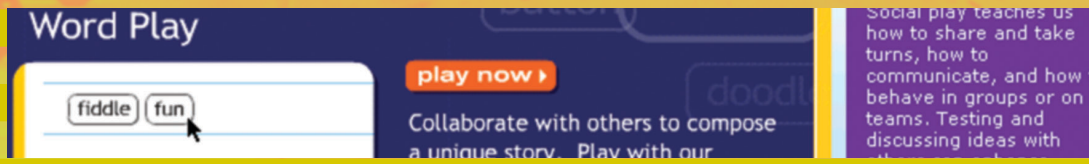
Raising the Bar

A Study of Exhibitions at the Smithsonian Institution



Smithsonian Institution

OFFICE OF POLICY AND ANALYSIS

WASHINGTON, DC 20560-0039

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COVER PHOTOGRAPHS, TOP TO BOTTOM:

Cattleya intergeneric hybrid, Horticulture Services Division, Smithsonian Institution, photo: Karen Miles.

The Battle of Nagashino (detail), by Eisai Shuzen, Japan, Edo period, 18th century handscroll, ink and color on paper, Freer Gallery of Art purchase F1975.25, from the Freer Gallery of Art's exhibition, *Tales and Legends in Japanese Art.*

Tutsi woman, Rwanda (detail), collection of Pierre Loos, from the National Museum of African Art's exhibition *In and Out of Focus: Images from Central Africa, 1885–1960,* photo: Casimir Zagourski.

DADA poster (detail), Paul Rand, American, 1914–1996, USA, 1951, screenprint on white wove paper, 91.5 x 61 cm (36 x 24 in.), Cooper-Hewitt, National Design Museum, Smithsonian Institution, gift of Paul Rand, 1981-29-206, photo: Matt Flynn. Wallpaper, sidewall (detail), USA, c. 1953, produced by Nancy Warren, a division of United Wallpaper, machine-printed, 167 x 52 cm (65 3/4 x 20 1/2 in.), Cooper-Hewitt, National Design Museum, Smithsonian Institution, gift of Kathleen Paton, 1992-129-1-a, photo: Dennis Cowley. Chair, designed by Russel Wright, American, 1904–1976, USA, 1934, wood, painted vinyl, metal, ponyskin, 80h x 74.6w x 72.1d cm (31 1/2 x 29 3/8 x 28 3/8 in.), place made: USA, Cooper-Hewitt, National Design Museum, Smithsonian Institution, gift of Russel Wright, 1976-15-8, photo: Michael Radtke. Folding brise fan, Austria, 1873, wood sticks with applied chromolithography printing on paper, silk connecting ribbon and silk tassel, width 39 cm (15 1/4 in.) and length 22 cm (8 3/4 in.), Cooper-Hewitt, National Design Museum, Smithsonian Institution, gift of Mrs. James O. Green, 1920-10-2, photo: Matt Flynn.

Kandula, born November 25, 2001, National Zoological Park, Smithsonian Institution, photo: Jessie Cohen

Interactive component of the Web site that complements the Lemelson Center's traveling exhibition, *Invention at Play,* Lemelson Center for the Study of Invention and Innovation, National Museum of American History, Smithsonian Institution.

George Washington, 22 Feb 1732–14 Dec 1799, by Gilbert Stuart, 3 Dec 1755–9 Jul 1828 (Lansdowne portrait, detail), oil on canvas, 1796, National Portrait Gallery, Smithsonian Institution, acquired as a gift to the nation through the generosity of the Donald W. Reynolds Foundation.

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Contents

Foreword

SMITHSONIAN MUSEUMS OFFER their audiences a large number of exhibitions that address a wide range of topics, display materials from the Institution's outstanding collections, and draw on formidable scholarship. A highly skilled staff carry out the Smithsonian's exhibition program with energy and skill, and their commitment is clearly evident.

This study posed a central question: Are Smithsonian exhibitions as good as they can be? Drawing on a range of information and knowledge, the research focused on this important question through an analysis of the purpose of exhibitions, an examination of concerns related to exhibitions, a look at the size and capabilities of exhibition staff and the array of exhibition resources, and an assessment of the Institution's ability to make efficient use of those resources.

The study makes clear that we cannot be complacent about the Smithsonian's position and that we must proactively work to strengthen and, even more, to surpass the quality of our exhibitions to date. This study offers a set of recommendations that constitute an exhibition framework for the 21st century. The recommendations transcend narrow interests. If implemented, they have the potential of helping the 23 units that produce exhibitions to achieve Secretary Small's goal of "compelling, first class exhibits." They will enable the Smithsonian to honor its obligation to serve this country's diverse populations.

As with every study undertaken by the Office of Policy and Analysis, many people are deserving of thanks. First and foremost, the staff from my office deserve my sincere appreciation for their dedication, persistence, and judgment. Many other Smithsonian employees generously supplied time and information and provided useful insights. People from other museums, design firms, and academia provided valuable perspectives. Several anonymous reviewers made important comments. I thank them all.

Carole M. P. Neves
DIRECTOR

Acronyms

AAM	American Association of Museums
AMNP	American Museums and National Programs
CAD	Computer Assisted Design
ESO	Exhibition Support Office
ERP	Enterprise Resource Planning
FTE	Full Time Equivalent
FY	Fiscal year
GPRA	Government Performance and Results Act
IAMD	International Art Museums Division
ICOM	International Council of Museums
MOU	Memorandum of Understanding
NAPA	National Academy of Public Administration
NASM	National Air and Space Museum
NEA	National Endowment for the Arts
NMAH	National Museum of American History
NMAI	National Museum of the American Indian
NMNH	National Museum of Natural History
NZP	National Zoological Park
OEC	Office of Exhibits Central
OHR	Office of Human Resources
OIG	Office of Inspector General
OP&A	Office of Policy and Analysis
SAAM	Smithsonian American Art Museum
SCEMS	Smithsonian Center for Education and Museum Studies
SD	Smithsonian Directive
SEF	Special Exhibition Fund
SITES	Smithsonian Institution Traveling Exhibition Service
SPPA	Survey of Public Participation in the Arts
USAMNP	Under Secretary for American Museums and National Programs

Executive Summary

Exhibitions are the principal vehicle through which the Smithsonian Institution interacts with its publics. Over the decades it has presented exhibitions involving a range of material culture and informative interpretation based on authoritative scholarship. Exhibitions are critical to the performance of the Institution's overall mission and are closely linked to its four strategic goals: greater public impact, focused, first-class scientific research, management excellence, and financial strength.

The purpose of this study, initiated by the Secretary of the Smithsonian, was to assess the state of exhibitions at the Institution and to recommend ways to raise them to a higher level of excellence and expand the Institution's ability to serve the varied interests of its diverse audiences. Of necessity, this report presents broad conclusions and recommendations that do not apply equally to every museum[1] and exhibition, given their rich diversity of subject matter, design, and approach. Collectively, the conclusions and recommendations provide a framework within which museums can assess their exhibition programs and plans, exhibition-making processes, and individual exhibitions to identify the strengths on which to build and the weaknesses to correct.

The information that led to the conclusions and recommendations comes from many sources: a survey of the exhibition capabilities of Smithsonian museums; about 250 interviews with staff at Smithsonian and other museums and related organizations in the United States and abroad; visits to more than 80 museums;

1. Many Smithsonian units present exhibitions, some of which they produce and some of which they bring in from outside. For the sake of simplicity, this report uses the term "museums" to refer to all Smithsonian units making or presenting exhibitions. This study excluded a discussion of traveling exhibitions.

group discussions on specific topics; case studies of seven Smithsonian exhibitions; studies of visitor satisfaction; discussions at professional meetings; internal Smithsonian museum documents; and literature pertaining to museums generally, exhibition making, and visitor engagement, as well as relevant topics such as marketing, innovation and creativity, learning organizations, and organizational change.

Conclusions: The Case for Change

Smithsonian museums have a proud tradition of providing exhibitions with scholarly depth, accuracy, interpretive integrity, and exceptional objects. Millions of visitors come to the Smithsonian every year, many of them repeatedly, and they express satisfaction. Critical reviews are generally favorable. A number of recently opened Smithsonian exhibitions reflect the latest principles and practices in exhibitions. Smithsonian exhibitions are evidence of the dedication of skilled, experienced staff and the passion of Smithsonian scholars for communicating their work to the public. In light of the reputation of Smithsonian exhibitions and the public's positive response, it is reasonable to ask why there is a need for change.

Exhibition Quality

Smithsonian exhibitions would benefit from strengthening in several critical areas. They serve only a selective portion of America's demographic makeup. Although the large majority of visitors leave well satisfied with their time at the Smithsonian, in general less than half rate their satisfaction at the top level of unqualified satisfaction. Visitor input throughout the development process and surveys of visitor experiences and satisfaction are infrequent. Smithsonian exhibitions are too seldom seen as standard bearers for creativity and innovation. The intellectual and physical maintenance of Smithsonian exhibitions is poor. Implicit in these observations is that Smithsonian exhibition makers do not adequately address how best to engage the range of visitors who come to the Smithsonian and too often do not seek to engage visitors on their own terms.

Improving Smithsonian exhibitions requires that the central administration issue exhibition guidelines that address performance and quality, particularly in those areas that directly affect visitors' experiences. The Office of Policy and Analysis (OP&A) does not believe that a single set

of definitive standards would be possible or desirable. However, a set of guidelines may be defined that can, across Smithsonian museums, improve the likelihood of accomplishing desired outcomes. The basic premise of any set of guidelines is that exhibitions are visitor-driven and serve a wide range of audiences, while also addressing the needs of other Smithsonian stakeholders.

Exhibitions do not exist in a vacuum. The number of visitors, who they are, and how they respond to Smithsonian exhibitions are profoundly influenced by other factors such as promotion and marketing, how visitors are treated on site, and uncontrollable conditions such as the weather and the state of the economy. Nevertheless, daunting as these factors may seem, the Smithsonian has opportunities to improve the quality of exhibitions and increase visitor satisfaction.

Exhibition Management

Very few organizations offer the range of collections and subject matter expertise that the Smithsonian can bring to bear on exhibitions. However, exhibitions across the Smithsonian do not collectively make up the greater whole that they should because the museums are not working together to harness their collective power. Several factors contribute to this situation:

the lack of a clear mission, vision, and purpose for exhibitions individually and collectively;

the absence of Institution-wide coordination of and support for exhibition programming and exhibition making;

structural insularity across the Smithsonian and within individual units;

a failure to capitalize internally on the many exhibition-related resources—including human resources—found throughout the Smithsonian;

an exhibition culture that does not place a high value on the attributes necessary to achieve excellence in exhibitions—creativity, experimentation, risk taking, collaboration, flexibility, openness, and continual learning;

lack of incentives; and

a weak system of accountability for performance.

Exhibition Management by the Central Administration

Decision-making authority for exhibitions rests with the museums. Nevertheless, the central Smithsonian administration has certain exhibition-related responsibilities, such as to provide general guidance, support the exhibition work of the units, establish performance guidelines, and measure performance. Among the challenges revealed by the study are: inadequate or unclear central guidance and support; weak coordination of museum exhibition programs to ensure that central strategic objectives will be met; lack of supportive central services such as a central repository of information and of expertise in areas such as cost estimation, visitor studies, and exhibition evaluation; and central exhibition-making services that are not rationalized. Smithsonian-wide accountability will require at least that the units report a standard set of financial and non-financial data, provide standard project documentation, and employ a common, Smithsonian-wide exhibition vocabulary.

OP&A concluded that the optimal approach to providing central exhibition services and coordination is through a pan-Institutional exhibition support office. This alternative, when viewed in the broader perspective of Smithsonian programming, points to the creation of a new organizational structure for pan-Institutional programs such as the central offices for education and libraries. The new exhibition support office, the Office of Exhibits Central (OEC), and other pan-Institutional support programs as appropriate would report to this entity.

Exhibition Management by Museums

The Smithsonian's museums have more than a century and a half of experience with successful exhibition making and are well positioned to raise the bar. In addition to the lack of central guidance, challenges include inadequate strategic planning by the museums, poorly constructed exhibition programs, a culture whose values and practices are often inconsistent with what is required to produce engaging exhibitions, inattention to coordinating and leveraging resources within the Smithsonian, and limited accountability.

Exhibition programming. For the most part, Smithsonian museums do not provide systematic guidance for their exhibition making in the form of exhibition mission statements, strategic plans, and policy. Many museum exhibition plans appear to be formulated opportunistically rather than strategically, reflecting the interests and influence of individual subject-matter specialists and departmental "ownership" of galleries. Often they focus on the engagement of the highly educated adult audiences most likely to appreciate Smithsonian scholarship. There is little

discussion of integrated, long-range themes for exhibitions and the desired linkages with collections and research. Too infrequently there is no discussion of the different audiences to be served over time, how they are to be engaged, or how the museum should respond to contemporary issues of concern to its audiences. The result is fragmentation across the totality of exhibitions, excessive homogeneity of presentation within individual museums, and appeal to relatively narrow audiences.

