walkways by pedestrians and bicyclists does not facilitate safety or convenience for the large numbers of bicycle users, and bicycling as a green and nonpolluting mode of transportation would not be fully supported.

Despite the recent addition of more bicycle racks, over the long term impacts would be moderate and adverse because of inadequate facilities and routes for bicyclists, unsafe riding conditions, and an increased potential for conflicts with pedestrians.

Impacts on Motorists

An estimated 300,000 vehicles or more would continue to traverse surface streets in the National Mall on a daily basis. The Tidal Basin area would remain cut off from the remainder of the National Mall by the commuter road system, as would the Watergate area and East Potomac Park.

Awkward angled intersections on Independence and Maine avenues result in vehicles weaving between lanes to get into the desired lane. The road system would continue to be used by two distinctly different groups — commuters and visitors, which typically travel at different speeds. Commuters are very familiar with the roads and generally exceed the posted speed limit. Visitors not familiar with the roads may be distracted by sights or the desire to find parking. In summary, roads and motorists would continue to dominate the circulation system.

Impacts over the life of the plan would be long-term, moderate to major, and adverse because traffic congestion around the National Mall would continue to increase and no actions would be taken to improve traffic flow and to create safer conditions for pedestrians and bicyclists.

Cumulative Impacts

Past Actions

Circulation on the National Mall is an integral component of the city's circulation system. Circulator and other public buses, tour buses, sightseeing buses, and taxis operate on roads within the National Mall. The Metrorail subway system crossed under the National Mall and nearby, and several Metro stations provide convenient access.

Circulation on the National Mall was affected by the 1973 "Washington Mall Plan: Circulation Systems" (Skidmore, Owings and Merrill 1973), which closed Washington and Adams drives on the Mall and converted them to gravel walks. Also, 2nd, 9th, and 12th streets were tunneled under the Mall. The plan proposed a visitor transportation system, Tourmobile, which was begun by the National Park Service in 1969, but the proposal for a pedestrian- and bicycle-oriented National Mall free of surface parking

was not achieved. Dedicated Tourmobile roadways were to have been shared with bicyclists, but these roadways have since been removed. Additional pedestrian amenities were recommended. During this era the subway system was also developed. The cumulative impact has been long-term, moderate to major, and beneficial, primarily as a result of public and visitor transit improvements but long-term, moderate, and adverse because other circulation goals for the National Mall were not achieved.

Present Actions

Ongoing roadwork and circulation improvements are cyclic and include several roadway and resurfacing projects that were previously discussed, including

- National Mall Road Improvements
- Constitution Avenue
- Lincoln Memorial Circle Roadway Project
- Ohio Drive

The cumulative impact of these projects would be long-term, minor to moderate, and beneficial, primarily as a result of general improvements that would be noticed by many users.

Construction of previously approved projects (Martin Luther King, Jr. Memorial, Vietnam Veterans Memorial Center, the National Museum of African American History and Culture) could interrupt the transportation system, as could the implementation of projects common to all alternatives, such as the Thomas Jefferson perimeter security, the Potomac Park levee, ongoing road projects, and future memorials outside the Reserve. Resulting impacts on transportation and circulation would be temporary to long-term, minor to major, and adverse.

The National Park Service has begun updating and replacing its orientation maps and developing a better sign system to improve pedestrian wayfinding and information coordinated with NPS sign standards. The project will be completed in phases. The impact of installing a new system will be long-term, major, and beneficial since it will positively affect the experience of all visitors and greatly help them plan and find their way around the National Mall. Some potential variations or additions to the system, such as

electronic daily interpretive program signs, are discussed under “Impacts on Opportunities for Information and Education” in the “Visitor Experience” section.

As proposed in the 2006 *Environmental Assessment for a Visitor Transportation Study*, replacing the interpretive visitor transportation service would result in long-term, moderate to major, beneficial impacts on visitor experiences, primarily as a result of more convenient and frequent two-way transportation service around the National Mall that would be integrated into the public transportation system. The changes would be readily apparent to visitors, and would offer an exceptional level of convenience.

The National Park Service, as a result of a donation, has recently instituted a bike-sharing program for staff. The bike stations (at park headquarters, the National Capital Region, the I Street office, and the Interior Building) are powered by solar power and use a card system. This action supports use of sustainable modes of transportation and supports local bicycle and transportation goals. The cumulative impacts on transportation would be long-term, negligible, and beneficial; however, the impact in terms of setting a precedent for the National Park Service as a leader in sustainable practices would be long-term, moderate, and beneficial.

Reasonably Foreseeable Actions

The expressway, bridge, and road network that was developed in the 1960s could be revised to dramatically improve access, not only for commuters and visitors but also for other modes of transportation. Projects that are being considered include the following:

- *The 14th Street Bridge Corridor* — The 14th Street bridge corridor study area includes all the I-395 bridges, the 14th and 15th street corridors north to Constitution Avenue, the Thomas Jefferson and George Mason memorials, and the southern and eastern portions of the Tidal Basin from Raoul Wallenberg Place to Inlet Bridge.
- *10th Street Overlook Transportation Facility* — A multi-level parking and intermodal transportation facility below the 10th Street Overlook would provide approximately

1,200 parking spaces and a terminal and parking facility for commuter and tour buses. The *Monumental Core Framework Plan* also proposes a multi-modal and transfer facility under 10th Street closer to the L'Enfant Metro station. Either location could address visitor parking and tour bus needs near the National Mall.

- *Maryland Avenue* — Rail lines along the avenue could be realigned to improve road and pedestrian access.
- *Rock Creek and Potomac Parkway* — Rehabilitation of the parkway would be continued from Virginia Avenue to P Street Bridge (NPS 2005e). Road, bicycle, and pedestrian access would be improved along the parkway.
- *I-66 / Potomac River Freeway* — Proposals discuss decking the Potomac River Freeway and improving access to the Kennedy Center, with links to the Northwest Rectangle and the Lincoln Memorial.
- *Monumental Core Framework Plan* — The *NCPC Framework Plan* proposes a new Metro station with entries in East Potomac Park convenient to the Thomas Jefferson Memorial, and additional Metro entries at the Federal Triangle and the Navy / Archives / Penn Quarter station. These actions would substantially improve convenient transit access to the National Mall. The plan also proposes decking over the Southeast and Southwest freeways, improving pedestrian access to the Federal Triangle, and restoring street grids in some areas.
- *Smithsonian Institution Mall-wide Perimeter Security Improvements* — Perimeter security improvements would extend the curve of Jefferson Drive north of the Smithsonian Castle, farther into the Mall area. This would require revisions to pedestrian circulation in areas that are eroded by foot traffic, and it would affect several mature elm trees. The project would provide opportunities to improve pedestrian circulation, resulting in a long-term, major, beneficial impact, but at the same time road changes would bring vehicles and related sights, sounds, and smells closer to the center of the Mall, resulting in a long-term,

moderate, adverse impact on the pedestrian environment.

- *Union Station* — Private developers owning air rights at Union Station could provide additional tour bus parking facilities.

Cumulative Impact Summary

The National Mall and its road and pedestrian circulation system would continue to be an essential part of the urban circulation of Washington, D.C. As the result of past actions, the city has a well-developed multimodal transportation system (rail, subway, bus, visitor transit). Some past actions moved toward developing a more pedestrian-oriented environment by converting Washington and Adams drives to walks, with a long-term, moderate, beneficial impact on pedestrian circulation despite gravel surfacing that generates dust and is difficult for many people to navigate. Controlled access roads (I-395 corridor, Potomac River Freeway) also brought a great deal of commuter traffic into the park on a daily basis, introducing potential conflicts between commuters and motorists visiting the park as well as pedestrians and bicycle riders.

Several current projects would improve the condition of park roads and related walks or trails (Constitution Avenue, Madison Drive, Ohio Drive). Under an NPS Centennial initiative the park is currently replacing its sign system with a coordinated series of orientation maps, pedestrian guides, and other signs. Implementing travel demand recommendations from the 2006 *Visitor Transportation Study* would help increase parking for visitors by metering NPS on-street parking, which tends to be used by local residents instead of visitors.

Constructing future road improvements to consolidate and relocate the I-395 and 14th Street bridge corridors, along with a new subway station near the Thomas Jefferson Memorial, could better serve East Potomac Park and the southwest waterfront as well as local recreation users. Future actions also include an improved visitor transportation system; improved access to Maryland Avenue, the southwest waterfront, the Kennedy Center, and the Federal Triangle; additional parking for visitors and tour buses; simplified vehicular circulation; and fewer

barriers to circulation. Taken as whole, despite gravel walks and commuter routes through the National Mall, the impact of past, present and reasonably foreseeable projects on access and circulation would be long-term, major, and beneficial.

Impacts under the no-action alternative would be long-term, moderate to major, and adverse because of more vehicle congestion on the National Mall as buses circulate or wait for pickup and drop-off spots, and inadequate facilities for pedestrians and bicyclists. These impacts, combined with the impacts of past, present, and reasonably foreseeable actions, would result in long-term, major, beneficial impacts that would affect a very large number of motorists who drive through the area, as well as bicyclists and pedestrians, offsetting the adverse impacts of the no-action alternative.

Conclusion

There would be no change to access and circulation under the no-action alternative, but over the long-term impacts would be moderate to major and adverse because visitor access would become more difficult as use increased; the pedestrian environment would become less desirable with inadequate walkway surfaces and amenities and more impacts from vehicle traffic; facilities would not be improved for bicyclists; and increased traffic congestion would affect both motorists and visitors. However, cumulative impacts would be long-term, major, and beneficial because of improved maps and way-finding signs, an improved visitor transportation service, and easier access for motorists, Metro users, and bicyclists. These impacts would affect a very large number of motorists who drive through the area, as well as bicyclists and pedestrians, offsetting the adverse impacts of the no-action alternative.

IMPACTS OF THE PREFERRED ALTERNATIVE

Direct and Indirect Impacts

The preferred alternative would combine ideas from all the alternatives to provide a quality experience on the National Mall. It would protect the historic landscape, increase diverse

education, create a welcoming atmosphere for all visitors, incorporate universal design to meet the needs of all visitors, and accommodate high levels of use.

Impacts on Visitor Access to the National Mall

As described for the no-action alternative, various modes of convenient public access (Metro system, premium circulator bus service, and public bus routes) would continue to meet the needs of two-thirds of visitors. Seven taxicab / pedicab pickup locations would continue to provide options for visitors who need some form of transportation and are not using a tour service or public transit. However, the preferred alternative would differ by undertaking actions to improve visitor convenience and providing supplementary services.

The National Park Service would coordinate with local commercial parking garages to provide additional visitor parking, with visitor valet or shuttle service to and from designated locations on the National Mall. This program would make it easier for visitors to go to several destinations during the day and then get picked up at an identified spot to return to their vehicles.

Adding parking for visitors with disabilities on the centrally located Washington Monument grounds, and making this site a one-stop location for all-day rental of equipment (such as wheelchairs and electric scooters) that could be used throughout the National Mall would increase convenience for visitors with disabilities. In addition, roving courtesy shuttles would provide transportation for those in need to the closest shuttle, transit, or visitor service locations. In cooperation with the U.S. Department of Agriculture, improving directions and the pedestrian access route to the Smithsonian Metro station's accessible elevator entrance (on the north side of Independence Avenue at 12th Street) would improve convenience for families with strollers, people with disabilities, and others (nearly 25% of visitors have difficulty walking long distances because it is too tiring, they have young children, or they have a disability).

Circulation — Preferred Alternative

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Redesigning the Tidal Basin parking lot would improve pedestrian access.

Compared to the no-action alternative, the impacts of the preferred alternative on convenient visitor access would be long-term, major, and beneficial, far better meeting NPS policies and supporting local transportation plans and policies. Beneficial elements include providing a convenient shuttle to and from local garages or related valet parking with designated pickup spots; increasing onsite transportation options for visitors with courtesy shuttles; and increasing parking and transportation-related services for visitors with disabilities (wheelchair and scooter rentals).

Impacts on the Pedestrian Environment

Under the preferred alternative the pedestrian environment would be dramatically improved compared to the no-action alternative. Walking surfaces would be improved, walks would be widened, pedestrian lighting would be increased, more amenities would be provided, and crosswalks would be enhanced. While basic historic circulation patterns would remain, public access on the National Mall would emphasize pedestrian use; other circulation modes, such as driving and bicycling, would still be accommodated, but within a parklike setting.

It is assumed that most people will choose to walk if a destination is within 5 to 10 minutes and if there is limited parking, traffic congestion, or parking fees. The National Capital Planning Commission defines a reasonable walking distance as 2,000 feet, or about 0.4 mile. Pedestrian speeds range from 3 mph for adults walking at a brisk pace to 2 mph or less for children, seniors, and people with disabilities. It will take an individual walking at a brisk pace about 10 minutes to traverse 0.4 mile, but it will take children or an individual who has difficulty walking up to 25–30 minutes or longer to walk the same distance.

A comfortable, walkable environment would include universally accessible walking surfaces to better meet the needs of all people, including those with disabilities. Using a coordinated hierarchy of paving materials would create a sense of place and identity, as well as help unify the National Mall. This action would make it easier for pedestrians to find their way around

by creating an easy to follow system of recognizable walks and paths. The palette of paving materials would use quality materials commensurate with the importance of the National Mall and could include surfaces appropriate for runners and joggers.

Entrances to the National Mall would provide clear, safe, and pleasant pedestrian transitions to and from adjacent areas and along a continuous riverfront walk and trail system. Walks in several areas, such as those along the Tidal Basin and entrances to the Korean War Veterans Memorial, would be widened to accommodate high levels of use, improving circulation flow and reducing crowding. Walks near some intersections would also be enlarged to safely accommodate more people.

Developing a coordinated lighting plan would help pedestrians to more safely experience the evocative and emotional nighttime character of the National Mall with its lighted monuments and memorials. Walkway lighting would be emphasized to provide for greater nighttime enjoyment and safety, but would not intrude on the lighting of the major memorials. Lighting would be added to those areas where it is missing, such as the Tidal Basin, to encourage pleasant evening strolls. Temporary fixtures along the elm walkways flanking the Lincoln Reflecting Pool would be replaced, and more even lighting coverage would be provided along the Mall. All of these actions would make it easier for pedestrians to move between commemorative destinations during evening hours.

Amenities for pedestrians, such as visitor facilities, drinking fountains, restrooms, shelters, seating, emergency call buttons, and wayside exhibits would further enhance the pedestrian experience. Many of these facilities would be grouped for convenience and to create pleasant resting points, and they would be within a reasonable walking distance so visitors could expect where to find the next facility grouping. To increase pedestrian enjoyment, amenities could include small-scale features, such as seasonal plantings or water elements where pedestrians could cool off. Additional seating would be provided for visitors to sit and relax, with both sunny and shaded seating. Seating

locations would take advantage of views or educational settings. Seating would also be provided near major entrances, such as the Metro or to meet the needs of groups.

Crosswalk improvements would be part of the coordinated paving system and would emphasize safe road crossings, as well as connections to museums. Pedestrian and motorist crossing times at stoplights would be more equitable, and longer crossing times would allow more pedestrians or slower moving pedestrians to safely cross wide roads. Traffic-calming approaches, such as raised crosswalks or specialty paving, would help identify pedestrian-crossing zones.

Compared to the no-action alternative, the preferred alternative would have long-term, major, beneficial impacts on the pedestrian environment because the experience of virtually every visitor would be improved and made safer. Quality and pedestrian circulation would be emphasized, walking surfaces improved and coordinated, walks widened, additional lighting provided, and crosswalk conditions enhanced, including longer crossing times.

Impacts on Bicycle Users

In terms of bicycle riding, the preferred alternative, compared to the no-action alternative, would support and encourage bicycling as a healthful form of recreation as well as an alternative transportation mode. Developing a system of bike lanes or routes separate from roads or pedestrian walkways, using traffic-calming measures, and giving bicyclists priority at intersections would all improve bicycling opportunities and safety. The bicycling experience would be further improved by enhancing connections to bicycle trails in East Potomac Park, Rock Creek Park, the Chesapeake and Ohio Canal, the George Washington Memorial Parkway, and the southwest Washington, D.C., area. The National Park Service would work with the city to implement compatible sections of its *Bicycle Master Plan* and bicycle rental program.

The number and distribution of bicycle racks on the National Mall would be improved. More NPS-guided bicycling tours would be provided. The National Park Service would also work with others to better fulfill the goals of the D.C.

Bicycle Master Plan, with access to bridges and an onsite coordinated bicycle rental program.

Like the no-action alternative, the preferred alternative would continue to encourage bicycle parking for events and offsite bicycle rentals and guided bicycling tours to meet the needs of some visitors.

Compared to the no-action alternative, the preferred alternative would have long-term, major, beneficial impacts on bicycle users because separate trails or routes would provide a safer, more enjoyable environment, encouraging this alternative circulation mode. Improved bicycling opportunities, including facilities, tours, and bicycle rentals, would also support local planning goals to reduce vehicle use.

Impacts on Motorists

The current road system would remain largely intact under the preferred alternative, but the park setting for roads would be emphasized, and pedestrians and bicycles would be given more priority and additional crossing times at intersections. Traffic-calming measures would be used to slow traffic to posted speed limits but still maintain free-flow traffic movements. As a result, the circulation network would be safer for all users. The vicinity of Maine Avenue and East Basin Drive would be redesigned to facilitate better traffic flow for both east- and west-bound access to I-395, and to accommodate improvements for bicycles, NPS service vehicles, and pedestrians. Ohio Drive would also be redesigned to accommodate bicycle lanes and parking. A new vehicular entry would be developed to the U.S. Park Police stables, and the related intersection would be coordinated with that for the future Martin Luther King, Jr. Memorial. Construction on park roads under the preferred alternative, as well as access improvements to I-395 and Maine Avenue, would result in short-term, moderate, adverse impacts because of the number of people affected. Long-term impacts on motorized and nonmotorized users would be moderate and beneficial.

Compared to the no-action alternative, the preferred alternative would have both beneficial and adverse impacts on motorized uses. Slowing traffic to current posted speeds, equalizing

stoplight times for pedestrians and bicycles as well as vehicle traffic, and installing traffic-calming measures at crosswalks would result in some inconvenience to through-travelers and commuters. Based on average annual daily traffic counts from 2007, on a daily basis this would likely affect over 40,000 vehicles on Independence Avenue; over 25,000 on 17th Street; nearly 40,000 combined on 3rd, 4th, and 7th streets; approximately 46,000 on 14th Street; and about 14,000 on 15th Street. Because of the number of people affected, impacts would be long-term, major, and adverse. Improvements to traffic circulation would result in long-term, moderate to major, beneficial impacts because of improved access and traffic flow near I-395 and Maine Avenue and East Basin Drive, which would affect approximately 56,000 vehicle drivers on a daily basis.

Cumulative Impacts

Past, present, and reasonably foreseeable actions would be the same as those discussed for the no-action alternative and would be long-term, major, and beneficial. Actions under the preferred alternative would result in long-term, major, beneficial impacts because of a greater emphasis on a pedestrian-oriented environment, along with improved, safer, and more comfortable walking and bicycle environments. Altogether cumulative impacts would be long-term, major, and beneficial, with a substantial contribution from the preferred alternative.

Conclusion

The preferred alternative would result in long-term, major, beneficial impacts because of a greater emphasis on a pedestrian-oriented environment; improved, safer, and more comfortable walking and bicycle environments; separate bicycle routes or lanes; improved roadway access in the southeast area of the Tidal Basin; and more options and access for people with disabilities. These impacts, combined with the impacts of past, present, and reasonably foreseeable actions, would result in long-term, major, beneficial cumulative impacts because of better wayfinding aids, an improved visitor transportation system, future road improvements for motorists and Metro users, and more convenient access for pedestrians, bicyclists,

families with children, and people with disabilities. The preferred alternative would make a substantial contribution to cumulative impacts.

IMPACTS OF ALTERNATIVE A

Direct and Indirect Impacts

Alternative A is focused on preserving the historic landscape and providing education.

Impacts on Visitor Access to the National Mall

Under alternative A, like the no-action alternative, a variety of convenient public mass transit (subway system, premium circulator bus service, and public bus routes) would continue to meet the needs of two-thirds of visitors. Seven taxicab / pedicab pickup locations would continue to provide options for visitors who need some form of transportation and are not using a tour/sightseeing service or public transit.

Wheelchairs would remain available at five locations, providing access to six memorials. However, limiting use to these areas would not be convenient for people who may want to visit multiple locations or move between them.

Impacts on the Pedestrian Environment

Increasing pedestrian crossing times at intersections and providing more pedestrian amenities, such as seating, would improve the pedestrian experience, resulting in long-term, major, beneficial impacts. However, retaining existing paving materials would make access difficult for families pushing strollers or individuals in wheelchairs. As a result, the needs of some user groups would not be met, resulting in long-term, moderate, adverse impacts. The National Mall would continue to lack a cohesive and unified pedestrian environment that is convenient and easily understandable. Even though there would be beneficial impacts from longer pedestrian crossing times and increased pedestrian amenities such as seating, the overall impacts of alternative A on the pedestrian environment, compared to the no-action alternative, would be long-term, moderate, and beneficial.

Impacts on Bicycle Users

Bicycling would continue to be a popular commuter method as well as a recreational pursuit on the National Mall; however, no additional facilities would be provided.

Bicyclists would share walks with pedestrians, resulting in conflicts because walks are not wide enough to accommodate both uses and pedestrians travel at much slower speeds. While most bicyclists have some form of bell, pedestrians distracted by sights may not react in time.

The Washington Area Bicycle Association would continue to work to improve bicycling opportunities and safety. Bicycle parking during large-scale events and national celebrations would continue to be staffed by local volunteers.

Impacts on bicycle users would be similar to the no-action alternative and would be long-term, moderate, and adverse because of sharing walkways with pedestrians and riding in traffic on narrow roads. Also, local planning goals to increase nonmotorized uses would not be met.

Impacts on Motorists

Slowing through-traffic to posted speeds as a result of longer crossing times and traffic-calming measures at crosswalks would result in some inconvenience to through-travelers and commuters. Based on average annual daily traffic counts from 2007, on a daily basis this would likely affect over 40,000 vehicles on Independence Avenue; over 25,000 on 17th Street; nearly 40,000 combined on 3rd, 4th, and 7th streets; approximately 46,000 on 14th Street; and about 14,000 on 15th Street.

Compared to the no-action alternative, the impacts of alternative A on motorized uses and the road system would be long-term, moderate to major, and adverse.

Cumulative Impacts

Impacts from past, present, and reasonably foreseeable actions would be the same as those discussed under the no-action alternative and would be long-term, major, and beneficial. Actions under alternative A would increase crossing times for pedestrians, but overall facilities and amenities for pedestrians and

bicyclists would not be improved. Taken altogether, cumulative impacts would be long-term, major, and beneficial, largely as a result of present and reasonably foreseeable actions related to the *Visitor Transportation Study* as well as actions occurring outside the National Mall. Alternative A would make a small beneficial contribution to cumulative impacts because of a somewhat improved pedestrian environment on the National Mall.

Conclusion

Alternative A would have long-term, moderate, beneficial impacts on visitor access to the Mall and the pedestrian environment resulting from increased crosswalk timing and additional pedestrian amenities; however, impacts on bicycle users would be long-term, moderate, and adverse because unsafe riding conditions would continue. These impacts, in combination with the impacts of past, present, and reasonably foreseeable actions, would result in long-term, major, beneficial cumulative impacts, largely as a result of an improved visitor transportation service, as well as present and future projects occurring outside the National Mall. Alternative A would make a small beneficial contribution to cumulative impacts with a somewhat improved pedestrian environment on the National Mall.

IMPACTS OF ALTERNATIVE B

Direct and Indirect Impacts

Alternative B would provide a welcoming and accessible atmosphere to accommodate very high levels of use. If it was determined that underground parking garages would be feasible based on engineering, security, geotechnical, and economic studies, transportation-related impacts, including those on the Metro system, tour bus needs, and vehicle circulation, would be conducted as part of a project-specific environmental analysis.

Impacts on Visitor Access to the National Mall

As described for the no-action alternative, a variety of convenient public mass transit (subway system, premium circulator bus service, and public bus routes) would continue to meet the

Circulation — Alternative A

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Circulation — Alternative B

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needs of two-thirds of visitors. Seven taxicab / pedicab pickup locations would continue to provide options for visitors who need some form of transportation and are not using a tour service or public transit.

Compared to the no-action alternative, alternative B would identify specific locations for additional visitor parking. If determined feasible by engineering, security, geotechnical, and economic studies, an underground facility for paid visitor parking would be constructed between 12th and 15th streets, which would be entered from 15th Street. All surface parking on the Mall would be removed. Underground parking would also be provided on the south Washington Monument grounds, and a pedestrian tunnel would provide access under Independence Avenue. These actions would require redesigns of Independence and Maine avenues, and the Tidal Basin parking lot would be removed. Additional or underground parking would be consistent with NPS and local transportation policies to the extent that it would not be visible, but it would be inconsistent with local transportation policies that support the use of outlying parking areas and mass transit. Garage portals would need to be very carefully designed so as not to be visually and physically disruptive to visitors, especially since some could be visible from the east windows of the Washington Monument. The cost of constructing such facilities is extremely high (\$30,000–\$50,000 per space; Parking Design Group 2008), which would be reflected in high visitor parking fees.

The National Park Service would also add parking for visitors with disabilities on the centrally located Washington Monument grounds, as described for the preferred alternative. This site would offer a single accessible location for people with disabilities to rent equipment such as wheelchairs and scooters that could be used all day around the National Mall. These actions would make public access more convenient and improve access opportunities for those with disabilities, or the approximately 25% of visitors who have difficulty walking long distances.

Compared to the no-action alternative, the impacts of alternative B on visitor access would be long-term, major, and beneficial because parking would potentially be doubled; however,

these benefits would be offset by the high cost of constructing underground parking garages and high parking fees. The impacts of increased services for visitors with disabilities (additional parking, wheelchair and scooter rentals) would be long-term, minor, and beneficial since it would affect a smaller group of people.

Impacts on the Pedestrian Environment

Constructing pedestrian tunnels under Independence Avenue and 14th Street, which would also provide access to parking garages, and constructing pedestrian bridges at 15th Street instead of increasing crosswalk timing, would reduce potential conflicts with vehicle traffic. However, pedestrian tunnels and bridges could be less convenient for pedestrians and elevator access would be required for people in wheelchairs or using personal transportation vehicles. Visitors would still be able to cross streets at grade, and it is likely that they would continue to use these more convenient crossings.

Other actions would be similar to those described for the preferred alternative. While the basic historic circulation patterns would be retained, the National Mall would be made more pedestrian friendly, and vehicular traffic would be accommodated within a parklike setting. A comfortable, walkable environment would include universally accessible walking surfaces, with a coordinated hierarchy of paving materials to create a sense of place and identity to help unify the National Mall. These actions would make it easier for pedestrians to find their way by creating a system of recognizable walks and paths. The palette of paving materials would use quality materials commensurate with the importance of the National Mall. Pedestrian entries would provide clear, safe and pleasant pedestrian transitions to and from areas adjacent to the National Mall. Walks along the Tidal Basin would be widened, improving the enjoyment and circulation flow of pedestrians. New east-side entrance walks to the Korean War Veterans Memorial would make access more convenient for pedestrians who would not have to enter only on the west side, but this would alter the designed approach to the memorial.

Crosswalk improvements would be part of the coordinated paving system and would empha-

size safe road crossings, as well as connections to museums. Walks near some intersections would be enlarged to safely accommodate more people. Stoplights would be timed to provide more equal time for pedestrians and motorists, allowing more people or those who are slower moving to safely cross wide roads. Traffic-calming approaches such as raised crosswalks or specialty paving would help identify pedestrian crossings.

A coordinated lighting plan would be developed so pedestrians could safely experience the evocative and emotional nighttime character of the National Mall with its lighted monuments and memorials. Pedestrian lighting would emphasize walkway lighting to provide for greater nighttime enjoyment and safety. Lighting would be added to those areas where it is missing, such as the Tidal Basin, to encourage pleasant evening strolls. Temporary fixtures along the elm walkways flanking the Lincoln Reflecting Pool would be replaced, and more even lighting coverage would be provided along the Mall. All of these actions would make it easier for pedestrians to move between commemorative destinations during evening hours.

Amenities for pedestrians, such as drinking fountains, restrooms, seating, and wayside exhibits, would be planned at reasonable walking distances, and they would be sited to provide pleasant interludes for people to relax. Pedestrian amenities could include small-scale features such as seasonal plantings or water elements where pedestrians could cool off during the summer. Additional seating would include both sunny and shady locations that would foster the enjoyment of views. Seating would be concentrated near major entrances such as the Metro station or to meet the needs of groups.

Compared to the no-action alternative, the impacts of alternative B on the pedestrian environment would be long-term, major, and beneficial because the experience of virtually every visitor would be affected with improved pedestrian circulation, universally accessible paving surfaces, widened walks, additional lighting, pedestrian tunnels and bridges to separate pedestrians and vehicular traffic, and longer crosswalk times.

Impacts on Bicycle Users

Alternative B would have the same impacts on bicycle users as the no-action alternative, with facilities and amenities for bicycling having a lower priority than those for pedestrians or motorists. Existing bike racks would remain, and additional parking would continue to be encouraged at special events. This alternative, however, would not support local plans encouraging nonpolluting and healthy modes of travel and recreation, and it would continue bicyclists' use of pedestrian walkways and motor vehicle roads, with resulting use conflicts and unsafe conditions for a large number of bicycle users.

Impacts on bicycle users would be long-term moderate, and adverse, similar to the no-action alternative, because neither the needs of bicyclists nor local planning goals would be met.

Impacts on Motorists

Under alternative B the current road system would remain largely intact, but the fact that the roads are in a park setting would be emphasized by giving pedestrians more priority and additional crossing time at intersections. Traffic-calming measures would be used to slow traffic to posted speed limits but still maintain a free flow of traffic. As a result, the circulation network would be safer for all pedestrians and motorists. There would likely be slowing of traffic on 15th Street as well as Maine Avenue to accommodate entrances and exits to underground parking, affecting many thousands of commuters on a daily basis.

The vicinity of Maine Avenue, Raoul Wallenberg Place, and East Basin Drive would be redesigned to facilitate better traffic flow and access to I-395. A new vehicular service entry would be developed to the U.S. Park Police stables, with the new intersection coordinated with future access to the Martin Luther King, Jr. Memorial. Traffic impacts from construction would be short-term, moderate, and adverse because of the high number of motorists affected.

Compared to the no-action alternative, the impacts of alternative B on motorized uses would be both adverse and beneficial. Impacts would be long-term, moderate to major, and adverse because through-traffic would be

slowed to posted speeds, resulting in some inconvenience to through-travelers and commuters. Based on average annual daily traffic counts from 2007, on a daily basis this would likely affect over 40,000 vehicles on Independence Avenue; over 25,000 on 17th Street; nearly 40,000 combined on 3rd, 4th, and 7th streets; approximately 46,000 on 14th Street; and about 14,000 on 15th Street. Changes near I-395 / Maine Avenue and East Basin Drive would affect approximately 56,000 vehicles on a daily basis.

Cumulative Impacts

Impacts from past, present, and reasonably foreseeable actions would be the same as those discussed under the no-action alternative and would be long-term, major, and beneficial. Actions under alternative B would improve the pedestrian experience on the National Mall by providing more facilities for pedestrians and emphasizing a park experience, resulting in long-term, major, beneficial impacts. All of these impacts together would result in long-term, major, beneficial cumulative impacts because of quality improvements that would provide equity between nonmotorized and motorized uses, would better meet the needs of transit and tour buses, and would improve convenient transit access as well as the visitor transportation system. Alternative B would make a substantial beneficial contribution to these impacts, although underground parking garages would be inconsistent with local transportation planning policies.