Two factors should guide museum exhibition plans: inclusive visitorship and variety. Inclusiveness means that throughout the year, any visitor will be able to find, somewhere within the Smithsonian, multiple exhibitions that offer personal connections and relevance. Variety encompasses the selection of exhibition ideas, turnover, and presentation with appeal to diverse audiences. Such an open-ended approach to exhibition planning requires staff whose forté is creativity, broad thinking, and openness to different perspectives and voices. Moreover, the Smithsonian would do well to reevaluate the relative roles of permanent and temporary exhibitions and the nature of permanent exhibitions.

Collaboration. Museum exhibitions are inherently cross-departmental and very often multidisciplinary, and should be cross-museum as well. The majority of Smithsonian units and departments are proprietary with respect to their boundaries, collections, and gallery space. There is too little awareness of the prospective benefits of collaboration. Little use is made of non-museum fields such as the communications, recreation, and entertainment industries, which share common goals of conveying information and serving different publics. In the end, the insularity of Smithsonian museums is a disservice to visitors.

Resource use. The Smithsonian must pay constant attention to the way in which it uses its financial, physical, and human resources to preserve, study, and display the nation's heritage. Smithsonian museums could benefit greatly from more sharing and temporary exchange of staff with different experience and skills. A central repository of information on staff skills and experience and a formal process of Institution-wide planning and sharing of human resources would facilitate exchanges. But implementation would also require that museums break down the structural barriers they impose on cooperation. The Smithsonian also needs to determine if it has the right mix and level of skills for its exhibition programming and restructure accordingly, and it needs to address the paucity of training for exhibition staff.

There is a lack of attention to life-cycle costs, particularly promotion and marketing, the post-opening activities of visitor experience and assessment studies, exhibition modification, maintenance, and process evaluation. Similarly, it seems that exhibitions are not adequately

addressed in planning by allied departments such as development, collections, education, and public affairs to ensure that they will be able to provide the required support.

Accountability. Responsibility for overall results rests squarely with museum directors, and they, in turn, are accountable to senior management. At present, accountability at senior levels is hampered by the universal uncertainty over the desired outcomes of exhibitions and ways to measure performance. Smithsonian museums could serve both their own interests and those of the larger museum world by furthering the art of performance measurement.

Management of Exhibition Making

The voice of the visitor is not well represented either on exhibition teams or in exhibition-making processes. The exhibition development process does not routinely include solicitation of input from target audiences. Designers and others trained in presentation techniques and visitor engagement do not have an equal voice with subject-matter specialists, and more balance is needed within core teams. Many teams would benefit from having a neutral, visitor-focused leader, such as an exhibition developer.

Smithsonian museums should be at the forefront of proven trends, technologies, techniques, materials, and strategies. For this to happen, the exhibition-making environment needs to support and nourish creativity and innovation.

The frequency of broken interactives and a poor exhibition environment greatly detract from positive visitor experiences. Good maintenance begins with its inclusion in the exhibition budget and protection of those funds.

Accountability constitutes another wrinkle with the management of exhibition projects. Project debriefings and evaluations are infrequent occurrences, and project management is not disciplined. Of particular concern is the lack of true cost accounting and the frequency with which cost overruns are accommodated by pulling funds from such areas as maintenance and education programs.

Organizational Culture

In many cases the issues described above arise from the Smithsonian's organizational culture. The Smithsonian logically has developed a strong academic culture that has served the Institution well and is fundamental

to its research and scholarly activities. With exhibitions, it assures the accuracy of content. An academic orientation does not, however, always provide the needed underpinnings for strong, compelling exhibition plans and exhibition making. As a trust instrumentality of the federal government, the Smithsonian also has a bureaucratic culture. Neither academic nor bureaucratic cultures are generally attuned to first-class, dynamic exhibition programming, which requires a visitor-centered orientation, risk taking, pursuit of creativity and innovation, a multidisciplinary focus, ongoing interaction with the external environment, a focus on customer interests and feedback, flexibility in the face of change, a willingness to engage in critical self-analysis and continual improvement, and organizational accountability.

Leadership

To develop the kind of exhibition programs discussed in this report will require formulation of exhibition mission and vision statements, policy decisions at the central level, rethinking of the values that underlie exhibitions, far greater understanding of different audiences, and incentives to transform the institutional philosophy, culture, and systems that underlie the development of exhibitions. To implement the recommendations presented here will require changes in the more intractable areas of organizational life. The greatest potential obstacles to raising the bar for exhibitions will be organizational inertia, the failure of management at all levels to encourage new attitudes and practices and to hold itself and those reporting to it accountable for the exhibitions that result, and risk aversion.

Recommendations

1. The central Smithsonian administration should provide clear guidance for exhibitions.

The central administration should develop Smithsonian-wide statements of exhibition mission, vision, and goals. Central exhibition policy should address exhibition roles, boundaries, priorities, stakeholders, inclusive visitorship, visitor satisfaction, and accountability, and should define guidelines for museums' exhibition planning, exhibition-making processes, and exhibition quality.

2. The Smithsonian should ensure institution-wide coordination of and support for exhibition programming and exhibition making.
The Secretary should appoint an under secretary (or director) with responsibility for guiding and coordinating selected pan-Institutional support programs, including exhibitions. Within that office the Secretary should establish a pan-Institutional Exhibition Support Office (ESO). The ESO would support the central administration in carrying out its responsibilities, such as prepare guidance, coordinate museum exhibition programming, and develop and administer a master database of Smithsonian and non-Smithsonian exhibition information. The ESO would optimize the use of exhibition resources Smithsonian-wide through different means such as the internal contracting system, an internal exhibition listserv, and networking systems.

The office would, on request, consult in areas such as exhibition strategic planning, value engineering, development of requests for proposals, and performance measurement. OEC should continue to provide central exhibition-making services, reporting to the under secretary (or director) for pan-Institutional support programs. OEC should charge for labor and materials and provide a mix and level of services based on client demand and an assessment of which services are best handled internally or contracted out.

3. The Smithsonian should optimize the use of the human resources available across the Smithsonian for exhibition activities.
The Office of Human Resources (OHR) should, with the ESO, coordinate a critical skill review to identify needed skills and staffing levels for exhibition making. Based on the results, the museums should, with support from OHR, realign their exhibition staffs. Museums should make greater and more strategic use of temporary employees, interns, fellows, and volunteers in exhibition design and production. The Smithsonian and its museums should augment the training for exhibition employees.

4. Smithsonian management should provide strong leadership in implementing the changes, particularly in culture and accountability, needed to meet its strategic objectives for exhibitions and quality guidelines.

5. The Secretary should establish a task force to initiate implementation of the recommendations in this report.

Introduction

Exhibitions are the principal vehicle through which the Smithsonian Institution interacts with its publics, and over the decades it has presented striking exhibitions containing unique objects and materials and authoritative scholarship. Smithsonian exhibitions provide learning opportunities for people with many different interests and are sources of inspiration, wonder, delight, and entertainment. They are a means of sharing the Smithsonian's rich collections with its publics and of making important ideas available to broad audiences. They have the potential to optimize the Smithsonian's role as a national leader among museums. Exhibitions are thus critical to the performance of the Institution's overall mission and are strongly linked to its four strategic goals: greater public impact, focused, first-class scientific research, management excellence, and financial strength.

Exhibitions are a high priority for the Secretary, who initiated this study by the Office of Policy and Analysis (OP&A). The study's purpose was to assess the state of exhibitions at the Institution and recommend ways to move the Smithsonian to a higher level of excellence in exhibitions and to expand its ability to serve the varied interests of its diverse audiences. It aimed to foster and reinforce innovative exhibition policies, processes, and practices that will prove beneficial to the Institution and its stakeholders. Improving exhibitions requires a commitment from leadership, redirection of priorities, reorganization and restructuring, and rationalization of resources. Museums, like many organizations, have strong traditions that make risk, innovation, and change difficult. Nevertheless, many have begun to reinvigorate their missions and to be proactive, rather than reactive, in intro-

ducing changes that benefit them and their publics. They are transforming their internal cultures to support the attitudes and behaviors of dynamic, engaged organizations that seek continual improvement.

The Smithsonian's strategic goal of excellence in exhibitions is being pursued in internal and external contexts that typically require organizational adjustments. This study considers three factors critical to this adjustment—expertise, coordination, and responsibility—from the perspective of both the central administration and the museums.[1] It also takes into account other organizational factors: leadership, stakeholders, culture, policies, resources, functions, and practices. It does not cover every activity that affects exhibitions, such as research, collections, education, public programs, visitor services, marketing, and fundraising. The study focused on permanent and temporary exhibitions at Smithsonian museums and research organizations. Because of time constraints, it did not deal with traveling exhibitions produced by the Smithsonian.[2]

Of necessity, this report presents broad conclusions and recommendations. OP&A recognizes that all the conclusions and recommendations will not apply equally to every museum and exhibition at the Smithsonian. The differences across the 23 exhibition-making organizations precluded addressing each individually. Instead, the study team tried to identify common issues and themes that apply to a number of units. Collectively, however, the conclusions and recommendations provide a framework within which museums can assess their exhibition programs and plans, exhibition-making processes, and individual exhibitions to identify the strengths on which to build and the weaknesses to correct.

1. Many Smithsonian units present exhibitions, some of which they produce and some of which they bring in from outside. For the sake of simplicity, this report uses the term "museums" to refer to all Smithsonian units making or presenting exhibitions.

2. Along with the exhibition study, OP&A has been working on a study of collections and assisting the Smithsonian Center for Education and Museum Studies (SCEMS) with a study of education. That work has informed this study. Drawing on these experiences, OP&A will undertake in 2003 a separate comprehensive study of traveling exhibitions produced by the Smithsonian Institution Traveling Exhibition Service (SITES) and other units.

Methodology

OP&A initiated the study in June 2000 and completed the major data collection and analysis in September 2002. The information in this report came from the following sources:

Most of the quantitative data is from a survey of the exhibition capabilities of Smithsonian museums conducted by OP&A. The questions requested square footage of exhibition and public spaces and detailed descriptions of exhibitions that opened in fiscal years (FY) 1999–2000, including costs, estimates of staff time spent on exhibitions, and self-assessments of units' strengths and weaknesses. The museums provided the data in written form; the study team resolved inconsistencies but did not independently verify the data.

The study team collected qualitative data in individual and group settings:

It conducted more than 250 interviews with Smithsonian staff and looked at numerous Smithsonian exhibitions, and it visited more than 80 museums and related organizations in the United States and abroad, in some cases interviewing staff as well (see Appendix A). Because OP&A assured the interviewees of confidentiality and anonymity, this report does not contain names or references to specific interviewees, organizations, or events unless they were clearly in the public domain or the interviewee granted permission.

It held six group discussions at the Smithsonian that focused on specific topics (such as project management, role of curatorial staff, and exhibition development) and conducted a day-long workshop on interactives.

It carried out case studies of seven Smithsonian exhibitions to gather in-depth information on the exhibition-making process.

It studied visitor responses to two major Smithsonian exhibitions, *The American Presidency* at the National Museum of American History (NMAH), and *Explore the Universe* at the National Air and Space Museum (NASM). Smaller visitor studies conducted at Smithsonian art museums, National Museum of Natural History (NMNH), NMAH, NASM, and the Smithsonian Castle complemented these data.

The study team attended a number of formal presentations and participated in informal discussions at professional meetings. These included the American Association of Museums (AAM), Visitor Studies Association, Association of Science-Technology Centers, and AAM's Exemplary Interpretation: Characteristics and Best Practices seminar.

The study team reviewed literature and unpublished documents pertaining to exhibition making and related writings on museums, visitor studies, marketing, and relevant topics such as innovation and creativity, learning organizations, organizational change, and the role of national museums (see Appendix B). Internal Smithsonian museum documents describing exhibition-related processes and documentation of specific exhibitions, including schedules, budgets, and individual responsibilities, were also covered.

In the course of reviewing and analyzing these materials, OP&A issued 11 white papers. The papers are listed in Appendix C, and they are available through the OP&A website (www.si.edu/opanda/reports.htm).

Organization of the Report

The external and internal environments within which exhibition making takes place are reviewed in the first section of this report. The second section contains the study's conclusions, which make the case for change in the Smithsonian's approach to exhibitions and identify areas of concern. The third section outlines OP&A's recommendations for improving Smithsonian exhibitions through policy guidance, central support, optimization of human resources, management, and leadership. The last section presents a summary of the findings on which the conclusions are based. Interspersed throughout the Conclusions and Findings sections are boxes that amplify points in the text. The exhibitions cited are either ones that OP&A staff saw or that received awards, and their selection was subjective. They highlight some particularly effective approaches used by museums outside the Smithsonian. The appendices contain lists of interviewees and organizations included in the study (Appendix A), a bibliography of the materials reviewed (Appendix B), titles of the OP&A exhibition study white papers (Appendix C), the findings and conclusions from a separate, earlier OP&A study of the Office of Exhibits Central (Appendix D), and documentation on the recently instituted system for internal contracting for exhibition services (Appendix E).