Conclusion

Alternative B would result in long-term, major, beneficial impacts because of improved access, underground parking garages, a safer pedestrian environment (including crosswalks), and reduced conflicts with traffic. Impacts on bicyclists would be long-term, moderate, and adverse because neither the needs of bicyclists nor local planning goals would be met. These impacts, combined with the impacts of past, present, and reasonably foreseeable actions, would result in long-term, major, beneficial cumulative impacts because of improved wayfinding aids, an improved visitor transportation service, and future road improvements for motorists and Metro users. Alternative B would make a substantial beneficial contribution to cumulative impacts.

IMPACTS OF ALTERNATIVE C

Direct and Indirect Impacts

Alternative C would focus on urban open space, urban ecology, recreation, and healthy lifestyles.

Impacts on Visitor Access to the National Mall

As described under the no-action alternative, various means of convenient public mass transportation (subway system, premium circulator bus service, and public bus routes) would continue to meet the needs of two-thirds of National Mall visitors under alternative C. Seven taxicab / pedicab pickup locations would continue to provide options for visitors who need some form of transportation and are not using a sightseeing service or public transit.

Parking for visitors with disabilities would continue to exceed the standards of the Americans with Disabilities Act, but would remain insufficient in areas such as the World War II Memorial, which attracts large numbers of elderly people. Wheelchairs would remain available at five locations, with access to six memorials; but limiting use to these areas would not be convenient for people who might want to visit multiple locations or walk between them. Compared to the no-action alternative, the long-term impacts of alternative C on access would be moderate and beneficial because more parking would be available to visitors, but moderate and adverse because parking would no longer be free.

Impacts on the Pedestrian Environment

The pedestrian environment under alternative C would be considerably different than under the no-action alternative. Tunneling 14th Street under the Mall would create a larger pedestrian-only area and constructing pedestrian bridges over 15th Street would result in a more cohesive pedestrian environment. Additionally, portions of Maine Avenue would be covered or decked over to provide safer and more convenient pedestrian access to the Tidal Basin.

While historic circulation patterns would be retained, separate routes would be provided for pedestrians and bicyclists, resulting in a safer experience for visitors to enjoy the parklike

setting without worrying about hazards from bicyclists and vehicle traffic.

A walkable environment would be created using a coordinated hierarchy of paving materials to create a sense of place and identity that would also unify the National Mall. This would make it easier for pedestrians to find their way around by means of a system of recognizable walks and paths. The palette of paving materials would use quality materials commensurate with the importance of the National Mall and could include surfaces appropriate for runners and joggers. Pedestrian entries would provide clear, safe, and pleasant pedestrian transitions to and from areas adjacent to the National Mall. Walks in several areas, such as those along the Tidal Basin, would be widened, improving visitor enjoyment and pedestrian flow.

Crosswalk improvements would be part of the coordinated paving system and would emphasize safe road crossings as well as connections to museums. Times at stoplights would be more equal for pedestrians and motorists, allowing more pedestrians or slower moving pedestrians to safely cross wide roads.

New east-side entrances would be provided at the Korean War Veterans Memorial, as described for alternative B, making access more convenient for pedestrians but altering the designed approach to the memorial.

As described for the preferred alternative, developing a coordinated lighting plan would create a safer pedestrian experience and would offer opportunities to experience the nighttime character of the National Mall. Pedestrian lighting would emphasize walkway lighting to provide for greater nighttime enjoyment and safety. Lighting would be added to those areas where it is missing, such as the Tidal Basin, to encourage pleasant evening strolls. Temporary fixtures along the elm walkways flanking the Lincoln Reflecting Pool would be replaced, and more even lighting coverage would be provided along the Mall. All of these actions would make it easier for pedestrians to move between destinations during evening hours.

Amenities for pedestrians, such as drinking fountains, restrooms, seating, and wayside exhibits, would be planned at reasonable walk-

ing distances to provide pleasant locations to relax. Amenities could include small-scale features such as seasonal plantings or water elements where pedestrians could cool off in summer. Additional seating would include both sunny and shady locations and would foster enjoyment of views. Seating would be concentrated near major entrances such as the Metro station and to meet the needs of groups.

Compared to the no-action alternative, the impacts of alternative C on the pedestrian environment would be long-term, major, and beneficial because the experience of virtually every visitor would be improved. This would be because of safer pedestrian circulation (including a tunneled 14th Street, pedestrian bridges over 15th Street, a pedestrian tunnel under Independence Avenue, and intersection improvements), improved and coordinated walking surfaces, widened walks, additional lighting, and more pedestrian space over a tunneled 14th Street.

Impacts on Bicycle Users

Impacts on bicycle users would be the same as the preferred alternative. Alternative C would continue to encourage bicycle parking for events and off-site bicycle rentals and guided bicycling tours would continue to meet the needs of some visitors. However, alternative C would support and encourage bicycling as a green and healthful activity as well as a transportation mode. Developing a system of bike lanes or routes separate from roads and pedestrian walkways, instituting traffic-calming measures, and giving bicycles priority at intersections would all substantially improve bicycling opportunities and safety.

The number of bike racks on the National Mall would be increased and the distribution improved. More NPS guided bicycling tours would be provided. Connections to bicycling trails in East Potomac Park, Rock Creek Park, the Chesapeake and Ohio Canal, the George Washington Memorial Parkway, and the southwest Washington, D.C., area would be improved.

The National Park Service would work with other agencies and organizations to better fulfill the goals of the D.C. *Bicycle Master Plan*, provide access to bridges, and accommodate a coordinated onsite bicycle rental program.

Circulation — Alternative C

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Compared to the no-action alternative, the impacts of alternative C would be long-term, major, and beneficial because a separate bicycle route system would provide a safer, more equitable bicycling environment that would encourage this green and healthful circulation mode, would support local planning goals, and would provide improved facilities, tours, and bicycle rental opportunities.

Impacts on Motorists

Under alternative C 14th Street would be tunneled under the Mall, Independence Avenue would be redesigned in conjunction with filling the north bay of the Tidal Basin, and decks over portions of Maine Avenue would be constructed to improve pedestrian access. Pedestrians and bicyclists would be given more priority, and routes would be more separated from vehicular traffic, in addition to longer crossing times at intersections. As a result, the circulation network would be safer for all users.

The vicinity of Maine Avenue and East Basin Drive would be redesigned to facilitate better traffic flow and access to I-395, as well as to accommodate improved access for bicycles, service vehicles, and pedestrians. There would also be some road changes along Ohio Drive to accommodate bicycle lanes and parking. A new service vehicle entry would be developed to the U.S. Park Police stables, and the related intersection would be coordinated with that for the future Martin Luther King, Jr. Memorial.

Construction of the 14th Street tunnel and decking over Maine Avenue, as well as access improvements to I-395 and Maine Avenue, would result in short-term, major, adverse impacts on traffic.

Compared to the no-action alternative, the long-term impacts of alternative C on motorized uses would be both adverse and beneficial. Slowing through-traffic to posted speeds, providing traffic-calming measures at crosswalks, and increasing crossing times for pedestrians and bicycles at intersections would result in moderate to major, adverse impacts because of some inconvenience to through-travelers or commuters. Based on average annual daily traffic counts from 2007, on a daily basis this would

likely affect over 40,000 vehicles on Independence Avenue; over 25,000 on 17th Street; nearly 40,000 combined on 3rd, 4th, and 7th streets; approximately 46,000 on 14th Street; and about 14,000 on 15th Street. However, impacts would be moderate to major and beneficial because of the improved traffic flows on 14th Street with the new tunnel (which would affect an estimated 46,000 vehicles daily), on Independence Avenue (affecting 40,000 vehicles daily), and near I-395/Maine Avenue and East Basin Drive (affecting approximately 56,000 vehicles). The number of motorists affected on 14th Street could be larger because the other tunnels see heavier traffic than the surface roads.

Cumulative Impacts

Impacts of past, present, and reasonably foreseeable actions would be the same as those discussed under the no-action alternative and would be long-term, major, and beneficial. Actions under alternative C would improve the experience for motorists; equitably treat pedestrians, bicyclists, and drivers; better meet the needs of transit and tour buses; improve convenient transit access along with the visitor transportation system, and enhance the appearance and function of the circulation systems. Considered altogether, the cumulative impacts of these actions would be long-term, major, and beneficial, with a substantial beneficial contribution from this alternative.

Conclusion

Alternative C would result in long-term, major, beneficial impacts because of improved access and parking, a greater emphasis on safer and pleasanter pedestrian and bicycling environments, and more options for families and people with disabilities. These impacts, along with the impacts of past, present, and reasonably foreseeable actions, would result in long-term, major, beneficial cumulative impacts because of better wayfinding aids for pedestrians, an improved visitor transportation service, future road improvements for motorists and Metro users, and more convenient access for pedestrians, bicyclists, families with children, and people with disabilities. Alternative C would make a substantial beneficial contribution to these impacts.

VISITOR EXPERIENCE

METHODOLOGY FOR IMPACT ANALYSIS

The visitor experience section analyzes the impact of the management alternatives with respect to several evaluation topics affecting visitor experiences on the National Mall. The analysis considers how well the alternatives meet NPS policy and best practices. The no-action alternative provides the basis for comparing the alternatives, and it represents either no change or continuity with approved plans or management approaches.

The following topics have been selected for analysis:

- *Impacts on a quality visitor experience* — For the purposes of this document, a quality visitor experience is defined as one that would allow visitors (1) to understand and be able to contemplate core American values, government, and democracy as symbolized by the National Mall's history and memorials, as well as the adjacent cultural institutions; (2) to enjoy a welcoming experience and the beauty of the National Mall, both during the day and at night; and (3) to make an emotional or intellectual connections to the National Mall and what it represents. The beneficial and adverse impacts of the alternatives are analyzed in terms of opportunities to visit monuments and memorials on the National Mall, the area's visual appearance, to what degree visitors feel welcome, impacts of demonstrations and special events on the experience of general visitors, and opportunities to experience the nighttime character of the National Mall.
- *Impacts on opportunities for information and education* — The analysis looks at the beneficial and adverse impacts on opportunities to get advance planning information and site information on the Internet, and to participate in a range of accessible, engaging, and relevant educational programs on the National Mall through methods such as wayside exhibits, ranger programs (onsite, interactive, and curriculum-based), guided and self-guided tours (pedestrian, bicycle, and cell phone), exhibits, and publications (including maps and brochures).
- *Impacts on opportunities for enjoyment, entertainment, and informal recreation* — The beneficial and adverse impacts on opportunities for general relaxation and informal recreation pastimes, such as enjoying views, picnicking, reading, dog walking, walking, children's play, and entertainment, are analyzed. It is assumed that all activities are in accordance with NPS policies.
- *Impacts on opportunities for active recreation* — The beneficial and adverse impacts on active recreational and play opportunities on the National Mall are analyzed, including recreation equipment rentals (including paddleboats and bicycles) and space for pickup games (Frisbee, kickball, soccer, football or softball, and kite flying), organized team sports (softball, volleyball, etc.), and jogging or running.
- *Impacts of visitor facilities and amenities* — The degree to which the alternatives meet visitor needs (restrooms, food, rest, information) and wants (retail, bookstores, seating) in a manner that is convenient and pleasant is analyzed.
- *Impacts on public health and safety* — The impact analysis evaluates how well the alternatives address the needs of people with disabilities, dealing with weather extremes (heat and humidity / cold), health concerns (dust), safe nighttime experiences, pedestrian and bicycle safety, and emergency information or care.
- *Impacts on user capacity* — The beneficial and adverse impacts on the number of people who can visit the National Mall and locations within it, as well as the types of social experiences they can expect, are analyzed. This topic focuses on the desired general visitor capacity of various monuments and memorials on the National Mall, as well as specific areas (such as the Mall and the Washington Monument grounds).

These numbers are different from capacities considered for demonstrations, national celebrations, or special events discussed in “Demonstrations, Special Events, and National Celebrations” (beginning on page 414), where far more people can be accommodated because the nature of the experience is different — people at a demonstration or a special event expect to be in a crowded situation.

Impacts on participants at First Amendment demonstrations, national celebrations, and special events were previously analyzed (see page 414).

Impact Intensity Levels

The following thresholds were established for impacts on the visitor experience:

- *Negligible* — The impact would not be detectable or would be barely detectable to most visitors and would not affect their experiences or opportunities in a perceptible manner.
- *Minor* — The impact would be detectable to some visitors and might result in some effect on their experiences or opportunities.
- *Moderate* — The impact would be readily apparent to many visitors and would be likely to affect the experiences or opportunities of many visitors.
- *Major* — The impact would be obvious to most visitors and would affect the experiences or opportunities of most or all visitors.

Type of Impacts

Impacts can be beneficial or adverse. Beneficial impacts would support federal regulation, as well as NPS or local policies and plans, would incorporate acceptable best practices, and would improve the quality, convenience, and pleasure of experiences and opportunities for all types of users. Adverse impacts would be inconsistent with federal regulations or NPS or local policies and plans, would not address known visitor needs, would result in less convenient opportuni-

ties and facilities, or would fail to incorporate relevant improvements from best practices.

Duration of Impacts

The duration of the impact could be temporary, short-term, or long-term; no permanent impacts are expected under visitor experience.

- *Temporary* — A temporary impact could last a few hours or up to several days.
- *Short-term* — The impact would generally last up to one year or the life of a construction project.
- *Long-term* — A long-term impact would be expected to last for more than a year up to the life of the plan.

Laws, Regulations, and Policies

The Commemorative Works Clarification and Revision Act of 2003 (40 USC 8901 et seq.) prohibits the construction of memorials and visitor centers within the Reserve, which comprises much of the National Mall.

Special federal regulations govern the National Capital Region and visitor experiences on the National Mall (36 CFR 7.96). Permits are required for organized athletic games; wet grounds may not be used for play; bathing, swimming, or wading in any fountain or pool (including the Tidal Basin) is prohibited except where officially authorized; and skating is prohibited unless in areas and at times authorized by the park superintendent. Fishing is authorized under the applicable state authority.

NCPC Visitor Planning

The “Visitor Elements” of the 2004 *Comprehensive Plan for the National Capital: Federal Elements* propose accommodating visitors in a way that ensures an enjoyable and educational experience, showcases the institutions of American culture and democracy, and supports federal and regional planning goals. Goals include

- protecting the monumental core (as described in the *Legacy Plan* and the *Memorials and Museums Master Plan*; NCPC 1997, 2001)

- providing visitor services (indoor and outdoor food service, retail) at appropriate locations
- providing visitor orientation centers in different areas
- supporting broad dissemination of information at locations frequented by tourists, such as hotel and transportation centers, and encouraging multilingual information
- balancing the needs of security and accessibility
- encouraging specialized learning
- encouraging visitor transportation, and increasing visitor transit access and walking
- dispersing special events, promoting off-peak events, and coordinating events to minimize disruption

Planning Together for Central Washington is a collaborative effort to create a welcoming atmosphere with well-connected public spaces, and beautiful, distinguished places of enduring quality that are green and sustainable (NCPC 2008a).

NPS Management Policies 2006

National park system areas belong to all Americans, and all visitors are welcome. Visitor enjoyment, education, and inspiration will receive special attention while the National Park Service fulfills its mission to conserve its resources and values for present and future generations. Visitor use is addressed in chapter 8 of the *NPS Management Policies 2006* (NPS 2006e).

- *Visitor Use* — Enjoyment of park resources and values by the people of the United States is part of the fundamental purpose of all parks. The National Park Service is committed to providing appropriate, high-quality opportunities for visitors to enjoy the parks, and the Park Service will maintain within the parks an atmosphere that is open, inviting, and accessible to every segment of American society (NPS 2006e, sec. 8.2).

The National Park Service will afford visitors ample opportunities for inspiration, appreciation, and enjoyment through their

own personalized experiences, without formality of programs or structures (NPS 2006e, sec. 8.2)

- *Appropriate Use* — The National Park Service will allow only uses that are (1) appropriate to the purpose for which the park was established, and (2) can be sustained without causing unacceptable impacts (NPS 2006e, sec. 8.1.1).

To provide for enjoyment of the parks, the National Park Service will encourage visitor activities that

- are appropriate to the purpose for which the park was established; and
- are inspirational, educational, or healthful, and otherwise appropriate to the park environment; and
- will foster an understanding of and appreciation for park resources and values, or will promote enjoyment through a direct association with, interaction with, or relation to park resources; and
- can be sustained without causing unacceptable impacts to park resources or values (NPS 2006e, sec. 8.2).

Recreational uses and new or changing patterns of recreation will be assessed for appropriateness. Appropriate recreational uses will be defined and managed (NPS 2006e, sec. 8.2). The National Park Service will mitigate the adverse effects of any legally mandated use. Superintendents will monitor park uses to ensure that unanticipated and unacceptable impacts do not occur (NPS 2006e, sec. 8.1.1 and 8.1.2).

- *Visitor Carrying Capacity* — Parks will identify the type and level of visitor use that can be accommodated while sustaining desired resource and visitor experience conditions. These will include quality indicators and standards (NPS 2006e, sec. 8.2.1).

Park facilities are discussed in chapter 9 of the *NPS Management Policies 2006*. Facilities should be necessary and appropriate, harmonious with park resources, and support sustainable practices to the extent practicable (NPS 2006e). (This topic was amplified in “Park Facilities Guidance” prepared for the National Mall plan; see appendix D.)

Interpretation and education are discussed in chapter 7 of the *Management Policies 2006*. National parks are among the most remarkable places for recreation, learning, and inspiration. The National Park Service will use education to connect people to parks and will provide opportunities for all visitors to form their own intellectual, emotional, and physical connections with authentic experiences. Education will encourage a stewardship ethic and broaden support for the NPS mission. Curriculum-based programs will link to national and state standards. Technology should be used to maximize the visitor experience, and websites will allow parks to reach a worldwide audience (NPS 2006e, sec. 7.3.3). The National Park Service will consider the special needs of children, senior citizens, non-English speakers, and the economically disadvantaged, and it will provide programs for visitors with disabilities in the most integrated setting appropriate. Additionally, the National Park Service will take all feasible steps to ensure effective communication with individuals with hearing, visual, and cognitive disabilities. These steps should include but not be limited to providing sign language interpreters, audio/visual presentations, Braille, and large-print versions of printed materials (NPS 2006e, sec. 7.5.2).

Volunteers in Parks will be used to increase interpretive and educational capacity (NPS 2006e, sec. 7.6.1.). Cooperating associations may provide publications and other items for sale that enhance the park's story (NPS 2006e, sec. 7.6.2).

User Capacity

NPS *Management Policies 2006* require park plans to include user capacities for all park areas (NPS 2006e, sec. 3.1.1). The National Park Service defines user capacity as the type and level of visitor use that can be accommodated while sustaining the quality of park resources and visitor opportunities consistent with the purposes of the park. It is not necessarily a set of numbers or limits, but rather a process involving monitoring, evaluation, actions (managing visitor use), and adjustments to ensure that park values are protected. The premise behind this process is that any use on public lands causes some level of impact that must be accepted; therefore, it is the responsibility of the National

Park Service to decide what level of impact is acceptable and what actions are needed to keep impacts within acceptable limits. The capacities of park areas are addressed in the conservation zones.

An essential purpose of the National Mall is to provide space for the expression of First Amendment rights. This purpose, anchored in the U.S. Constitution, does not include limits on the number of people who can participate in First Amendment activities on the National Mall, regardless of any impacts that might otherwise be considered unacceptable.

There are three principal components that relate to determining the user capacity for a national park: (1) ecological or physical capacity, which includes the capabilities of the natural and cultural resources to sustain levels and types of use without unacceptable damage; (2) sociological capacity, which includes the ability of visitors to enjoy and appreciate these resources without undue interference by other visitors; and (3) NPS management, which includes the efforts that have been, or can be applied to the park to mitigate unwanted impacts. This component relates to the management of things such as roads, parking lots, buildings, trails, and visitor information.

IMPACTS COMMON TO ALL ALTERNATIVES

Direct and Indirect Impacts

Impacts on a Quality Visitor Experience

Memorials and the historic landscape with its planned vistas would continue to provide many opportunities for visitors to be inspired by the symbols of our nation, to make a patriotic connection to our nation or its history, and to understand American values and ideals. The experiences of day-to-day visitors may frequently be affected by demonstrations, national celebrations, and special events, even though visitors may not have been aware that a certain activity was happening. Almost all visitors are familiar with annual national celebrations such as the Fourth of July and the National Cherry Blossom Festival, as well as presidential inaugurations, which are well publicized by the Na-

tional Park Service and the local media. Apart from these well-known events, however, visitors may not be aware that more than 3,000 permitted activities take place annually, so there is a high likelihood that some sort of event will be taking place during their visit.

During large demonstrations or events, views to the memorials and buildings that are symbols of our nation may be blocked by signs, stages, displays, trucks, or tents. Visitors may not be able to capture the iconic photographic images free of visual evidence of these events. Visitors may be unable to easily cross streets or use the visitor transportation system. Larger events with tents and stages or road events such as Rolling Thunder will generally affect more National Mall visitors and generally have more intense impacts.

Sounds associated with events are more evident the closer one is and depending on the size of the event. Sounds may be regarded as noise that interrupts desired experiences for contemplation, or they may be enjoyable or even inspirational. For example, the sounds of cannon during the annual *1812 Overture* concert on the Washington Monument grounds may either be alarming or reassuringly familiar. Enjoyable or not, cannon sounds will be unavoidable to anyone present at the time.

The impacts of demonstrations on park users would be similar to those occurring now, and there would be no change in the type of impacts under any alternative. The impacts on visitors who come unexpectedly on a demonstration or special event are generally temporary. Impacts would range from minor to major and would either be beneficial or adverse, depending on visitors' attitudes. If visitors were inconvenienced and annoyed by sounds, crowds, and delays, impacts would be considered adverse. But if visitors felt they had special opportunities to witness or be part of a demonstration or special event that is uniquely American, then impacts would be considered beneficial.

Impacts on Opportunities for Information and Education

A wide variety of educational programs would continue to be provided. Park websites and information would be improved to make them more user friendly, and they would be continu-

ously updated. Demonstrations provide an educational opportunity for visitors to understand the essential role of the U.S. Constitution and First Amendment speech in our country. They might also provide education and enjoyment through stirring speeches, music, or engaging entertainment. The impacts of these continued educational opportunities would be temporary, major, and beneficial for individual visitors at one specific time, but in the context of the importance of First Amendment rights to the history of the National Mall, the continuing impacts in terms of opportunities for a quality American visitor experience would be permanent, major, and beneficial.

Ranger programs would include scheduled interactive experiences that could include, for example, audio clips of FDR speeches at the Franklin Delano Roosevelt Memorial or group recitations or other historic events. More multilingual speakers and publications would also be provided. Park brochures, maps, and the National Parks Passport stamping program would be more readily visible, with directional signs to information areas; and self-service areas would allow visitors to obtain maps and brochures at their convenience. Park websites would be user friendly and up-to-date.

The National Park Service would continue to work with local tourist organizations and the tour bus industry to ensure the most factual information is available to visitors. Commercial tours would continue to be provided, primarily by tour bus companies, and schools would continue to provide student tours. Since tours may bring 20%–30% of National Mall visitors, this would result in long-term, negligible to moderate, beneficial impacts.

Impacts on Opportunities for Active Recreation

General recreational pursuits and recreational league play may be periodically superseded by permitted events. The construction of the Vietnam Veterans Memorial Center would result in the relocation of ballfields, a long-term, minor, adverse impact on active recreational opportunities for some people, primarily local residents.

Impacts on User Capacity

The conservation zones that have been defined for the National Mall (see discussion beginning on page 56) establish general carrying capacities by zone and in specific areas. Applicable standards are also defined, along with indicators to show whether desired levels of quality or experiences were being achieved or if user carrying capacities were being exceeded.

At most memorials 100–200 square feet per person would provide sufficient space for contemplation, reading quotations, or taking photos. At 50–100 square feet per person the social experience could be congested for many visitors, indicating that the memorial’s capacity was being approached. A density of 50 square feet per person could be expected when high levels or pulses of visitation occur, such as when multiple tour buses arrive at the same time.

In National Mall character protection zones, visitor densities of 200 to 1,000 square feet per person would offer acceptable experiences. At 200 square feet per person many people could sit informally on the grass, but the sights and sounds of other people and groups would be very evident. This density is comparable to groups gathering informally for picnics, garden concerts, or small events. At 1,000 square feet per person the atmosphere would be more relaxed and enjoyable. On walks or at visitor facilities densities could be in the range of 10–50 square feet per person.

In multipurpose areas densities would range from 50 to 100 square feet per person. People would be very aware of the presence and sounds of others. In recreational areas a less dense experience of more than 1,000 square feet per person would be desirable.

In high-use areas user densities would be in the range of 3–50 square feet per person. The higher densities (3–10 sq. ft. / person) would be likely during national celebrations, such as the 2009 presidential inauguration, a large First Amendment demonstration, or a special event, and the impacts were previously discussed. The desired experiences for sightseeing and recreation in the high-use zone would be in the range of 100 square feet or more per person; more space per

person would allow for freedom of movement for active recreation or fewer people in vistas.

Visiting during high-use seasons, during national celebrations or annual events, or even during afternoons in the peak season would result in a more social or crowded experience, with few opportunities for quiet contemplation. It would be possible to have quieter experiences during off-peak seasons, early in the morning, or late at night. The application of zones, area criteria, standards, and indicators would have long-term, major, beneficial impacts by ensuring that quality standards and visitor expectations would be consistently met. Additional issues affecting user capacity are addressed in the following analyses.

Conclusion

Impacts on the visitor experience that would be common to all alternatives would generally be long-term, moderate to major, and beneficial as a result of continued educational opportunities about First Amendment rights; cooperative efforts with local tourist organizations and the tour bus industry to ensure they have accurate information and to facilitate access to areas on the National Mall (affecting 20%–30% of visitors); and applying conservation zones and standards to ensure that visitor expectations are consistently met.

IMPACTS OF THE NO-ACTION ALTERNATIVE

Direct and Indirect Impacts

Under the no-action alternative the National Park Service would continue present approaches to offering educational, recreational, and enjoyment opportunities for visitors by providing programs, visitor facilities, and addressing some public health and safety problems. User capacity would not be addressed. No additional visitor facilities would be provided.

Impacts on a Quality Visitor Experience

Existing opportunities to visit the monuments and memorials on the National Mall that convey our history and democratic values would remain, along with opportunities to visit adjacent facilities (primarily museums and government

facilities). Visitors would still be able to contemplate core American values and to enjoy visible symbols of our democratic government, primarily the executive branch (symbolized by the White House) and the legislative branch (the U.S. Capitol). However, the beauty of the National Mall would continue to be visibly affected by deteriorated landscape conditions (poor turf conditions, social trails) and the huge volume of deferred maintenance and outdated facilities in need of repair (seawalls, walks, restrooms). Recent efforts to remove and stop the creation of social trails would be overshadowed by overall conditions on the National Mall. This would result in long-term, moderate to major, adverse impacts on visitors' abilities to appreciate the area's beauty and to have quality visitor experiences.

There would be no additional impacts on the experiences of visitors as a result of demonstrations, national celebrations, or special events. Impacts as described under "Impacts Common to All Alternatives" would continue.

Opportunities to experience the nighttime character of the monumental core would remain focused on the lighting of the prominent symbols of our nation — the Lincoln and Thomas Jefferson memorials, the Washington Monument, the White House, and the Capitol. The lighting of other memorials and ornamental water features would continue to contribute to the very evocative nighttime experience on the National Mall.

The National Mall and its memorials would continue to deeply inspire many visitors, and there would be no change in opportunities to experience the National Mall. Resulting long-term, major, beneficial impacts would continue. However, the enjoyment of the beauty of the National Mall and a sense of welcome would continue to be affected by the degraded conditions of natural resources (water features and vegetation), resulting in ongoing long-term, moderate, adverse impacts on many visitors.

Impacts on Opportunities for Information and Education

Existing educational opportunities would remain, with wayside exhibits, ranger programs, and a variety of park experiences. Classroom

curriculum would continue to be updated. A variety of bicycling tours would continue to be provided, and cell phone tours would continue to be expanded. Outdated exhibits would be evaluated for accuracy, relevance, and condition, and then replaced or revised as needed.

The number of visitors is much larger than the number of uniformed park rangers, guides, and volunteers. For example, at the Lincoln Memorial visitors may outnumber rangers by a ratio of 9,000 to 1. The National Park Service would regularly analyze visitor circulation patterns by the time of day, month, and season to more strategically position uniformed staff to increase visitor contacts.

Park brochures, maps, and the NPS visitor passport program would continue to be available, but visitors might not know where to get information, and there are no self-service areas where visitors can obtain maps and brochures. Park websites would remain somewhat difficult for some people to navigate, and advance planning websites would remain inadequate.

Taken as a whole, the impact of the no-action alternative on opportunities for information and education would be long-term, negligible, and beneficial because educational opportunities would continue and the park would update its programs and offerings. Multiple, difficult-to-navigate websites would continue to make finding advance planning information inconvenient, with long-term, moderate, adverse impacts.

Impacts on Opportunities for Enjoyment, Entertainment, and Informal Recreation

The no-action alternative would continue to provide numerous sunny and shady open spaces on the National Mall for visitor enjoyment (including sightseeing and enjoying views), relaxation, and informal recreational pastimes (such as picnicking, reading, dog walking, and walking / strolling). The resulting impacts would continue to be long-term, moderate, and beneficial.

Views of memorials and major federal buildings would continue to inspire most visitors. However, conditions in other parts of the National Mall would detract from these viewing experiences for many visitors who could feel that present conditions throughout much of the area

are undesirable as a setting for the country's most important monuments and memorials. This would continue to result in long-term, moderate, adverse impacts on visitor enjoyment.

Present conditions for walking and strolling would continue in many areas. Walks around the Tidal Basin are too narrow for the level of use; many walking surfaces are in need of repair; and gravel surfaces are slippery and dusty, as well as inaccessible to many people. The resulting impacts would continue to be long-term, moderate to major, and adverse because most to all visitors would be affected.

Informal children's play would continue in open turf areas and within the shade of trees; no children's playgrounds would be provided. The carousel would remain. Impacts would be long-term, negligible to minor, and beneficial.

Entertainment such as musical and theatrical performances would continue primarily at larger activities, such as national celebrations (holiday concerts), annual events (National Cherry Blossom Festival, Smithsonian Folklife Festival), events such as twilight tattoos, and special events such as Kennedy Center simulcasts and Screen on the Green movies. With few exceptions, entertainment venues, other than open turf areas, would continue to be limited in their ability to conveniently host large or small performances on a regular basis. The Sylvan Theater would continue to be the primary venue designed for entertainment; however, its facilities are outdated, circulation changes have affected viewing and access to the stage, and its location is no longer desirable for major events like the Fourth of July. The D.C. War Memorial is the only other venue that was planned for small-scale entertainment. The Lincoln Memorial and Jefferson Memorial steps provide a natural seating area, and these hard surfaces areas can support regularly scheduled entertainment. Room Four in the Franklin Delano Roosevelt Memorial was designed for programs, lectures or appropriate performances but remains unused.

Impacts of diverse open spaces on opportunities for visitor enjoyment and informal recreation would continue to be long-term, moderate to major, and beneficial. However, the continuing unattractive conditions on the National Mall, less than ideal walking experiences, and limited

venues to facilitate various kinds of public entertainment would result in long-term, moderate to major, adverse impacts because virtually all visitors could be affected.

Impacts on Opportunities for Active Recreation

Under the no-action alternative existing recreational opportunities would remain. Recreation areas help meet recreation needs in the metropolitan area. Activities include open space for pickup games (Frisbee, kickball, soccer, football, softball, kite flying), fields for organized team sports (such as baseball, softball, and volleyball), and recreation equipment rentals (paddleboats). Boat rentals would remain limited to paddleboats.

Jogging is a popular activity throughout the National Mall, but appropriate running surfaces are lacking, which has resulted in the creation of social trails adjacent to many walks and around the Lincoln Reflecting Pool. These social trails may be as hard as concrete and do not constitute an appropriate running surface, resulting in continuing long-term, minor, adverse impacts on runners.

Bicycling would continue as both a means of circulation and a recreational activity. Impacts related to bicycling are addressed under the access and circulation section.

While no actions would be taken under this alternative related to recreational activities, impacts would be long-term, minor, and beneficial because spaces would continue to be provided for informal recreation as well as organized sports. However, the continued lack of facilities for jogging and the limited choice in recreation equipment rentals would result in long-term, minor, adverse impacts.

Impacts of Visitor Facilities and Amenities

Under the no-action alternative visitor facilities and amenities on the National Mall would continue to be insufficient to meet the needs of a large portion of present visitors. Visitor facilities are too small, inconveniently located, lack coordinated amenities, and are outdated. Most facilities are also too small for present levels of

use. For example, restrooms with six toilets and two urinals are located near parking for nine tour buses; pulses of high use when several tour buses arrive at the same time (up to 450 visitors at a time, assuming 50 passengers per bus) strain the capacity of facilities and result in visitor discomfort. Some facilities are inconveniently located or spaced; for example, there are no restrooms east of 15th Street, despite heavy use of the Mall area for all kinds of visitor activities and events. While it is common to locate restrooms and food service together, there are no restrooms near refreshment stands. Some outdated restrooms are unattractive and NPS staff receive many complaints. Older facilities are primarily utilitarian in nature, and do not provide the pleasant atmosphere visitors expect of facilities in the nation's capital.

Bench seating is provided in both shady and sunny locations, but shady locations may be in short supply in the summer. Seating is not always oriented so visitors can enjoy the vistas. Seating for groups is very limited and is usually not located where groups congregate. While outdoor seating is provided near refreshment stands, it is utilitarian and does not contribute to a pleasant location for people to relax as they tour the National Mall. No indoor seating is provided.

Present retail facilities include small bookstores, food service, and locations where souvenirs are sold. Food choice is limited to seasonal and permanent refreshment stands and mobile carts.

Visitor facilities (or the lack of facilities) would continue in the following areas:

- *Union Square* — No visitor facilities are provided.
- *The Mall* — There are four small refreshment stands, but no restrooms.
- *Washington Monument Grounds* — Restrooms are provided in Monument Lodge, Survey Lodge, and near the Sylvan Theater; temporary food and retail facilities on the site of the future National Museum of African American History and Culture must be relocated. The Sylvan Theater location would remain outdated and inadequate because it is located both near tour bus parking and performance space. Monu-

ment Lodge restrooms are conveniently located near ticket queuing areas.

- *World War II Memorial* — Restrooms, which are convenient to tour bus drop-offs, would remain.
- *Constitution Gardens* — Facilities include a seasonal refreshment stand and restrooms that are scheduled to be remodeled but not replaced.
- *Lincoln Memorial* — Restrooms inside the memorial also serve visitors to the Korean War Veterans and Vietnam Veterans memorials. No restrooms are provided near food service. The future Vietnam Veterans Memorial Center would replace the information station near the Lincoln Memorial and provide restrooms, a bookstore, and information.
- *Ash Woods* — An outdated restroom is located near the World War II Memorial.
- *Tidal Basin area* — An outdated seasonal refreshment stand is located near the parking lot, but no restrooms are provided.
- *Franklin Delano Roosevelt Memorial* — There are restrooms and a bookstore. A bookstore and restrooms are planned at the future Martin Luther King, Jr. Memorial.
- *Thomas Jefferson Memorial* — Facilities include restrooms, a bookstore, and retail with a nearby outdated small refreshment stand.

The lack of facilities in some areas places a burden on adjacent museums, art galleries, and the U.S. Botanic Garden.

Under the no-action alternative visitor facilities would not be appropriately sized for the volume of users, conveniently located, or grouped to meet the needs of visitors. Primarily due to the lack and inadequacy of restrooms, and to a lesser degree the lack of pleasant food service, impacts on visitor experiences would continue to be long-term, major, and adverse because inadequate visitor facilities affect virtually every visitor.

Impacts on Public Health and Safety

Under the no-action alternative there would be no changes in the way that public health and safety are handled. Emergency care would continue to be provided by park rangers, and event organizers frequently provide first-aid tents during national celebrations and large special events. There are no emergency call boxes or public address system, and resulting impacts would continue to be long-term, minor to moderate, and adverse.

Some locations would continue to be difficult to access for people with disabilities, such as gravel walkways on the Mall and grade level changes and steps at Union Square. Elevators would continue to be provided at the Lincoln Memorial, Thomas Jefferson Memorial, and the Washington Monument.

Distances between destinations, drop-offs, and parking locations for people with disabilities would remain inconvenient, and the requirement to return borrowed wheelchairs to where they were picked up could make visiting multiple destinations difficult for those who need wheelchairs. Impacts would continue to be short- and long-term, moderate to major, and adverse for people with disabilities, as well as up to 25% of visitors who may have difficulty walking distances. Also, NPS policy goals for universal design and access for all segments of society would not be achieved.

Visitors would continue to be affected by weather extremes, and during hot humid weather the National Park Service would continue to occasionally run sprinklers to allow people to cool down. Water would continue to be provided during some events. Emergency care is provided by park rangers. There are no emergency call boxes. Dust from wind and loose gravel walks would continue to affect the comfort and breathing of many visitors on the Mall.

Pedestrian lighting would remain largely concentrated in the east-west corridor between the U.S. Capitol and the Lincoln Memorial. In some locations darker areas between light fixtures may make some visitors feel uncomfortable. The Tidal Basin would continue to have pedestrian lighting only at the memorials, leaving the walkway around the basin unlit. This would continue

to limit pedestrian opportunities to safely visit the Franklin Delano Roosevelt, Thomas Jefferson, and George Mason memorials. Light from some fixtures shines into visitor's eyes, making it difficult for them to perceive surface conditions or making it difficult to see other people in the area. This condition would continue.

Roads would continue to be illuminated, resulting in higher levels of light near the highly developed edges of the National Mall. Most crosswalks would continue to be lit. The continued impact of existing road and pedestrian lighting on public health and safety would be long-term, moderate to major, and both beneficial and adverse. However, the lack of pedestrian lighting in some areas and the quality of the existing lighting would make the impact more adverse than beneficial.

The no-action alternative would continue current conditions, and taken as a whole, impacts on visitor health and safety would be long-term, moderate, and adverse because many people would be affected by undesirable access conditions and limited pedestrian lighting.

Impacts on User Capacity

Under the no-action alternative there would be no change in how many people could be accommodated on the National Mall. Degraded conditions from overuse throughout the National Mall would remain. General visitors would continue to be negatively affected by uses during large demonstrations, national celebrations, and special events because fewer permanent amenities would mean that event participants would be using general visitor facilities. Some locations, such as Union Square with the large reflecting pool and stepped levels and the narrow walkways around the Tidal Basin, may limit the number of people who can safely and comfortably use a particular location.

There would be no changes to user capacity as the result of continuing present management strategies. Impacts would remain long-term, moderate to major, and adverse because several prominent locations have continued obstacles to levels of use that are experienced today.

Cumulative Impacts

Past Actions

The night sky in Washington, D.C., is dominated by lighting of five symbolic icons — the U.S. Capitol, the White House, the Washington Monument, the Lincoln Memorial, and the Thomas Jefferson Memorial. Other public and private buildings, memorials, public art, streets and walks, and park areas are lit to varying degrees, with the potential for conflict.

New attractions that have been recently built on or near the National Mall include the World War II Memorial, the National Museum of the American Indian, the Capitol Visitor Center, the International Spy Museum, Madame Tussauds Wax Museum, the Museum of Crime and Punishment, and the Newseum. Nearby in Virginia are the Pentagon September 11 Memorial and the U.S. Air Force Memorial. Renovated visitor destinations include Ford's Theatre National Historic Site, the National Portrait Gallery / National Museum of American Art, the Library of Congress exhibits, and the National Museum of American History. The impact of additional destinations in and near the monumental core on visitor experience opportunities would continue to be long-term, major, and beneficial.

Pedestrian guide and wayside signs with historic information have been placed throughout the central business district, providing a sense of visitor welcome. Some signs are on and near the National Mall and guide visitors to National Mall destinations. The impact on visitor experiences has been long-term, moderate to major, and beneficial.

Present and Reasonably Foreseeable Actions

New pedestrian signs and maps would be better dispersed and would use symbols and colors to make wayfinding easier and more convenient. These actions would have long-term, major, beneficial impacts.

A visitor contact station at the Smithsonian Metro station on the Mall has improved the welcoming experience for visitors at this location, but since the location is not obvious to many pedestrians, the impact would continue to be long-term, minor to moderate, and beneficial.

The completion of perimeter security projects by the Smithsonian Institution and Department of Agriculture at their facilities would have long-term, major, beneficial impacts on public enjoyment, health, and safety.

The completion of future visitor destinations on the National Mall (the Martin Luther King, Jr. Memorial, the Vietnam Veterans Memorial Center, and the National Museum of African American History and Culture), as well as those nearby (the Dwight D. Eisenhower Memorial, Veterans Disabled for Life, and the U.S. Institute of Peace) would diversify visitor experience opportunities, contribute to visitor enjoyment and understanding of ongoing American history and values. The future Vietnam Veterans Memorial Center would replace the present information station near the Lincoln Memorial and provide restrooms, a bookstore, and information. Impacts to visitor enjoyment, education, and the ability to provide a quality American experience would be long-term, major, and beneficial.

Cumulative Impact Summary

Past projects in the memorial core of Washington, D.C., including the development of memorials, public and private museums, the Capitol Visitor Center, and other visitor attractions, have ensured that this area of the national capital provides numerous visitor opportunities. Current NPS projects (the sign system replacement, and rehabilitation of the D.C. War Memorial, the Lincoln Reflecting Pool, and the Thomas Jefferson plaza seawall) would improve visitor enjoyment and make it easier for visitors to find their way around. Other current projects (such as security perimeters, road projects) would increase safety. In the future the addition of authorized memorials and museums (including the Martin Luther King, Jr. Memorial, the Vietnam Veterans Memorial Center, the Eisenhower Memorial, the U.S. Institute of Peace, the National Museum of African American History and Culture, and the National Museum of the American Latino), as well as future commemorative and cultural opportunities as presented in the *Monumental Core Framework Plan*), would all contribute to the quality of visitor experiences, opportunities for education and

enjoyment, and visitor facilities in the metropolitan area.

The impacts of the no-action alternative on visitor experience would be long-term, moderate to major, and adverse. The impacts of past, present, and reasonably foreseeable actions in the metropolitan area would generally be long-term, major, and beneficial. Resulting cumulative impacts would be long-term, major, and beneficial, with a slight adverse contribution from the no-action alternative.

Conclusion

The impacts of the no-action alternative on visitor experiences would be long-term, moderate to major, and adverse despite the fact that visitors would continue to be inspired by the National Mall and its memorials. Visitor expectations for quality experiences would not be met because of the degraded condition of natural resources, inadequate information and education about park resources and opportunities, insufficient facilities (such as restrooms and food service) for present user volumes, and continued public health and safety challenges. However, the impacts of past, present, and reasonably foreseeable actions would generally be long-term, major, and beneficial, and these impacts would offset the adverse impacts of the no-action alternative. The no-action alternative would make a slight adverse contribution to cumulative impacts.

IMPACTS OF THE PREFERRED ALTERNATIVE

Direct and Indirect Impacts

Under the preferred alternative actions would be taken to refurbish the National Mall to be a beautiful, welcoming space that would accommodate high levels of use and provide a quality American experience. Visitor opportunities would be expanded in education, recreation, enjoyment, and entertainment; convenient, adequately sized, and pleasant multipurpose visitor facilities would be provided; pedestrian lighting would be improved; visitor capacity would be increased in some areas; and public health and safety issues would be addressed.

Impacts on a Quality Visitor Experience

The quality of the visitor experience would be improved on the National Mall. Refurbishing the National Mall, addressing deferred maintenance, replacing outdated facilities, and improving infrastructure elements would allow the National Mall to be maintained to desired conditions. Because the refurbishment would affect one of the most photographed places in our nation, the impacts on visitors' ability to appreciate the beauty of the National Mall would be long-term, major, and beneficial.

Better access and circulation would make it easier to visit memorials and adjacent facilities (primarily museums and government facilities), and additional educational wayside exhibits would provide information to increase visitor appreciation. Resulting impacts on the visitor experience would be long-term, major, and beneficial.

In addition to those impacts related to demonstrations and special events that were described under "Impacts Common to All Alternatives," general visitor experiences would be enhanced during demonstrations, national celebrations, and special events because venues would be improved and visitors would have information about the nature of the event or demonstration. Encouraging special events (not First Amendment demonstrations) during non-peak seasons and scheduling them throughout the National Mall would help keep major view corridors and open space free of activities that might otherwise intrude on visitor experiences. In areas that have high levels of demand, the requirement that special events have a "meaningful association" to the National Mall, adjacent areas, or venues would also improve general visitor experiences, and visitors would be more likely to value and enjoy the special events they do see. Compared to the no-action alternative, the preferred alternative would have long-term, major, beneficial impacts since the experiences of most visitors would be improved.

Developing a staffed welcome plaza with related amenities (restrooms, seating, maps, activity listings, and multilingual information) on the Mall near the Smithsonian Metro station would result in long-term, major, beneficial impacts in

terms of creating a welcoming atmosphere for visitors.

Opportunities to experience the nighttime character of the monumental core would be improved. Like the no-action alternative, lighting would remain focused on the prominent symbols of our nation — the Lincoln and Thomas Jefferson memorials, the Washington Monument, the White House, and the Capitol. However, under the preferred alternative the National Park Service would work closely with the Commission of Fine Arts, the National Capital Planning Commission, the Architect of the Capitol, the Smithsonian Institution, and D.C. city agencies to reestablish the lighting task force to develop an approved comprehensive lighting guideline for the monumental core area that would also prescribe desired lighting character for urban and park areas, character-defining elements such as statuary and building facades, pedestrian and vehicular areas, and transitions between different light levels. Appropriate light levels and light color would also be specified for different areas.

Lighting of other memorials and ornamental water bodies would continue to contribute to the nighttime character of the National Mall without intruding on the lighting of the five principal icons. Pedestrian lighting along the Tidal Basin and supplementary pedestrian lighting around the Mall would provide sufficient lighting for pedestrians to see walkway surfaces as well as other people in the area without interfering with the lighting of the prominent memorials or contributing to light pollution. These improvements would result in long-term, moderate to major, beneficial impacts affecting the way a great many visitors experience the National Mall at night.

In summary, the National Mall would continue to deeply inspire many visitors, but compared to the no-action alternative, the preferred alternative would improve the quality of the visitor experiences as a result of refurbishing all areas, providing a more welcoming atmosphere, and enhancing nighttime experiences. Opportunities to experience First Amendment demonstration, as well as to understand and appreciate our nation's history, memorials, and core American values, would also be enhanced. The preferred

alternative would result in long-term, major, beneficial impacts on visitor experiences and their opportunities to have higher quality experiences.

Impacts on Opportunities for Information and Education

Under the preferred alternative developing a welcome plaza near the Smithsonian Metro station, improving understanding about the variety of park programs and wayside exhibits, and making use of technology to personalize visits would all enhance opportunities for information and education. These opportunities would help visitors understand the role of the National Mall as a civic stage for democracy, the history of the capital city, and sustainability and stewardship.

Existing programs would continue to be provided and upgraded, including classroom curriculum, cell phone tours, bicycling tours, and exhibits at memorials. NPS programs would seek to use new technology that would allow visitors the flexibility to customize their visits and learning experience. Electronic daily listings of programs, activities, and events would make many more people aware of park programs.

The Mall welcome plaza would be the hub for orientation, information, wayfinding, and hospitality. It could serve as a starting point for many guided walks, a group meeting location, and a venue for welcoming programs that could include recorded music or small live performances. Impacts on opportunities for education would be long-term, major, and beneficial because of the plaza's location at the primary Metro entrance to the National Mall. Impacts on visitors during construction would be short-term, minor, and adverse.

Taken as a whole, the impacts of the preferred alternative on opportunities for information and education, compared to the no-action alternative, would be long-term, moderate to major, and beneficial because information would be more readily available, educational opportunities would be more diverse and could be personalized by visitors to meet their interests, a welcome plaza at a centralized location would help visitors plan their activities and find out what opportunities are available, and educa-

tional themes and methods would be expanded. These changes would affect most visitors and would better fulfill NPS policy goals.

Impacts on Opportunities for Enjoyment, Entertainment, and Informal Recreation

The preferred alternative would continue to provide numerous sunny and shady open space opportunities on the National Mall for enjoyment (sightseeing and enjoying views), general relaxation, and informal recreational pastimes such as picnicking, reading, dog walking, and walking/strolling. The impacts of these opportunities would continue to be long-term, moderate, and beneficial.

Long-distance views to and from memorials along planned view corridors would continue to inspire visitors, but under the preferred alternative the condition of foreground areas as well as overall conditions on the National Mall would also be improved, helping make visitor experiences more enjoyable, a long-term, moderate, beneficial impact on visitor enjoyment.

Walking and strolling experiences would be improved throughout the National Mall by replacing and widening walks around the Tidal Basin, removing gravel from pathways on the Mall, and using universally accessible paving materials that would also reduce dust and slipperiness, resulting in long-term, major, beneficial impacts.

Additional recreational opportunities for children would include water features designed for play, model boating, and naturalistic features in Constitution Gardens that could be climbed on. Children’s educational programming could include active play or recreation components. Like the no-action alternative, informal children’s play (including preschool activities) would continue in open turf areas and within the shade of trees. While no children’s playgrounds would be provided, the carousel would remain, continuing a long-term, negligible to minor, beneficial impact. Overall impacts on children’s recreation would be long-term, minor, and beneficial because the needs of a small portion of the visiting population would be addressed.

Opportunities for relevant entertainment, music, and performances would be diversified and

expanded to increase enjoyment. Entertainment opportunities would continue at larger activities, such as national celebrations and holiday concerts, annual events (National Cherry Blossom Festival, Smithsonian Folklife Festival), events such as twilight tattoos, and special events such as Kennedy Center simulcasts and Screen on the Green movies. In addition, several distinctly different multipurpose areas with performance venues would be created at Union Square, the Sylvan Theater area at the Washington Monument, and Constitution Gardens.

New facilities at Union Square would include views of the Capitol, the Mall, and the Washington Monument, as well as nearby destinations such as the National Gallery East Building and the U.S. Botanic Garden. The redesigned Sylvan Theater would be better oriented to the hillside to take advantage of seating opportunities, as well as views of the Washington Monument. The new multipurpose performance venue at Constitution Gardens would be on the east edge of the lake, banked by gentle tree-covered hills, while views toward the facility from the west and northwest would include the Washington Monument. These venues would accommodate small or large performances on a regular basis, while at other times they would be pleasant locations for visitors to rest, relax, and enjoy the unique views. These multipurpose facilities would have long-term, major, beneficial impacts on relevant entertainment and enjoyment.

The welcome plaza on the Mall would be used for small performances and programs that would contribute to a friendly, hospitable, and enjoyable atmosphere. The D.C. War Memorial would be renovated to allow small to midsize performances, which would be consistent with its original function as a bandstand. The steps and lower approachway at the Lincoln Memorial, along with the steps and plaza at the Thomas Jefferson Memorial, would continue to provide seating and performance areas. Infrastructure (such as utilities) would be provided to support relevant entertainment and performances. Room Four in the Franklin Delano Roosevelt Memorial could also be used more frequently for programs, lectures, or appropriate performances, which it was designed to accommodate.

The impacts of the preferred alternative on opportunities for enjoyment, entertainment, and informal recreation, compared to the no-action alternative, would be long-term, major, and beneficial primarily because of improved opportunities for general enjoyment and relaxation, pleasant multipurpose venues, and more regularly scheduled relevant entertainment. These actions would affect most visitors.

Impacts on Opportunities for Active Recreation

Under the preferred alternative recreational opportunities would be expanded. Additional recreation equipment rentals would be available, such as canoes and rowboats at the Tidal Basin, as well as model boats, bicycles, kites, or ice skates. More choice in recreational activities would support healthful recreation policies, resulting in long-term, minor, beneficial impacts.

The condition of open space available for pickup games (Frisbee, kickball, soccer, football, softball, kite flying) and organized team sports (softball, volleyball, etc.) would be improved, making play more pleasant and resulting in long-term, moderate, beneficial impacts. Surfaces appropriate for jogging or running would be provided, a minor to moderate impact on individual joggers and running clubs. Bicycling would be improved, with separate bike lanes or routes supporting recreational use of the National Mall as described in the "Access and Circulation" section.

The preferred alternative, compared to the no-action alternative, would have long-term, minor to moderate, beneficial impacts on opportunities for active recreation as the result of additional opportunities and improved facilities or conditions.

Impacts of Visitor Facilities and Amenities

Under the preferred alternative visitor facilities and amenities would be provided on the National Mall to accommodate the high levels of visitation it receives. Visitor facilities and amenities would be conveniently located, and they would generally be designed to serve multiple purposes and to incorporate naturally compatible amenities, such as restrooms near food

service locations or seating and information by restrooms, in accordance with best practices used at other sites. All facilities would have an educational or informational component. Outdated facilities would be replaced. Many facilities (including mobile carts) would use a consistent design so they would be instantly recognizable and easy to find. In general, impacts would be long-term, major, and beneficial as the result of providing convenient, well-spaced, and pleasant visitor facilities.

Restrooms would be conveniently located near main pedestrian routes, and on the Mall they would be visible from existing refreshment stands. Restrooms would be adequately sized for expected use. For example, restrooms near tour bus parking and subway entrance areas would be sized for high levels of use. Restrooms would generally be located near destinations or spaced no more than one-third of a mile apart for visitor comfort and convenience. New restrooms would be added, and aging restrooms would be replaced with new facilities in better locations. Family-friendly restrooms would be provided, and additional restroom facilities would be provided for women. The impact of more, better dispersed, and adequately sized restrooms on the visitor experience would be long-term, major, and beneficial.

Drinking water would always be provided near restrooms, and drinking fountains would facilitate filling water bottles or taking care of pet water needs. Free-standing drinking fountains would be removed because they are difficult to maintain. Impacts would be long-term, major, and beneficial.

Food service would include additional types of facilities, such as full-service restaurants and cafeterias, as well as refreshment stands and mobile carts. Food service areas would be designed to be pleasant and attractive places for visitors to linger, enjoy views and watching activities, and be near trash and recycling containers, subtly encouraging visitors not to litter and reducing impacts at memorials. Outdoor seating areas would have shade options and could include potted flowering plants, small ornamental water fountains, or music to make the spaces more attractive and pleasant. Impacts

on the visitor experience would be long-term, major, and beneficial.

As previously described, multipurpose facilities at Union Square, Washington Monument, and Constitution Gardens would be designed as destinations with a unique architectural style compatible with the character of the National Mall.

- **Union Square** — Designing Union Square as a dignified area for visitor enjoyment, with food service, restrooms, information, retail, seating, and shade, would encourage visitors to rest and enjoy the views, programs, events, and performances, or to witness or participate in demonstrations. Since no visitor facilities are now in this area, redevelopment would result in long-term, major, beneficial impacts on convenience and comfort for visitors.
- **Washington Monument Grounds** — The multipurpose facility at the centrally located Washington Monument would be a hub for visitor services, replacing the temporary facilities tent. Services such as food, restrooms, retail, information, and seating would be convenient for those waiting for Washington Monument tickets, visitors using tour buses and visitor transit, and pedestrians on their way to or from memorials around the Tidal Basin. The indoor / outdoor facilities would be very flexible and would be sized to accommodate large numbers of people. Two existing restrooms would remain — Monument Lodge was recently renovated, and Survey Lodge would be remodeled to provide more facilities for people with disabilities. The impacts of new and renovated facilities at the Washington Monument would be long-term, major, and beneficial.
- **Constitution Gardens** — Constitution Gardens would provide a higher end multipurpose destination, with food service, indoor/outdoor seating in a garden setting, restrooms, retail, and a performance area. The area is convenient to the World War II Memorial and public bus transit (the Circulator), visitor transit, and tour bus drop-off/pickup areas. Restrooms would be replaced. Additional seating would be well

dispersed, some located for enjoyment of views as well as to meet the needs of groups. Impacts would be long-term, major, and beneficial.

Visitor facilities and amenities at other locations around the National Mall that would enhance the visitor experiences would include the following:

- **World War II Memorial** — The restrooms, which are convenient to tour bus drop-offs, would remain.
- **Lincoln Memorial** — Expanding restrooms inside the memorial and adding a restroom in the vicinity would make facilities more convenient to visitors.
- **Ash Woods** — Providing new restrooms in a better location would better disperse restroom facilities in this area of the National Mall. Should future use levels warrant, this area could also provide seasonal food service.
- **Tidal Basin Area** — The existing refreshment stand would be replaced. Providing a multipurpose facility (with food, retail, and restrooms) near the Tidal Basin parking lot would create a pleasant location to sit and enjoy views or recreational opportunities.
- **Franklin Delano Roosevelt Memorial** — If future use increased, a restroom and food service facility could be located near Ohio Drive and West Basin Drive, convenient to the Franklin Delano Roosevelt Memorial and the future Martin Luther King, Jr. Memorial. The Roosevelt Memorial would continue to have a bookstore and two restrooms, and the future King Memorial would also have a bookstore and restrooms.
- **Thomas Jefferson Memorial** — Replacing the refreshment stand with food, retail, restrooms, and seating sufficient to accommodate tour bus passengers would address visitor needs. Restrooms and a bookstore would remain inside the memorial.

The preferred alternative, compared to the no-action alternative, would result in long-term, major, beneficial impacts for all visitors as a result of providing diverse visitor facilities that would be adequately sized and could accommodate multiple purposes (restrooms, food service,

retail, seating). They would be well dispersed along pedestrian routes and entries, and they would be designed to be pleasant locations that contribute to enjoyment of the National Mall.

Impacts on Public Health and Safety

Under the preferred alternative a number of changes would be made in the way public health and safety are addressed. Locations would be more easily accessible to people with disabilities due to an emphasis on incorporating universal designs into all facilities. Grade level changes would be minimized at Union Square, and gravel on walkways on the Mall would be eliminated and high-quality hard surfaces would make it easier for all visitors to move around. Elevators would continue to be provided at the Lincoln Memorial, the Thomas Jefferson Memorial, and the Washington Monument. Additional parking for people with disabilities would be provided at Survey Lodge on the Washington Monument grounds, and wheelchairs and scooters would be also be available at this location so that people with disabilities could easily visit multiple destinations. Breathing problems caused by dust from gravel walkways on the Mall would be reduced by paving walkways. The resulting impacts would be long-term, moderate to major, and beneficial because all visitors would benefit from accessible designs.

Providing shaded seating, indoor food service, and access to ornamental water features designed to accommodate visitor play would all help alleviate health conditions caused by hot humid weather. Temporary misters might also be used to help cool people during hot humid weather. Water bottles would continue to be provided during some events.

Providing pedestrian lighting throughout the National Mall, with appropriate transitions to uniformly lower lighting levels on the National Mall, would improve public safety and prevent accidents, as well as enhance the nighttime ambience. Supplementary lighting would ensure that pathway lighting would be uniform so that there would not be dark areas between pools of light that might make visitors feel uncomfortable. Pedestrian lighting around the Tidal Basin would also enhance opportunities to visit the Franklin Delano Roosevelt, Thomas Jefferson,

and George Mason memorials. A lighting plan for the National Mall would be developed, and all light fixtures would be coordinated, ensuring that lighting would be directed at pathways and not shine into visitors' eyes and making it easier for people to see surface conditions as well as other people in the area or their immediate surroundings.

Roads would continue to be illuminated, and the highly developed edges of the National Mall would be more brightly lit than interior spaces. Some crosswalks could also be more brightly lit to increase the visibility of pedestrians. The impact of existing road and pedestrian lighting on public health and safety would be long-term, moderate to major, and beneficial.

Emergency care would continue to be provided by park rangers, and designated first-aid tents would continue to be frequently provided by event organizers at national celebrations and events. Emergency call boxes would be located at logical points throughout the National Mall or at intersections, and an emergency notification system would be provided.

Changes to public health and safety under the preferred alternative, compared to the no-action alternative, would result in long-term, major, beneficial impacts because of improved access, increased pedestrian lighting, an emergency announcement system, and amenities to help visitors cope with extreme summer weather conditions.

Impacts on User Capacity

Changes under the preferred alternative would increase the number of people who could be accommodated on the National Mall without adversely affecting resource conditions. Changes at various venues, such as wider walks around the Tidal Basin, would create pleasanter conditions for visitors throughout the year and benefit general visitors. Capacity would also be increased at Union Square. Capacities at national memorials would not change.

Impacts on visitors would be long-term, major, and beneficial, especially during large annual events such as the National Cherry Blossom Festival, because space would be provided for logistical operations and amenities (such as

portable restrooms), reducing impacts on general visitors.

Cumulative Impacts

Past, present, and reasonably foreseeable actions would be the same as those described under the no-action alternative and would be long-term, major, and beneficial. The impacts of the preferred alternative would be long-term, major, and beneficial. Cumulative impacts would be long-term, major, and beneficial, with a substantial beneficial contribution from the preferred alternative.

Conclusion

Compared to no-action alternative, the impacts of the preferred alternative on visitor experiences would be long-term, major, and beneficial because of well-maintained areas that would meet desired conditions for the National Mall, enhanced website information, a more welcoming atmosphere (including a welcome plaza on the Mall and daily interpretive program listings), more opportunities to understand core American values through expanded educational themes, well-dispersed and pleasant visitor facilities that are adequately sized to meet user needs, more food service choice, an improved pedestrian and bicycling environment, increased opportunities for informal enjoyment, additional recreational opportunities and improved playing fields, more shaded seating, additional pedestrian lighting, and an emergency notification system. These impacts, combined with the long-term, major, beneficial impacts of past, present, and reasonably foreseeable actions, would result in long, term, major, beneficial cumulative impacts, with a substantial beneficial contribution from the preferred alternative.

IMPACTS OF ALTERNATIVE A

Direct and Indirect Impacts

The impacts on the visitor experience under alternative A would be similar to those under the no-action alternative. The National Park Service would continue to provide visitor facilities and would address some public health and safety issues, and improved resource conditions and

visitor educational experiences would increase the quality and enjoyment of visits. However, visitor facilities and services would remain inadequate for the levels of use that the National Mall receives.

Impacts on a Quality Visitor Experience

Like the no-action alternative, a range of visitor experiences would continue to be provided on the National Mall. There would be no change in opportunities to visit memorials that convey our history and democratic values, and there would be no change in opportunities to visit adjacent facilities (primarily museums and government facilities). Visitors would still be able to contemplate core American values and to enjoy visible symbols of our form of government, primarily the executive branch (symbolized by the White House) and the legislative branch (the U.S. Capitol).

Under alternative A the appearance of the National Mall's landscape would be substantially improved as areas were rehabilitated, social trails were limited with various types of fencing and curbs, and deferred maintenance projects were undertaken, including the reconstruction of seawalls and deteriorated walkways and the repair of outdated facilities and restrooms. These improvements would affect the beauty of one of the most photographed places in our nation, resulting in long-term, moderate, beneficial impacts on visitors' ability to appreciate the beauty of the National Mall.