Background

Museums throughout the world, including those at the Smithsonian, are being propelled to change in many ways, including how they approach exhibitions. External factors include an increase in competition from other leisure-time activities along with a decrease in leisure time; heightened competition for resources; greater emphasis on the public service role of museums; and closer scrutiny by stakeholders in all areas of operations. Internally, in addition to issues endemic to older organizations, the Smithsonian is adjusting to the mandates of a new leadership and senior management, and the different organizational reporting structures and procedures that have been instituted. As a backdrop to the conclusions, this section summarizes both external and internal factors that necessitate improvements in how the Smithsonian approaches, manages, and produces exhibitions. A rational, controlled approach to organizational change can take better advantage of inevitable changes in the environment, can maximize the benefits, and can avoid or mitigate the risks.

A Challenging External Environment

The external environment in which the Smithsonian has been operating changed significantly in the last quarter of the twentieth century.[1] Discussions held at the 1974 International Council of Museums (ICOM) conference in Copenhagen marked the beginning of the universally acknowledged shift in the focus of museums from "self-contained professional units" to "cultural centers for the communities within which they operate."[2] Economic and sociopolitical forces, including shrinking funds,

1. For a more extended discussion, see Sections I and II in Office of Policy and Analysis, *21st Century Roles of National Museums: A Conversation in Progress* (Washington, DC: Smithsonian Institution, Office of Policy and Analysis, 2002). Available at www.si.edu/opanda/reports.htm.

2. Kenneth Hudson, "Attempts to define 'museum,'" in *Representing the Nation: A Reader,* eds. David Boswell and Jessica Evans (New York: Routledge, 1999), 371

the performance and accountability movement, the professionalization of museums, and the changing expectations and demographic compositions of populations are driving this transition.

Shrinking Funds

At the same time as the number of museums has greatly increased, there has been a decrease in public funding for their operation. Museums have had to rely more on income from visitors, such as entrance fees and shop and restaurant sales, and on individual, corporate, and foundation funding for program activities.[3] This reliance has meant that American museums have had to be more attuned to visitors' and funders' perspectives, needs, and expectations.[4] At the Smithsonian, flat government funding relative to inflation and huge resource demands for the construction of new buildings and the renovation of existing ones have severely limited the federal money available to exhibitions. Public dollars for exhibitions are not likely to increase in the coming years, and museums will have to look elsewhere for funding.[5]

While few disagree that limited federal resources and an ailing economy have made private funding an imperative, the terms surrounding private gifts continue to be debated, particularly as the quid pro quo of typical donors is changing. The new venture philanthropists are characterized as entrepreneurs rather than "patrician donors," who tended to give funds with few restrictions.[6] The new breed of donors expects greater accountability from museums for their charitable investment and may want to influence how their money is spent.

The Performance and Accountability Movement

Fiscal concerns also motivated the performance movement that gained momentum in the early 1990s. It called for greater efficiency and increased accountability among not-for-profit organizations and government agencies regarding how funds are spent, as well as a reappraisal of the benefits to ensure distribution to a larger public and not merely an

3. For discussions of these issues, see Office of Policy and Analysis, *The Cost and Funding of Exhibitions* (Washington, DC: Smithsonian Institution, Office of Policy and Analysis, 2002), and Office of Policy and Analysis, *Marketing Exhibitions: Will They Come?* (Washington, DC: Smithsonian Institution, Office of Policy and Analysis, 2002). Available at www.si.edu/opanda/reports.htm.

4. Stephen Weil, *Making Museums Matter* (Washington, DC: Smithsonian Institution Press, 2002), 28–52.

5. A study of alternative funding mechanisms for exhibitions was beyond the scope of this study. OP&A is currently conducting a study for one Smithsonian museum on the feasibility of charging admission fees for special exhibitions.

6. See Michael Wolfe and Robert Ferguson, "New Money, New Demands: The Arrival of the Venture Philanthropist." *Museum News* 80, no. 1 (January/February 2001): 56–59.

elite. Continued support was tied to an ability to show that goals had been accomplished. Worldwide, a number of national museums were given performance and accountability mandates:

> In the United States, the Government Performance and Results Act (GPRA) was passed in 1993 to "improve Federal program effectiveness and public accountability by promoting a new focus on results, service quality, and customer satisfaction."[7]
>
> In England, the Department for Culture, Media and Sport's Funding Agreements called for its sponsored bodies to "focus measurement on what the funding has achieved in terms of outcomes, rather than simply volumes of activity."[8]
>
> The Treasury Board of Canada's management agenda, *Results for Canadians,* requires public managers to "continually focus attention on results achievement, measure performance regularly and objectively, learn from this information, and adjust to improve efficiency and effectiveness."[9]

Professional organizations such as ICOM and AAM have underscored performance and accountability and emphasized the public service role of museums.

For the Smithsonian specifically, the federal government has begun to review performance relative to strategic goals such as public impact and management excellence. The Office of Management and Budget has made it clear that the Smithsonian must comply with GPRA and the President's Management Agenda. Congress and the Smithsonian have both called for outside reviews of specific areas of Smithsonian operations in the last two years, including:

> The National Academy of Public Administration (NAPA) *Study of the Smithsonian Institution's Repair, Restoration and Alteration of Facilities Program* (July 2001).
>
> *The Report of the Blue Ribbon Commission on the National Museum of American History* (March 2002).

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7. Government Performance and Results Act (GPRA), Public Law 103-62 (107 Stat. 285), 5 January 1993.

8. Quality, Efficiency and Standards Team (QUEST), *Modernising the Relationship: A New Approach to Funding Agreements: A Report to the Secretary of State for Culture, Media and Sport* (London: Department for Culture, Media and Sport, September 2000).

9. Treasury Board of Canada Secretariat, *Results for Canadians: A Management Framework for the Government of Canada* (1999). Available at www.tbs.sct.gc.ca.

Workforce Planning Project: Staffing Analysis for the Smithsonian Institution, to comply with the President's Management Agenda initiative for Strategic Management of Human Capital (September 2002).

Parallel NAPA and National Academy of Sciences studies to assess whether the Smithsonian should compete for scientific research funding (October 2002).

The Science Commission study and recommendations of strategic direction for science (December 2002).[10]

Professionalization

Federal support for arts and humanities institutions over the past 30 years and the peer-review process used in securing the competitive grants have had a major influence on the exhibition programs of many American museums.[11] Harold Skramstad, former director of the Henry Ford Museum, commented on this professionalization of museums and what appears to have been a confounding effect of narrowing museum audiences:

> *What we are now beginning to recognize is that the same process of intense professionalization and internal standard raising in the museum community has had another effect: widening the disconnect between museums and the general public audiences that they purport to serve. Ironically the peer review process, essential to assure this massive Federal support, exacerbated this trend, imposing academic standards as the primary standard for museum public programs.*[12]

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10. National Academy of Public Administration, *Study of the Smithsonian Institution's Repair, Restoration and Alteration of Facilities Program* (Washington, DC: National Academy of Public Administration, 2001); Blue Ribbon Commission, *Report of the Blue Ribbon Commission on the National Museum of American History* (Washington, DC: Smithsonian Institution, 2002); Herb McClure & Associates, *Workforce Planning Project: Staffing Analysis for the Smithsonian Institution* (Washington, DC, 2002); National Academy of Public Administration, *Scientific Research at the Smithsonian* (Washington, DC: National Academy of Public Administration, 2002); National Academy of Science, *Funding Smithsonian Scientific Research* (Washington, DC: National Academy of Science, 2001); and Smithsonian Institution Science Commission, *Report of the Smithsonian Science Commission* (Washington, DC: The Smithsonian Institution Science Commission, 2002).

11. Primarily the Institute for Museum Services, the National Endowment for the Arts, and the National Endowment for the Humanities.

12. Harold K. Skramstad, Jr., "The Changing Public Expectations of Museums. Proceedings at Museums for the New Millennium: A Symposium for the Museum Community, Smithsonian Institution," Office of Museum Studies, Smithsonian Institution, Washington, DC, 1999. Available at www.museumstudies.si.edu/millenium.

Changing Audience Expectations

About 15 years ago, Sir David Wilson described the national museum visitor as "generally intelligent and able to read and even use libraries to look up background information. . .the national museum Director is usually catering for the intelligent child or adult."[13] Today, by contrast, a common objective is to "treat all visitors, existing and potential, with equal respect, and provide access appropriate to their background, leve of education, ability and life experience."[14]

Kenneth Hudson describes a fundamental change over the past 25 years in the museum-going public and their expectations:

> *Its range of interests has widened, it is far less reverent and respectful in its attitudes, it expects to find electronic and other modern technical facilities adequately used, it distinguishes less and less between a museum and an exhibition, it considers the intellect to be no more prestigious or respectable than the emotions, and it sees no reason to pay attention to the subject-division and specialisms which are so dear to academics.*[15]

The Smithsonian, as well as other museums, faces growing competition in attracting audiences. The competition is fueled both by the burgeoning leisure industry and by changes in how people choose to spend their time. The changing leisure-time environment has major implications for the design and nature of museum exhibitions specifically. Younger generations, for example, are growing up in a flashy, multimedia, multisensory, fast-moving entertainment and consumer-oriented environment. Museums have to be sensitive to these changes. With reference to Australia's National Museum, its director said,

> *The use of multimedia and computer technology, stronger reliance on narrative, and different aesthetics of colour and sound, indicate museums' attempts to move closer to the styles of popular culture. Australian museums now attempt to integrate their traditional pedagogic function with the concept of visitors having fun, being moved, and feeling excited.*[16]

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13. Sir David M. Wilson, "National Museums," in *Manual of Curatorship: A Guide to Museum Practice* (Oxford: Butterworth-Heinemann Ltd., 1984), 85.

14. Mark O'Neill, "The Good Enough Visitor," in *Museums, Society, Inequality* (London and New York: Routledge, 2002), 24.

15. Hudson, 374.

16. Dawn Casey, "Accounting for Audience in Australian Museums," *Year Book Australia 2001,* 14. Available at www.abs.gov.au

Closer to home, the Henry Ford Museum recently commented on its need to be "more relevant in an entertainment marketplace saturated with options."[17]

Other aspects of demographic change need to be considered. In the United States, going back to the social changes spurred by the civil rights movement in the 1960s, racial and ethnic groups have sought full participation in the nation's institutions, including museums. Public denial of cultural identity and belonging has made many African Americans and other minorities suspicious of museums.[18] Barry Gaither points out: "As more formerly invisible social groups exercise political expression, public support by virtue of our tax laws will have to become more accountable to and reflective of a broader segment of the public."[19]

Reinforcing this demand for inclusiveness is the fact that the make-up of many national populations is rapidly changing because of extensive, ongoing immigration. In the United States, for instance, unless major changes occur by the year 2050, current minority racial and ethnic groups collectively will comprise the majority.

Related to the shift in audience expectations and composition has been the increased sensitivity of museums to their role as educators. In the early 1980s, AAM organized a task force to assess museums' readiness for the future. The resulting task force report, *Museums for a New Century,* concluded that museums had failed in meeting their educational potential and that changes in organization and priorities were called for.[20] AAM, in response, established another task force to propose actions that would strengthen museums' educational role. Several years later, it issued *Excellence and Equity: Education and the Public Dimension of Museums,* which defined education as "central to museums' public service."[21]

A Changed Internal Environment

As several external advisory groups, consultants, and committees have pointed out, the Smithsonian Institution has endured resource cutbacks, inconsistent incentives and disincentives, decentralized authority with

17. Jon Pepper, "Ford Preserves Past for Future," *Detroit News,* February 13, 2000. Available at www.travel-adviser.com/.

18. Ivan Karp, et al., eds., "Civil Society and Social Identity," in *Museums and Communities: The Politics of Public Culture* (Washington, DC: Smithsonian Institution Press, 1992), 23.

19. Edmund Barry Gaither, "Hey! That's Mine: Thoughts on Pluralism and American Museums," in ibid., 57.

20. American Association of Museums, *Museums for a New Century: A Report of the Commission on Museums for a New Century* (Washington, DC: American Association Museums, 1984).

21. American Association of Museums, *Excellence and Equity: Education and the Public Dimension of Museums* (Washington, DC: American Association of Museums, 1992).

vague responsibility, weak oversight, stifled communication, the lack of a self-evaluating and self-correcting capacity, and obsolescence caused by adherence to past methods and outdated technical systems. Historically, the external scrutiny of the way the Smithsonian conducted its affairs has focused more on its research than on its exhibitions and de-emphasized the administrative aspects. That approach started to change in May 1995, when *The Report of the Commission on the Future of the Smithsonian Institution* was issued. Since that time, the Smithsonian has undergone a number of significant changes, many still ongoing, which are slowly affecting the way it operates.