While new pedestrian signs would use symbols to make wayfinding easier, resulting in long-term, major, beneficial impacts, many visitors would continue to have no sense of welcome and orientation, with long-term, major, adverse impacts on overall experiences.

In addition to those impacts on general visitors related to demonstrations and special events that were described under "Impacts Common to All Alternatives," under alternative A requiring special events to have a "meaningful association" to the National Mall, adjacent areas, or venues would improve opportunities for general visitors to value and enjoy the special events they do see. Compared to the no-action alternative, impacts would be long-term, moderate to major, and

beneficial since the experiences of many to most visitors would be enhanced.

Opportunities to experience the nighttime character of the monumental core would remain focused on the most prominent symbols of our nation — the Lincoln and Thomas Jefferson memorials, the Washington Monument, the White House, and the Capitol. Like the preferred alternative, the National Park Service would work closely with the National Capital Planning Commission, the Commission of Fine Arts, and the Architect of the Capitol to develop a comprehensive lighting guideline for the monumental core. Lighting of other memorials and ornamental water bodies would continue to contribute to the nighttime experience on the National Mall. Under alternative A the removal of temporary lighting along the north and south elm walks flanking the Lincoln Reflecting Pool would be consistent with the historic design for this area and would focus attention on the memorial.

Alternative A, compared to the no-action alternative, would make some changes in visitor opportunities to have quality experiences, primarily as a result of improved landscape conditions, resulting in long-term, moderate, beneficial impacts although no actions would be taken to accommodate increased visitor use levels, and crowded conditions in some areas would continue to adversely affect visitor experiences.

Impacts on Opportunities for Information and Education

Existing opportunities for information and education would remain, with wayside exhibits, ranger programs, and a variety of park brochures being provided. There would be an additional focus on the city's history, and more living history programs would be provided, along with multilingual programs and brochures. Rangers throughout the National Mall would be able to provide directions and answer questions, creating a welcoming atmosphere. Classroom curriculum, cell phone tours, a variety of bicycling tours, and educational wayside exhibits would continue to be provided and updated, as well as park brochures, maps, and the NPS passport (stamping) program. Park websites would also be substantially improved

and would include virtual tours in addition to more educational content and trip planning information.

Compared to the no-action alternative, alternative A would have long-term, moderate, beneficial impacts on opportunities for visitor information and education, primarily because educational themes would be expanded, multilingual programs and offerings would be provided, and the park website would be improved.

Impacts on Opportunities for Enjoyment, Entertainment, and Informal Recreation

Alternative A, like the no-action alternative, would continue to provide numerous sunny and shady spaces for visitors to enjoy sightseeing or views, relaxing, and participating in informal recreational pastimes, such as picnicking, reading, dog walking, and walking/strolling. The impacts on visitor enjoyment and informal recreation would be long-term, moderate, and beneficial.

Views to and from memorials along planned view corridors would continue to inspire visitors, and improved landscape conditions would make experiences more enjoyable for many visitors, who would readily appreciate the improved appearance of a national treasure. Impacts on visitor enjoyment would be long-term, moderate, and beneficial.

Walking and strolling experiences would continue to take place in less than ideal conditions in many areas. For example, walks around the Tidal Basin would remain too narrow for present levels of use. While walking surfaces in need of repair would be replaced, gravel pathways would continue to be slippery and dusty, as well as inaccessible to many people, especially visitors using wheelchairs. Resulting impacts would be long-term, moderate, and adverse.

Informal children's play (including preschool activities) would continue in open turf areas and within the shade of trees. No children's playgrounds would be provided, and the carousel would be removed, resulting in long-term, negligible to minor, adverse impacts.

Opportunities for relevant entertainment, such as musical and theatrical performances, would continue to be limited and would take place primarily in conjunction with larger activities, such as national celebrations (holiday concerts), annual events (National Cherry Blossom Festival, Smithsonian Folklife Festival), events such as twilight tattoos, and special events such as Kennedy Center simulcasts and Screen on the Green movies. Most entertainment venues, other than open turf areas, would continue to be limited in their ability to conveniently host large or small performances on a regular basis. The Sylvan Theater would continue to be the primary venue designed for entertainment, although its outdated facilities would remain. Circulation changes have affected viewing and access to the stage, and the theater's location make it unusable for major events like the Fourth of July. The D.C. War Memorial would be improved as a small entertainment venue. The steps at the Lincoln Memorial and the Thomas Jefferson Memorial provide natural seating areas, and the hard-surfaced plaza areas can support regularly scheduled programs and entertainment. Room Four in the Franklin Delano Roosevelt Memorial, which was designed for programs, would be used more for this purpose.

Overall impacts on opportunities for enjoyment and informal recreation under alternative A, compared to the no-action alternative, would be long-term, moderate, and beneficial because of improved conditions on the Mall and continued opportunities for informal recreation. However, gravel walkways would continue to adversely affect enjoyment for many visitors because of dust and difficult access for people with physical disabilities. Also, opportunities for relevant entertainment would remain limited. Resulting impacts on visitor enjoyment would be long-term, moderate, and adverse.

Impacts on Opportunities for Active Recreation

Like the no-action alternative, existing recreational opportunities would remain. These include recreation equipment rentals (paddleboats), open space available for pickup games (Frisbee, kickball, soccer, football, softball, kite flying), as well as spaces identified for organized

team sports (such as softball and volleyball). Choices in boating opportunities would remain limited to paddleboats.

Appropriate surfaces and routes for jogging would continue to be lacking throughout the National Mall. More physical obstacles to prevent social trails adjacent to many walks and the coping of the Lincoln Reflecting Pool would continue long-term, minor, adverse impacts on runners. Bicycling would continue as both a circulation method and a recreational pastime, with related impacts addressed under the "Access and Circulation" section.

The impacts of alternative A on opportunities for active recreation, compared to the no-action alternative, would be long-term, negligible, and both adverse and beneficial. Opportunities for active recreation would remain, a beneficial impact, but more obstacles to running would result in an adverse impact on joggers, and bicycling would not be improved.

Impacts of Visitor Facilities and Amenities

Under alternative A the emphasis would be on protecting the National Mall's historic landscape, and minimal facilities (such as restrooms) would be provided to help meet current visitor needs. While outdated visitor facilities would be replaced, and small restrooms would be added near existing food service locations, associated amenities that would enhance and facilitate visitor use would not be proposed under this alternative.

Bench seating would be provided in both shady and sunny locations, with more seating in shade and some seating oriented to take advantage of views. Retail facilities would continue to include small bookstores, and some locations would offer souvenirs. Permanent refreshment stands and mobile carts would continue to offer food service, but under this alternative more food choices would be offered. Outdoor seating would remain near refreshment stands, and areas would be more pleasant for relaxing, even though no indoor seating would be available.

Visitor facilities at other locations around the National Mall would include the following:

- **Union Square** — Seating would be added at Union Square, but no visitor facilities (such as food service, retail, or restrooms) would be provided.
- **The Mall** — In addition to the four current refreshment stands, four restrooms would be provided on the Mall (east of 15th Street), helping meet needs in one of the most heavily used areas of the National Mall.
- **Washington Monument grounds** — Food, retail, and restrooms would be moved to a new underground facility east of 15th Street. This location would make outdoor seating impractical because of the surrounding traffic noise, which would also adversely affect views and visitor circulation. Existing facilities would remain at Monument Lodge (bookstore, restrooms) and Survey Lodge (restrooms), while the restrooms would be replaced at the Sylvan Theater.
- **Constitution Gardens** — Restrooms and the seasonal refreshment stand would be replaced at Constitution Gardens.
- **Lincoln Memorial** — A restroom would be added near the refreshment stand south of the Lincoln Memorial.
- **Ash Woods** — The Ash Woods restroom would be replaced and would improve the distribution of restrooms on the National Mall.
- **Tidal Basin** — The seasonal refreshment stand near the Tidal Basin parking lot would be replaced, and restrooms would be added.
- **Franklin Delano Roosevelt Memorial** — A bookstore and restrooms would continue to be provided at the Franklin Delano Roosevelt Memorial and would be provided at the future Martin Luther King, Jr. Memorial.
- **Thomas Jefferson Memorial** — A bookstore, retail options, restrooms, and a seasonal refreshment stand would remain at the Thomas Jefferson Memorial.

Compared to the no-action alternative, visitor facilities under alternative A would be improved,

so impacts on visitors experiences would be long-term, moderate, and beneficial, primarily because of additional restrooms and the replacement of outdated facilities (restrooms and refreshment stands).

Impacts on Public Health and Safety

Alternative A would be similar to the no-action alternative in the way that many public health and safety concerns would be managed. However, under alternative A longer crosswalk times and a permanent mass notification system would be provided, improving health and safety for all visitors and resulting in long-term, moderate to major, beneficial impacts.

Like the no-action alternative, conditions in some locations would continue to make access difficult for people with disabilities, such as gravel walkways on the Mall and steps at Union Square. Elevators would continue to be provided at the Lincoln Memorial, the Thomas Jefferson Memorial, and the Washington Monument. Distances between destinations, drop-off and pickup locations, and parking locations for people with disabilities would continue to be inconvenient. The requirement to return borrowed wheelchairs to where they were picked up could make touring multiple destinations difficult for these visitors. Impacts would continue to be short- and long-term, moderate to major, and adverse for people with disabilities, as well as up to 25% of visitors who may have difficulty walking distances. Also, NPS policy goals for universal design and access for all segments of society would not be achieved.

Visitors would continue to be affected by weather extremes, and during hot humid weather the National Park Service would continue to occasionally run sprinklers to allow people to cool down. Water bottles would also continue to be provided during some events. Dust from loose gravel on walkways, which is exacerbated by wind, would continue to affect the comfort and breathing of many Mall visitors.

Pedestrian lighting would be largely concentrated in the east-west corridor between the U.S. Capitol and the World War II Memorial. In some areas darker spots between light fixtures would continue to make some visitors feel uncomfortable because of not being able to see

surface conditions or other people. The Tidal Basin would continue to have pedestrian lighting only at the memorials, leaving the walkway around the water body dark. The lack of pedestrian lighting would also continue to affect nighttime visits to the Vietnam Veterans, Korean War Veterans, Lincoln, Franklin Delano Roosevelt, Thomas Jefferson, and George Mason memorials. Light from some pedestrian light fixtures would continue to shine into visitors' eyes, making it more difficult to see their surroundings.

Roads would continue to be illuminated, along with most crosswalks. There would still be a transition between the more brightly lit edges of the National Mall that are highly developed and the interior areas. The impacts on public health and safety of pedestrian and road lighting would be long-term, moderate to major, and adverse because of the lack of pedestrian lighting in some areas and the quality of existing lighting. However, lighting of the prominent memorials, along with the White House and the Capitol, would remain focal points for nighttime experiences on the National Mall, with beneficial impacts.

Emergency care would continue to be provided by park rangers, and event organizers frequently provide first-aid tents during national celebrations and large special events. There are no emergency call boxes, and impacts would be long-term, minor to moderate, and adverse.

Taken as a whole, the impacts of alternative A, compared to the no-action alternative, would be long-term, minor to moderate, and adverse because of continued lack of pedestrian lighting, which would affect safe access to memorials for many visitors. Providing a mass notification system and improving crossing times at crosswalks would have long-term, moderate to major, beneficial impacts.

Impacts on User Capacity

Under alternative A there would be no change in how many people could be accommodated on the National Mall. General visitors would continue to be negatively affected by uses during

large demonstrations, national celebrations, and special events because fewer permanent amenities would mean that event participants would be using general visitor facilities. As the number of users increases, so does the number of needed support facilities (restrooms, first-aid stations, event management offices), and that reduces space available for users.

There would be no changes to user capacity as the result of continuing present management strategies on the National Mall. However, the impact would remain long-term, moderate to major, and adverse because several prominent locations have continued obstacles to levels of use that are experienced today.

Cumulative Impacts

The impacts of past, present, and reasonably foreseeable actions would be the same as those described under the no-action alternative and would be long-term, major, and beneficial. The overall impacts of alternative A would be long-term, moderate, and beneficial. Cumulative impacts would be long-term, major, and beneficial, with a modest beneficial contribution from alternative A because of the prominence of the National Mall in the city.

Conclusion

Compared to the no-action alternative, alternative A would have long-term, moderate, beneficial impacts on visitor experiences because of substantially improved resource conditions and the appearance of the National Mall, better website information, educational themes focused on memorials and the development of the capital city, improved visitor facilities supplemented by small visitor facilities and food service at refreshment stands, a better pedestrian environment, improved playing field conditions, and an emergency notification system. But the needs of high volumes of users would not be met. These impacts, combined with the impacts of past, present, and reasonably foreseeable actions, would result in long-term, major, beneficial impacts, with a modest beneficial contribution from alternative A.

IMPACTS OF ALTERNATIVE B

Direct and Indirect Impacts

Under alternative B, like the preferred alternative, the National Mall would be refurbished to be a beautiful, welcoming space in the heart of the nation's capital. It would be able to accommodate high levels of use and provide quality visitor experiences. Additional opportunities for education, enjoyment, entertainment, and recreation would be provided, along with convenient, adequately sized, and pleasant multipurpose visitor facilities. Pedestrian experiences would be improved, including nighttime experiences, visitor capacity would be increased in some areas, and public health and safety issues would be addressed.

Impacts on a Quality Visitor Experience

The overall quality of visitor experiences on the National Mall would be improved. Refurbishing the National Mall, addressing deferred maintenance, and improving infrastructure elements would allow the National Mall to be maintained to desired conditions. Because the refurbishment would affect one of the most photographed places in our nation, the resulting impacts on visitors' ability to appreciate the beauty of the National Mall would be long-term, major, and beneficial.

Better access and circulation would make it easier to visit memorials and adjacent facilities (primarily museums and government facilities), and additional wayside education would increase visitor appreciation. Impacts on visitor experiences would be long-term, major, and beneficial.

Under alternative B cultural offerings and events on the Mall would be permitted to take place within the elm tree panels on the Mall if new methodologies could ensure that soils would not be compacted and that tree roots would not be adversely affected.

In addition to those impacts related to demonstrations and special events that were described under "Impacts Common to All Alternatives," the experience of general visitors would be enhanced because venues would be improved and they would have information about events

and demonstrations. Compared to the no-action alternative, the impacts of alternative B on the experience of general visitors would be long-term, major, and beneficial since improvements would affect the experience of most visitors.

Developing a staffed welcome plaza with related amenities (restrooms, seating, maps, activity listings, and multilingual information) would be developed on the Mall near the Smithsonian Metro station, which serves as the primary entry for many visitors, would create a welcoming atmosphere with long-term, major, beneficial impacts.

Opportunities to experience the nighttime character of the monumental core would be substantially improved. Like the no-action alternative, lighting would remain focused on the prominent symbols of our nation — the Lincoln and Thomas Jefferson memorials, the Washington Monument, the White House, and the Capitol. Like the preferred alternative, the National Park Service would work closely with the National Capital Planning Commission, the Commission of Fine Arts, and the Architect of the Capitol to develop a comprehensive lighting guideline for the monumental core area. Lighting of other memorials and ornamental water bodies would continue to contribute to the nighttime character of the National Mall. Pedestrian lighting along the Tidal Basin and supplementary pedestrian lighting along the Mall would enhance the visitor experience without interfering with the lighting of the prominent memorials. These actions would result in long-term, moderate to major, beneficial impacts affecting the way a great many visitors experience the National Mall at night.

In summary, alternative B would improve the quality of visitor experiences on the National Mall, primarily because it would be refurbished, a more welcoming atmosphere would be created, and nighttime experiences would be enhanced. Opportunities to experience First Amendment demonstrations, as well as to understand and appreciate our nation's history, memorials, and core American values, would also be enhanced. Alternative B would result in long-term, major, beneficial impacts on visitor experiences.

Impacts on Opportunities for Information and Education

Under alternative B, like the preferred alternative, the development of a welcome plaza near the Smithsonian Metro station, the improved variety of park programs and wayside exhibits, and the use of technology to personalize visits would all enhance opportunities for information and education. These opportunities would help visitors understand the role of the National Mall as a civic stage for democracy, the history of the capital city, and sustainability and stewardship.

Existing programs would continue to be provided and upgraded, including classroom curriculum, cell phone tours, bicycling tours, and exhibits at memorials. NPS programs would seek to use new technology in order to personalize visits so that people would be able to explore the National Mall based on their own interests, making visits more relevant, enjoyable, and inspirational regardless of the time of visit.

The Mall welcome plaza would be the hub for orientation, information, wayfinding, and hospitality. It could serve as a starting point for many guided walks, a group meeting location, and a venue for welcoming programs that could include recorded music or small live performances. Impacts on opportunities for education would be long-term, major, and beneficial because of the plaza's location at the primary Metro entrance to the National Mall.

Electronic daily listings of programs, activities and events would make many more people aware of park programs. More multilingual speakers and publications would also be provided. Park brochures, maps, and the passport (stamping) program would be more readily visible, with directional signs to information areas. Self-service areas would allow visitors to obtain maps and brochures at their convenience. Park websites would be user friendly and up-to-date.

Taken as a whole, the impacts of alternative B on opportunities for information and education, compared to the no-action alternative, would be long-term, moderate to major, and beneficial because information would be more readily available, educational opportunities would be more diverse and could be personalized by

visitors to meet their interests, a centralized welcome plaza would help visitors plan their activities and find out what opportunities are available, and educational themes and methods would be expanded. These changes would affect most visitors and would better fulfill NPS policy goals.

Impacts on Opportunities for Enjoyment, Entertainment, and Informal Recreation

Alternative B, like the preferred alternative, would continue to provide numerous sunny and shady open spaces on the National Mall for enjoyment (sightseeing and enjoying views), general relaxation, and informal recreational pastimes such as picnicking, reading, dog walking, and walking/strolling. The impacts of these opportunities would continue to be long-term, moderate, and beneficial.

Views to and from memorials along planned view corridors would continue to inspire visitors, but conditions in foreground areas as well as the overall condition of the National Mall would be improved, making visitor experiences more enjoyable. Impacts would be long-term, moderate, and beneficial.

Walking and strolling experiences would be improved throughout the National Mall by replacing and widening walks around the Tidal Basin, and removing gravel from pathways on the Mall and using hard surface paving that would be universally accessible and would reduce dust. Resulting impacts would be long-term, major, and beneficial because almost all visitors would be affected.

Opportunities for informal children's play (including preschool activities) would be the same as the no-action alternative, with open turf areas and shaded areas available for play; no children's playgrounds would be provided, but the carousel would remain, with long-term, negligible to minor, beneficial impacts. Under alternative B additional children's play opportunities would include water features designed for play, and the overall impact on children's recreation would be long-term, minor to moderate, and beneficial because the needs of a small portion of the visiting population would be addressed.

Opportunities for relevant entertainment, music and performances would be diversified and expanded to increase enjoyment, similar to the preferred alternative. Entertainment opportunities would continue at national celebrations (holiday concerts), annual events (National Cherry Blossom Festival, Smithsonian Folklife Festival), events such as twilight tattoos, and special events such as Kennedy Center simulcasts and Screen on the Green movies. In addition, several distinctly different multipurpose areas with performance venues would be created at Union Square, in the Sylvan Theater area at the Washington Monument, and Constitution Gardens. New facilities at Union Square would include magnificent views of the Capitol, the Mall, and the Washington Monument, as well as nearby destinations such as the National Gallery East Building and the U.S. Botanic Garden. Replacement facilities at the Sylvan Theater would be better oriented to the hillside to improve seating and viewing, with views of the Washington Monument. Constitution Gardens Lake would be constructed as a very shallow pool that could be drained to accommodate a wide variety of larger entertainment events. These venues would accommodate small or large performances on a regular basis, while at other times they would be pleasant locations for visitors to rest, relax, and enjoy the unique views. These multipurpose facilities would have long-term, major, beneficial impacts on entertainment and enjoyment.

The welcome plaza on the Mall could support small performances, programs, and audio that would contribute to a friendly, hospitable, and enjoyable atmosphere. The steps of the Lincoln Memorial and the lower approachway, as well as the steps and plaza at the Thomas Jefferson Memorial would both continue to provide seating and performance areas. Infrastructure (such as utilities) would facilitate entertainment and performances.

The impacts of alternative B on opportunities for enjoyment, entertainment, and informal recreation, compared to the no-action alternative, would be long-term, major, and beneficial primarily because of improved opportunities for general enjoyment and relaxation, multipurpose venues for entertainment, and more regularly

scheduled relevant entertainment. These actions would affect most visitors.

Impacts on Opportunities for Active Recreation

Under alternative B recreational opportunities would be expanded. There would be additional types of rental boats, such as canoes and rowboats, at the Tidal Basin, which would support healthful recreation policies and result in long-term, minor, beneficial impacts. The condition of open space available for pickup games (Frisbee, kickball, soccer, football, softball, kite flying) and organized team sports (softball, volleyball, etc.) would be improved, making play more pleasant and resulting in long-term, moderate, beneficial impacts. Surfaces appropriate for jogging or running would be provided, a minor to moderate impact on individual joggers and running clubs.

Alternative B, compared to the no-action alternative, would have long-term, minor to moderate, beneficial impacts on opportunities for active recreation as the result of additional opportunities and improved facilities or conditions.

Impacts of Visitor Facilities and Amenities

Under alternative B, similar to the preferred alternative, adequate visitor facilities and amenities would be provided to accommodate high levels of visitation. Visitor facilities would be conveniently located, and they generally would be designed to serve multiple purposes and to incorporate naturally compatible amenities such as restrooms near food service areas or seating and information by restrooms, in accordance with best practices used at other sites. All visitor facilities would have an educational or informational component. Outdated visitor facilities would be replaced. Impacts on visitor experiences would be long-term, major, and beneficial as the result of providing convenient and pleasant visitor facilities.

Restrooms would be conveniently located near main pedestrian routes, and on the Mall they would be visible from existing refreshment stands. New food service facilities would include restrooms. Restrooms would be adequately

sized to meet expected use levels. For example, restrooms near tour bus parking areas and subway entrances especially would be sized for high use levels. Restrooms would generally be located near destinations or spaced no more than one-third of a mile apart to provide visitor convenience and comfort. New restrooms would be added, and aging restrooms would be replaced. Family friendly restrooms would be provided, along with additional restroom facilities for women. The impact of improved restrooms on visitor experiences would be long-term, major, and beneficial.

Drinking water would be provided near restrooms, and drinking fountains would facilitate filling water bottles or pet needs. Free-standing drinking fountains would be removed because they are difficult to maintain.

Food service would include additional types of facilities, such as full-service restaurants and cafeterias, as well as refreshment stands and mobile carts. All facilities (including mobile carts) would use a consistent design to be instantly recognizable and easy to find. Food service areas would be designed to be pleasant and attractive places to linger, enjoy views and activities, and be near trash and recycling containers, subtly encouraging visitors not to litter and reducing impacts at memorials. Outdoor seating areas would have shade options and could include potted flowering plants, small ornamental fountains, or music to make these spaces more attractive. Impacts would be long-term, major, and beneficial.

Multipurpose facilities at Union Square, the Washington Monument, and Constitution Gardens would be destinations with a unique architectural style compatible with the character of the National Mall.

- **Union Square** — Designing Union Square as a dignified but formal area for visitor enjoyment, with food service, restrooms, information, retail, seating, and shade, would encourage visitors to rest and enjoy the views, programs, events, and performances, or to witness or participate in demonstrations. Since there are no visitor facilities in this area, this redevelopment would result in long-term, major,

beneficial impact on convenience and comfort for visitors.

- **Washington Monument Grounds** — The multipurpose facility at the centrally located Washington Monument would be a hub for more casual visitor services, replacing the temporary facilities tent. Services such as food, restrooms, retail, information, and seating would be convenient for those waiting for Washington Monument tickets, visitors using tour buses and visitor transit, and pedestrians on their way to or from memorials around the Tidal Basin. The indoor/outdoor facilities would be very flexible and would be sized to accommodate large numbers of people. Survey Lodge would be remodeled to provide more facilities for people with disabilities. The impacts of new and renovated facilities at the Washington Monument would be long-term, major, and beneficial.
- **Constitution Gardens** — Constitution Gardens would provide a higher end multipurpose destination, with food service, indoor/outdoor seating in a garden setting, restrooms, and retail. The lake would be drainable to allow large entertainment events or performances. The area is convenient to the World War II Memorial and public bus transit (the Circulator), visitor transit, and tour bus drop-off/pickup areas. Restrooms would be replaced. Additional seating would be well dispersed, some located for enjoyment of views as well as to meet the needs of groups. Impacts would be long-term, major, and beneficial.

Visitor facilities and amenities at other locations around the National Mall that would enhance visitor experiences would include the following:

- **World War II Memorial** — The restrooms, which are convenient to tour bus drop-offs, would remain.
- **Lincoln Memorial** — Expanding restrooms inside the memorial and adding restrooms near the refreshment stands both north and south of the memorial would make facilities more convenient to visitors.
- **Ash Woods** — Providing new restrooms in a better location would better disperse rest-

rooms. Should future use levels warrant, this area could provide seasonal food service.

- **Tidal Basin Area** — The existing refreshment stand would be replaced with a multi-purpose facility (food, retail, and restrooms) near the Tidal Basin parking lot, creating a pleasant location to sit and enjoy views.
- **Franklin Delano Roosevelt Memorial** — If future use increased, food service could be provided and would also be convenient to the future Martin Luther King, Jr. Memorial. The Roosevelt Memorial would continue to have a bookstore and two restrooms, and the future King Memorial would also have a bookstore and restrooms.
- **Thomas Jefferson Memorial** — Replacing the refreshment stand near the Thomas Jefferson Memorial and providing restrooms and plenty of seating to accommodate tour bus passengers would address visitor needs. Restrooms, a bookstore, and retail would continue at the memorial itself.

Taken as a whole, the impacts under alternative B of visitor facilities and amenities on the visitor experience would be long-term, major, and beneficial, compared to the no-action alternative. These impacts would result from diverse types of visitor facilities that were adequately sized, met multiple purposes, were well dispersed, and were designed to be pleasant and contribute to enjoyment of the National Mall.

Impacts on Public Health and Safety

Under alternative B, like the preferred alternative, a number of changes in the way that public health and safety are addressed would be made. Locations would be more easily accessible to people with disabilities due to an emphasis on incorporating universal designs into all facilities. Grade level changes would be minimized at Union Square, and gravel on walkways on the Mall would be eliminated and high-quality hard surfaces would make it easier for all visitors to move around. Elevators would continue to be provided at the Lincoln Memorial, the Thomas Jefferson Memorial, and the Washington Monument. Additional parking for people with disabilities would be provided at Survey Lodge

on the Washington Monument grounds, and wheelchairs and scooters would also be available at this location so that people with disabilities could easily visit multiple destinations. The resulting impacts would be long-term, moderate to major, and beneficial because all visitors would benefit from accessible designs.

Providing shaded seating, indoor food service, and access to ornamental water features designed to accommodate visitor play would all help alleviate health conditions caused by hot humid weather. Temporary misters might also be used to help cool people during hot humid weather. Water bottles would continue to be provided during some events. Breathing problems caused by dust from gravel walkways on the Mall would be reduced by paving walkways.

Providing pedestrian lighting throughout the National Mall, with appropriate transitions to uniformly lower lighting levels on the National Mall, would improve public safety and prevent accidents, as well as enhance the nighttime ambience. Supplementary lighting would ensure that pathway lighting would be uniform so that there would not be dark areas between pools of light that might make visitors feel uncomfortable. Pedestrian lighting around the Tidal Basin would also enhance opportunities to visit the Franklin Delano Roosevelt, Thomas Jefferson, and George Mason memorials at night. A lighting plan for the National Mall would be developed, and all light fixtures would be coordinated, ensuring that lighting would be directed at pathways and not shine into visitors' eyes, making it easier for people to see surface conditions as well as other people in the area or their immediate surroundings.

Roads would continue to be illuminated, and the highly developed edges of the National Mall would be more brightly lit than interior spaces. Some crosswalks could also be more brightly lit to increase the visibility of pedestrians. The impact of existing road and pedestrian lighting on public health and safety would be long-term, moderate to major, and beneficial.

Emergency care would continue to be provided by park rangers, and designated first-aid tents would continue to be frequently provided by event organizers at national celebrations and events. Emergency call boxes would be located

at logical points throughout the National Mall or at intersections, and an emergency announcement system would be provided.

Changes to public health and safety under alternative B, like the preferred alternative, would result in long-term, major, beneficial impacts compared to the no-action alternative. These impacts would result from improved access, increased pedestrian lighting, an emergency announcement system, and amenities to help visitors cope with extreme summer weather conditions.

Impacts on User Capacity

Changes under alternative B would increase the number of people who could be accommodated on the National Mall without adversely affecting resource conditions. Changes at venues for demonstrations and special events would also positively affect general visitors. For example, wider walks at the Tidal Basin would benefit visitors throughout the year. User capacity would also be increased at Union Square and Constitution Gardens. There would be no change in capacities at national memorials.

Like the no-action alternative, technology would continue to be used to increase the capacity of various venues and to extend venue areas. Technology could also be used to provide opportunities for people to participate in offsite demonstrations through virtual connections or to take part in multi-venue events. This action would align with the NPS policy to use websites to reach a broader audience.

Increases in the physical capacity of the National Mall under alternative B, compared to the no-action alternative, would result in long-term, major, beneficial impacts on all visitors.

Cumulative Impacts

The impacts of past, present, and reasonably foreseeable actions would be the same as those described under the no-action alternative and would be long-term, major, and beneficial. The impacts of alternative B would also be long-term, major, and beneficial. Cumulative impacts would generally be long-term, major, and beneficial. Alternative B would make a substantial beneficial contribution to cumulative impacts

because of the prominence of the National Mall in the city.

Conclusion

Compared to the no-action alternative, the impacts of alternative B on visitor experiences would be long-term, major, and beneficial because of well-maintained areas that would meet desired conditions, better website information, educational themes focused on the memorials and the civic function of the National Mall, well-dispersed and pleasant visitor facilities that were adequately sized to meet user needs, more food service choice, an improved pedestrian environment, increased opportunities for informal enjoyment as well as additional recreational opportunities and improved playing fields, more shaded seating, additional pedestrian lighting, and an emergency notification system. These impacts, combined with the long-term, major, beneficial impacts of past, present, and reasonably foreseeable actions, would result in long-term, major, beneficial cumulative impacts, with a substantial beneficial contribution from alternative B.

IMPACTS OF ALTERNATIVE C

Direct and Indirect Impacts

Under alternative C the National Mall would be refurbished to improve resource conditions, to be an ecologically sustainable urban open space with a focus of urban recreation and healthy lifestyles. Visitor opportunities would be expanded in education, recreation, and stewardship; convenient, adequately sized, and pleasant multi-purpose visitor facilities would be provided; bicycling and pedestrian experiences would be vastly improved, as would nighttime experiences; and public health and safety issues would be addressed.

Impacts on a Quality Visitor Experience

The quality of visitor experiences would be improved on the National Mall. Refurbishing the National Mall, addressing deferred maintenance, replacing outdated facilities, and improving infrastructure would allow it to be maintained to desired conditions. Because the refurbishment would affect one of the most

photographed places in our nation, the impacts on visitors' ability to appreciate the beauty of the National Mall would be long-term, major, and beneficial.

Better circulation would make it easier to visit memorials that convey our history and democratic values or to visit adjacent facilities (primarily museums and government facilities). Visitors would still be able to contemplate core American values and to enjoy visible symbols of our democratic government, but additional wayside education would increase visitor appreciation.

Cultural offerings and events on the Mall would only be permitted in designated grass areas, resulting in short- and long-term, minor to negligible, adverse impact on visitors who would still have opportunities to participate in events but at different locations.

In addition to those impacts related to demonstrations and special events that were described under "Impacts Common to All Alternatives," the experiences of general visitors would be enhanced because venues for special events and demonstrations would be improved. Compared to the no-action alternative, the impacts of alternative C on general visitor experiences would be long-term, major, and beneficial since improvements would affect the experiences of most visitors.

Providing a staffed visitor contact station with related amenities (restrooms, seating, maps) on the Mall near the Smithsonian Metro station would result in long-term, major, beneficial impacts in terms of create a more welcoming experience for visitors.

Opportunities to experience the nighttime character of the monumental core would be substantially improved. Like the no-action alternative, lighting would remain focused on the prominent symbols of our nation — the Lincoln and Thomas Jefferson memorials, the Washington Monument, the White House, and the Capitol. Like the preferred alternative and alternatives A and B, the National Park Service would work closely with the National Capital Planning Commission, the Commission of Fine Arts, and the Architect of the Capitol to develop a comprehensive lighting guideline for the monumental

core area. Lighting of other memorials and ornamental water bodies would continue to contribute to the nighttime character of the National Mall without intruding on lighting of the principal icons.

Under alternative C the emphasis on pedestrian lighting around the Tidal Basin and elsewhere on the Mall would be on reducing light pollution. These improvements would result in long-term, moderate to major, beneficial impacts affecting the way a great many visitors experience the National Mall at night.

In summary, the National Mall would continue to deeply inspire many visitors, but compared to the no-action alternative, alternative C would improve the quality of the American experience, primarily as a result of refurbishing all areas, enhancing nighttime experiences, and improving signs. Opportunities to experience First Amendment demonstrations, as well as to understand and appreciate our nation's history, memorials, and core American values, would also be enhanced. Alternative C would result in long-term, major, beneficial impacts on visitors and their opportunities to have higher quality experiences.

Impacts on Opportunities for Information and Education

Under alternative C educational opportunities would be focused on stewardship and activities. Education would help visitors understand the role of the National Mall in the history of the capital city, sustainability, and stewardship.

Existing programs would continue to be provided, but they would be upgraded to be current and engaging under alternative C, including classroom curriculum, cell phone tours, and exhibits at memorials. The number and variety of biking and walking tours would be expanded. Park brochures, maps, and the NPS passport (stamping) program would be more readily visible, with directional signs to information areas. Self-service areas would allow visitors to obtain maps and brochures at their convenience. Park websites would be user friendly and up-to-date.

Taken as a whole, compared to the no-action alternative, the impacts of alternative C on

opportunities for information and education would be long-term, minor, and beneficial because educational themes and bicycling tours would be expanded.

Impacts on Opportunities for Enjoyment, Entertainment, and Informal Recreation

Like the other alternatives, alternative C would continue to provide numerous sunny and shady open space opportunities on the National Mall for enjoyment (sightseeing and enjoying views), general relaxation, and informal recreational pastimes, such as picnicking, reading, dog walking, and walking/strolling. The impacts of these opportunities would continue to be long-term, moderate, and beneficial.

Long-distance views to and from memorials along planned view corridors would continue to inspire visitors, but these opportunities would be further enhanced because foreground views would also be improved, helping make visitor experiences more enjoyable, resulting in long-term, moderate, beneficial impacts.

Areas would be enhanced by seasonal floral variety. Walking and strolling experiences would be improved throughout the National Mall as a result of replacing and widening walks around the Tidal Basin and replacing gravel surfaces on Mall pathways with universally accessible paving, with long-term, major, beneficial impacts for nearly all visitors.

Informal children's play (including preschool activities) would continue in open turf areas and within the shade of trees, similar to the no-action alternative. Under alternative C, however, several children's playgrounds would be provided (on the Mall, at Constitution Gardens, and along the Potomac River); model boats could be used at Constitution Gardens Lake, and naturalistic features in the gardens would be climbable; water features designed for play would be provided; and the carousel would remain. The resulting impacts for children's enjoyment would be long-term, moderate, and beneficial to a relatively small number of people.

Opportunities for relevant entertainment and performances would be facilitated by providing infrastructure and flexible spaces. Entertainment would continue to be provided at national

celebrations (holiday concerts), annual events (National Cherry Blossom Festival, Smithsonian Folklife Festival), events such as twilight tattoos, and special events such as Kennedy Center simulcasts, and Screen on the Green movies. The steps and lower approachway of the Lincoln Memorial, as well as the steps and plaza at the Thomas Jefferson Memorial, would continue to provide seating areas, and infrastructure (such as electrical outlets) would be provided to facilitate appropriate entertainment and performances.

The impacts of alternative C on opportunities for enjoyment, entertainment, and informal recreation, compared to the no-action alternative, would be long-term, major, and beneficial. These impacts would result from improved opportunities for general enjoyment and relaxation, pleasant multipurpose venues for entertainment, and more regularly scheduled appropriate entertainment. Almost all visitors would be affected.

Impacts on Opportunities for Active Recreation

Active recreational opportunities would be expanded under alternative C, compared to the no-action alternative. The north bay of the Tidal Basin would be filled and used for recreation fields. Additional types of watercraft, such as canoes and rowboats, would be available for rent at the Tidal Basin, as well as kites at the Washington Monument and ice skates at the Capitol Reflecting Pool. These additional choices would support healthy recreational activities, which could increase with new or improved opportunities in visible areas, resulting in long-term, minor to moderate, beneficial impacts.

The condition of open spaces available for pickup games (Frisbee, kickball, soccer, football, softball, kite flying) and organized team sports (softball, volleyball, etc.) would be improved, making play more pleasant, with long-term, moderate, beneficial impacts. Surfaces appropriate for jogging or running would be provided, a minor to moderate impact on individual joggers and running clubs. Bicycling would be improved with separate bike lanes or routes, supporting this recreational use of the National

Mall (also see the “Access and Circulation” section).

Compared to the no-action alternative, alternative C would have long-term, moderate, beneficial impacts on opportunities for active recreation as a result of additional opportunities and improved facilities or conditions for active recreation.

Impacts of Visitor Facilities and Amenities

Under alternative C, like the preferred alternative, the National Mall would be refurbished, and adequate facilities and amenities would be provided to accommodate high levels of visitation. Visitor facilities would be conveniently located, well-dispersed, and designed to serve multiple purposes, such as restrooms near food service locations or seating and information by restrooms, in accordance with best practices used at other sites. Outdated visitor facilities would be replaced. All visitor facilities would have an educational, stewardship, or informational component. A consistent architectural style for most visitor facilities (including restrooms and refreshment stands) would make them immediately recognizable. Resulting impacts would be long-term, major, and beneficial.

Restrooms would be conveniently located near main pedestrian routes. Several restrooms would be self-cleaning so that they could be open for longer times. Facilities would be adequately sized for expected use. Restrooms would be generally located near destinations or spaced no more than one-third of a mile apart for visitor comfort and convenience. Family-friendly restrooms would be provided, and additional restrooms would be provided for women. The impact of improved, well-dispersed restrooms on visitor experiences would be long-term, major, and beneficial.

Drinking water would be provided near restrooms, and drinking fountains would facilitate filling water bottles or taking care of pet water needs. Free-standing drinking fountains would be removed because they are difficult to maintain.

Food service under alternative C would remain focused on refreshment stands and mobile carts, and as previously mentioned, all facilities (including mobile carts) would use an appropriate design that would be easily recognizable. While food service areas would continue to rely on refreshment stands, surrounding areas would be designed to be pleasant, attractive places for visitors to linger, enjoy views and watching activities, and be near trash and recycling containers, subtly encouraging visitors not to litter and reducing impacts on memorials. Outdoor seating areas would have shade options and could include potted flowering plants, small ornamental fountains, or music.

Other facilities throughout the National Mall that would improve the visitor experience would include the following:

- **Union Square** — Facilities at Union Square would include self-cleaning restrooms, food service, and retail. This would be a convenient location for visitors at the east end of the National Mall.
- **The Mall** — Outdoor areas adjacent to the refreshment stands on the Mall would be redesigned to accommodate more users, and restrooms would be located near each refreshment stand.
- **Washington Monument** — Temporary facilities (food, retail, and restrooms) at the Washington Monument would be relocated north of Independence Avenue between 14th and 15th streets. This location, however, would be less convenient for visitors getting tickets for the monument and for tour bus drop-offs. In addition to two existing restrooms (Monument Lodge, Survey Lodge), restrooms would be replaced near the rebuilt Sylvan Theater, and self-cleaning restrooms would be located on the northwest corner of the grounds between 17th and Constitution Avenue.
- **World War II Memorial** — The restrooms, which are convenient to tour bus drop-offs, would remain.
- **Constitution Gardens** — At Constitution Gardens the existing restroom and refreshment stand would be removed and replaced

by a garden café/restroom at the east end of the lake. However, removal of restrooms would mean the next nearest public restrooms for visitors touring the National Mall would be near the Lincoln Memorial.

- **Lincoln Memorial** — A restroom would be added near the south refreshment stand.
- **Ash Woods** — Restrooms would be replaced or relocated to better disperse facilities.
- **Tidal Basin** — The outdated refreshment stand in the parking lot would be replaced and would include restrooms.
- **Franklin Delano Roosevelt Memorial** — A refreshment stand without restrooms that would also be convenient to the future Martin Luther King, Jr. Memorial would be provided. A bookstore and restrooms would remain at the memorial and would be provided at the future King Memorial.
- **Thomas Jefferson Memorial** — Restrooms would be replaced; the bookstore and retail would continue; the nearby refreshment stand would be replaced and relocated to be more convenient to the tour bus drop-off, but would not include restrooms. Additional seating would be well dispersed, some located for enjoyment of views as well as to meet the needs of groups.

Alternative C, compared to the no-action alternative, would make substantial changes to visitor facilities by providing more visitor facilities that would be adequately sized, conveniently located, well dispersed, and designed to be pleasant and to contribute to enjoyment of the National Mall. Resulting impacts would be long-term, major, and beneficial, and all visitors would be affected.

Impacts on Public Health and Safety

Under alternative C several changes would be made in how public health and safety concerns would be addressed. Removing gravel from walkway surfaces and using universally accessible materials on all walkways would make it easier for all visitors to move around and would reduce dust and related breathing problems for some visitors. Elevators would continue to be provided at the Lincoln Memorial, the Thomas

Jefferson Memorial, and the Washington Monument. To modify the impact of weather extremes and hot humid weather, visitors would find more seating in shade, indoor food service, and access to ornamental water features designed to accommodate visitor play. Occasionally temporary misters could be used to help cool people during hot humid weather. Water bottles would continue to be provided during some events.

To improve public safety and prevent accidents, pedestrian crosswalks would be improved. Also, pedestrian lighting would be improved throughout the National Mall. Providing pedestrian lighting around the Tidal Basin would improve the pedestrian experience, as well as opportunities to visit the Franklin Delano Roosevelt, Thomas Jefferson, and George Mason memorials. All light fixtures on the National Mall would be coordinated, and lighting would be directed at pathways and not shine into visitors' eyes, making it easier for people to see surface conditions as well as other people in the area or their immediate surroundings. This would help night visitors feel safer and more comfortable.

Roads would continue to be illuminated, and the highly developed edges of the National Mall would be more brightly lit than interior areas, with appropriate transitions so people could adjust to lower lighting levels. Some crosswalks would also be more brightly lit to increase the visibility of pedestrians. The impact of existing road and pedestrian lighting on public health and safety would be long-term, moderate to major, and beneficial.

Emergency care would continue to be provided by park rangers; and designated first-aid tents would continue to be frequently provided at national celebrations and events. Emergency call boxes would be dispersed near logical areas or intersections. A mass notification system would be provided.

Changes to public health and safety under alternative C would result in long-term, major, beneficial impacts because of improved access, safer night and pedestrian experiences, amenities to help people cope with weather extremes, and an emergency announcement system.

Impacts on User Capacity

Alternative C would make changes in the ability to accommodate people on the National Mall. Changes at various venues would benefit general visitors. For example, wider walks around the Tidal Basin would create pleasanter conditions for visitors throughout the year, not only during the National Cherry Blossom Festival. Capacities at national memorials would not change.

Like the no-action alternative, technology would continue to be used to increase the capacity of various venues and to extend venue areas. Technology could also be used to provide opportunities for people to vicariously participate in offsite demonstrations through simulcasts or to take part in multi-venue events. This action would be consistent with NPS policies to use websites to reach a worldwide audience.

Compared to the no-action alternative, alternative C would result in long-term, major, beneficial impacts on general visitors.

Cumulative Impacts

Past, present, and reasonably foreseeable actions would be the same as those described under the no-action alternative, and impacts would result in long-term, major, and beneficial. The impacts

of alternative C would be long-term, major, and beneficial. Cumulative impacts on visitor experiences would be long-term, major, and beneficial. Alternative C would make a substantial beneficial contribution to cumulative impacts because of the prominence of the National Mall in the city.

Conclusion

Compared to the no-action alternative, alternative C would have long-term, major, beneficial impacts on visitor experiences because of improved conditions on the National Mall, better website information, educational themes focused on memorials along with stewardship and healthy lifestyles, well-dispersed and pleasant facilities that were adequately sized to meet user needs, more food service choice, an improved pedestrian and bicycling environment, increased opportunities for informal enjoyment, additional recreational opportunities and improved playing fields, more shaded seating, additional pedestrian lighting, and an emergency notification system. Cumulative impacts would be long-term, major, and beneficial, with a substantial beneficial contribution from alternative C.

SOCIOECONOMIC ENVIRONMENT

METHODOLOGY FOR IMPACT ANALYSIS

This section analyzes the impacts of the alternatives on the socioeconomic environment of the National Mall and surrounding areas. The parks' commercial and economic influence, while centered in Washington, D.C., extends west to Arlington and Fairfax counties in Virginia, and east to Montgomery and Prince George's counties in Maryland. While the description of the socioeconomic impacts focuses on Washington, D.C., regional impacts are also addressed. The analysis takes into consideration NPS *Management Policies 2006*, comments made during the 2007 public scoping period, and a 2008 National Mall visitor study that addressed socioeconomic issues.

The following categories of impacts are evaluated:

- **Impacts of increased visitation** — The beneficial and adverse impacts of visitation generated by the alternatives on the local and regional economy are analyzed.
- **Impacts on commercial business opportunities** — This analysis looks at the beneficial and adverse impacts of commercial service opportunities on the National Mall, including nonprofit bookstores, commercial facilities (recreation, food service, and transit), and the type and dispersal of facilities. It also looks at the beneficial and adverse impacts on commercial opportunities adjacent to the National Mall and in surrounding areas.
- **Impacts of construction opportunities** — The beneficial and adverse impacts of new construction opportunities for local and regional businesses are analyzed.

Impact Intensity Levels

The following impact intensity levels were established for impacts on the socioeconomic environment:

- **Negligible** — The impact would not be detectable or would be barely detectable to the local or regional socioeconomic environment or most commercial opportunities.
- **Minor** — The impact would be detectable to the local or regional socioeconomic environment or on commercial opportunities.
- **Moderate** — The impact would be readily apparent and would have an appreciable impact, either beneficial or adverse, on the local and regional economy or on commercial opportunities.
- **Major** — The impact would be severely adverse or exceptionally beneficial to the local or regional economy or on commercial opportunities.

Type of Impact

Impacts could be either beneficial or adverse. Beneficial impacts would support the park mission and purpose, would comply with federal regulations and NPS or local policies, or would positively affect the local and regional economy or commercial opportunities. Adverse impacts would not support the park mission or purpose, would be inconsistent with federal regulations or with NPS or local policies, or would negatively affect the local and regional economy or commercial opportunities.

Duration of Impacts

Impacts could be temporary, short-term, or long-term; no permanent economic impacts are expected.

- **Temporary** — The impact would usually last for a few hours or up to two days, such as a road closure for a day or less or limited access to an area during a demonstration or special event.
- **Short-term** — The impact would generally last up to one year or the life of a construction project.

- **Long-term** — The impact would last longer than one year or for the life of the plan (up to 50 years).

Regulations and Policies

The NPS *Management Policies 2006* recognize that commercial services may be needed in parks, and guidance is provided for any such facilities.

Through the use of concession contracts or commercial use authorizations, the National Park Service will provide commercial visitor services that are necessary and appropriate for public use and enjoyment. Concession operations will be consistent to the highest practicable degree with the preservation and conservation of resources and values of the park unit. Concession operations will demonstrate sound environmental management and stewardship (NPS 2006e, ch. 10).

Concession operations are subject to the provisions of the National Park Service Concessions Management Improvement Act of 1998, NPS regulations (36 CFR Part 51), *Director's Order #48A: Concession Management* (NPS 2004b), and other specific guidance issued by the NPS director (NPS 2006e, sec. 10.2.1).

A park commercial services strategy must be in place to ensure that concession facilities and services are necessary and appropriate for public enjoyment, complementary to the park mission and visitor service goals, financially viable, use sustainable principles and green building practices, and are addressed in an approved management plan. A viability study / analysis will be prepared to ensure that the overall contract is feasible (NPS 2006e, sec. 10.2.2).

To obtain the best service provider and maximize benefits to the government, the National Park Service encourages competition in the awarding of concession contracts (NPS 2006e, sec. 10.2.3.4).

Visitor services will be provided in a manner that is consistent with and supportive of the interpretive themes, goals, and objectives articulated in each park's planning documents, mission statement, and/or interpretive plan. Commercial services should instill in visitors an appreciation

of the park. This could be accomplished through guided activities; the design, architecture, landscape, and decor of facilities; and educational programs. Retail merchandise (such as souvenirs) and displays also present opportunities to educate visitors about park history; natural, cultural, and historical resources; and sustainable environmental management (NPS 2006e, sec. 10.2.4.4).

IMPACTS COMMON TO ALL ALTERNATIVES

Direct and Indirect Impacts

Impacts of Increased Visitation

As discussed under visitation projections (see page 319), projects planned by the National Park Service and others on the National Mall would contribute to increased visitation to the National Mall. New sites such as the Vietnam Veterans Memorial Center and the Martin Luther King, Jr. Memorial would attract more visitors and lengthen stays on the National Mall, as well as in the local area. These facilities would provide additional services and increased overall satisfaction. Impacts would be long-term, minor, and beneficial. New memorials could initially increase visitor use by an estimated 4% (see page 319).

Impacts on Commercial Business Opportunities

Business opportunities on the National Mall, such as retail, food service, recreation services, and transit, would be created under all alternatives. Commercial services are provided through multiple commercial contracts that are periodically bid through a competitive process. New commercial opportunities on the National Mall would be assessed for economic feasibility, necessity, and appropriateness by the National Park Service before any new services were offered for bid.

Under all alternatives a new facility would be developed for food service and retail at the Washington Monument to replace the temporary facility that will be removed when the National Museum for African American History and Culture is constructed.

Impacts on commercial business opportunities would be long-term, minor, and beneficial for individual businesses that successfully bid on the contracts. Under all alternatives bookstores (which are operated by Eastern National as a nonprofit enterprise) would continue to offer educational publications for visitors.

Improved conditions on the National Mall would also increase visitor use in surrounding areas because visitors would continue to use commercial businesses such as restaurants, lodging, and other services. Impacts would be long-term, minor, and beneficial.

Costs to Visitors

The National Mall and its memorials would remain free to the public; there would be no entrance or gate fees to visit historic attractions on the National Mall, which is authorized by 16 USC 6802(d)(3)(C). This is a long-term, major, beneficial impact that affects all users.

Costs to Concessioners

Tax amounts for concessioners are contractually based and are determined as a percentage of gross revenue, while taking into account operating costs and providing a reasonable opportunity to make a profit. Most contracts increase the franchise fees at a certain dollar threshold, so they can vary widely.

These parameters will most likely change with new contract requirements, which are set in law. The franchise fees will be based on the financial analysis that will be completed during prospectus development and will take into account possessory interest (leasehold surrender interest), expenses (including a dedicated repair and maintenance reserve necessary to ensure park assets are properly maintained).

Because a number of variables must be considered, concessioner tax rates cannot readily be compared with other business tax rates. For example, certain types of older contracts include a possessory interest provision, where the concessioner is reimbursed for capital improvements they make to government facilities, less depreciation. This is a liability that has to be reconciled at the end of the contract in some

fashion, the impact of which is not figured until the end of the contract.

Impacts on Construction Opportunities

Construction projects under all alternatives would include deferred maintenance projects, which total more than \$400 million (in 2008 dollars). These projects include walk and site furnishing repairs, as well as larger projects such as the replacement of the concession facility at the Washington Monument and seawall repairs at the Tidal Basin and along the Potomac River. Projects would be accomplished as they were funded, presumably over several years rather than all at once. Assuming that these projects were accomplished over 10 years, annual construction expenditures would amount to about \$40 million.

In 2007 construction-related earnings in the Washington, D.C., area amounted to about \$899 million, or 1.2% of total regional earnings of \$73 billion (see Table 28, page 342). Annual expenditures of \$40 million on National Mall related projects would contribute less than 5% to construction-related earnings in the D.C. area. While these projects would positively influence individual construction businesses who successfully bid on projects, the overall impact on the local and regional economy would be short-term and beneficial but minor in intensity because construction contributes about 1.25% to the economy.

The Trust for the National Mall is the authorized nonprofit fundraising partner for the National Park Service. The trust's goal is to raise funds to help restore the National Mall. For example, in 2008 the trust provided \$1.1 million in matching funds for an improved sign and wayfinding system that is part of the NPS Centennial Initiative. Their final fundraising goals will depend on the outcome of the National Mall plan, but are expected to total several hundred million dollars, which would reduce federal expenditures.

Conclusion

Impacts on the local and regional economy would be long-term, minor, and beneficial as a result of visitation to existing monuments and memorials on the National Mall. Impacts on

commercial business opportunities in and around the National Mall, as well as in the metropolitan area, would be long-term, minor, and beneficial as a result of new business opportunities for retail and food service near the National Mall and ongoing use of businesses in adjacent destinations and surrounding areas. The construction of previously approved projects would result in short-term, minor, beneficial impacts on the local and regional economy.

IMPACTS OF THE NO-ACTION ALTERNATIVE

Direct and Indirect Impacts

Under the no-action alternative the National Park Service would continue current measures of managing and preserving the National Mall. Standard maintenance activities would continue, and deferred maintenance projects would be undertaken as funding permits. No major new initiatives would be undertaken.

Impacts of Increased Visitation

Based on general visitation patterns over the last five years, visitation under the no-action alternative is projected to grow at about 1.25% per year, and the impact on the local and regional economy would be long-term, negligible, and beneficial since changes would likely not be detectable in the local and regional economy.

Impacts on Commercial Business Opportunities

Current commercial opportunities on the National Mall for food service, retail, and recreational activities are very limited, and the level of business opportunities would likely not change under the no-action alternative. However, the long-term competitiveness of commercial businesses could be diminished if visitors patronized businesses in adjacent museums and galleries, which provide more diverse and desired visitor services. Based on the 2008 survey, visitors desired more choice and spent substantially more money at restaurants than at food stands (see Table 33). Based on public scoping comments, visitors want larger facilities that can accommodate more people and more areas with protection from the weather while

touring the National Mall, and they want an increased variety of food types and venues (NPS 2007d).

Commercial opportunities in adjacent areas would continue to be affected under the no-action alternative as a result of many National Mall visitors seeking a variety of food services, retail, and recreational activities because of insufficient services on the Mall. Resulting impacts would be long-term, negligible, and beneficial to businesses in surrounding areas.

Impacts on Construction Opportunities

Actions under the no-action alternative would provide some construction business opportunities with planned maintenance and repairs, as described under “Impacts Common to All Alternatives.” Construction-related expenditures under the no-action alternative would total more than \$400 million (in 2008 dollars). While these projects would positively influence individual construction businesses in the local or regional area, the overall impact would be short-term and minor.

Cumulative Impacts

Past Actions

Past planning efforts for the National Mall were largely guided by L’Enfant and McMillan plans, the 1973 *Washington Mall Plan*, and the 1981 *Capitol Master Plan*. L’Enfant’s plan was based on formal design principles, including axial lines, vistas, terminal focal points, and rectilinear shapes. Since the early 1900s the McMillan plan has guided the majority of new developments and renovations and included the original vision of tree-lined walkways and open public grounds. Existing memorials reflect the original character and visions of the L’Enfant and MacMillan plans, and the construction of approved memorials would complete that concept. Currently, the memorials and monuments of the National Mall are the main attractions to tourists and are the primary reason for visitation to the area. Based on the 2008 visitor study, 31.7% of visitors said that the memorials and monuments were the primary reason they visited the area (see Table 16), nearly double the next most common reason for visiting. Further, 96.9% of visitors made a point of viewing the monuments and

memorials during their visit, with the next most common activity being visiting museum sites (74.6%, see Table 31).

Present Actions

Comprehensive or cooperative planning efforts that are interrelated with the current NPS planning effort for the National Mall involve multiple agencies and include several projects and plans that involve various areas in or around central Washington, D.C. Currently, most commercial opportunities, including retail shops, gift shops, food courts and restaurants, movies, and rides, are provided by museums and galleries near the National Mall.

Some planning actions and projects (the NCPC *Extending the Legacy and Monumental Core Framework Plan*; the *Capitol Complex Master Plan*; and the NPS *Comprehensive Design Plan for the White House and President's Park*, the *Urban Flooding Study*, and the *Rock Creek General Management Plan*) would not directly contribute to an economic impact on the local and regional area. However, together these plans would positively affect the local and regional area by providing guidance for a higher quality visitor environment in the future, which could attract more visitors.

Installing upgraded signs and information would help visitors find their way around the National Mall, resulting in pleasanter experiences. This in turn could be expected to encourage visitors to stay longer and make greater use of commercial opportunities for food, retail, and commercial recreation on and near the National Mall.

Ongoing repairs, deferred maintenance, and projects supported by the 2009 American Recovery and Reinvestment Act and the NPS Centennial Initiative are underway and common to all alternatives. Through the 2009 American Recovery and Reinvestment Act, \$60.8 million was appropriated to maintain and upgrade areas of the National Mall, including the D.C. War Memorial, the Lincoln Reflecting Pool area, and the Thomas Jefferson Memorial plaza. The visitor sign and wayfinding system is being replaced through the NPS Centennial Initiative, with matching funding provided by the Trust for the National Mall. Additional road projects have

been funded through programs under the jurisdiction of the Federal Highway Administration.

Projects that are being undertaken by the Smithsonian Institution include renovation of the Arts and Industries Building and completion of Mallwide security projects.

Overall, the cumulative impact of these projects on the local and regional economy is expected to be long-term, minor, and beneficial. Projects such as the renovation of Lincoln Reflecting Pool, Ford's Theatre, the National Museum of American History, the National Portrait Gallery, the National Museum of American Art, the D.C. War Memorial, and the Thomas Jefferson Memorial, along with new attractions such as the Newseum, Madame Tussauds Wax Museum, and the Museum of Crime and Punishment, would have direct impacts on the local and regional economy by bringing in more visitors to the area. Based on past visitor use trends, total visitation increased noticeably when new memorials on the National Mall opened (see "Past Visitor Use Trends," page 319). Thus, as these plans are fully implemented, total visitation levels could be expected to increase.

Reasonably Foreseeable Actions

Reasonably foreseeable actions that are being considered by the National Park Service include completing the security perimeter at the Thomas Jefferson Memorial and stabilizing the plaza in front of the memorial, and completing the Potomac Park levee project in cooperation with the U.S. Army Corps of Engineers.

Future construction projects on and near the National Mall that would come under the management of the National Park Service include the Martin Luther King, Jr. Memorial (including a bookstore), the Vietnam Veterans Memorial Center (including a bookstore), and the Dwight D. Eisenhower Memorial. These projects would be expected to have a long-term, minor, beneficial impact on the local and regional economy.

Implementing recommendations from the NPS *Visitor Transportation Study* would convert free parking on about 950 spaces on the National Mall to paid parking, thus reducing parking use by local workers and making parking more

available to visitors. Lots south of the Thomas Jefferson Memorial (approximately 230 spaces) would remain free. The impact on visitors accustomed to free parking in these spaces would be long-term, minor, and adverse because only a few visitors would be affected; impacts on the local and regional economy would be negligible. Parking fees could be used to reduce the overall cost of a visitor transportation service.

Other projects that would have a socioeconomic effect from construction include the National Museum of African American History and Culture, the consolidation and relocation of the 14th Street bridges to improve access to the downtown areas, and the construction of the U.S. Institute of Peace headquarters northwest of the intersection of Constitution Avenue and 23rd Street NW. It is expected that commercial opportunities would be provided at these facilities.

New attractions such as Martin Luther King, Jr. Memorial, the National Museum of African American History and Culture, and the Vietnam Veterans Memorial Center could increase visitation levels on the National Mall by up to 4% annually as each project opened, and then would presumably level off. In addition, increased tourist attractions would encourage visitors to stay longer and spend more in the local and regional area since there would be more things to see and do. Earnings in the D.C. area related to increases in the tourist-related sectors — accommodation (lodging) and food service; and arts, entertainment, and recreation — amount to about 3% of total regional earnings. So the additional impact of increased visitation on the local and regional economy is expected to be long-term, minor, and beneficial because of resource improvements on and near the National Mall, wayfinding information, visitor facilities, and more tourist attractions in the region.

The construction of all these future facilities and memorials would result in short-term, minor, beneficial impacts on the local and regional economy because construction-related earnings contributed only about 1.2% to the D.C. economy in 2007. However, cumulatively these projects, including reconstruction of the 14th Street bridge corridor, could make a significant contribution to construction-related spending.

Cumulative Impacts Summary

Past and present projects in and around the study area, including memorials, museums, and other visitor destinations, have contributed to increased visitation. All memorials and a great many past, present, and future visitor destinations would remain free to users. Future new visitor destinations such as the Martin Luther King, Jr. Memorial, the Vietnam Veterans Memorial Center, the National Museum of African American History and Culture, the Eisenhower National Memorial, and the National Museum of the American Latino would similarly increase tourism, and some could appeal to user groups that have not been traditionally drawn to the National Mall or its surroundings. Some new commercial opportunities for food service and retail would be provided at new facilities, offering more choices for visitors. These actions would not affect the commercial opportunities afforded street vendors on surrounding streets. Parking fees would be applied to free spaces on the National Mall to make parking spaces more available for visitors and support an improved visitor transportation service. Construction opportunities would have short-term, minor, beneficial impacts on the local and regional economy because of the economy's size.

Taken together, the impacts of past, present, and reasonably foreseeable actions would be long-term, minor, and beneficial due to the size of the local and regional economy. Impacts of the no-action alternative would be long-term, negligible, and beneficial. Cumulative impacts would be long-term, minor, and beneficial, with a slight beneficial contribution from actions under this alternative.

Conclusion

Impacts on the local and regional economy under the no-action alternative would be long-term, negligible, and beneficial because of slightly increased visitation levels to the National Mall and related visitor expenditures at commercial businesses. Cumulative impacts would be long-term, minor, and beneficial due to increased visitation, plus business and construction opportunities, with a slight beneficial contribution to cumulative impacts from the no-action alternative.

IMPACTS OF THE PREFERRED ALTERNATIVE

Direct and Indirect Impacts

Under the preferred alternative the National Mall would be refurbished to protect the historic landscape, accommodate high levels of use, and better meet visitor expectations. Temporary facilities and permanent infrastructure would be developed to facilitate improved civic forums and stages for special events and enjoyment.

Impacts of Increased Visitation

Compared to the no-action alternative, the preferred alternative would undertake actions to improve resource conditions, visitor facilities, and infrastructure throughout the National Mall, positively affecting local and nonlocal residents. Improved visitor information, services, and amenities would create safer and more comfortable conditions for all visitors. These actions could contribute to increased overall visitation levels.