A Performance-Oriented Approach

While stresses in the internal environment such as diminishing discretionary funds have built steadily for some time, the turning point for internal change was the Board of Regents' hiring of Lawrence Small as Secretary Small, who took office in January 2000, brought a performance-oriented approach to operations and an emphasis on measurement. The need to raise vast sums of money was the foremost priority, but others involved management deficiencies, such as the deferred maintenance of an aging physical infrastructure, outdated technology, unwieldy financial administration, a shortage of adequate storage space for collections that was likely to grow worse, and a slow response to congressional and executive branch demands for accountability. The new results-oriented approach meant significant changes to the prevailing *modus operandi*.

Reinterpretation of the Smithsonian's Mission

One of Secretary Small's first actions was to articulate a new mission statement that defined his vision of what the Smithsonian should be doing in the next 10 years:

> Seeking to enlarge a shared understanding of the mosaic that is our national identity, the Smithsonian is committed to being the most extensive, nationwide provider of authoritative experiences that connect the American people to their history and to their scientific and cultural heritage.
>
> Seeking to extend the uniquely powerful contribution science has made to the development of the United States, the Smithsonian is committed to promoting scientific innovation and discovery by operating the country's premier centers for astrophysics, biodiversity research, and a select number of specialized fields in the life and earth sciences.

Small's mission statement signaled a refocusing of the exceedingly broad mandate of "the increase and diffusion of knowledge" that had guided the Smithsonian since its inception in 1846.

Small's four strategic goals—public impact, focused, first-class scientific research, management excellence, and financial strength—further clarified his priorities, including a new emphasis on increasing attendance at Smithsonian exhibitions by "offering compelling and absolutely first-class exhibits in immaculately maintained and serviced facilities using 21st century technology." Small also called for the expansion of Smithsonian audiences far beyond the composition of its current visitors and the extension of public programming through a national outreach effort.

Organizational Restructuring

At the time the new Secretary took office, decentralization in most activities had reached a point where there were few information systems or mechanisms to hold units and people accountable. Small instituted a concerted effort to modernize and standardize Smithsonian-wide systems such as information technology, financial accounting, and human resource management. The Secretary centralized services such as facilities maintenance, formerly under the purview of individual units, and added several libraries, formerly under the direction of individual museums, to the central system. He has continued the former Secretary's emphasis on pan-Institutional, holistic thinking, and on collaboration among museums that have tended to function independently.

Changes in Senior Management

There has been a major turnover of Smithsonian museum directors in the past three years. Reasons for the departures include natural attrition, differences over management styles and strategies, and, most notably, the changing role of museum directors in response to resource constraints. As Mary Battiata wrote in a recent Washington Post Magazine article:

> *Historically, American museum directors, like their European counterparts, have been scholars and connoisseurs who steered their institutions with a wise eye and aristocratic mien. In the past two decades, however, rising museum operating expenses, shrinking endowments (owing to recent stock market losses) and soaring art prices have radically changed the game.*

Increasingly, the ability to navigate the corporate world and reel in financial support has become at least as important as the paintings you buy and how you hang them; some say it's become more important. [22]

The new museum director, in contrast, must not only have academic credentials, but he or she must also be more attuned to the external context, astute about marketing and revenue production, adept at fundraising, and skilled in management. One departing director told the study team that, in contrast, when he was hired by the Smithsonian in the mid-1980s, he was explicitly told that fundraising was not part of his job.

An Aging Physical Plant

A significant cause of the resource dilemma faced by the Smithsonian is endemic to large, aging organizations. William Bergquist explains:

As modern organizations have grown larger and older, they have required an increasing proportion of resources to be devoted to integrative services, services needed to keep the organization from falling apart. A smaller proportion of resources is available for the direct services provided by modern organizations, thereby reducing their efficiency and ultimately their effectiveness.[23]

In the last few years, the Smithsonian has had to confront that same reality. The recent NAPA study concluded that the Institution has a $1.5 billion backlog in maintenance, and a high priority of the Secretary is to up-grade the Institution's physical plant. Because salaries and operating costs now account for 70 to 90 percent of the federal allocation at several of the Smithsonian's museums, there is little federal money for activities such as exhibition making.

22. Mary Battiata, "Ned Rifkin Explains It All," *Washington Post Magazine,* October 13 2002, p. W11.

23. William Bergquist, *The Postmodern Organization: Mastering the Art of Irreversible Change* (San Francisco: Jossey-Bass, 1993), 42.

The Smithsonian's Comparative Advantages

As the Smithsonian moves to address these altered internal and external environments, it enjoys several important assets:

EXTENSIVE RESOURCES. The Smithsonian has a base of federal funding, bolstered by strong support from the taxpaying public, which affords a level of financial stability unusual for museums.[24] The Smithsonian's large staff encompasses expertise in a wide range of subject and technical areas. Smithsonian collections are among the largest and most comprehensive in the world.

PREMIER TOURIST DESTINATION. The Smithsonian is the premier tourist destination in Washington, DC. The Institution has a very loyal following, with a tradition of cross-generational visitors—adults who had a memorable trip to the Smithsonian as children and want their families to share that experience. Many people speak of the Smithsonian with veneration and see it as a place that must be visited.

DISTINCTIVE BRAND. The Smithsonian has a recognizable brand. People look to it for its scale, the scope of its subject matter, the quality and diversity of its collections, certain iconic exhibitions such as the *First Ladies,* and its scholarly authority.

FREE ADMISSION. Entrance into Smithsonian museums and exhibitions is free.

24. The Smithsonian annual appropriation is roughly equivalent to the return on a $10 billion endowment.

Conclusions: The Case for Change

Smithsonian museums have a proud tradition of providing exhibitions with scholarly depth, accuracy, interpretive integrity, and exceptional objects. Millions of visitors come to the Smithsonian every year, many of them repeatedly, and they express satisfaction. Critical reviews are generally favorable. A number of recently opened Smithsonian exhibitions reflect the latest principles and practices in exhibitions. Smithsonian exhibitions are evidence of the high level of dedication of skilled, experienced staff, and the passion of Smithsonian scholars for communicating their work to the public. In light of the reputation of Smithsonian exhibitions and the public's positive response, it is reasonable to ask why there is a need for change.

Exhibition Quality

While Smithsonian exhibitions receive high praise for scholarship and interpretive integrity, in several critical areas they could be better, particularly if the Smithsonian is to compete effectively in the 21st century.

Audience inclusiveness. The Smithsonian serves only a selective portion of America's demographic makeup. For the millions of people who visit, millions more who are able choose not to. The Smithsonian, as a federal trust instrumentality, has a mandate to serve all citizens and to be as inclusive as possible. Inclusiveness is a challenge for all museums, and the Smithsonian is one of the few organizations with enough space and resources to host the range of exhibitions necessary to serve a truly diverse audience. To increase the diversity of Smithsonian audiences will mean attracting people with less education and lower incomes and people from burgeoning ethnic and cultural groups.

Attracting underserved audiences is not straightforward. There has been little systematic research or definitive findings on how to reach these audiences and whether it is best accomplished in the museum or in communities. It is clear, however, that exhibitions alone are an insufficient attraction. Exhibitions must be combined with other efforts, such as community involvement in exhibition development, highly targeted promotions, services such as facilitated transportation and multilingual staff, and a dedicated, Institution-wide commitment by the museums to something more than episodic programs aimed at target populations.

VISITOR SATISFACTION. Based on internal visitor studies, while the large majority of visitors leave well satisfied with their time at the Smithsonian, in general less than half rate their satisfaction at the top level of unqualified satisfaction. In 11 Smithsonian visitor studies over the past five years, between 20 and 50 percent of visitors chose the top category when asked to rate their satisfaction with a Smithsonian exhibition or museum. OP&A believes that a higher percentage of visitors to Smithsonian exhibitions should rate their experience as highly successful. Other museums have set standards calling for 80 to 90 percent of visitors to select the top category of satisfaction.

VISITOR ENGAGEMENT. A good understanding of the multiple dimensions of visitor engagement is not evident in Smithsonian exhibitions.

> Typical exhibitions in Smithsonian art museums consist of aesthetic displays of objects for viewing. The non-art museums tend to present objects and interpretation didactically. Only infrequently do Smithsonian exhibitions provide richly immersive and interactive settings that enable visitors easily to find personal connections and achieve greater understanding of their lives and their world.
>
> Too many exhibitions are safe and conservative in interpretation; they fail to challenge conventional thinking by offering new perspectives. Too few exhibitions achieve relevance by linking past and present and provoking visitors to think differently about the future. Unless the exhibitions in America's national museums—which should

Risk!

Risk!, a 5,000-square-foot interactive exhibit developed by the Fort Worth Museum of Science & History, encourages visitors to explore and understand risk and its relevance to their everyday lives. Visitors enter on the "Beam Walk," a seven-inch-wide beam on the floor of a long and narrow room. They are made to feel as though they are moving along the beam of a skyscraper under construction about 50 stories off the ground because the room's floor, walls, and ceiling are covered with a continuous photograph of such a scene, creating the illusion that the beam is projected into that space. Visitors acknowledged that they felt queasy and uncomfortable after getting off the beam, and they immediately realized that they had been given a taste of risk to set the context. From there they engage in other risk-related experiences such as "Bed of Nails," "You Bet Your Life," and "Car Crash." The *Risk! Cinema* presents stories and perspectives of people with occupations that involve considerable risk and leads visitors to consider the risks they take.

A Matter of Taste

Everybody loves food, so why not an exhibition that offers artwork dealing with food, artwork made from food, an "Impressionistic" picnic corner, giant shopping carts filled with real food, and a kitchen that guest chefs use for demonstrations? All these are part of *Food and Art: A Matter of Taste*, an interactive exhibition in the Youth Wing of the Israel Museum (Jerusalem) intended to engage entire families. Through food, this popular exhibition shows how different cultures, from Roman to modern times, have merged food and art in painting, sculpture, photography, film, video art, literature, installation, and, not least, cooking and eating. The exhibition is organized around four themes: food as temptation, illustrated by portrayal of the "apple"; food and the five senses, depicted through the look, smell, taste, touch, and even sound of food; food as a social experience, as encountered through the shared creation and eating of food; and food as art, shown through the works of major established artists and commissioned works of contemporary artists.

serve all its citizenry, as well as non-citizens seeking understanding and insight into this nation and its peoples—enter the fray of past, present, and future in more relevant ways, they may ultimately be dismissed as inconsequential.

The Smithsonian has paid insufficient attention to current research on how audiences engage with exhibitions and on different learning styles. Education in exhibitions is very different from the didactic approach used in the classroom or seminar, where students are required to learn what instructors teach and to read prescribed texts. In a museum, visitors are in charge of how and what they choose to learn from exhibitions, and exhibition makers need to be more sensitive to the range of expectations that visitors bring with them. Unless Smithsonian exhibitions fully address that range, they are not serving their visitors adequately.

Although the Smithsonian sees itself as a destination for families with children, few exhibitions are explicitly directed to them. Public programs other than exhibitions more frequently serve these audiences. In general, exhibition makers have been reluctant to systematically engage younger audiences.

INNOVATION. Smithsonian exhibitions are too seldom seen as standard bearers for creativity and innovation. The study team review of exhibitions revealed that museums elsewhere show more creativity in the selection of exhibition topics, in exhibition design, and in approaches to visitor engagement. Some, for example, offer innovative exhibitions devoted to children and families; immersive environments; small, quick-turnover topical galleries devoted to in-depth interpretation of a single object; and modest, simply designed, low-cost rotating exhibitions that highlight ongoing research or new acquisitions. This variety allows a museum to address the different interests, backgrounds, and engagement styles of different audiences, actual and potential, and helps attract local audiences.

EXHIBITION MAINTENANCE. The intellectual and physical maintenance of Smithsonian exhibitions is remarkably poor. By intellectual maintenance is meant up-to-date infor-

mation, interpretation, and design. Many permanent exhibitions no longer communicate the latest knowledge and interpretation and are clearly outdated in presentation. In many museums, the physical maintenance—the upkeep of the exhibition environment and components—is deficient. Too often visitors find that interactives are broken, lights are out, cabinetry and cases are chipped or scuffed, and exhibition space and elements are dusty and dirty.

EXHIBITIONS AS DRAWING CARDS. Exit surveys indicate that tourists tend to see the Smithsonian as a general, pilgrimage-type destination as much as a place to see particular objects and exhibitions. The study team believes that the Institution should be known as a premier destination for extraordinary exhibitions.

A common thread implicit in these observations about exhibition quality is that Smithsonian exhibitions could better serve their visitors, actual and potential. They do not appear to originate from a commitment to service and a respect for the expectations of visitors. Instead, like artists whose work is an expression of their identity, Smithsonian staff produce exhibitions that say who they are as collectors, researchers, and educators. The museum staff decides for visitors what they should see and learn, and how they should do it.

Many at the Smithsonian will take strong exception to the conclusion that visitors are not at the forefront of exhibition thinking. Museum and exhibition policy documents typically contain language about serving visitors and providing visitors with certain experiences. Nevertheless, when the study team looked at the implementation of those policies and at the exhibitions the Institution provides visitors, it found that too often exhibitions sought to engage visitors on the exhibition makers' terms, rather than trying to serve visitors on their terms. It could not avoid the conclusion that meeting the needs of visitors—as visitors define them—is not a leading principle of Smithsonian exhibitions.

OP&A believes that improving Smithsonian exhibitions requires that the central administration issue exhibition guidelines that address performance and quality. Central standards have been established for some aspects of exhibitions, including safety, accessibility, and artifact conservation and preservation. These standards, some of which are being used worldwide, are excellent, although they could at times be applied more uniformly. For example, compliance with the accessibility guidelines across the Smithsonian is inconsistent.

Choices for Everyone

The most unique feature of the visionary St. Louis City Museum is the freedom it affords to make whatever you want of its wide variety of exhibitions. The first floor is an artistic environment exhibition that is all about moving your body through amazing spaces, large and small. You can walk, climb, and crawl through structures and tunnels, drop into holes, slide, and dance on a dance floor. A wild, creative mixture of recycled materials and sculptures is integrated into an unpredictable but coherent landscape that includes caves, a walk-through whale, a sky tunnel, a hollow tree, and an "enchanted forest." The caves seem real, in contrast to the usual ersatz museum ones. A wonderful tile floor mosaic with the theme of water ties the whole space together.

The second floor includes many places to make things and offers different means of expression for different levels of dexterity. There are opportunities for every age, be it making paper cutouts, coiled clay pots, key chains, or paper rubbings. Demonstrations by professional potters and glass blowers carry the experience in yet other directions. Permanent exhibitions of broken architectural details salvaged from buildings in St. Louis, demolished as part of urban redevelopment, offer less physical experiences. A quiet, traditional exhibition space houses temporary exhibitions, most recently one of art inspired by Celtic forms.

OP&A found, however, that other aspects of Smithsonian exhibitions that more directly affect the visitors' experience, such as intellectual accessibility and design, are not addressed adequately. Nor are visitor expectations for comfort, engagement, and relevance. Solicitation of visitor input during the development process and surveys of visitor satisfaction are infrequent.

In his request for this exhibition policy study, the Secretary specifically asked that OP&A develop quality standards for exhibitions. From the start, the study team realized that this task would be highly challenging. It was unlikely that a single set of definitive standards would be possible or desirable for a medium in which variety, creativity, adaptation, and flexibility are essential and for an Institution that encompasses such different museums. Similarly, no set of standards would apply to every exhibition, with their different contexts, goals, and target audiences. It is also important that museums have the flexibility to depart from standards where circumstances justify.

The study team concluded, however, that it is possible to define a set of guidelines that all Smithsonian museums can apply in decision making to improve the likelihood of accomplishing desired outcomes. The point of departure for developing quality guidelines is that exhibitions at the Smithsonian must be visitor-driven and serve a wide range of audiences, consistent with the current strategic emphasis on public impact. At the same time, OP&A recognizes the importance of addressing the needs of other Smithsonian stakeholders, principally the Board of Regents, Smithsonian senior management, exhibition makers, staff, donors, and the Congress. Recommended guidelines for exhibition programs, exhibition making, and exhibition quality appear in the next section of this report. They are based on those used by other museums, the professional exhibition evaluation community, museum associations, and professional organizations, as well as on the comments of interviewees and the observations of OP&A staff.

One additional point must be made when considering the case for change. Exhibitions do not exist in a vacuum. No matter how high their quality, they cannot by themselves achieve the Secretary's public impact goals. The number of visitors, who they are, and how they respond to Smithsonian exhibitions are profoundly influenced by other factors such as how visitors are informed of or attracted to the Smithsonian (promotion and marketing); a museum's general image (for example, elitist or populist); provisions for comfort (such as seating, coatrooms, eateries, and crowd control); and how visitors are treated (the friendliness and helpfulness of staff such as docents and security personnel, the ease of wayfinding). In addition to these factors, which are within the Smithsonian's

control, there are uncontrollable factors such as weather, the state of the economy, and transportation costs. The Smithsonian must attend to as many factors as possible if it is to realize the most return on its investment in creating compelling, first-class exhibitions. OP&A believes that a useful first step would be a broad study of services for visitors to the Smithsonian.

Exhibition Management

When Smithsonian museums are viewed individually, OP&A finds that their organizational structures for exhibition making, the processes and procedures they use to implement exhibitions, and the level of resources expended are similar to those of comparable museums elsewhere. However, Smithsonian museums do not collectively make up a greater whole, as they should. These museums, especially those on or near the National Mall, should not simply be residents with related interests that share a common neighborhood. Instead, they should be working together to harness a collective power that can provide excellent exhibitions with appeal to a wide range of visitors. Very few organizations offer the range of collections and subject matters that the Smithsonian can bring to bear on exhibitions.

OP&A's analysis indicates that a fundamental problem, and major barrier, to improving exhibitions is that the museums are not working together as one organization because of the absence of a Smithsonian-wide vision for exhibitions, the failure of central guidance, and the lack of an appropriate culture, supportive systems, and coordinated management. This lack of central leadership for exhibitions is, in turn, reflected in how the separate museums handle exhibitions. In looking at central and unit-level guidance and management of exhibition programming and projects, the study team found six common themes:[25]

> the lack of a clear mission, vision, and purpose for exhibitions individually and collectively;
>
> the absence of Institution-wide coordination of and support for exhibition programming and exhibition making;
>
> structural insularity across the Smithsonian and within individual units;

Listening to the Community

After the riots in Cincinnati in April 2001, the Cincinnati Museum Center believed it should respond quickly in some way to help reunite the community. In 90 days, it developed and installed a free, temporary three-month exhibition, *Civil Unrest in Cincinnati: Voices of Our Community.* A community advisory committee that included historians, community members, and a journalist worked with the center. In the first of the three parts of the exhibition, the history of civil unrest in the city provided context for the recent riots. Because the center felt strongly that community voices should tell the story of the unrest, the second part highlighted the comments that leaders, people on the streets, police officers, and others made in videotaped interviews conducted by center staff. The interviews were accompanied by TV news footage and written text. The third part described what had happened since the riot, with regular updates, until the exhibition closed. This part also included drawings by children and by teens from a suburban and a downtown high school who met periodically during the remainder of the school year following the unrest. Visitors could pick up copies of a bibliography and other materials in the exhibition resource center.

25. The themes are presented here not in order of importance but in categories paralleling the recommendations that follow in the next section.

a failure to capitalize internally on the many exhibition-related resources—including human resources—found throughout the Smithsonian;

an exhibition culture that places scholarship and content ahead of public service and that does not place a high value on the attributes necessary to achieve excellence in exhibitions—creativity, experimentation, risk taking, collaboration, flexibility, openness, and continual learning; and

a weak system of accountability for performance.

Exhibition Management by the Central Administration

Decision-making authority for exhibitions rests with the museums, research institutes, and central offices of the Smithsonian, which are responsible for the majority of the exhibitions they present to the public. The central Smithsonian administration in turn has certain exhibition-related responsibilities, such as providing guidance and facilitating and supporting the exhibition work of the units. Because the Smithsonian as a whole is ultimately accountable to the Board of Regents and the executive and legislative branches, it must also ensure that its Institutional mission is achieved and that its exhibitions attain the highest possible level. To this end, the Secretary is responsible for setting central strategic goals and objectives, establishing policy for exhibitions, and measuring their performance across the Institution. The Secretary is also responsible for ensuring that the museums make optimal use of resources and sustain an environment that best supports the development of excellent exhibitions. The study team found that issues relating to central guidance, functions and services, and accountability impede the central administration's ability to carry out these responsibilities.

Central Guidance

It is appropriate that the formulation of exhibition programs and the making of exhibitions be decentralized at the museum level, given their different missions, sizes, subject areas, collections, and resources. Nevertheless, central strategies and policy that address areas such as exhibition mission and vision, priority of exhibitions relative to other museum functions, and guidelines for exhibition planning are necessary to ensure accomplishment of the strategic exhibition goals of the Institution.

Current central guidance is inadequate. In noting the absence of clear central guidance, OP&A acknowledges the value of a framework

that would help museums in formulating their exhibition programs and assessing whether, collectively, Smithsonian exhibition programs contribute effectively and appropriately to the accomplishment of the Institution's mission, goals, and priorities.

Mission, vision, and goals. Definition of an exhibition program mission, vision, and goals for the Smithsonian will require a philosophical dialogue about the role of national museums within a changing external environment. Do the Smithsonian's national status and scale confer special responsibilities on its exhibitions? What values should underlie Smithsonian exhibitions? How should the desired target audiences be defined? How should exhibitions address the nation's different population groups? Should exhibitions provide the interpretations of history that those groups have experienced?

Other issues include the boundaries of acceptability for Smithsonian exhibitions. If the Smithsonian is to help people connect to their roots and their national identities, should its exhibitions include the moral dilemmas inherent in democracy, capitalism, technology, and America's status as the most powerful nation in the world? Should exhibitions deal with topics of great import to today's publics, even if sensitive or difficult? How should public and stakeholder scrutiny impact the Institution's choice and presentation of exhibitions? Where do the Smithsonian and its exhibitions fit in the current international environment, and how should they seek to engage international visitors? These questions are particularly relevant today, given the evolving nature of American society —its ethnic composition, income disparities, educational levels, professionalism, and mobility—as well as changes in the world at large.

The answers to these questions are best pursued through dialogue with the staff, the public, and stakeholders, although in the end the final determinations must rest with the Board of Regents and the Secretary.

Policy. Neither the central strategic objectives nor performance indicators for exhibitions recently issued by the central administration,[26] nor Smithsonian Directive 603, Exhibition Planning Guidelines (SD-603), issued in August 1995, provide overarching mission and vision statements that articulate the raison d'être of Smithsonian exhibitions for both museums and visitors. The Secretary, in calling for this study, recognized the need for strong central exhibition policy.

Priorities. The Institution is hampered by the uncertainty museum and exhibition staff find over the priority to be accorded exhibitions relative to other functions. Mixed messages about the importance of exhibitions

26. The objectives and indicators are listed on page 69 in the Findings section.

contribute to the uncertainty. Guidance on relative priorities is necessary to prevent the museums from stretching themselves too thin and thus affecting the quality of their work. That uncertainty is likely to grow as internal resources decline with no diminution in the level of activity required in other core functions such as research, collections, and education and other public programs.

Central Functions and Services

The findings show that the central administration is not adequately coordinating the exhibition programs of the museums, publicizing the Smithsonian as a place for diverse exhibitions, promoting museums' access to one another's exhibition-related resources, supporting the regular dissemination of internal information, providing incentives to reach new levels of excellence, or facilitating access to the knowledge and experience of the outside world, be it museums or allied fields of entertainment, recreation, or business. The consequence is missed opportunities for leveraging efforts, inefficient utilization of exhibition resources across the Institution, and exhibitions that could be more up-to-date in terms of design, materials, and presentation.

Smithsonian-wide coordination. There is no master schedule and supporting database for planned exhibitions and their target audiences, content, aims, concept models, design or presentation approaches, locations, size, and schedules. Without such a schedule and database, it is difficult to coordinate opportunities, collaborate on exhibition development and related activities such as promotion, and use exhibition resources Smithsonian-wide. Two aspects of Smithsonian-wide require particular attention.

> Greater cooperation, coordination, and collaboration internally and externally to ensure more effective use and greater leveraging of exhibition resources. Examples include sharing of exhibition-making resources, both informally and through internal contracting; formal mechanisms for pan-Institutional networking[27]; temporary exchanges of staff that allow them to enrich their skills and experience by working on different projects at other museums; joint planning of exhibitions; cross-referencing of exhibitions; and coordinated multimuseum research in areas such as visitor draw and exhibition tech-

27. "Pan-Institutional," as defined in this report, refers to programs or activities that occur throughout the Smithsonian on a voluntary basis, i.e., implementation or adoption is up to each unit. "Smithsonian-wide," in contrast, refers to programs or activities that occur throughout the Smithsonian as the result of a policy or directive from the central administration.

niques. In addition, Washington, D.C. has a number of museums with which the Smithsonian could usefully engage in partnerships to develop joint or companion exhibitions. The Sackler Gallery, for example, borrowed and displayed a small selection of carpets from the Corcoran Gallery of Art.

Development and use of agreed-upon standard items in visitor studies and exhibition evaluations so that the Smithsonian can develop comparable data over time. Such data are essential to future improvements of exhibition programming and exhibition development.

Information sharing. A wealth of information relating to all aspects of exhibition programming and development exists across the Smithsonian, but access to it is restricted by inadequate documentation, a lack of knowledge about what exists where, and the absence of a central repository for exhibition information. Information that could be shared includes exhibition program plans, availability of exhibition-making staff expertise and equipment, recyclable equipment and materials such as display cases, contractor information, and lessons learned from Smithsonian-organized and outside exhibitions at the Smithsonian (both those produced internally and those brought in from outside). Of particular value would be information, both internal and external, on creative exhibitions and exhibition making.