Multipurpose facilities at Union Square, the Washington Monument, and Constitution Gardens would stimulate more visitation and also attract more local residents since a greater array of programs and events would be offered. Improved event facilities, logistics, and operations would facilitate the hosting of special events and demonstrations, and allow more people to attend events, which could result in more local visitation as well as longer stays on the National Mall. Increased daytime and evening programs at the Washington Monument grounds and Constitution Gardens would provide a variety of events that would enhance experiences, encouraging visitors to stay longer on the National Mall and also in the metropolitan area. Improved food facilities and food choice at these places would also increase visitor use on the National Mall.

Additional recreational opportunities would be provided for bicycling (with separate lanes or routes), as well as for rowboat, canoe, and kayak rentals in the Tidal Basin area. Improving the variety and quality of recreational activities could also lead to extended stays.

Increasing visitor parking availability on NPS roadways through metering and improving access for people with disabilities would enhance opportunities for a small portion of visitors.

Increasing the variety of guided tours, multi-seasonal touring opportunities, bicycling tours, and multilingual tours would improve visitor understanding of and satisfaction with the National Mall. This could result in longer visitor seasons as well as attracting more international visitors to the local and regional area.

Compared to the no-action alternative, the preferred alternative would provide new and upgraded opportunities, services, and amenities for visitors that would tend to make them stay longer. Resulting impacts on the local and regional economy would be long-term and beneficial but minor because visitor expenditures related to recreation, entertainment, and food service amount to less than 3% of tourist-related earnings in the D.C. area.

Impacts on Commercial Business Opportunities

Commercial business opportunities on the National Mall would increase and be more diversified in several areas because different types of commercial opportunities, such as food service and recreation equipment rentals, would be offered. Multipurpose facilities at Union Square, the Washington Monument grounds, Constitution Gardens, and the Tidal Basin area would provide pleasant places for visitors to relax and enjoy programs, performances, and appropriate entertainment. In addition to providing restrooms and shaded rest areas, these multipurpose facilities would also offer commercial business opportunities for food service, shopping for souvenirs, and performance venues. These facilities would also meet the needs of different user groups, such as event participants, performers, and audiences, as well as general visitors to the National Mall. Additional commercial food service facilities could also be replaced or added at the Thomas Jefferson Memorial, along Ohio Drive or, in Ash Woods.

Diversifying food choices and venues (e.g., indoor/outdoor seating) on the National Mall would generate more commercial business

opportunities. Also, outdoor cafés or garden restaurants would better meet visitor desires as indicated in public scoping comments (NPS 2007d).

Improved interpretation/educational programs and facilities (multilingual programs) could increase some commercial opportunities for international or group tours on the National Mall.

It is possible that paid parking could be managed through a commercial services contract, which would be a long-term, minor, beneficial impact on commercial business opportunities.

Impacts under the preferred alternative on commercial business opportunities on the National Mall would be long-term, minor, and beneficial because increased services would both meet visitor needs and increase use of those services and facilities on the National Mall.

The demand for commercial opportunities in nearby and surrounding areas in Washington, D.C., would also increase with improved services of the National Mall because of increased visitation and potentially longer stays in the metropolitan area. This would create more business opportunities for lodging, restaurants, and retail in the region that would not be offered on the National Mall. Impacts would be long-term, minor, and beneficial because tourist-related sectors (lodging and food service) account for only about 3% of D.C. earnings.

Impacts on Construction Opportunities

Construction-related expenditures under the preferred alternative would amount to about \$200 million to \$240 million more than under the no-action alternative. Including more than \$400 million in deferred maintenance, as noted under “Impacts Common to All Alternatives,” total expenditures under the preferred alternative would be about \$600 million to \$650 million. Projects under the preferred alternative would include civic infrastructure, multipurpose facilities, a welcome area at the Mall Metro station, wider walks around the Tidal Basin, improved connections to the Kennedy Center, and better pedestrian and bicycle facilities. Key areas for major improvements would include Union Square, the Mall, the Washington Monument,

Constitution Gardens, Ash Woods, the Tidal Basin, and the Potomac Riverfront.

It is assumed that expenditures would occur over several years. While impacts on individual businesses who successfully bid on projects could be substantial, the contribution to regional construction earnings would be about 6% per year, assuming that projects were phased over 10 years at \$60–\$65 million per year and that total construction earnings in the D.C. area would be \$900 million per year or more. Resulting impacts would be short-term, minor, and beneficial.

Cumulative Impacts

The impacts of past, present, and reasonably foreseeable actions would be long-term and beneficial because of more tourist attractions and commercial business opportunities that could encourage visitors to stay longer and spend more in the local and regional area since there would be more things to see and do. However, the intensity would only be minor due to the size of the local and regional economy. Actions under the preferred alternative would result in long-term, minor, beneficial impacts on the local and regional economy because of increased and improved facilities and services across the National Mall. These impacts, in combination with the impacts of past, present, and reasonably foreseeable actions, would result in long-term, minor, beneficial impacts on the local and regional economy. Construction-related impacts would be short-term, minor, and beneficial. The preferred alternative would make a slight beneficial contribution to these impacts.

Conclusion

The preferred alternative would result in long-term, minor, and beneficial impacts on the local and regional economy because of longer visitor stays due to better resource conditions and new and improved visitor services and facilities, increased and diversified commercial business opportunities that would meet visitor needs on the National Mall and in surrounding areas, and minor increases in construction-related expenditures. These impacts, in combination with the impacts of past, present, and reasonably foreseeable actions, would result in long-term, minor, beneficial cumulative impacts on the local and

regional economy, with a slight beneficial contribution from the preferred alternative.

IMPACTS OF ALTERNATIVE A

Direct and Indirect Impacts

Alternative A would focus on the historic designed landscape and increased visitor education to create a sense of place that would reinforce the civic, historic, and symbolic role of the National Mall to our nation.

Impacts of Increased Visitation

Under alternative A visitation would be projected to continue to increase at an average rate of 1.25% per year since there would be no significant introduction of facilities or programs. Fewer local groups might use the National Mall because of limits on the number of special events and temporary facilities to protect natural resources and views. However, this would not affect national celebrations such as Fourth of July, the National Cherry Blossom Festival, the Festival or American Folklife, or First Amendment demonstrations.

Impacts on the local and regional economy would be long-term, negligible, and beneficial because actions under alternative A would affect different user groups. Most visitors would enjoy enhanced experiences with improved landscape conditions and the protection of historic vistas on the National Mall, but the number of visitor groups who come to the National Mall due to events could decrease because visitor needs would not be fully met.

Impacts on Commercial Business Opportunities

Improving food service facilities and diversifying food choices at the Washington Monument, Constitution Gardens, and the Tidal Basin area would maintain existing commercial business opportunities on the National Mall rather than providing new services, nor would visitor requests for more diversified food service options be met since refreshment stands would remain the primary locations for food service. However, constructing new restrooms and renovating outdated restrooms and visitor facilities throughout the National Mall could encourage visitors to

stay longer because of a more pleasant atmosphere.

Impacts under alternative A on commercial business opportunities on the National Mall would be long-term, negligible, and beneficial, because while outdated food service facilities would be replaced or renovated, most food service would be at refreshment stands.

As described for the preferred alternative, it is possible that paid parking could be managed through a commercial services contract, which would be a long-term, minor, beneficial impact on commercial business opportunities.

Impacts under alternative A on commercial business opportunities in adjacent destinations and surrounding areas would be long-term, negligible, and beneficial because visitors would likely continue to seek commercial opportunities in adjacent areas for more diversity.

Impacts on Construction Opportunities

Construction-related expenditures under alternative A would amount to about \$94 million to \$136 million more than under the no-action alternative. Including more than \$400 million in deferred maintenance, as noted under “Impacts Common to All Alternatives,” total expenditures under this alternative would be about \$500 million to \$540 million. Projects to improve resource conditions and address deferred maintenance would comprise most of the costs. Other projects include building new restrooms and renovating outdated restrooms and visitor facilities throughout the National Mall.

It is assumed that expenditures would occur over several years. While impacts on individual businesses who successfully bid on projects could be substantial, the contribution to regional construction earnings would be about 5% per year, assuming that projects were phased over 10 years at \$50–\$54 million per year and that total construction earnings in the D.C. area would be \$900 million per year or more. Resulting impacts would be short-term, minor, and beneficial.

Cumulative Impacts

The impacts of past, present, and reasonably foreseeable actions would be the same as those

discussed under the no-action alternative and would be long-term, minor, and beneficial. The impacts of alternative A on the local and regional economy would also be long-term, minor, and beneficial. Cumulative impacts would be long-term, minor, and beneficial. There would be a slight beneficial contribution to cumulative impacts under alternative A.

Conclusion

Actions under alternative A would result in long-term, minor, beneficial impacts on the local and regional economy compared to the no-action alternative. Visitor experiences would be enhanced due to improved conditions of the historic landscape and vistas, but visitation levels would likely increase only slightly. Commercial business opportunities on the National Mall would increase slightly with improved food service facilities. There would be a minor increase in construction-related expenditures. These impacts, in combination with the impacts of past, present, and reasonably foreseeable actions, would result in long-term, minor, beneficial cumulative impacts on the local and regional economy, with a slight beneficial contribution from this alternative.

IMPACTS OF ALTERNATIVE B

Direct and Indirect Impacts

Alternative B would focus on creating a welcoming national civic space for public gatherings, events, and high-use levels.

Impacts of Increased Visitation

Compared to the no-action alternative, alternative B would undertake actions to improve resource conditions, visitor facilities, and infrastructure throughout the National Mall, positively affecting local and nonlocal visitors. Improved information, services, and amenities would create safer and more comfortable conditions for all visitors. These actions could contribute to increased overall visitation levels.

Similar to the preferred alternative, multipurpose visitor facilities at Union Square, the Washington Monument, and Constitution Gardens would stimulate more visitation and also attract more local residents since a greater array of pro-

grams and events would be offered. Improved event facilities, logistics, and operations for special events and demonstrations throughout the National Mall would accommodate more people, which could result in increased visitation from the local and regional area.

Impacts of increased visitation on the local and regional economy under alternative B would be long-term and beneficial because improved resources conditions, facilities, services, and amenities would encourage more people to come and stay longer. However, the intensity of the economic impact would be minor because visitor expenditures related to recreation, entertainment, and food service amount to less than 3% of tourist-related earnings in the D.C. area.

Impacts on Commercial Business Opportunities

Under alternative B commercial business opportunities would be increased and diversified at several locations across the National Mall. Food service opportunities would be added or expanded at Union Square, the Washington Monument, Constitution Gardens, the Franklin Delano Roosevelt Memorial, the Thomas Jefferson Memorial, and the Tidal Basin area.

Providing more restrooms on the Mall, as well as flexible performance facilities or stages at Union Square, Washington Monument, and Constitution Gardens would increase commercial business opportunities. Commercial equipment rentals would be increased in the Tidal Basin area.

Impacts of alternative B on food service opportunities on the National Mall would be long-term, minor, and beneficial because there would be more diverse types of food facilities and food options. Impacts on recreational business opportunities on the National Mall would be long-term, minor, and beneficial.

As described for the preferred alternative, it is possible that paid parking could be managed through a commercial services contract, which would be a long-term, minor, beneficial impact on commercial business opportunities.

Commercial opportunities in adjacent destinations and surrounding areas in Washington, D.C., would improve under alternative B. However, this benefit would be somewhat offset by the increased availability of more food service facilities and food choices on the National Mall, which could serve more visitors compared to the no-action alternative. Impacts would be long-term, minor, and beneficial because overall demand would be increased due to greater visitation, but improved services on the National Mall (e.g., food services) would reduce the need for visitors to go to businesses in adjacent areas.

Under this alternative underground parking garages would be built if feasible. The cost of developing garages is very high; one general industry estimate is \$30,000 to \$50,000 per space (compared to \$15,000 per space in an above-ground parking structure); costs depend on design efficiency, construction method, labor costs, and geographical area (Parking Design Group 2008). An underground garage on the National Mall would also have to take geotechnical and security factors into consideration, possibly increasing the cost. Operating costs average about \$650 per space per year (Urban Parking Concepts 2009), which would be reflected in high visitor parking fees.

Impacts on Construction Opportunities

Construction-related expenditures under alternative B would amount to about \$190 million to \$280 million more than under the no-action alternative. Including more than \$400 million in deferred maintenance, as noted under “Impacts Common to All Alternatives,” total expenditures under this alternative would be about \$600 million to \$650 million. In addition to projects to improve resource conditions and address deferred maintenance, other projects would include underground parking garages and rebuilding Constitution Gardens Lake as a drainable pool for events, along with new restrooms and visitor facilities.

It is assumed that expenditures would occur over several years. While impacts on individual businesses who successfully bid on projects could be substantial, the contribution to regional

construction earnings would be about 6% per year, assuming that projects were phased over 10 years at \$60–\$65 million per year and that total construction earnings in the D.C. area would be \$900 million per year or more. Resulting impacts would be short-term, minor, and beneficial.

Cumulative Impacts

The impacts of past, present, and reasonably foreseeable actions would be the same as those described under the no-action alternative and would be long-term, minor, and beneficial. Actions under alternative B would also result in long-term, minor, beneficial impacts on the local and regional economy because of increased and improved facilities and services across the National Mall and in surrounding areas that would likely increase visitor use since there would be more things to see and do. Construction-related impacts on the local and regional economy would be short-term, minor, and beneficial. These impacts, in combination with the impacts of past, present, and reasonably foreseeable actions, would result in long-term, beneficial cumulative impacts that would be minor in intensity because related expenditures and earnings would represent a very small percentage of the local and regional economy. Alternative B would make a slight beneficial contribution to these impacts.

Conclusion

Impacts on the local and regional economy under alternative B would be long-term, minor, and beneficial because of longer visitor stays due to better resource conditions and improved services and facilities, increased and diversified commercial business opportunities that would meet visitor needs, and minor increases in construction-related expenses. Parking costs for underground garages (if determined feasible) would result in long-term, minor, adverse impacts on visitor costs. These impacts, in combination with the impacts of past, present, and reasonably foreseeable actions, would result in long-term, minor, beneficial cumulative impacts on the local and regional economy, with a slight beneficial contribution from alternative B.

IMPACTS OF ALTERNATIVE C

Direct and Indirect Impacts

Alternative C would focus on urban open space, urban ecology, recreation, and healthy lifestyles.

Impacts of Increased Visitation

Compared to the no-action alternative, alternative C would offer more diverse recreational opportunities and activities to meet evolving recreational needs by redesigning or expanding areas, improving field conditions, and providing more recreation equipment rentals (watercraft and bicycles). These improvements would increase visitor use on the National Mall throughout the year, especially among local residents, but would not necessarily increase overall visitation levels, especially from outside the region.

Impacts of increased visitation on the local and regional economy under alternative C would be long-term and beneficial because improved resources conditions, facilities, services, and amenities would encourage more people to come and stay longer. However, the intensity of the economic impact would be negligible because visitor expenditures related to recreation, entertainment, and food service amount to less than 3% of tourist-related earnings in the D.C. area.

Impacts on Commercial Business Opportunities

Commercial business opportunities on the National Mall under alternative C, similar to alternative B, would be increased at many places. For example, food service opportunities would increase at Union Square, the Washington Monument, Constitution Gardens, the Franklin Delano Roosevelt Memorial, the Thomas Jefferson Memorial, and the Tidal Basin area.

In addition, commercial business opportunities for recreational services would increase at several locations, such as ice skate rentals at Union Square, model boat and lawn chair rentals at Constitution Gardens, and rental boats such as kayaks and rowboats at the Tidal Basin, in addition to paddleboats.

Like alternative B, impacts of alternative C on commercial business opportunities on the National Mall would be long-term, minor, and beneficial because of more diverse types of food facilities and food options, as well as year-round recreation equipment rentals.

As described for the preferred alternative, it is possible that paid parking could be managed through a commercial services contract, which would be a long-term, minor, beneficial impact on commercial business opportunities.

More recreational activities and opportunities on the National Mall would increase commercial business opportunities in adjacent destinations and surrounding areas in Washington, D.C. Impacts would be long-term, minor, and beneficial because of increased overall demand due to greater visitor use of the National Mall, but improved services (e.g., food services) on the National Mall would reduce the need for visitors to use commercial businesses in adjacent areas.

Impacts on Construction Opportunities

Construction-related expenditures under alternative C would amount to \$255 million to \$300 million more than under the no-action alternative. Including more than \$400 million in deferred maintenance, as noted under "Impacts Common to All Alternatives," total expenditures under this alternative would be \$655 million to \$705 million. In addition to projects to improve resource conditions and address deferred maintenance, other projects would include filling in the north bay of the Tidal Basin for additional recreation space, developing separate bike routes and lanes, changing roads, constructing a vehicular tunnel, and adding playgrounds.

It is assumed that expenditures would occur over several years. While impacts on individual businesses who successfully bid on projects could be substantial, the contribution to regional construction earnings would be about 7% per year, assuming that projects were phased over 10 years at \$65.5 million per year and that total construction earnings in the D.C. area would be \$900 million per year or more. Resulting impacts would be short-term, minor, and beneficial.

Cumulative Impacts

The impacts of past, present, and reasonably foreseeable actions would be the same as those described under the no-alternative and would be long-term, minor, and beneficial. Actions under alternative C would also result in long-term, minor, beneficial impacts on the local and regional economy because of increased and improved facilities and services across the National Mall and in surrounding areas that would likely increase visitor use since there would be more things to see and do. Construction-related impacts on the local and regional economy would be short-term, minor, and beneficial. These impacts, in combination with the impacts of past, present, and reasonably foreseeable actions, would result in long-term, beneficial cumulative impacts that would be minor in intensity because related expenditures and earnings would represent a very small

percentage of the local and regional economy. Alternative C would make a slight beneficial contribution to these impacts.

Conclusion

Impacts on the local and regional economy under alternative C would be long-term, minor, and beneficial because of longer visitor stays due to better resource conditions, improved services and facilities, and more year-round recreational opportunities; diversified commercial business opportunities that would meet visitor needs; and minor increases in construction-related expenses. These impacts, in combination with the impacts of past, present, and reasonably foreseeable actions, would result in long-term, minor, beneficial cumulative impacts on the local and regional economy, with a slight beneficial contribution from alternative C.

PARK OPERATIONS

METHODOLOGY FOR IMPACT ANALYSIS

The impacts of the alternatives on park operations are evaluated for their potential to affect the following park operational issues:

- **Impacts on park operations** — The beneficial or adverse impacts on park operations due to implementing quality standards, using best practices to make operations and maintenance more efficient, addressing deferred maintenance, maintaining assets and infrastructure, ensuring safe and efficient operations, and changing staffing focus are discussed.
- **Impacts on sustainability** — This analysis focuses on the degree to which the alternatives would either beneficially or adversely affect sustainability goals for facility design, recycling, water use, parking, and renewable energy.

Impact Intensity Levels

The following thresholds were established for impacts on park operations:

- **Negligible** — The impact on the ability to achieve most park standards, the efficiency of park operations, or sustainability would not be detectable or would be barely detectable.
- **Minor** — The impact on the ability to achieve most park standards, efficiency of park operations, or sustainability would be detectable or would affect less than 10 acres.
- **Moderate** — The impact on the ability to achieve most park standards, efficiency of park operations, or sustainability would be readily apparent or would affect less than 100 acres.
- **Major** — The impact on the ability to achieve most park standards, efficiency of park operations, or sustainability would be obvious to all users or would affect more

than 100 acres, and would be severely adverse or exceptionally beneficial.

Type of Impact

Impacts could be either beneficial or adverse. A beneficial impact would be consistent with federal regulations and NPS policies, would incorporate acceptable best practices, or would improve the results and efficiency of park activities such as maintenance. An adverse impact would be inconsistent with federal regulations or NPS policies; would not improve sustainability, maintenance, communications, equipment, or technology; or would fail to incorporate relevant improvements from best practices.

Duration of Impacts

Impacts could be temporary, short-term, or long-term.

- **Temporary** — The impact would usually last for a few hours or up to two days, such as a road closure for a day or less or limited access to an area during a demonstration or maintenance operations.
- **Short-term** — The impact would generally last up to one year or the life of a construction project.
- **Long-term** — The impact would last longer than one year or for the life of the plan (up to 50 years).

Legislations, Regulations, and Policies

The Energy Policy Act of 1992 updated energy efficiency ratings, standards, codes and labels; established voluntary guidelines; provided technical assistance; and set energy conservation requirements for federal agencies.

The Energy Independence and Security Act of 2007 amended section 543 of the National Energy Conservation Policy Act by adding a new subsection to address “Use of Energy and Water Efficiency Measures in Federal Buildings” (42 USC 8253(f)).

The following executive orders and regulations apply:

- Executive Order 13101, “Greening the Government through Waste Prevention, Recycling, and Federal Acquisition” (September 14, 1998)
- Executive Order 13123, “Greening the Government through Efficient Energy Management” (June 3, 1999). The order addresses the importance of federal leadership and associated savings. It established various goals, such as reducing greenhouse gases by 30% by 2010 compared to such emissions levels in 1990; improving energy efficiency by 35% by 2010 relative to 1985; expanding renewable energy; reducing use of petroleum; and increasing water conservation.
- Executive Order 13149, “Greening the Government through Federal Fleet and Transportation Efficiency.”
- “Facility Energy Management Guidelines and Criteria for Energy and Water Evaluations in Covered Facilities” specifies approaches for implementing the energy and water provisions of the Energy Independence and Security Act (U.S. Department of Energy 2008).
- Executive Order 13327, “Federal Real Property Asset Management” (February 4, 2004) establishes as policy of the United States the promotion of the efficient and economical use of America’s real property assets and to assure management accountability for implementing federal real property management reforms. Based on this policy, executive branch departments and agencies are to recognize the importance of real property resources through increased management attention, the establishment of clear goals and objectives, improved policies and levels of accountability, and other appropriate action.

NPS Management Policies 2006

General Maintenance

The NPS *Management Policies 2006* require providing “a safe, sanitary, environmentally

protective and esthetically pleasing environment for visitors and employees, protecting the physical integrity of facilities, and preserving and maintaining facilities in their optimum sustainable condition to the greatest extent possible” (sec. 9.1.4). Preventive and rehabilitative maintenance programs will incorporate sustainable design elements, and practices.

Maintenance facilities are to be consistent in design, scale, texture, and details with other park facilities. Whenever feasible concession and park facilities should be integrated or provided adjacent to each other to reduce impacts (NPS 2006e, sec. 9.4.4).

Utilities

The National Park Service will use municipal systems, share in providing such systems, provide the least obtrusive systems, and use the least polluting power supply options (NPS 2006e, sec. 9.1.5).

Waste Management

Integrated solid and hazardous waste management practices will be implemented to reduce waste. Reuse and recycling will be maximized (NPS 2006e, sec. 9.1.6.1).

Soil Resource Management

Park managers will actively seek to understand and preserve the soil resources of parks, and to prevent, to the extent possible, the unnatural erosion, physical removal, or contamination of the soil or its contamination of other resources. Management action will be taken to prevent or at least minimize adverse, potentially irreversible impacts on soils. Soil conservation and soil amendment practices may be implemented to reduce impacts.

When use of a soil fertilizer or other soil amendment is an unavoidable part of maintaining an altered plant community, the use will be guided by a written prescription. The prescription will be designed to ensure that use of a soil fertilizer or soil amendment does not unacceptably alter the physical, chemical, or biological characteristics of the soil, biological community, or surface or groundwaters (NPS 2006e, sec. 4.8.2.4).

Sustainable Energy Design

Any facility development, whether it is a new building, a renovation, or an adaptive reuse of an existing facility, must include improvements in energy efficiency and reduction in greenhouse gas emissions for both the building envelope and the mechanical systems that support the facility (NPS 2006e, sec. 9.1.1.6).

In carrying out its maintenance responsibilities, the National Park Service will acquire environmentally preferable and energy-efficient products. A variety of attributes will be considered when purchasing products, including cost, energy efficiency, biodegradability, toxicity, recovered material content, packaging, transport cost, and other life-cycle environmental impacts, such as disposal. The National Park Service will actively pursue opportunities to test and demonstrate environmentally preferable and energy-efficient products, consistent with its goal of demonstrating sustainable practices that avoid or minimize environmental impacts (NPS 2006e, sec. 9.1.4.2).

The National Park Service will conduct its activities in ways that use energy wisely and economically (NPS 2006e, sec. 9.1.7). Major visitor service facilities must incorporate a minimum rating of silver in the LEED system (NPS 2006e, sec. 9.1.1.6).

Parking Areas

Parking should not unacceptably intrude by sight, sound, or other impact on park resources. When parking areas are necessary, they will be limited to the smallest size necessary (NPS 2006e, sec. 9.2.4). The National Park Service must find transportation solutions to provide high-quality experiences other than the traditional solutions to build more parking (NPS 2006e, sec. 9.2).

IMPACTS COMMON TO ALL ALTERNATIVES

Direct and Indirect Impacts

Impacts on Park Operations

Written Standards

NPS staff are developing new comprehensive standards and monitoring procedures for the National Mall and Memorial Parks. These procedures are based on grounds maintenance standards used by other organizations, but they have been customized for the particular challenges presented in Washington, D.C. This is consistent with *NPS Management Policies 2006*, as well as best practices. The previous NPS landscape maintenance standards were out of date and did not comprehensively address facilities, the landscape, or other areas where standards could be useful. The goal is to develop standards to achieve the desired visitor experience.

Written standards under all alternatives would provide a common understanding about the expected quality and desired level of care for areas within the National Mall. The standards cover grounds maintenance; maintenance of memorials, buildings, and visitor facilities; solid waste management and recycling; special events and other temporary uses; orientation, information, education, and interpretation; and customer service. Standards would also address appropriate levels of care for high maintenance vegetation, such as cherry trees that generate many offshoots and that require repeated pruning. Pilot projects are being used to ensure that the standards are clear, understandable, and achievable. Staff would also be assigned to certain geographic areas so they become knowledgeable about the area and take pride in its upkeep.

Developing written standards would affect most park operations and would support the achievement of desired standards and quality to enhance the visitor experience and protect park resources. Written standards would also unite park divisions for maintenance, resource management, park programs, partnerships, and education and interpretation. The impacts of uniform, commonly understood standards and criteria would result in long-term, moderate to

major, beneficial impacts in terms of achieving desired park conditions.

Visual Quality Team

The high profile location of the National Mall results in continuous unscheduled demands on staff to quickly improve areas. Demands continue to pull staff from regularly scheduled work, thwarting the ability to achieve desired standards that would enhance park conditions and benefit all visitors. Over the last year the park has instituted a visual quality team to identify problems and concerns. This best practice of monitoring and taking immediate action has resulted in repairs, repainting, and extensive resodding of areas. Most of these actions are readily apparent efforts to remedy impacts from high use levels; however they could be reversible, so the impact of the visual quality team and a quick response team on the ability to meet park standards and quality would be short-term, moderate, and beneficial.

Staffing

Increased staffing would be necessary under any alternative to achieve desired conditions. An increase in the operating budget would be sought to support staffing aligned with core operations and necessary to achieve desired conditions and industry standards. As a result of core operations planning that is being done throughout the National Park Service, staffing levels are to be aligned with essential operations. Current staffing levels are not commensurate with those needed to achieve desired conditions or standards, according to various best practices. The small staff in the programs office is unable to fully oversee special events to ensure that they meet permit conditions, resulting in overworked staff and many adverse resource impacts. Nor are staff able to track successful events and practices in order to pass that information on to other event organizers. In addition, all park staffing is near historic lows, which has affected park standards and quality as well as the efficiency of park operations.

To bring maintenance activities in line with peak hours of visitation, park staff have begun implementing multiple custodial and trash collection shifts, so staff are now on site from 6 a.m. to 10 p.m. The continued impact of this change would

be long-term, moderate, and beneficial. Core operational staffing emphasis, which could vary by alternative, is conceptually analyzed.

Temporary Fencing

Over the last year the park has begun using a different type of fencing, in lieu of snow fencing, to create secured areas, to guide use along pathways, or to protect areas during rehabilitation. Park staff will continue to explore alternative fencing types that better meet quality expectations and are easy to install, maintain, and store. The continued impact of new fencing on a quality environment would be long-term, moderate to major, and beneficial while the impact on the efficiency of park operations would be long-term, major, and adverse or beneficial depending on the type of fencing since park staff would still be installing miles of temporary fencing for certain special events.

Solid Waste and Recycling

The National Park Service would continue to work with the Environmental Protection Agency and others for ongoing pilot projects and expanded recycling programs at special events. Since food packaging is a significant portion of waste (40%), the National Park Service would also continue working with concessioners to reduce excessive packaging. Developing a solid waste and recycling plan that would incorporate best practices for collection, retrieval, storage, and hauling would help expand recycling efforts, reduce waste hauled to landfills, allow green waste to be composted, and reuse materials as much as possible.

These changes would make park sanitation and waste management operations much more efficient, reduce injuries, improve park conditions, and establish a sustainable system. The impact on overall park operations would be long-term, major, and beneficial.

Construction

Normal park operations would be disrupted during any construction associated with implementing the selected alternative in this plan, or projects common to all alternatives. The impacts of construction on park operations

would be short-term, minor to moderate, and adverse.

Impacts on Sustainability

Energy Use

The National Park Service has established targets to reduce energy and requires national park system units to show environmental leadership and maintain high standards for sustainable design, energy efficiency, and reduction of greenhouse gases. To reach these target goals, the park has submitted projects to replace HVAC systems and will continue to replace light bulbs or water feature pump systems with more efficient components or new technologies. New, upgraded, or replacement facilities would result in increased energy use, but would meet goals to reduce energy use or to use renewable resources. The National Park Service is participating in the EPA Climate Friendly Parks Program,* as well as serving as a pilot project for the Department of Energy's Audit Guideline, using sustainability indicators to reduce solid waste, water use, energy consumption, carbon footprint, greenhouse gases, and air pollutants. The goal is to use renewable energy sources and recycling practices, as well as to improve the long-term sustainability of resources. Keeping the Washington Monument open longer hours would be a long-term, negligible, adverse impact. Altogether these actions over time would increase energy efficiency and sustainability despite increased energy use, resulting in long-term, moderate, beneficial impacts.

Water Use

Aging water conveyance systems would be replaced through component renewal projects. While additional irrigation systems are proposed, the National Park Service would continually seek nonpotable water sources for irrigation as much as possible, use graywater or

stormwater runoff where and when feasible, and reduce water loss through better or subsurface irrigation. Despite more irrigation, the volume of potable water would be reduced, and improved soil percolation would reduce stormwater runoff, resulting in long-term, moderate to major, beneficial impacts on water use.

Conclusion

Impacts common to all alternatives would be short- and long-term, moderate to major, and beneficial as a result of written standards and criteria, a visual quality team to identify high-profile problems and concerns that would be addressed promptly by a quick response team, staffing levels aligned with essential operations, less intrusive temporary fencing, a solid waste and recycling plan, and increased use of renewable energy sources and recycling practices. Construction-related impacts on the National Mall would generally be short-term, minor to moderate, and adverse.

IMPACTS OF THE NO-ACTION ALTERNATIVE

Direct and Indirect Impacts

Under the no-action alternative the numerous park operational challenges at the National Mall and inefficiencies that affect sustainability and the ability to achieve desired park conditions would continue.