There is a similar paucity of information on trends, events, and research in the museum field, such as design trends, new materials, non-mainstream exhibition-related literature, and new research on exhibition evaluation methodologies. There is even less information from relevant non-museum fields such as theater, mass media, and product design.

OP&A believes that the central administration has a responsibility to support the exhibition work of its museums by facilitating access to exhibition-related information, both internal and external. Doing so centrally offers cost-efficiencies and promotes Institution-wide cooperation. Common mechanisms for information sharing include a central clearinghouse (the Smithsonian Center for Education and Museum Studies and the Museum Studies Reference Library are examples), opportunities for internal networking, an internal listserv, and sponsorship of colloquia and seminars with outside experts. The central administration could also do more to foster in-service training.

Access to services. Central offices such as the Office of Contracting, Office of General Counsel, and the Accessibility Program offer excellent support for exhibition-making. Analysis of the study findings revealed gaps in other areas, however, where the central administration could

appropriately provide exhibition-related services, either directly or on a consulting basis, which the museums could draw upon as needed. The perception is that only the smaller units need this support, but the findings indicate a wider demand, although at varying levels. In addition, the central administration will need assistance in carrying out its own responsibilities in strategic planning, exhibition program reviews, and development of standard protocols for accountability and research. At present, there are no independent central resources with the expertise to assist the central administration in these areas.

Consulting services. Access to a central repository of expertise would benefit exhibition programming and exhibition making in areas such as assistance with cost estimation, preparation of technical specifications for requests for proposals, visitor studies, exhibition evaluation, and strategic exhibition programming. Providing those services will require a central pool of expertise that museums can call on.

Exhibition-making services. OP&A identified a clear demand for central exhibition-making services, primarily exhibit and graphic design, writing and editing, and fabrication, but also specialized services such as lighting, taxidermy, model making, bracket making, packing, crating, and interactive prototyping, testing, and maintenance. At present, a number of central exhibition services are available primarily through the Office of Exhibits Central (OEC), although the recently instituted formal system of internal contracting also provides a mechanism for museums to obtain services from one another.

While clients overall said they were pleased with the quality and timeliness of OEC's services, both they and the study team identified issues that detract from service delivery.[28] The study team could not identify an underlying rationale for the selection and rejection of requests for OEC services, such as giving priority to clients that lack internal resources or to exhibitions tied directly to Smithsonian strategic goals. OEC should be credited for undertaking strategic planning, but the content of its plans, including the mix of services it proposes to offer, derives more from OEC's internal vision for itself than from a strategic Smithsonian-wide perspective or the stated service needs of clients. For example, although the plan calls for expanded plexiglass service, interviewees did not identify that as a major internal need. In fact, several people thought this to be a service best contracted out.[29] These issues are exacerbated by the lack of clear, central guidance as to OEC's mission and priority clients. It is also

28. More details can be found in Appendix D.

29. This question of the optimal mix of internal and contract services applies to all units developing exhibitions. Some areas of exhibition making, such as audiovisual production and multimedia, are probably better handled through outside contracts for reasons of cost and the difficulty of keeping up with changes in these fields. This matter requires further study.

true that OEC struggles with the universal challenge all small service organizations face—how to handle very uneven workloads and projects of widely different scopes.

Another area of ambiguity was the uncertain basis for when and what OEC charged clients. Moreover, because OEC does not recover full (direct and indirect) costs from clients, its services amount to a subsidy for those units able to get on its schedule, and it does not receive the market-based feedback and incentives necessary to maximize its efficiency and effectiveness.

Persistent OEC management issues such as unclear and overlapping roles and responsibilities, tension across divisions, uneven workload distribution, inconsistent internal procedures, and limited accountability have created problems with work flow, although in the end OEC has been meeting its deadlines and producing satisfactory products. Finally, compared to private-sector exhibition design and production operations, OEC has generally lagged in upgrading to the latest equipment, materials, and technology such as computer-assisted design (CAD), digital graphics, and metalworking.[30] However, its facility at 1111 North Capitol Street and its limited finances limit the extent to which upgrades are possible.

OP&A believes that, along with museum-specific exhibition-making services, the Smithsonian should have some level of central services, although OP&A did not calculate its exact level or scope. Certain units will generally find it easier to work with an internal provider. Many units need emergency services that are best provided internally. It is also important for the Smithsonian to have an internal fallback in the event contracted services are not successful.

OP&A explored several options for delivering central exhibition-making services:

> Create one central exhibition-making unit by merging all resources (museum and OEC). Those resources would be allocated through internal contracting and complemented by external contracting.
>
> Create exhibition-making units for each of the three major Smithsonian divisions, and distribute OEC resources among those units.

30. OP&A understands that since it conducted the study, OEC has upgraded its skills and equipment in some areas, such as metalworking.

Maintain the museums' individual capabilities, and split up OEC to appropriate museums. Units with no internal capability could contract internally or externally.

Leave OEC unchanged but rationalize its operations, in particular its selection of projects, mix of services, and management. OEC would need stronger central guidance and full cost-recovery authority.

OP&A concluded that however central exhibition-making services are provided, they should not be free or subsidized except under exceptional circumstances. There are several reasons for this conclusion:

1. The units themselves and/or contractors provide similar exhibition services, and linking central services to costs is especially important when alternatives exist.

2. The Federal Accounting Standards Advisory Board, GPRA, and the President's Management Agenda initiative for budget and performance integration are all moving the government toward cost accounting and cost recovery measures.

3. The performance of a central exhibition-making office should be tied to its ability to provide services that are competitive in terms of quality, schedule, and cost. Without full cost recovery and the implied need for competitiveness with other service providers, there is little inducement either to client or service provider to work efficiently and manage well. Cost-reimbursable systems cause managers to be conscious of the full cost of operating their units; as a result, they are more careful in requesting services. Direct costs can be monitored over time, thereby providing an impetus for increased efficiency of operations.

4. Free and subsidized services raise equity issues with respect to which unit gets those services (and therefore does not have to raise full exhibition funding) and why some clients have to pay more than others.

5. Finally, the ability of an exhibition-making office to expand capacity and upgrade regularly is greatly limited without cost recovery.

OP&A recognizes that the elimination of free and subsidized services could cause problems for some units, and a shift to full cost recovery would need to proceed in stages to address that impact. For example, were OEC to move to full cost recovery, it might still need to provide a minimal level of subsidized services, to be made available based on rigorous, needs-based criteria.

Having concluded that the central administration should carry out certain responsibilities and provide certain services, the study team looked at how best to provide for them organizationally. OP&A explored two options:

> Assign new responsibilities, to the extent possible, to existing units. For example, the Smithsonian Institution Libraries could be responsible for developing and administering an exhibition information repository. This option appears to be relatively low cost and easy to implement. Three factors mitigate against it: the questionable capacity of existing units to undertake additional responsibilities, the lack of suitable expertise, and the need for an independent Institution-wide organizational locus.
>
> Set up a pan-Institutional exhibition support office that would report directly to an under secretary or director. This alternative, when viewed in a broader perspective of Smithsonian programming, points to the creation of an under secretary (or director) for pan-Institutional support programs. Reporting to this individual would be a new exhibition support office (staffed primarily by staff currently working at the Smithsonian), OEC, and other pan-Institutional support programs as appropriate. The disadvantage is that the creation of another division has some resource requirements and is likely to be regarded as another layer of bureaucracy. However, actions can be undertaken to reduce reporting burdens and simplify procedures. The major advantage is that this option would place allied support programs together, which would facilitate coordinated planning and program delivery, leverage resources, and focus attention on this strategic priority of the Secretary.

Incentives. The ongoing pursuit of higher levels of performance, and the changes called for in this report, ask much of Smithsonian staff. OP&A believes strongly that the effort should be grounded in a system of incentives that rewards museums and individuals for their achievements and their willingness to move beyond the norm. Incentives can be established both at the museum and central administration levels. They can take many forms, such as public recognition, financial and nonfinan-

Exhibitions as Extraordinary Learning Environments

The following comes from the exhibition-making guidance at the Fort Worth Museum of Science & History. It is referred to as the "Stone Tablets" because management issued the guidance in that "format."

Definition of an Extraordinary Learning Environment:

An ELE is a stimulating, multi-dimensional, immersive place where visitors have opportunities to hear real stories, interact with cool stuff, construct their own knowledge and because of their experience, the visitors will never be the same.

What an ELE should be:

Fun
Immersive
Encourage discovery
Learner driven
Stimulating
Multi-dimensional
Accessible
Resource efficient
Connected

Visitors will have the opportunity to:

See and touch cool, real stuff
Hear stories
Test their ideas
Have fun
Catch yourself doing something you never thought you would do
Do things you can not do at home or in school
Play
Interact with others
Experience a-ha!

cial rewards, job promotion, and trips to conferences and to successful exhibitions at other museums. At the institutional level they can also take the form of competitive grants, along the lines of the former Special Exhibition Fund (SEF). The strongest incentives are likely financial ones available to individuals, projects, and museums. Competitively awarded seed money can be particularly important in supporting the critical phases of idea exploration and concept development. The Smithsonian would do well to explore the alternatives and develop a system of meaningful exhibition incentives. It should take into account results of research in the business world about which incentives best encourage creativity.

Central Accountability

Accomplishing central strategic objectives requires looking at the alignment of museum exhibition plans and programs with those objectives. It also requires Smithsonian-wide monitoring and performance measurement of the exhibition programs that the museums develop and carry out. The central administration moved toward greater accountability when it required strategic goals and performance indicators for exhibitions, and it is now strengthening its financial accounting with the new Enterprise Resource Planning (ERP) system. However, it is in the very early stages of developing a system for monitoring and reporting progress against goals and measuring performance. A Smithsonian-wide accountability system will require at least (1) the definition of a standard set of financial and non-financial data that each museum regularly collects and reports to the central administration; (2) standard project documentation; and (3) a common, Smithsonian-wide exhibition vocabulary. It is also unclear how the financial data from the ERP system will be linked to non-financial performance information.

Exhibition Management by Museums

The Smithsonian's museums have more than a century of experience with successful exhibition making and employ a large community of exhibition makers with different skills. The museums have vast collections on which to draw and an array of resources with which to develop exhibitions. They have considerable gallery space, and the modernization of the physical plant will result in more and better space. The museums are well positioned to raise the bar for exhibitions. What, then, are the challenges that museum management and exhibition makers need to address?

Despite the installation of a number of exceptional exhibitions across the Smithsonian, OP&A found that the development of compelling, up-to-date exhibitions that collectively serve a range of audiences

has not occurred consistently. One problem is the lack of central guidance, discussed above, but others relate to

inadequate strategic planning by museums;

poorly constructed exhibition programs and plans;

insularity with respect to Smithsonian colleagues and the external world;

inattention to the coordination and leveraging of resources within the Smithsonian; and

limited accountability.

In addition, Smithsonian museums have not transformed themselves into creative, dynamic learning organizations, although exhibitions are a creative, dynamic medium offered to audiences who live in an ever-changing, consumer-driven recreation and leisure environment.

Exhibition Programs

Museum exhibition mission or policy documents typically state that exhibitions should align with the museum's mission and be sensitive to visitors. For the most part, those statements are not elaborated in strategic exhibition plans. Further, many mission and policy documents, and related exhibition programs, do not identify integrated, long-range themes for exhibitions and link those themes to the museum's collections and research. They do not address the communication role of exhibitions relative to other media such as publications and public programs. They often do not identify the different audiences to be served over time, how they are to be engaged, and how the museum should respond to contemporary issues of concern to its audiences. The individual and cumulative impact of both permanent and temporary exhibitions on the public is rarely addressed. Performance and quality standards are infrequently stated, and indicators for assessing performance are not established. Similarly, there is little evidence that planning has considered issues that engage much of the museum world today, such as relevance, community linkages, inclusiveness, and the museum as a public good.

OP&A believes that strategic thinking of this sort provides the foundation for powerful, coherent exhibition programs and effective public service. Strategic guidance relative to visitorship is particularly important in two areas:

Attracting and satisfying underserved audiences, the end result of an inclusive strategy, will likely require different promotional strategies and different kinds of exhibitions than

Secrets of Aging

When staff at the Museum of Science, Boston, asked their visitors to select from a list the ideas that most interested them, aging was one of the most popular. So the museum put together a 9,000-square-foot interactive exhibition on the topic. One of its most effective devices was the t'ai chi ch'uan room in which a projected shadow demonstrated the slow-motion movements of this exercise form. When visitors attempted to copy the movements, their shadows were projected on the screen alongside the master's shadow. Another outstanding feature was the emotionally compelling art video, *Journey with Me*, which interwove interviews of elders with the movements of professional dancers responding to their stories.

Endurance

The idea for the gripping photography exhibition, *The Endurance: Shackleton's Legendary Antarctic Expedition*, presented by the American Museum of Natural History in New York, originated with a "cold call" to the museum by freelance writer Caroline Alexander. Alexander, who had no background in photography or curatorship, was obsessed with the story of the *Endurance*. She had done exhaustive research on the subject and written a children's book based on it.

Sir Ernest Shackleton, a renowned polar explorer, wanted to be the first person to cross the Antarctic continent. His ship, *Endurance*, became trapped in drifting pack ice that eventually crushed and splintered it and left the expedition stranded on the floes. After camping on the ice for five months, Shackleton made a treacherous 800-mile ocean crossing to South Georgia Island and trekked across its mountains to a remote whaling station. From there he launched a rescue that saved his crew.

Expedition photographer Frank Hurley documented this tale of leadership, courage, and perseverance in the face of seemingly impossible odds. Alexander says she was completely dazzled when she first saw Hurley's photographs and how good they were, and was amazed that they had never been exhibited comprehensively.

Smithsonian museums typically use. Given tight resources, museums may want to cooperate in developing and evaluating experimental projects to reach these audiences.

Exhibition planning should address the engagement of local audiences as well as out-of-town visitors. The population in the Washington metropolitan area has been growing in numbers and changing in composition, and the museums would benefit from this diverse local audience in terms of year-round visitor flow and spending. Attracting this local audience has important implications for the selection of exhibition topics, exhibition turnover, relations with local communities, scheduling of exhibition openings, and the balance between temporary and permanent exhibitions.

Museum Exhibition Plans

Many museum exhibition plans appear to be formulated opportunistically rather than strategically, reflecting the interests and influence of individual subject-matter specialists, departmental "ownership" of galleries, and the engagement of the highly educated adult audiences most likely to appreciate Smithsonian scholarship. The result is fragmentation across the totality of exhibitions, excessive homogeneity of presentation within individual museums, and appeal to relatively narrow audiences. In calling for more strategically based and structured exhibition plans, OP&A has not, however, lost sight of the importance of flexibility to adjust as circumstances warrant.

OP&A believes that museum exhibition plans should be guided by two factors: inclusive visitorship and variety.

Inclusive visitorship. The Secretary's public impact and exhibition goals put visitors strongly at the forefront of programming. Visitors can be described in many different ways, including established ethnic minorities, new Americans, children and families, scholars, foreign tourists, and other audience groups that traditionally have not visited Smithsonian museums. They can also be categorized according to learning styles, expectations, interests, and other non-demographic characteristics. Inclusiveness does not mean that each museum at all times must have in place an exhibition targeted at every conceivable type of visitor. Rather, it means that over time the Smithsonian will benefit if the museums do a better job of identifying and serving a variety of audiences and working as a whole to ensure that throughout the year, any visitor will be able to find, somewhere within the Smithsonian, multiple exhibitions that offer personal connections and relevance.

An emphasis on visitors does not preclude exhibitions that have other aims, such as displaying a collection to encourage the owner to donate it to the museum, raising a museum's profile, supporting fundraising, addressing the interests of a particular stakeholder, highlighting research breakthroughs, or commemorating or celebrating a particular event. Those are appropriate exceptions, but visitors should still be a factor in decisions about design and presentation.

To implement this emphasis on service to visitors, the museums need better information about actual and potential audiences to inform their exhibition programming and exhibition making, such as audience needs and interests, effective exhibition topics, principles of audience engagement with exhibitions, what attracts return visitors, methods of informal learning through exhibitions, and lessons learned from a variety of exhibition approaches. Smithsonian museums now collect a limited amount of information on audiences, and there are few staff who can evaluate and apply the research available in the literature or from other sources. Even fewer resources have been devoted to understanding why certain audiences do not come to Smithsonian exhibitions on the Mall and what would attract them. This type of exploration is best coordinated centrally.

Variety. Particularly as the museums work toward more inclusive visitorship and public service as defined in exhibition quality guidelines, they will benefit by paying greater attention to the variety in their exhibition plans. An analogy is a bookstore, wherein customers can find a range of materials to suit their interests in topics, content, type and level of writing, length, and, these days, media. Variety with respect to exhibitions encompasses the selection of exhibition ideas for the exhibition plan, turnover, and presentation. The exhibition is a medium particularly well suited to serving diverse audiences because it embodies an abundance of opportunities and approaches, from the display of a single, unparalleled object in a case by itself with minimal text to a richly immersive experience that takes the visitors into a particular time and place.

Idea selection. The study team found that the process for selecting ideas does not support the formulation of creative exhibition plans with appeal to diverse audiences, and it results in missed opportunities. Smithsonian exhibition plans would benefit from a more expansive process for the generation, submission, and review of ideas that emphasizes original thinking, involves multiple perspectives, and makes greater use of external exhibitions.

Such a process requires open channels for the submission of ideas from multiple sources, including front-line staff and members of the community as well as subject matter departments, with less stringent requirements for idea submission. Rather than reviewing ideas to identify

Earth Science as Theater

Dynamic Earth: Inco Limited Gallery of Earth Sciences at the Royal Ontario Museum, one of two AAM Museum Exhibition Competition winners in 2000, is an immersion experience that uses traditional gallery space much like a series of stage sets. It shows the influence of exhibition team members who came from the theater world. Looking up in the entry-area Crystal Cave made of thousands of quartz crystals, visitors see a transparent, multilayered globe with a glowing inner core. This area leads to "Earth in Motion," a film projected 360 degrees onto the theater's circular walls and floor. Glowing lava and rumbling sounds beckon visitors to "Restless Earth," a film projected onto the floor, animating the forces that shape the earth's surface. An earthquake table demonstrates the effect of seismic waves, and an interactive map describes patterns of volcanoes, earthquakes, plate boundaries, and mountain ranges. Two cartoon characters introduced in the Alien Planet gallery, Trog and Algie, narrate the birth of the planet and the beginnings of life on earth. The topic continues even in the restrooms, where displays show how minerals are used in everyday products such as toothpaste.

A to Z

Minnesota A to Z at the Minnesota Historical Society/History Center Museum opened in 1992 with objects from the state's history organized into 26 sub-exhibits following the letters of the alphabet. B(aseball) displays local heroes and paraphernalia, I(nvention) shows various inventions, both practical and amusing, that originated in Minnesota, and V(oices) lets visitors listen to different members of the community. The frame of the permanent exhibition has proven very flexible and allows for updating and replacement. Within a decade, at least half of the objects have been rotated and five letters completely redesigned. This year, Tiger Jack's squatter shack, a local icon, will replace T(oys), and U(p to the lake), which shows photos of family outings going back to the turn of the century, will become...U(nderwear)!

those that seem the most likely candidates for exhibitions from the subject-matter specialists' perspective, the intent would be to identify topics of potential interest and value to different audiences. A more open process would move the museums away from the choice of ideas of interest to staff, with insufficient attention to whether these ideas also touch on the lives and needs of visitors.

Concept development. The formulation of exhibition plans would benefit from the concept development of many more interesting ideas than can be produced. The ideas would be explored from different angles, experimented with, shaped and reshaped, and, in some cases, discussed or tested with potential audiences. In the current linear process, only a minimum number of ideas move forward on a predetermined path to the exhibition plan. The result of this alternative concept development process would be a rich pool of feasible exhibition concepts, all consistent with the mission, strategic themes, and subject areas of the museum. The set of exhibition concepts would make up a portfolio for presentation to possible donors. Those that receive firm commitments of funding would be added to the exhibition plan with a target opening date and would move into the design phase. This process would not preclude a museum from moving forward with, and internally funding, an idea that it believes has particular merit but for which it would be difficult to raise funds.

Concept development should be a dynamic process in which content and design are explored in tandem and periodically reviewed with target audiences. Such an open-ended approach to exhibition planning requires staff whose forte is creativity, broad thinking, and openness to different perspectives and voices. Smithsonian museums have a wealth of staff, such as representatives from marketing, development, and education, and even front-line staff on the floor, whose thinking can usefully inform the concept development and selection process. Some museums have found it useful to involve members of target audiences, local communities, and outside consultants.

Turnover. The number of temporary exhibitions directly affects how many different audiences can be served, how many objects can be shown, and how current an exhibition's content is. For reasons of flexibility and resources, the Smithsonian would do well to reevaluate the relative roles of permanent and temporary exhibitions and the nature of permanent exhibitions. There is no place in today's rapidly changing world for permanent exhibitions that stay up more than 10 years, and in some fields even 10 years may be too long. Museums elsewhere offer strategies and techniques for staying up-to-date, relevant, and attractive to visitors, particularly local audiences.

Some may argue that more temporary exhibitions are impossible given resource constraints, primarily funds and staff. OP&A contends that the museums already raise external funds for most exhibitions and that their success or failure in raising funds will determine the resources they have available. With respect to staff shortages, those same external funds can be used to bring on temporary personnel for particular projects. The resource requirements for temporary exhibitions also vary significantly. Some museums highlight research and new acquisitions through small, simply designed, less expensive formats so that they can do more of them more frequently.

Potentially the most significant obstacle to greater use of temporary exhibitions is space. Galleries for temporary exhibitions are quite limited at many museums. There needs to be a reasonable balance between long-term commitments of space for permanent exhibitions and galleries for temporary and smaller exhibitions. However, certain permanent exhibitions have become icons and are major draws for visitors who return years later with the next generation of their family. These exhibitions are probably best retained indefinitely, although they will benefit from periodic refurbishing, as was done with *First Ladies.*

Presentation. The findings and a related white paper[31] devoted considerable attention to exhibition presentation, including different approaches to engaging visitors: artifact display, communication of ideas, visitor activity, and immersive environments, or combinations of these approaches. Furthering the goal of visitor inclusiveness and the ability of visitors to engage easily with exhibitions implies greater attention to diverse approaches and to the selection of presentations that best relate to the characteristics of different audiences, such as age, level of education, background, gender, culture/ethnicity, experience preferences, and learning styles.

Insularity

Museum exhibitions are inherently cross-departmental and very often multidisciplinary. In an organization like the Smithsonian, they should be cross-museum as well. Within Smithsonian museums, however, the majority of departments are proprietary with respect to their boundaries, collections, and gallery space. Communication and cooperation generally flow up and down within departments more than across them. This same insularity is found across museums, which are commonly characterized as fiefdoms that lack a pan-Institutional perspective and are uninterested in

Sounds from the Vault

In developing *Sounds from the Vault*, the Field Museum asked a visionary musician from New York to survey the ethnographic collection of musical artifacts collected by museum anthropologists from indigenous peoples in the early part of the century and in storage since then. A question emerged about the collection that formed the heart of the exhibition: "If an instrument is quiet for too long, does it lose its sound?"

The exhibition team recruited musicians to digitally record the primitive drums, flutes, conch shells, rattles, gongs, cymbals, rattlesnake earrings, and a 12-foot long Tibetan trumpet. Then, in the exhibition, visitors could "play" the 50 instruments on raised drum-shaped touchpads in front of the cases where the objects were displayed. As visitors activated the touchpads, sounds combined in ever-changing arrangements. The exhibition team purposefully avoided labels and interpretation, wanting, instead, to see how the experience worked out. The result? Visitors made music with each other, music teachers used the exhibition to teach kids, and musicians came in to jam.

31. Office of Policy and Analysis, *Exhibition Concept Models* (Washington, DC: Smithsonian Institution, Office of Policy and Analysis, 2002). Available at www.si.edu/opanda/reports/htm.

working with fellow museums. Where collaboration occurs, typically it results from personal friendships rather than organizational policy.

There is too little awareness of the prospective benefits of collaboration. Examples include cost savings, leveraging of resources, and new learning that comes from working with organizations that have different interests and serve different audiences. In the final analysis, the starting and end points of exhibition collaboration are what best meets the interests of the Smithsonian's publics. To this end, collaboration needs to be a visible institutional value in policies, plans, and performance measurement, and senior managers need to lead by supporting collaborations and motivating talented staff to put aside parochial instincts by rewarding them for creativity, interpersonal skills, initiative, and cooperative use of resources.

While collaboration is important, it is not an end in itself. In any successful collaboration, there must be mutual gains for all parties involved. Typically they must have a shared purpose and goals for the project, and together contribute time, staff, funds, and other resources. It is important that the organizations carefully assess the possible costs of collaboration, as it can become excessively burdensome when pursued injudiciously.

Other fields, such as communications, leisure, recreation, entertainment, and other service industries have much to offer exhibition planning and development, as they often share common goals of conveying information, serving different publics, and providing opportunities for the use of free time. Exhibition management is not geared toward maximizing access to and use of these other fields.

In the end, the insularity of Smithsonian museums is a disservice to visitors. The potential for enriching their experience by presenting exhibitions that draw on collections across museums, or that reveal different aspects of a theme through the subject matter of different museums, is often missed. The study team sees this structural rigidity foremost as a museum management issue, because change will only happen to the degree that management insists on it, offers meaningful incentives, and holds people accountable.

Use of Resources

Because of its size and scope, the Smithsonian must pay constant attention to the way in which it uses its financial, physical, and human resources to husband, study, and display the nation's heritage. Its status as a federal trust instrumentality requires that it spend the nation's money wisely. Its prestigious location on the National Mall, as well as in other highly visible locations, mandates that it maximize its physical resources.