Impacts on Park Operations

Deferred Maintenance

The National Park Service has asked all park units to identify ongoing regular and major maintenance and repairs that have not been done for lack of financial resources. On the National Mall this deferred maintenance backlog totals more than \$400 million, including preservation and repair work on aging facilities from seawalls to irrigation systems and walks. The Tidal Basin seawalls are over 100 year old and require significant repairs, with the most severe conditions near the Thomas Jefferson Memorial and west to just south of the Franklin Delano Roosevelt Memorial. The maintenance backlog has also contributed substantially to the inability

* In 2003 the National Park Service and the Environmental Protection Agency created a new program called Climate Friendly Parks. Through this program the two partner agencies are finding ways to reduce emissions from park activities. They are also educating the public about potential impacts in the parks and what the agencies are doing to address them.

to meet desired standards and quality for park assets and resources. As described in the “Affected Environment” (see page 349), the National Mall’s deferred maintenance would continue to be disproportionate to the number of assets, and the funding gap between the NAMA budget and industry benchmarks, currently estimated at \$11.8 million per year, would be expected to continue, meaning that the park would fall further behind. Impacts would continue to be long-term, major, and adverse.

Assets, Infrastructure, and Amenities

As described under the “Affected Environment,” the National Mall was not designed for the level of use it receives today; as a result, the park is being adversely affected. The following conditions would continue under the no-action alternative:

- Because walks are too narrow for maintenance vehicles, as well as pedestrians, impacts would continue, such as posts along walkways being pushed out of plumb by maintenance vehicles, and damaged curbs and landscape impacts because maintenance and delivery vehicles need to drive over curbs in several locations to get access.
- The damaged irrigation system on the Mall as a result of tent stakes driven into the ground to anchor tents would continue to make turf maintenance and renovation difficult.
- Vandalism and misuse of stand-alone drinking fountains would likely continue, and restrooms in some locations have also been vandalized, with broken doors and locks.
- Adverse impacts from water features (e.g., Constitution Gardens Lake and the Capitol Reflecting Pool) would continue, including the lack of water recirculation systems in shallow reflecting pools or lakes, resulting in algae and odors that require extensive resource work and additional cleaning. Changes in the chemical makeup of city water have increased algae growth. Despite scheduled twice yearly cleaning, these water features fail to meet desired standards. Additionally, these water features have extensive leaks that result in much

greater use of the city’s potable water resources.

- Lack of adequate staff would mean that maintenance tasks, such as ongoing pruning of cherry trees that generate many off-shoots, scouting and treating for Dutch elm disease, and pruning for the health and safety of American elms, would not be performed as often as desired for optimal conditions.
- A great variety of uncoordinated site furnishings, such as benches, light fixtures, and trash containers, would continue to detract from an overall identity for the National Mall. These various elements would also continue to compound maintenance operations, making it extremely difficult to achieve a uniform quality and standard.

The overall impact on park conditions because of present asset conditions, inadequate amenities, and uncoordinated components would continue to be long-term, major, and adverse.

Soil Conditions

As described under “Natural Resources,” compacted soil conditions in some areas, along with poor quality topsoils and subsoils that were brought into some areas, continue to limit vigorous and normal vegetation growth, adversely affecting both turf and trees. Poor conditions increase park maintenance demands on the Mall, the Washington Monument grounds, and Constitution Gardens. Because the underlying problems are not being addressed, the additional labor to try to achieve acceptable conditions is only providing temporary to short-term improvements. Until soil quality and conditions were improved by restoring and improving soils, impacts on park operations would continue to be long-term, major, and adverse.

Permitted Activities

National celebrations, special events, and demonstrations would continue to affect park operational priorities, limit access, or require overtime that affects staffing schedules. The lack of venues designed to withstand the impacts of intensive levels of use would mean that national celebrations, inaugurations, and some special

events would continue to require substantial amounts of staff time in many divisions for planning and management, diverting time from other activities directed at maintaining park conditions. Cost recovery for special events would continue to cover costs of restoring or rehabilitating areas. The National Park Service would continue to absorb periodic restoration costs following First Amendment demonstrations. The continued impact of permitted activities would be long-term, major, and adverse.

Staffing

Park staff levels have been reduced over time and are now near low levels. Contracted services for specialized maintenance, such as HVAC, elevator service, and security systems, are used to make up the shortfall, but a number of gaps remain. For example, in the Maintenance Division there are fewer people doing painting, plumbing, grounds maintenance, large mower operations, and trash removal. The park programs office is very small for the volume of permitted activities and is not able to monitor all events. Contracting was largely provided through the regional office. This affects park operations and the ability to achieve desired conditions. This situation would continue under existing conditions.

Based on the “Park Asset Management Plan” (see Table 39, page 349) and comparisons with industry benchmarks, the category of maintained landscapes is funded at only 38% of need. Waterfronts, roads, and buildings are also insufficiently funded (22%–41%). Additionally, the park has 28% of the staff needed to achieve the highest quality turf conditions. The park programs office is understaffed for current permitting, monitoring, tracking, and recording activities. Present staffing levels for education and interpretation mean that park educational, informational, and welcome standards are not being met. Because of the volume of visitation, many visitors may not see a ranger or know about educational opportunities. While the intent of core operations planning is to align staff needs with essential tasks related to the park purpose, the present inadequate staffing levels would continue to have long-term, major, adverse impacts on the ability to achieve park standards.

Management Processes

The permit process for demonstrations and special events would continue to be labor intensive, making the issuing, recording, and monitoring or tracking of permits cumbersome. The coordination of permitted activities among park divisions (maintenance, resource protection, and other park operations) would not be easily achieved. Insufficient staffing would continue to exacerbate these problems. Efficiencies for solid waste management and recycling might not be fully realized, adversely affecting operations. Inefficient processes would continue to result in long-term, major, adverse impacts because these actions affect most park staff, as well as park conditions that are seen by all visitors.

Maintainability

Narrow walks and a lack of street access would continue to hamper the efficient movement of maintenance and delivery vehicles, resulting in longer times to perform regular maintenance activities or other park operations. Trash receptacles would continue to be located in dispersed areas that would hamper efficient operations, and the manual emptying of heavy trash containers would continue to be time consuming and a health and safety concern for staff. Facilities that are not designed for easy maintenance would continue to make routine maintenance tasks take longer. For example, floor-mounted toilets are harder to clean around; paper towel dispensers generate a large amount of waste; and benches, trash containers, and wayside signs installed on unpaved surfaces require more work to maintain the surrounding area. Gravel walks require continual work, gravel that has migrated onto paved walks and into grates requires constant removal, and gravel in turf areas increases the potential for equipment to be damaged or people injured. The continued impacts on operational efficiency and safety would be long-term, moderate, and adverse.

The wide variety of nonstandardized systems or components related to display fountains (pumps, surface and underwater lights), light fixtures, and site furniture would continue to be inefficient since a large number of parts must be stockpiled and stored, along with multiple maintenance manuals. The impacts on operational

efficiency would remain long-term, minor to moderate, and adverse.

Historic or custom components and site furnishings, such as light fixtures or the NPS standard Washington bench, may make repair or finding replacement parts difficult. For example, the NPS bench has not been updated to meet accessibility standards. The National Park Service has the molds for some furnishings. In other cases, glass globes on light fixtures have been replaced with more durable plastic globes. The difficulties in maintaining historic or custom features on the efficiency of park operations would continue to be long-term, minor to moderate, and adverse.

Best Practices

Efficiencies as a result of best practices that are being used at other sites cannot easily be incorporated into maintenance practices at the National Mall without extensive infrastructure changes. For example, there is no comprehensive and secure communications infrastructure (including high-speed communications) throughout the National Mall, so less efficient communication methods (multiple phone systems, radio) are used for park staff and for law enforcement. This would continue to be a long-term, moderate to major, adverse impact on park operations.

Lighting outages and restroom usage are not electronically monitored, which could identify maintenance needs or support efficient scheduling. Trash containers are not designed to be mechanically emptied by sanitation trucks, so heavy trash bags are lifted by hand, a time-consuming, inefficient process that has the potential to result in staff injuries. Impacts would continue to be long-term, major, and adverse.

While recycling occurs during special events, there are no systems to collect, retrieve, store, and haul recyclable materials on a daily basis. The impacts would continue to be long-term, minor to moderate, and adverse.

Summary

The overall impact of the no-action alternative as a result of the maintenance backlog, current infrastructure and amenities, poor quality soils,

and insufficient staffing would be long-term, moderate to major, and adverse due to outdated processes, designs that make maintenance difficult, a great variety of nonstandardized parts, difficulties in maintaining historic or custom components, and lack of applying common best practices that could improve efficiency or safety.

Impacts on Sustainability

Under the no-action alternative a limited number of sustainable practices, as described below, would be used on the National Mall.

Water Use

Millions of gallons of potable water would continue to be used to fill the reflecting pools at the Lincoln Memorial and Union Square as well as Constitution Gardens Lake. These pools are drained and refilled twice annually, diverting treated water from public uses. The continuing impact on water use would be long-term, moderate to major, and adverse.

Stormwater onsite is channeled into the municipal drainage system, rather than being filtered and reused in water features on the National Mall. This would continue to be a long-term, minor to moderate, adverse impact on sustainable water use.

Energy

Except for geothermal systems that are being used in two refreshment stands constructed in 2007 and 2008 for heating, air conditioning, refrigeration, and ice making, no other systems onsite are taking advantage of renewable energy sources. Major power uses include lighting and ornamental fountains. The continuing impact of using public energy sources would generally be long-term, moderate to major, and adverse.

Summary

The overall impact of the no-action alternative on sustainability would continue to be long-term, moderate, and adverse because of unsustainable use of potable water and the lack of sustainable stormwater holding onsite or gray-water reuse, as well as minimal use of renewable energy sources.

Cumulative Impacts

Past Actions

Past projects that have affected and continue to affect the National Mall include the 1790s road systems, which have been updated and modified over time, but still affect public access and circulation within the National Mall, as well as operations. Roads, stormwater systems, sanitary sewers, and utilities and power systems developed in the late 1800s are becoming increasingly outdated, with long-term, moderate, adverse impacts on park operations.

The National Mall, with its high-profile location, places unique demands on park operational staff. A total of 126 assets on the National Mall must be maintained, including individual component parts. In addition to the National Mall, NAMA staff also manage many other areas and are responsible for over 300 park assets. While overall maintenance needs have increased, staffing levels have fluctuated and are near the lowest levels in a decade. Four memorials (the Korean War Veterans, Franklin Delano Roosevelt, George Memorial, and World War II memorials) have been constructed since the 1990s, and the landscape nature of some of these memorials requires different types of care than memorials that are primarily structures (such as the Washington Monument). Water features (at the George Mason, Franklin Delano Roosevelt, Korean War Veterans, and World War II memorials; the Capitol Reflecting Pool, Constitution Gardens Lake, German-American Friendship Garden, Lincoln Reflecting Pool, and John Paul Jones) require a great deal of seasonal work to maintain, and problems are compounded by both water quality and various operating systems. Small-scale commemorative features, such as the Japanese lantern, the John Paul Jones and John Ericsson memorials, signs, wayside exhibits, and plaques also increase workloads. Some memorials or areas are difficult to care for and were not designed for maintainability. For example, marble steps are more porous than granite and easily stain; gravel walks require high levels of maintenance; custom stone trash containers are difficult for staff to empty at the Franklin Delano Roosevelt Memorial; and incised and inpainted lettering on pavement is difficult to keep readable at the Lincoln Memorial and Constitution Gardens. The cumulative

impact of additional maintenance on park operations is long-term, major, and adverse.

Present Actions

The National Park Service is working with the U.S. Army Corps of Engineers to develop a permanent solution for the Potomac Park levee. The impacts of an improved flood control system for the downtown area, as well as the National Park Service, would be long-term, moderate, and beneficial because of a more sustainable solution, improved efficiency of park operations, and reduced park labor needs during storm events.

Park staff have been replacing bulbs in light fixtures throughout the park with more energy-efficient bulbs, a long-term, major, beneficial impact on efficient operations and sustainable energy use. The 2009 American Recovery and Reinvestment Act includes funding for redesigning the Lincoln Reflecting Pool to use less water and to improve its quality by using recirculating pumps. The use of geothermal systems in two NPS refreshment stands near the Lincoln Memorial for heating, air conditioning, refrigeration, and ice making has demonstrated that it is possible to use alternative systems to reduce the use of more traditional energy sources. These present actions have long-term, moderate to major, beneficial impacts on park operations.

As a result of the American Recovery and Revitalization Act, the condition of park three important park assets would be improved — the Lincoln Reflecting Pool area, the Thomas Jefferson Memorial plaza, and the DC War Memorial. A non-potable and more sustainable water source for the Lincoln Reflecting Pool will reduce the use of potable water by more than half since the Lincoln Reflecting Pool is the largest single use of potable water. While additional pumping systems will be required, more efficient systems and energy sources will be sought and water recirculated, resulting in improved ease of maintenance. Resulting impacts to the park infrastructure and assets would be long-term, major, and beneficial, but deferred maintenance needs would be reduced by less than 20%.

Reasonably Foreseeable Actions

Plans are being developed for an underground Vietnam Veterans Memorial Center and the Martin Luther King, Jr. Memorial. These facilities will be managed by the National Park Service, resulting in additional staffing needs for maintenance, along with education and information. Future memorials for Dwight D. Eisenhower and American Veterans Disabled for Life will be future park responsibilities. The requirement for a maintenance fund will help keep these facilities to the desired standard, and the high quality of recent memorials has made them easier to maintain, so the long-term impacts are expected to be moderate and beneficial related to park operations and minor and adverse related to staffing needs.

It can be expected that over time the aging infrastructure (power, street lighting, water, sanitary and storm sewers) will be replaced. New systems can be expected to be more energy efficient and to incorporate renewable sources of energy and sustainable water management practices. The long-term impact on park operational efficiency and sustainability on the National Mall would be major and beneficial.

Normal park operations would be disrupted during any construction of previously approved projects (Martin Luther King, Jr. Memorial, Vietnam Veterans Memorial Center, the National Museum of African American History and Culture), in addition to the Thomas Jefferson perimeter security, Potomac Park levee, ongoing road projects, and future memorials outside the Reserve. The impacts of construction on park operations would be temporary to long-term, minor to moderate, and adverse.

The NCPC *Monumental Core Framework Plan's* recommendations for East Potomac Park includes the construction of a new events and recreation area south of the Thomas Jefferson Memorial, which would be undertaken in conjunction with consolidating and relocating bridges and Metro tunnels. The National Park Service would continue to manage and maintain this area. This action would require that the NPS regional office, maintenance yard, NAMA headquarters, and visitor transit facilities would need to be relocated or rebuilt. While this area is off the National Mall, it would have a major

impact on NPS park and region operations, as well as operations of a park concessioner. The impacts of any construction or relocation would be short- to long-term, major, and adverse to park, region, and concession operations. However, the long-term impact could be beneficial because new facilities would be designed for sustainability and ease of maintenance.

Cumulative Impacts Conclusion

Park operations on the National Mall must provide excellent care for the large number of memorials on the National Mall. This challenge has been intensified by the addition of four more memorials since the 1990s, an aging infrastructure, hard-to-maintain facilities, reduced staffing levels, and unsustainable practices. This has led to a growing backlog of deferred maintenance, and recently funded projects would accomplish less than 20% of the deferred maintenance need. This current state of affairs is compounded by the National Mall's high visibility location in the center of Washington, D.C., which results in a great many demands to address issues and which continuously interrupt routine work schedules. The large number of demonstrations and special events also affects park operations and staffing. The overall impacts on park operations have been long-term, major, and adverse.

The impacts of present and reasonably foreseeable actions would help mitigate adverse impacts and enable park staff to improve operational efficiency and safety, and to achieve goals for sustainable operations. Some current projects, most notably the refreshment stands near the Lincoln Memorial, meet high standards for sustainability, and the Potomac Park levee would benefit the downtown area by providing greater flood protection. Future projects such as the Martin Luther King, Jr. Memorial, the Vietnam Veterans Memorial Center, the Eisenhower Memorial, and American Veterans Disabled for Life Memorial would increase demands on park operations, whether or not additional operating funds are provided. The possible future replacement of NPS and concession facilities could alter park operations, but could also improve sustainability with a minimum LEED silver standard and ease of maintenance. Taken as a whole the impacts of past, present, and reasonably foreseeable actions

on park operations would be long-term, major, and adverse because of ongoing demands on staff, despite moderate to major, beneficial impacts of individual facilities now and in the future, which would be easier to maintain and meet higher facility standards for energy efficiency and sustainability.

Under the no-action alternative the continued impacts of ongoing conditions would be long-term, major, and adverse because of the deferred maintenance backlog, difficult-to-maintain systems and infrastructure, reduced staffing levels, and unsustainable practices. While these adverse impacts would be offset somewhat by actions common to all alternatives, which would enable park staff to improve operational efficiency and safety, and that would make some sustainability goals easier to achieve, cumulative impacts would be long-term, major, and adverse, with a slight adverse contribution from the no-action alternative.

Conclusion

Impacts on park operations under the no-action alternative would continue to be long-term, moderate to major, and adverse because of not meeting desired standards (including a deferred maintenance backlog; difficult-to-maintain landscapes, systems, and infrastructure; and lack of venues designed to accommodate intensive levels of use), inefficient operations, and unsustainable practices. The gap in funding between what is required and the current park budget would continue to leave the entire park funded at about 54% of need. Any benefits to park operations or sustainability from past, present, and future projects would continue to be overwhelmed by these continuing impacts as well as by additional facilities and ongoing high-priority demands on the park because of its highly prominent and visible location. Despite the long-term, moderate to major, beneficial impacts of actions common to all alternatives, the no-action alternative would continue to cause ongoing operational challenges. Cumulative impacts would be long-term, major, and adverse, with a slight adverse contribution from the no-action alternative.

IMPACTS OF THE PREFERRED ALTERNATIVE

Direct and Indirect Impacts

Impacts on Park Operations

Proposed actions under the preferred alternative would address operational issues and seek to improve park conditions, as described below.

Deferred Maintenance

As described under the no-action alternative, the National Mall has a maintenance backlog of more than \$400 million for preservation and repairs to aging facilities, from seawalls to irrigation systems and walks. Under the preferred alternative some projects would address deferred maintenance needs but would go beyond making routine repairs to resolve the cause of circulation and operational problems, as well as issues identified during planning. These include the following projects:

- New, renovated, or adaptively reused facilities would be designed to the highest LEED standard practicable, exceeding NPS policy guidelines.
- Widened walks would improve operational access and efficiency.
- The Tidal Basin seawalls would be rebuilt to allow wider walks.
- The Potomac River seawalls would be replaced by a natural shoreline using native plants where feasible.
- Separate bicycle trails would be added in many areas.

Reducing the maintenance backlog in a manner that would improve assets would contribute substantially to overall park conditions. Impacts would be long-term, major, and beneficial because they would be obvious to most visitors and would enhance the visitor experience.

Assets, Infrastructure, and Amenities

Areas within the National Mall would be redesigned for very high levels of use to meet current and future needs through the life of this plan. Design for the ease of maintenance would be an important criterion for any redesigned areas,

including Union Square, the Mall, the Tidal Basin, Constitution Gardens, and the Washington Monument grounds. As a result, maintenance operations on the National Mall would be better able to achieve quality standards and control undesired impacts.

Coordinated approaches to paving, lighting, and furnishings would improve park conditions and meet the high expectations of visitors. Specific actions would include the following:

- removing gravel walkways and using universally accessible and sustainable paving materials that would be suitable for all visitors and easy to maintain to high standards, thus creating a high-quality pedestrian environment
- widening narrow walks to better accommodate pedestrian use levels, as well as maintenance, delivery, or special event access
- restoring soils, removing social trails, and addressing the causes of social trails (such as narrow walkways, drainage puddles, or deteriorated surfaces) and providing surfaces appropriate to recreational uses, such as jogging, which would also help reduce the development of social trails
- providing paved spaces that could accommodate park, police, and concession vehicles or other operational needs to eliminate impacts on turf areas
- redesigning irrigation systems on the Mall and at other areas expected to see high levels of use so that the systems could not be damaged by tent stakes, making optimal turf maintenance easier
- replacing existing drinking fountains and relocating them near restrooms, designing all facilities to accommodate very high levels of use and be vandal resistant, and using high-quality ergonomic designs, as well as high-quality designs to encourage better treatment by users
- rehabilitating Constitution Gardens Lake to include water recirculation and filtration systems, thus improving water quality and reducing maintenance time, as well as sustainably redesigning and reducing the

size of the Capitol Reflecting Pool at Union Square

The overall impact of better designs for assets, infrastructure, and amenities would correct flaws and unforeseen conditions, creating a high-quality environment that could be more efficiently maintained. The overall impact would be long-term, major, and beneficial.

Soil Conditions

The National Park Service has already defined a number of projects to restore poor quality soils, and they would be implemented as soon as funding became available. Soils in the center grass panels of the Mall would be replaced with soils engineered to be like those used on professional sports fields, which are capable of withstanding intensive use because soils are better able to withstand compaction, absorb water, and recover more quickly. Soils in other areas would be restored using methods that would not damage trees or other mature vegetation. Areas to be treated would include the elm tree panels on the Mall, Constitution Gardens, and the Washington Monument grounds. Benchmark standards from the Sustainable Sites Initiative™ would help guide restoration plans. Compared to current conditions, the impact of restoring poor quality soils and improving turf conditions would make park operations easier to accomplish and would be long-term, major, and beneficial.

Permitted Activities

National celebrations, special events, and demonstrations would continue to affect park operational priorities, limit access in some areas, or require overtime that would affect staffing schedules. Under the preferred alternative improving and redesigning venues for demonstrations and special events would facilitate park operations. Actions that would better accommodate intensive use levels would include additional paved areas, improved soils to reduce impacts on turf, and infrastructure and new facilities that would be designed not only to meet the needs of organizers, but to facilitate park operations during and after demonstrations and special events. Establishing comprehensive recycling programs would help reduce the amount of trash generated at permitted activi-

ties. As a result, while the adverse impact on park staff of scheduling and monitoring events would continue, actions under the preferred alternative would make it much easier to maintain park conditions at acceptable standards. The impact on park operations would be long-term, major, and beneficial.

Staffing

Under the preferred alternative additional staffing would be sought for resource management, communications, maintenance, programs and special events, and resource recovery teams to address the impacts of special events and national celebrations. Some activities would continue to be done by contract employees. Specialized skills would likely include event management, turf management, website design and maintenance, public affairs, contracting, horticulture, and irrigation. As described under "Impacts Common to All Alternatives," core operations planning would align staff needs with essential tasks related to the park purpose and plan implementation.

The gap in funding between what industry standards recommend and the park budgets would begin to be reduced as funding and staffing needs were better aligned to achieve desired quality standards. Chronically underfunded areas (landscapes, buildings and waterfront assets) would be prioritized for funding. Impacts on park operations would be long-term, major, and beneficial.

Management Processes

Replacing the permit process for demonstrations and special events with computer-based systems accessible on the Internet would improve efficiencies in the scheduling, issuing, recording, and monitoring or tracking of permits for demonstrations and special events. This would also allow permitted activities to be coordinated among all affected park divisions (maintenance, resource protection, and other park operations) and partner organizations. More frequently restoring smaller areas would be more efficient than trying to rehabilitate larger areas, which has a correspondingly greater effect on park use. Incorporating best practices in solid waste management and recycling would result in safer operations for staff and visitors.

The overall impacts would be long-term, major, and beneficial because these actions would affect most park staff.

Maintainability

Widening walks and providing operational access points from streets would facilitate the movement of maintenance and delivery vehicles, reduce damage to curbs and walks, and make the performance of regular maintenance activities and other park operations more efficient. The better distribution of trash containers and the mechanical emptying of heavy trash receptacles would be more efficient and would reduce safety concerns for staff. Providing facilities designed for easy maintenance would reduce the time needed to perform routine tasks, such as wall-mounted toilets that are easier to clean around and options to paper towels that would reduce waste. Installing site furnishings such as benches, trash containers, and wayside signs on paved surfaces would make it easier to keep up surrounding areas. Self-cleaning restrooms in some locations could also reduce custodial work while providing clean and sanitary facilities. Replacing gravel walks with new paving would reduce labor and other unwanted impacts caused by gravel. The impact of designing for ease of maintenance would result in long-term, moderate to major, beneficial impacts.

Any new designs or redesigns would emphasize the use of standardized parts or systems that have proven successful. These actions would allow for more efficient stockpiling of parts and equipment and would reduce the need for multiple maintenance manuals, a wide variety of tools used only for special tasks, and many types of expertise. The impact on operational efficiency would be long-term, minor to moderate, and beneficial.

Historic or custom features and furnishings at sites would be incorporated in newly developed coordinated suites of paving, lighting, and furniture. This would make it easier to keep replacement parts (such as light fixtures and benches) in stock, allowing repairs to be made more quickly. Site furnishings would meet accessibility standards. Like the no-action alternative, the park would retain the molds for some parts or historic or custom components to ensure that

parts would always be available. Durability of parts as well as quality and appearance would be important. Improving the ability to maintain historic or custom features would have long-term, moderate, beneficial impacts on the efficiency of park operations.

Best Practices

Providing a comprehensive and secure communications infrastructure, including high-speed Internet communications, throughout the National Mall would make communications more efficient for park staff and law enforcement, resulting in long-term, moderate to major, beneficial impacts. Electronically monitoring lighting outages or restroom usage would quickly identify maintenance needs and support efficient scheduling. Mechanically emptying trash containers would be more efficient and would reduce the potential for staff injuries from hand lifting heavy trash bags, resulting in long-term, major, beneficial impacts. Developing recycling systems for the collection, storage, and hauling of recyclable materials (an action common to all alternatives) would make operations more sustainable. Benchmark standards of the Sustainable Sites Initiative™ address landscape and site issues. The impact of using common best practices on the efficiency of operations and safety generally would be long-term, moderate to major, and beneficial.

Summary

Compared to the no-action alternative, the overall impacts of the preferred alternative as a result of addressing deferred maintenance, providing easily maintained infrastructure and amenities, better handling permitted activities, and assigning sufficient staffing to core activities would be long-term, major, and beneficial, making it much easier to achieve and maintain quality conditions on the National Mall.

The overall impact of the preferred alternative on efficiency and safety of park operations would be long-term, moderate to major, and beneficial due to updated processes, ease of maintenance, increased use of standardized parts, better ability to maintain historic or custom components, and using common best practices to improve efficiency or safety.

Impacts on Sustainability

The preferred alternative, in addition to the actions that are common to all alternatives, would seek to make operations on the National Mall more sustainable in terms of water use and renewable energy.

Water Use

Compared to the no-action alternative, the preferred alternative would incorporate a comprehensive sustainable water management plan throughout the National Mall to reduce the use of potable water, seek nonpotable water sources for ornamental water features, and provide onsite water filtering and cleansing so that gray water, water from dewatering activities at nearby buildings, and storm water could be reused where feasible. Specific elements of the plan would include the following:

- reducing the size of the Capitol Reflecting Pool at Union Square and ensuring that recycled or nonpotable water could be used in any new ornamental water features
- rehabilitating Constitution Gardens Lake to make it self-sustaining

No longer using millions of gallons of potable water where feasible would reduce demands on municipal water supplies and set a standard for sustainable park operations.

A naturalized Potomac River shoreline would restore wetland characteristics to the river and would be more sustainable than dry-laid walls, a long-term, major, beneficial impact on park operations.

Under the preferred alternative the impacts of more sustainable water use on National Mall would be long-term, moderate to major, and beneficial.

Renewable Energy

Under the preferred alternative all new, renovated, or adaptively reused facilities would meet the highest LEED standard practicable, exceeding NPS policies. Seeking visible renewable energy sources for lighting and ornamental fountains would reduce energy costs over the long term and would offer opportunities for public education about renewable energy and

sustainability. As a result, the impact on renewable energy would generally be long-term, moderate to major, and beneficial.

Summary

Compared to the no-action alternative, the overall impact of the preferred alternative on sustainability would generally be long-term, major, and beneficial because of reduced use of potable water for water features, a sustainable river edge, a comprehensive approach to water use and management, and a greater reliance on renewable energy sources.

Cumulative Impacts

The impacts of past, present, and reasonably foreseeable actions would be the same as those described under the no-action alternative and would be long-term, major, and adverse. Actions under the preferred alternative and actions common to all alternatives would have long-term, major, beneficial impacts because of a reduced backlog of deferred maintenance, improved park conditions, increased maintainability of mechanical systems and infrastructure, improved operational access, a streamlined permitting process for demonstrations and special events, appropriate staffing levels aligned to core operations, and exceedance of sustainability standards for development, renewable energy, and water use. These impacts, combined with the impacts of past, present, and reasonably foreseeable actions, would result in long-term, moderate, beneficial cumulative impacts.

Conclusion

Compared to the no-action alternative, the overall impacts of the preferred alternative on park operations would be long-term, major, and beneficial as a result of improved park conditions, a reduced deferred maintenance backlog, increased maintainability of mechanical systems and infrastructure, improved operational access, a streamlined permitting process for demonstrations and special events, a reduced funding gap between desired conditions and park budgets, appropriate staffing levels aligned to core operations, and exceedance of sustainability standards for development, renewable energy, and water use. While the overall impacts of the

past, present, and reasonably foreseeable actions would be long-term, major, and adverse, when combined with the substantial long-term, major, beneficial impacts of the preferred alternative, cumulative impacts would be long-term, moderate, and beneficial.

IMPACTS OF ALTERNATIVE A

Direct and Indirect Impacts

Alternative A, which focuses on the historic landscape and education, would address some of the National Mall's numerous park operational challenges and inefficiencies that challenge sustainability and the ability to achieve desired conditions.

Impacts on Park Operations

Compared to the no-action alternative, under alternative A significant obstacles to achieving desired park conditions on the National Mall would remain.

Deferred Maintenance

Under alternative A, similar to the no-action alternative, deferred maintenance projects would be addressed by repairing malfunctioning parts rather than addressing fundamental problems in some infrastructure systems. The Tidal Basin seawalls would be rebuilt, but the walks would still be too narrow for current levels of use. The dry-laid Potomac River seawalls would be rebuilt, requiring ongoing maintenance. Reducing the backlog without improving assets or resolving circulation problems would not contribute substantially to overall park conditions, resulting in long-term, minor to moderate, beneficial impacts.

Assets, Infrastructure, and Amenities

Under alternative A walkways would remain too narrow for current volumes of use in many areas, but maintenance access would be provided, and social trails would be obliterated and controlled by using methods such as edging, curbs, or post-and-chain fencing or some other type of barrier. The maintenance of park areas would be improved, but damage would continue to be caused by maintenance vehicles traveling on routes that are too narrow to accommodate

them. Replacing drinking fountains as needed would ensure that these amenities would be usable, but they would remain in locations away from other visitor amenities, and they would continue to be subject to vandalism and misuse, which makes maintenance more time-consuming.

The improvement of other park assets, infrastructure, and amenities under this alternative would facilitate maintenance and improve park conditions. Actions would include the following:

- redesigning the irrigation system on the Mall and at other high-use areas so that it could not be damaged by tent stakes
- replacing restrooms and adding more restrooms to help meet needs
- ensuring that new facilities would be energy efficient and sustainable as well as vandal resistant
- rehabilitating and improving designed water features to reduce algae and odors (providing recirculating pumps in the reflecting pools at the Lincoln Memorial and the Capitol and adding more pumps at Constitution Gardens Lake)
- coordinating site furnishings such as benches, light fixtures, and trash containers to establish a cohesive and unifying identity, quality, and standard for the National Mall
- making amenities easier to maintain because of standardized parts

Compared to the no-action alternative, the impact of maintaining assets, infrastructure, and amenities to improve park conditions under alternative A would be long-term, moderate to major, and beneficial.

Soil Conditions

The National Park Service has already defined a number of projects to restore poor quality soils, and they would be implemented as soon as funding became available. Soils in the center grass panels of the Mall would be replaced with soils engineered to be like those used on professional sports fields, which are capable of withstanding intensive use because soils are better able to withstand compaction, absorb water, and

recover more quickly. Soils in other areas would be restored using methods that would not damage trees or other mature vegetation. Areas to be treated would include the elm tree panels on the Mall, Constitution Gardens, and the Washington Monument grounds. Benchmark standards from the Sustainable Sites Initiative™ would help guide restoration plans. Compared to current conditions, the impact of restoring poor quality soils and improving turf conditions would be long-term, major, and beneficial.

Permitted Activities

National celebrations, special events, and demonstrations would continue to affect park operational priorities, limit access, or require overtime that would affect staffing schedules and routine maintenance operations. A substantial amount of staff planning and time from many divisions would continue to be required for national celebrations, inaugurations, and some special events. Without infrastructure designed to accommodate permitted activities (such as hard-surface venues with utilities), impacts on park operations would continue to be long-term, major, and adverse under alternative A.

Staffing

Under alternative A staffing would focus on improving resource conditions, with additional staff for resource management, education, communications and web technology, and public information. Specialized skills would include preservation, turf management, horticulture, and irrigation. Core operations planning would align staff needs with the performance of essential tasks related to the park purpose and the emphasis of this alternative on historic preservation.

The gap in funding between what industry standards recommend and the park budgets would begin to be reduced as funding and staffing needs were better aligned to achieve desired quality standards. Chronically underfunded areas (landscapes, buildings and waterfront assets) would be prioritized for funding. Park staff levels would be realigned to meet standards and focus on essential tasks. Impacts would be long-term, major, and beneficial.

Management Processes

As described under the preferred alternative, replacing the outdated and labor intensive permit process for demonstrations and special events with computer-based systems and Internet access would make scheduling, permitting, and monitoring or tracking permits for demonstrations and special events more efficient. It would also allow permitted activities to be coordinated among various park divisions, including maintenance, resource protection, and other park operations. Following best practices for solid waste management and recycling processes would result in safer, more efficient operations. The long-term impacts would be major and beneficial because these actions would affect most park staff, and the result would be obvious to visitors.

Maintainability

Providing vehicle access points would improve the efficient movement of maintenance and delivery vehicles, reducing the time needed to perform regular maintenance activities or other park operations. New solid waste and recycling systems would be adopted, and trash receptacles would be located so as to facilitate collection and reduce manual emptying of heavy trash receptacles. Routine maintenance tasks would be made more efficient through facility design, such as wall-mounted toilets that would be easier to clean around, alternatives to paper towels, and site furnishings such as benches, trash containers, and wayside signs installed on paved surfaces. Maintaining gravel walks under this alternative would require continued labor-intensive maintenance, including keeping gravel on pathways and off turf areas. Compared to the no-action alternative, impacts on efficient and safe operations would be long-term, moderate, and beneficial.

Under alternative A continued maintenance of a wide variety of nonstandardized systems, ornamental water features (pumps and lighting), light fixtures, and site furniture would require stocking a wide variety of parts, multiple maintenance manuals, and specific tools, along with retaining staff expertise to maintain the systems. The impact on operational efficiency would remain long-term, minor to moderate, and adverse.

Similar to the preferred alternative, some historic or custom components and site furnishings would be included in newly developed coordinated suites of site or park furniture. This would make it easier to keep replacement parts (such as light fixtures and benches) in stock, allowing repairs to be made more quickly. Site furnishings would meet accessibility standards. As described under the no-action alternative, the park would retain the molds for some parts or historic or custom components. Compared to the no-action alternative, alternative A would improve the ability to maintain historic or custom features, resulting in long-term, moderate, beneficial impacts on the efficiency of park operations.

Best Practices

Under alternative A, like the preferred alternative, a comprehensive and secure communications infrastructure (including high speed Internet communications) would be developed throughout the National Mall, resulting in more efficient communication methods for park staff and law enforcement. This would result in a long-term, moderate to major, beneficial impact. However, no measures would be taken to electronically monitor lighting outages or restroom usage to identify maintenance needs or support efficient scheduling, a long-term, minor, adverse impact on efficiency. New solid waste and recycling systems to collect, retrieve, store, and haul waste would be common to all alternatives. Compared to the no-action alternative, using some best practices would improve the efficiency of operations and safety, with long-term, minor to moderate, beneficial impacts.

Summary

The impact of alternative A on park operations would generally be long-term, moderate, and beneficial due to addressing the deferred maintenance backlog, remedying a limited number of infrastructure and amenity problems, providing skilled staffing, updated processes, removing some design obstacles to efficient operations, and implementing some best practices for efficiency. However, these benefits would be offset by the continuing long-term, major, adverse impact of not improving the management of permitted activities.

Impacts on Sustainability

Under alternative A some new, renovated, or adaptively reused facilities would meet NPS energy use and sustainability policies.

Water Use

Similar to the no-action alternative, treated potable water would continue to be used to fill the Lincoln and Capitol reflecting pools and Constitution Gardens Lake. These pools are drained and refilled twice annually, resulting in the use of millions of gallons of municipal water. Impacts on the wise and sustainable use of water sources would be long-term, moderate to major, and adverse. Stormwater systems would continue to move water offsite, a long-term, minor to moderate, adverse impact on sustainable water approaches.

Energy

Under alternative A as additional facilities such as restrooms were built, or facilities were renovated, rehabilitated, or adaptively used (such as the Lockkeeper's House), renewable energy sources would be incorporated to meet NPS policy requirements and LEED standards. Resulting impacts on renewable energy would be long-term, minor to moderate, and beneficial.

Summary

Compared to the no-action alternative, the overall impacts of alternative A on sustainability would be long-term, minor, and beneficial because only a few new or rehabilitated buildings would meet renewable energy or sustainability requirements and unsustainable water uses would continue.

Cumulative Impacts

The impacts of past, present, and reasonably foreseeable actions would be the same as those described under the no-action alternative and would be long-term, major, and adverse. These adverse impacts would be offset by the impacts of present and reasonably foreseeable actions and actions, as well as the impacts common to all alternatives, that would enable park staff to improve operational efficiency and safety, and

would also make sustainable goals easier to achieve.

Compared to the no-action alternative, the impacts of alternative A on park operations, when combined with the impacts of past, present, and reasonably foreseeable actions, would result in long-term, moderate, adverse cumulative impacts because while park operations would be improved and deferred maintenance addressed, more sustainable solutions would not be developed for high-use areas or water features. The contribution of alternative A to cumulative impacts would be considerable and adverse.

Conclusion

Impacts under alternative A would be long-term, moderate, and adverse because impacts of high use would not be fully addressed, such as developing more sustainable venues for demonstrations, national celebrations, and special events or seeking sustainable water sources for large water features. However, actions common to all action alternatives would result in long-term, moderate to major, beneficial impacts because of better maintenance of desired park conditions (including the restoration of poor quality soils and improved turf conditions), a reduced deferred maintenance backlog, a reduced funding gap between desired conditions and park budgets, some more efficient park operations, and some use of renewable energy sources. These impacts, when combined with the impacts of past, present, and reasonably foreseeable actions, would result in long-term, moderate, adverse cumulative impacts because while park operations would be improved and deferred maintenance addressed, more sustainable solutions would not be developed for high-use areas or water features. The contribution of alternative A to cumulative impacts would be considerable and adverse.

IMPACTS OF ALTERNATIVE B

Direct and Indirect Impacts

Alternative B would seek to accommodate high levels of use in ways that would allow park areas to recover quickly. Like the preferred alternative, alternative B would address many park

operational challenges, inefficiencies, and safety concerns to achieve desired conditions.

Impacts on Park Operations

Proposed actions under alternative B, like the preferred alternative, would address operational issues and seek to improve park conditions, as described below.

Deferred Maintenance

As described under the no-action alternative, the National Mall has a maintenance backlog of more than \$400 million for preservation and repairs to aging facilities, from seawalls to irrigation systems and walks. Under alternative B, similar to the preferred alternative, some projects would address deferred maintenance needs but would go beyond making routine repairs to resolve the cause of circulation and operational problems. Projects would include the following:

- widening walks to improve operational access and efficiency
- rebuilding the seawalls of the Tidal Basin to accommodate wider walks or be above high tide
- replacing the Potomac River dry-laid seawalls with taller, structural walls

Reducing the maintenance backlog in a manner that would improve assets would contribute substantially to the ability to meet desired conditions for park assets and resources. Impacts would be long-term, major, and beneficial.

Assets, Infrastructure, and Amenities

Areas within the National Mall would be redesigned for very high levels of use to meet present and future needs during the life of this plan. Ease of maintenance would be an important criterion for any redesign of areas such as Union Square, the Mall, the Tidal Basin, Constitution Gardens, and the Washington Monument grounds. As described for the preferred alternative, maintenance operations on the National Mall would be better able to achieve quality standards and control undesired impacts.

Coordinated approaches to paving, lighting, and furnishings would improve park conditions and meet the high expectations of visitors. As de-

scribed for the preferred alternative, specific actions would include the following:

- removing gravel walkways and using universally accessible paving materials suitable for all visitors and easy to maintain to high standards, thus creating a high-quality pedestrian environment
- widening narrow walks to better accommodate pedestrian use levels, along with designing them to accommodate maintenance, delivery, or special event access
- restoring soils, removing social trails, and addressing the causes of social trails (such as narrow walkways, drainage puddles, or deteriorated surfaces) and providing surfaces appropriate to recreational uses, such as jogging, to help address the development of social trails
- providing paved spaces to accommodate park, police, or concession vehicles to eliminate impacts from vehicles having to be parked on turf areas
- redesigning irrigation systems on the Mall and at other areas expected to see high levels of use so that the systems could not be damaged by tent stakes, making it easier for optimal turf maintenance
- replacing existing drinking fountains and relocating them so they are near restrooms, designing all facilities to accommodate very high levels of use and be vandal resistant, and using high-quality ergonomic designs, as well as high-quality designs to encourage better treatment by users
- rehabilitating the Lincoln Reflecting Pool and the Constitution Gardens Lake to include water recirculation systems to improve water quality and reduce maintenance time (however, unlike the preferred alternative, potable water would continue to be used)

The overall impact of better designs for assets, infrastructure, and amenities would correct flaws in previous designs and create a high-quality environment that could be more efficiently maintained to meet visitor expectations. The overall impact would be long-term, major, and beneficial.

If it was determined that an underground parking garage would be feasible based on engineering, security, geotechnical, and economic studies, visitor-related impacts would be analyzed as during subsequent environmental studies.

Soil Conditions

The National Park Service has already defined a number of projects to restore poor quality soils, and they would be implemented as soon as funding became available. Soils in the center grass panels of the Mall would be replaced with soils engineered to be like those used on professional sports fields. Soils in other areas would be restored using methods that would not damage trees or other mature vegetation. Areas to be treated would include the elm tree panels on the Mall, Constitution Gardens, and the Washington Monument grounds. Benchmark standards from the Sustainable Sites Initiative™ would help guide restoration plans. Compared to current conditions, the impact of restoring poor quality soils and improving turf conditions would be long-term, major, and beneficial.

Permitted Activities

National celebrations, special events, and demonstrations would continue to affect park operational priorities, limit access, or require overtime that would affect staffing schedules. However, under alternative B, like the preferred alternative, some venues would be substantially redesigned and improved to facilitate park operations. These would include additional paved areas where high use could be concentrated, improved soil conditions to withstand intensive use levels, and infrastructure and new facilities designed to meet the needs of event organizers as well as maintenance operations during and after demonstrations and special events. Establishing comprehensive recycling programs would help reduce the amount of trash generated at permitted activities. As a result, while the adverse impact on park staff of scheduling and monitoring events would continue, actions under alternative B would make it much easier to maintain park conditions at acceptable standards. The impact on park operations would be long-term, major, and beneficial.

Staffing

Under alternative B, like the preferred alternative, additional staffing would be sought for resource management, communications, maintenance, programs and special events, and resource recovery teams to address the impacts of special events and national celebrations. Specialized skills would likely include turf management, horticulture, and irrigation. As described under “Impacts Common to All Alternatives,” core operations planning would align staff needs with essential tasks related to the park purpose and plan implementation. Impacts on park operations would be long-term, major, and beneficial.

The gap in funding between what industry standards recommend and the park budgets would begin to be reduced as funding and staffing needs were better aligned to achieve desired quality standards. Chronically underfunded areas (landscapes, buildings and waterfront assets) would be prioritized for funding. Impacts on park operations would be long-term, major, and beneficial.

Management Processes

As described under the preferred alternative and alternative A, replacing the permit process for demonstrations and special events with Internet based systems would improve efficiencies in the scheduling, issuing, recording, and monitoring or tracking of permits. This would also allow permitted activities to be coordinated among all affected park divisions (maintenance, resource protection, and other park operations). Incorporating best practices in solid waste management and recycling would result in safer operations for staff and visitors. The overall impacts would be long-term, major, and beneficial because these actions would affect most park staff.

Maintainability

Actions to improve operational efficiency and safety would be similar to those described for the preferred alternative and would include the following:

- widening walks and providing operational access points from streets to facilitate the movement of maintenance and delivery vehicles, reduce damage to curbs and walks,

and make the performance of regular maintenance activities and other park operations more efficient

- better distributing trash containers and mechanically emptying heavy trash receptacles
- providing facilities designed for easy maintenance to reduce the time needed to perform routine tasks (such as wall-mounted toilets and options to paper towels that would reduce waste)
- installing site furnishings such as benches, trash containers, and wayside signs on paved surfaces to make it easier to keep up surrounding areas (unlike the preferred alternative, alternative B would not propose the use of self-cleaning restrooms)
- replacing gravel walks with new paving to reduce labor and other unwanted impacts
- emphasizing the use of standardized parts or equipment that have proven successful in any new designs or redesigns, thus allowing for more efficient stockpiling of parts and equipment and reducing the need for multiple maintenance manuals, a wide variety of tools used only for special tasks, and many types of expertise
- incorporating historic or custom features and furnishings into coordinated suites of paving, lighting, and furniture, thus making it easier to keep replacement parts (such as light fixtures and benches) in stock and allowing repairs to be made more quickly
- ensuring that site furnishings meet accessibility standards, and retaining the molds for some parts or historic or custom components to ensure that parts would always be available

As described for the preferred alternative, the impact of designing for ease of maintenance would result in long-term, moderate to major, beneficial impacts on park operations. Emphasizing the use of standards parts and systems would result in long-term, minor to moderate, beneficial impacts. Improving the ability to maintain historic or custom features would have long-term, moderate, beneficial impacts.

Best Practices

The adoption of best practices under alternative B, similar to the preferred alternative, would positively affect park operations by

- providing a comprehensive and secure communications infrastructure, including high-speed Internet communications, throughout the National Mall, making communications more efficient for park staff and law enforcement
- electronically monitoring lighting outages or restroom usage to quickly identify maintenance needs and support efficient scheduling
- mechanically emptying trash containers, reducing the potential for staff injuries from hand lifting heavy trash bags
- developing recycling systems for the collection, storage, and hauling of recyclable materials, an action common to all alternatives

The impact of using common best practices on the efficiency of operations and safety generally would be long-term, moderate to major, and beneficial, the same as the preferred alternative.

Summary

The overall impacts of alternative B would be similar to the preferred alternative as a result of addressing deferred maintenance, providing easily maintained infrastructure and amenities, better handling permitted activities, assigning sufficient staffing to core activities, and using common best practices to improve efficiency. Compared to the no-action alternative, impacts would be long-term, moderate to major, and beneficial, making it much easier to achieve and maintain desired conditions on the National Mall.

Impacts on Sustainability

Alternative B, in addition to the actions that are common to all, would make some progress toward using resources more sustainably.

Water Use

As described under the no-action alternative, millions of gallons of potable water would continue to be used to fill the reflecting pools at the

Lincoln Memorial and Union Square as well as Constitution Gardens Lake, wasting a valuable resource. These pools are drained and refilled twice annually. This use of potable water would continue to result in long-term, moderate to major, adverse impacts on sustainable water use. Stormwater would be channeled offsite through the municipal drainage system, precluding options of using this water onsite to meet needs such as irrigation and filling pools; this would result in long-term, minor to moderate, adverse impacts on sustainable water use.

Energy

Under alternative B all new, renovated, or adaptively reused facilities would meet the LEED standards, with long-term, moderate to major, beneficial impacts on renewable energy.

Underground Visitor Parking

Building additional underground parking under this alternative would not be a sustainable solution and would be contrary to the stated policies of the National Capital Planning Commission and the D.C. city government to encourage alternative modes of access in the downtown area.

Summary

Compared to the no-action alternative, alternative B would make greater use of sustainable solutions for new, renovated, or adaptively reused facilities, as well as paid parking on the National Mall. However, underground parking garages would be inconsistent with federal and local governmental policies to encourage sustainability, including greater use of alternative means of access, resulting in long-term, moderate, adverse impacts. The overall impact on sustainability would be long-term, moderate, and both beneficial and adverse.

Cumulative Impacts

The impacts of past, present, and reasonably foreseeable actions would be the same as those described under the no-action alternative and would be long-term, major, and adverse. Impacts under alternative B and actions common to all alternatives would be long-term, major, and beneficial because of improved park conditions, a

reduced deferred maintenance backlog, increased maintainability of mechanical systems and infrastructure, improved operational access, a streamlined permitting process for demonstrations and special events, staffing aligned with core missions, and some sustainable practices. However, while the construction of underground parking garages would increase parking capacity on the National Mall, this solution would not be consistent with sustainability policies of the National Park Service and other federal and local agencies. Cumulative impacts would be long-term, moderate, and adverse, with a large adverse contribution from alternative B.

Conclusion

Compared to the no-action alternative, the overall impacts of alternative B on park operations would be long-term, major, and beneficial as a result of improved park conditions, a reduced deferred maintenance backlog, increased maintainability of mechanical systems and infrastructure, improved operational access, a streamlined permitting process for demonstrations and special events, a reduced funding gap between desired conditions and park budgets, appropriate staffing levels aligned to core operations, and greater reliance on renewable energy sources. However, unlike the preferred alternative and alternative C, no measures would be taken to make water use more sustainable or to support local goals to encourage greater use of alternative modes of access. The impacts of past, present, and reasonably foreseeable actions, in combination with those of alternative B, would result in long-term, moderate, adverse cumulative impacts as a result of treated water use and underground parking garages that would not meet sustainability goals. Alternative B would make a large adverse contribution to cumulative impacts.

IMPACTS OF ALTERNATIVE C

Direct and Indirect Impacts

Alternative C, like the preferred alternative, would make substantial progress to address numerous park operational challenges and inefficiencies that would affect sustainability and the ability to achieve desired conditions on the National Mall.

Impacts on Park Operations

Actions under alternative C, similar to those under the preferred alternative, would address operational issues and seek to improve park conditions, as described below.

Deferred Maintenance

As described under the no-action alternative, the National Mall has a maintenance backlog of more than \$400 million for preservation and repairs to aging facilities, from seawalls to irrigation systems and walks. Under alternative C, like the preferred alternative, some projects would address deferred maintenance needs but would go beyond making routine repairs to resolve the cause of circulation and operational problems. These include the following projects:

- incorporating the highest LEED standard practicable into new, renovated, or adaptively reused facilities, exceeding NPS policy guidelines
- incorporating Sustainable Site Initiative™ benchmarks into landscape maintenance standards
- widening walks to improve operational access and efficiency
- rebuilding the seawalls of the Tidal Basin to accommodate wider walks
- replacing the Potomac River dry-laid seawalls with a natural shoreline using native plants where feasible
- adding separate bicycle trails

Reducing the maintenance backlog in a manner that would improve assets would contribute substantially to the ability to meet desired conditions for park assets and resources. Impacts would be long-term, major, and beneficial.

Assets, Infrastructure, and Amenities

Under alternative C areas within the National Mall would be redesigned as a sustainable urban park. Ease of maintenance would be an important criterion for any redesign of areas such as Union Square, the Mall, the Tidal Basin, Constitution Gardens, and the Washington Monument grounds. As described for the preferred alternative, maintenance operations on the

National Mall would be better able to achieve quality standards and control undesired impacts.

Coordinated approaches to paving, lighting, and furnishings would improve park conditions and would meet the high expectations of visitors. As described for the preferred alternative, specific actions would include the following:

- removing gravel walkways and using universally accessible, sustainable paving materials suitable for all visitors and easy to maintain to high standards, thus creating a high-quality pedestrian environment
- widening narrow walks to better accommodate pedestrian use levels, along with designing them to accommodate maintenance, delivery, or special event access
- restoring soils, removing social trails, and addressing the causes of social trails (such as narrow walkways, drainage puddles, or deteriorated surfaces), and providing surfaces appropriate to recreational uses, such as jogging, to help address the development of social trails
- providing paved spaces to accommodate park, police, or concession vehicles to eliminate impacts from vehicles having to be parked on turf areas
- redesigning irrigation systems on the Mall and at other areas expected to see high levels of use so that the systems could not be damaged by tent stakes, making it easier for optimal turf maintenance
- replacing existing drinking fountains and relocating them so they are near restrooms, designing all facilities to accommodate very high levels of use and be vandal resistant, and using high-quality ergonomic designs, as well as high-quality designs to subtly encourage better treatment by users
- rehabilitating the Lincoln Reflecting Pool and the Constitution Gardens Lake to include water recirculation systems to improve water quality and reduce maintenance time
- redesigning the Capitol Reflecting Pool at Union Square to be shallower and drainable for special events and demonstrations

The overall impact of better designs for assets, infrastructure, and amenities would correct flaws and unforeseen conditions and create a high-quality environment that could be more efficiently maintained to meet visitor expectations. The overall impacts would be long-term, major, and beneficial.

Soil Conditions

The National Park Service has already defined a number of projects to restore poor quality soils, and they would be implemented as soon as funding became available. Soils in the center grass panels of the Mall would be replaced with soils engineered to be like those used on professional sports fields. Soils in other areas would be restored using methods that would not damage trees or other mature vegetation. Areas to be treated would include the elm tree panels on the Mall, Constitution Gardens, and the Washington Monument grounds. Benchmark standards from the Sustainable Sites Initiative™ would help guide restoration plans. Compared to current conditions, the impact of restoring poor quality soils and improving turf conditions would be long-term, major, and beneficial.

Permitted Activities

National celebrations, special events, and demonstrations would continue to affect park operational priorities, limit access, or require overtime that would affect staffing schedules. However, under alternative C, like the preferred alternative and alternative B, some venues would be substantially redesigned and improved to facilitate park operations. Actions would include additional paved areas where high use could be concentrated, improved soil conditions to withstand intensive use levels, and infrastructure and new facilities designed to meet the needs of event organizers as well as maintenance operations during and after demonstrations and special events. Establishing comprehensive recycling programs would help reduce the amount of trash generated at permitted activities. As a result, while the adverse impact on park staff of scheduling and monitoring events would continue, actions under alternative C would make it much easier to maintain acceptable standards. The impact on park operations would be long-term, major, and beneficial.

Staffing

Under alternative C staffing would be focused more on recreational and educational programs and imparting stewardship and sustainability messages, instead of addressing the impacts of high levels of use. As described under “Impacts Common to All Alternatives,” core operations planning would align staff needs with essential tasks related to the park purpose and alternative C, an action that would have long-term, minor to moderate, beneficial impacts on the ability to achieve desired park conditions.

The gap in funding between what industry standards recommend and the park budgets would begin to be reduced as funding and staffing needs were better aligned to achieve desired quality standards. Chronically underfunded areas (landscapes, buildings and waterfront assets) would be prioritized for funding. Impacts on park operations would be long-term, major, and beneficial.

Management Processes

As described under the preferred alternative and alternative A, replacing the permit process for demonstrations and special events with computer-based systems and Internet access would improve efficiencies in the scheduling, issuing, recording, and monitoring or tracking of permits. This would also allow permitted activities to be coordinated among all affected park divisions (maintenance, resource protection, and other park operations). More frequently restoring smaller areas would be more efficient than trying to rehabilitate larger areas, which would have a corresponding greater effect on park use. Incorporating best practices in solid waste management and recycling would result in safer operations for staff and visitors. The overall impacts would be long-term, major, and beneficial because these actions would affect most park staff.

Maintainability

Actions to improve operational efficiency and safety would be similar to those described for the preferred alternative and would include:

- widening walks and providing operational access points from streets to facilitate the movement of maintenance and delivery

vehicles, reduce damage to curbs and walks, and make the performance of regular maintenance activities and other park operations more efficient

- better distributing trash containers and mechanically emptying heavy trash receptacles
- providing facilities designed for easy maintenance to reduce the time needed to perform routine tasks (such as wall-mounted toilets and options to paper towels that would reduce waste)
- installing site furnishings such as benches, trash containers, and wayside signs on paved surfaces to make it easier to keep up surrounding areas
- using self-cleaning restrooms in a number of areas, which would reduce custodial work while providing clean, sanitary facilities
- replacing gravel walks with new paving to reduce labor and other impacts from gravel
- emphasizing the use of standardized parts or equipment that have proven successful in any new designs or redesigns, thus allowing for more efficient stockpiling of parts and equipment and reducing the need for multiple maintenance manuals, a wide variety of tools used only for special tasks, and many types of expertise
- incorporating historic or custom features and furnishings into coordinated suites of paving, lighting, and furniture, thus making it easier to keep replacement parts (such as light fixtures and benches) in stock and allowing repairs to be made more quickly
- ensuring that site furnishings meet accessibility standards, and retaining the molds for some parts or historic or custom components to ensure part availability

As described for the preferred alternative, the impact of designing for ease of maintenance would result in long-term, moderate to major, beneficial impacts on park operations. Emphasizing the use of standard parts and systems would result in long-term, minor to moderate, beneficial impacts. Improving the ability to maintain historic or custom features would have long-term, moderate, beneficial impacts.

Best Practices

The adoption of best practices under alternative C, similar to the preferred alternative, would positively affect park operations by

- providing a comprehensive and secure communications infrastructure, including high-speed Internet communications, throughout the National Mall, making communications more efficient for park staff and law enforcement
- electronically monitoring lighting outages or restroom usage to quickly identify maintenance needs and support efficient scheduling
- mechanically emptying trash containers, reducing the potential for staff injuries from hand lifting heavy trash bags
- developing recycling systems for the collection, storage, and hauling of recyclable materials, an action common to all alternatives

The impact of using common best practices on the efficiency of operations and safety generally would be long-term, moderate to major, and beneficial, the same as the preferred alternative.

Summary

The overall impacts of alternative C would be similar to the preferred alternative and alternative B due to addressing deferred maintenance, providing easily maintained infrastructure and amenities, better handling permitted activities, updated processes, and using common best practices to improve efficiency. However, staffing would be focused on recreational and educational programs, rather than on addressing the impacts of high levels of permitted uses. Nevertheless, impacts would be long-term, moderate to major, and beneficial, making it much easier to achieve and maintain quality conditions on the National Mall.

Impacts on Sustainability

Alternative C, in addition to the actions that would be common to all, would make substantial progress toward making the National Mall more sustainable in terms of water use and renewable energy.

Water Use

Compared to the no-action alternative, alternative C would incorporate a comprehensive sustainable water management plan throughout the National Mall to reduce the use of potable water. This would include finding other nonpotable sources for ornamental water features, such as onsite filtering and cleansing so that gray water, water from dewatering activities at nearby buildings, or storm water could be used where feasible. These actions, as described below, would substantially reduce the use of potable water in water features:

- redesigning the Capitol Reflecting Pool at Union Square as a shallow reflecting pool that could be drained for special events or demonstrations, thus drawing attention to sustainable water management practices
- rehabilitating Constitution Gardens Lake to make it more self-sustaining

Finding sustainable sources of water for these features would not only save millions of gallons of potable water, thus benefiting municipal water supplies, it would also provide an educational opportunity for the National Park Service to demonstrate environmental stewardship.

A naturalized Potomac River shoreline would restore wetland characteristics and be more sustainable than dry-laid walls, a long-term, major, beneficial impact.

The impact of more sustainable water use on National Mall would be long-term, moderate to major, and beneficial.

Energy

Under alternative C, like the preferred alternative, all new, renovated, or adaptively reused facilities would meet the highest LEED standards practicable, exceeding NPS policies. In addition, seeking visible renewable energy sources for lighting and ornamental fountains would allow the National Park Service to present educational programs about renewable energy and sustainability. As a result, the impact on renewable energy would generally be long-term, moderate to major, and beneficial.

Summary

Compared to the no-action alternative, alternative C, like the preferred alternative, would maximize sustainable solutions for water use and renewable energy on the National Mall, setting an excellent example for using sustainable practices. The overall impacts on sustainability would generally be long-term, major, and beneficial because of much more sustainable water use and more renewable energy.

Cumulative Impacts

The impacts of past, present, and reasonably foreseeable actions would be the same as those described under the no-action alternative and would be long-term, major, and adverse. The impacts of alternative C would be long-term, major, and beneficial because of improved park conditions, a reduced deferred maintenance backlog, increased maintainability of mechanical systems and infrastructure, staffing aligned to support core missions, a streamlined permitting process for demonstrations and special events, and take advantage of sustainable practices. Resulting cumulative impacts would be long-term, moderate, and beneficial, with a substantial beneficial contribution from alternative C.

Conclusion

Compared to the no-action alternative, the overall impacts of alternative C on park operations would be long-term, major, and beneficial as a result of improved park conditions, a reduced deferred maintenance backlog, increased maintainability of mechanical systems and infrastructure, improved operational access, a streamlined permitting process for demonstrations and special events, a reduced funding gap between desired conditions and park budgets, appropriate staffing levels aligned to core operations, and exceedance of sustainability standards for development, renewable energy, and water use. While the overall impacts of the past, present, and reasonably foreseeable actions would be long-term, major, and adverse, when combined with the substantial long-term, major, beneficial impacts of alternative C, cumulative impacts would be long-term, moderate, and beneficial.

OTHER NEPA IMPACT ANALYSIS REQUIREMENTS

UNAVOIDABLE ADVERSE IMPACTS

Some vegetation would be lost as a result of widening and paving walkways or constructing hard surfaces for demonstration and special events under the preferred alternative and alternatives B and C. While this would be an unavoidable adverse impact, very little vegetation is expected to be lost under any of the alternatives.

Creating wider walkways around the Tidal Basin under the preferred alternative and alternative B would slightly reduce the size of the basin. Removing the north arm of the Tidal Basin under alternative C would be an avoidable loss.

RELATIONSHIP BETWEEN SHORT-TERM USES OF THE ENVIRONMENT AND LONG-TERM PRODUCTIVITY

All of the actions considered in this document would continue uses of the environment that were established over 200 years ago, and there would be no short-term uses of the environment that would adversely affect long-term productivity.

Long-term productivity of soils would be enhanced with reduced soil compaction under all action alternatives. Decreased use of potable water under the preferred alternative and alternative C would enhance water resources.

IRREVERSIBLE AND IRRETRIEVABLE RESOURCE COMMITMENTS

Irreversible commitments are those that cannot be reversed, except perhaps in the extreme long

term. No irreversible resource commitments have been identified under any alternative for the National Mall plan.

In contrast, irretrievable commitments are those that are lost for a period of time, perhaps a long period of time.

Under the preferred alternative and alternatives B and C the walls of the Tidal Basin would potentially be relocated and the Tidal Basin made smaller in order to accommodate improved circulation for vehicles, pedestrians, and bicycles. Also, pedestrian and bicycle space could be added by either widening bridges, making lane changes, or constructing additional bridges. These circulation changes would be irretrievable commitments.

Filling the north bay of the Tidal Basin under alternative C would result in the irretrievable loss of this constructed water feature.

If continued soil compaction on the Mall under the no-action alternative resulted in the loss of American elm trees and a less consistent tree canopy, the impact would be irretrievable because of the effect on planned historic vistas. It could take 80 years or more to reestablish present conditions.

Energy used during construction would be irretrievable.