Its service commitment to its publics requires a high level of programming. Thus, this study asked the question, can Smithsonian exhibition making use Smithsonian financial, physical, and human resources more efficiently and effectively? The discussion here focuses on two areas: human resources and required support from other departments.

Human resources. The study team identified a number of issues with respect to the use of exhibition personnel.

> Smithsonian museums have a range of exhibition-related skills that collectively make up an extensive set of core exhibition skills. Museums could benefit greatly from more sharing and temporary exchange of staff with different experience and skills, particularly if they choose to integrate more variety into their exhibition plans. A central repository of information on staff skills and experience and a formal process of Institution-wide planning of human resources will facilitate the sharing of staff. Formal systems that support and reward resource-sharing, such as the internal contracting system (see Appendix E), will also facilitate the process. Implementation, however, will require that museums break down the structural barriers they impose on cooperation.
>
> It is unclear, from an Institutional perspective, whether the Smithsonian has the right mix and level of skills for its exhibition programming, particularly if it moves in the directions recommended in this report. That determination requires: 1) an assessment of which exhibition skills and activities are best handled internally and which should be contracted out and 2) a critical skill analysis that defines the core position descriptions and staffing level required to support exhibition plans and exhibition making.
>
> The results of those studies may require a reconfiguration of Smithsonian staff. Most likely, museums will need to use a combination of trust-funded temporary positions, interns, external contractors, cross-trained employees, and internal sharing of exhibition resources to replace diminishing federally appropriated exhibition resources. Exhibition skills could be supplemented by creating formal internship, fellowship, and other exchange programs with leading design schools. Museums will also require different personnel attributes for certain exhibition assignments, with a premium placed on creativity and risk taking, familiarity with how visitors engage

Increasing Visitor Satisfaction

Four years ago the Cincinnati Art Museum committed itself to using visitor satisfaction as a performance measure. At the beginning of the program, 40 percent to 60 percent of visitors scored exhibitions and the museum at the top of the scale. Each quarter, a summary report identified the areas most in need of improvement. Typically, they included design features such as readability of label text, seating, and wayfinding. Visitors also called for content-related changes such as more child-friendly exhibitions, more maps and contextual material, more information on audio tours, and shorter introductory videos. By responding to issues like these in an effective and timely manner, the museum steadily raised its scores while expanding its audience. Now 80 percent or more of visitors score the exhibitions and museum at the top of the scale.

with exhibitions and with their expectations, ability to work on multidisciplinary projects and to perform multiple roles, and a mix of experience with different audience groups. Increased attention to visitor studies will require augmentation of staff with those skills.

Staff receive far less training than is appropriate for such a dynamic field as exhibition making. They have little access to what is happening in allied fields such as entertainment, communications, and the business world. The stated reasons include lack of funding, time, and information about what is available. However, these are decisions made by managers based on their perception of need and relative priorities. It is likely that all museums will have to employ cross-training to meet their core needs, with the added advantage of a more skilled pool of human resources across the Smithsonian. Much of this training can be in-service.

OP&A concluded that solutions to many human resource issues might be found within the existing workforce or with replacements of staff that result from normal attrition and turnover. The addition of a minimum number of new positions might also be required.

Resource requirements. A concern of OP&A relating to exhibition programs is a lack of attention to life-cycle costs. There was abundant evidence that museums do not do an adequate job of planning for, committing, and protecting the resources required for all key aspects of exhibition making, particularly promotion and marketing, the post-opening activities of visitor satisfaction studies, exhibition modification, maintenance, and process evaluation. Similarly, it seems that exhibitions are not adequately addressed in planning by allied departments such as development, collections, education, and public affairs to ensure that they will be able to provide the required support.

Accountability

As part of their annual performance plans, museums are expected to articulate exhibition program outcomes, set performance goals with respect to those outcomes, identify indicators of results (exhibition success), and collect data against them. OP&A sees two issues and related opportunities here. First, there is considerable uncertainty within the museum community in general about what the desired outcomes of exhibitions are or should be and how best to measure performance. Second, Smithsonian museums have not yet developed systems to collect

the data and conduct the analyses necessary to measure performance. As mentioned, those systems need to encompass a set of common elements and to be coordinated across the museums.

The opportunities in these areas lie in the unique characteristics of the Smithsonian. First, Smithsonian museums, in their diversity of size and subject matter, represent a microcosm of the larger museum community. They can exercise a leadership position in furthering the art of performance measurement by coordinating their efforts and documenting carefully their successes and failures. The richness of the data that result, the testing of methodologies, and the lessons learned from these efforts can provide the foundation for significant advances in the difficult area of evaluation and be of great service to museums nationally and internationally.

Second, while performance measurement at Smithsonian museums is a mandate of the Congress and the executive branch, it is also a path to continual improvement. Unfortunately, most of the museums have not paid enough attention to the application of lessons learned to improve exhibition operations. Performance plans and assessments provide excellent opportunities that are used too infrequently to acknowledge jobs well done and to support opportunities for further professional growth.

It should be noted that responsibility for results rests squarely with museum directors, who set expectations for their museums' performance. They, in turn, should be held accountable for results by the Under Secretaries for American Museums and National Programs (USAMNP) and for Science and by the Director of the International Art Museums Division (IAMD), who report to the Secretary. Rather than view accountability as a job that managers have neither the time nor disposition to deal with, senior managers need fundamentally to compare what they want and need with what they get. If the products are less than satisfactory, they have an obligation to address the situation and provide direction in responsible and constructive ways.

The early phase of implementing a performance measurement system requires a one-time investment of resources and a period of learning and adjustment as staff establish systems to track needed performance data. Most organizations find that with experience the job becomes routine and the level of effort diminishes, while the benefits increase. The principal benefit is the availability of reliable information to guide effective decision making.

Being Homeless

For more than 20 years, California's Antenna Theater has produced all manner of audio, experiential, and performance works. Visitors to museums and theaters where Antenna has worked have found themselves in theatrical mazes, interactive installations, site-specific performances, audio-guided tours, and huge walk-through sculptures.

Etiquette of the Undercaste, an effective, well-received participatory traveling exhibition installed in the Experimental Gallery of the Arts and Industries Building in 1992, took visitors through a maze of rooms offering first-hand experience with poverty, helplessness, hopelessness, and powerlessness. One at a time, visitors lay flat on their backs in a morgue drawer. As it closed, they experienced an emergency

ambulance ride and "death" during surgery. Reentering life as a member of the "undercaste," they emerged into the exhibition and walked alone through an eerily dim space, led by an audioguide narrated in part by street people. A succession of ever-worsening circumstances—being battered, robbed, encouraged to sell drugs, refused employment for lack of education, and denied education for being undercaste—ended in homelessness and "death" from rot-gut alcohol as they "slept" on a park bench. "Rolling" off the bench, they exited the maze, having completed a life cycle that produced a profound sense of what it is to be homeless.*

*Derived from staff notes and Donald Garfield, "Experimental Gallery: Dying to Get In," *Museum News* (May/June 1992): 24-25.

Management of Exhibition Making

There is general agreement in the literature and among practitioners that no single exhibition-making model ensures quality exhibitions.[32] It is important to identify the method best suited to each exhibition project, modify it as needed, and implement it. As is true elsewhere, Smithsonian museums have used different approaches to produce exhibitions, but generally all involved a team approach with consensus decision making. No matter which model was used, the study team found certain common concerns.

The voice of the visitor is not well represented either on exhibition teams or in exhibition-making processes.

The subject-matter specialist has the strongest voice and influence in Smithsonian exhibition projects. Core exhibition teams rarely include people who specialize in knowledge of visitors, such as educators, marketing and public affairs staff, or visitor studies staff. While designers are generally members of the core team and are trained in presentation techniques and in delivering information in an engaging way, they do not have an equal voice with subject-matter specialists. More balance in both roles and authority is needed within the core team. It is particularly important in the concept development stage, when the parameters of content and design are determined.

The statement of purpose for individual exhibitions generally does not discuss visitor expectations and the general approach and related rationale for engaging particular audiences. Also necessary is a clear statement as to how the exhibition is linked to and will support both the museum's and Smithsonian's missions and strategic plans.

The exhibition development process does not routinely include solicitation of input from target audiences through formative evaluations, prototyping, visitor walkthroughs before openings, and evaluations after opening, with modifications based on visitor feedback as appropriate. While not every exhibition requires the same level of input, OP&A believes that at least major exhibitions and

32. Office of Policy and Analysis, *The Making of Exhibitions: Purpose, Structure, Roles, and Process* (Washington, DC: Smithsonian Institution, Office of Policy and Analysis, 2002). Available at www.si.edu/opanda/reports.htm.

those aimed at special or new audiences would benefit. These activities are unlikely to occur, however, if exhibition budgets do not specify funds for this purpose and if those funds are not protected.

Exhibition teams and development processes at the Smithsonian do not regularly use outside experts and perspectives—from other Smithsonian museums or from outside museums for ideas, design, strategies, or expertise. They also tend to eschew what the recreation, entertainment, and leisure industries have to offer, believing that those industries have lower standards because their products are less intellectual. The pervasive fear of "Disneyfication" suggests elitism and ignores the many contributions that Disney and other organizations have made to visitor service and to display techniques.

OP&A does not think that Smithsonian museums need always be at the cutting edge of design, but they should be at the forefront of proven trends, technologies, techniques, materials, and strategies. For this transformation to occur, management and project leadership will need to create an environment that supports and nourishes creativity and innovation and highlights successful examples. In part this will require a redress of the imbalance between subject matter experts and other professionals such as designers, writers, and visitor experts, whose role is to engage audiences through exceptional design and presentation. Recognizing that projects have different creative needs at different stages within development, museums might also consider use of different people for the design stage than for the concept development stage. Many teams would benefit from having a neutral, visitor-focused leader, such as an exhibition developer (whose function could be compared to that of a film director).

Some team members tend to align with their professional specialties so closely that their roles are unduly narrow. In attempting to create a culture with greater flexibility, museums may need to find ways to build new habits. One effective method is to set aside a common space where project teams work together for the duration of the project, under a matrix management structure that depends on the ability of individuals from different departments to cooperate and holds them responsible to the team leader while working on the project.

Emergent Technologies

Beam us up!

New technologies are providing stunning new possibilities for immersive exhibition environments. It is now possible for a designer to transform a walk-in environment at the click of a computer mouse. Fakespace Systems, a Canadian firm, produces wall-sized display panels, called RAVE II modules, which can be hinged and linked to provide a nearly seamless, completely surrounding (including floors and ceilings) walk-through environment of projected imagery. The images displayed by these screens can be static or moving, 2D or 3D, digital or analog. When combined with wireless precision-tracking technology created by InterSense, this imaged environment can be made to respond to the presence and motion of people inside it. Then, immersion becomes interactive as well.

Signs Wave

Art, graphic design, engineering, and computer technology have been combined by TechnoFrolic, a high-tech design studio, to produce signs and banners that can dance, flow like waves, move chaotically, or respond as interactives. Some science museums have used them to express principles of physics, but they also could function as design elements to bring new dimensions to installations, to communicate information, or even to distribute light and shape space.

A 3D Holographic Video

Although it is not yet possible to project a 3D holographic video, Laser Magic Productions has devised a convincing substitute by using a laser-light projector and a completely transparent screen. When the image is projected onto the screen, it appears to float in space and have depth.

Music Videos to Order

Why not send a dynamic, one-of-a-kind postcard from an exhibition to your friends at home? Now computer algorithms to manipulate sound and image can be easily and intuitively controlled by users. Oddcast Media Technologies, for example, has designed PhotoMixer, a program that lets a user add images of his or her own or from the web and, using an interface resembling an audio mixer, animate the images in time to the beat of chosen music—music videos to order. The sequences can be saved and e-mailed.

Maintenance, as noted, receives inadequate attention and resources, although it is well known that broken interactives and an unpleasant exhibition environment greatly detract from visitor satisfaction. The Smithsonian visitor would benefit from maintenance standards for exhibition interactives, as well as standards for overall housekeeping in the exhibition space. Good maintenance begins with its inclusion in the exhibition budget and protection of the funds for this purpose.

Accountability is a weak link in exhibition projects.

> Funds and staff time are not assured for project debriefings and evaluations for performance measurements, in part because management does not treat these activities as integral parts of project plans.
>
> Project management is not disciplined. Of particular concern is the lack of true cost accounting and the frequency with which cost overruns are accommodated by pulling the funds from such areas as maintenance and education programs. In a disciplined project management model, management is in dynamic balance with content and design, and project managers have full authority over cost and schedules.
>
> Few exhibitions are subjected to performance evaluations against stated outcomes and performance indicators. Even indicators such as numbers of visitors are not collected regularly.

Organizational Culture

After reviewing the various issues related to exhibition programming and performance, OP&A concluded that in many cases their origins lie in the Smithsonian's organizational culture, which may pose the biggest hurdle to instituting changes. Every organization has a distinctive culture that manifests itself in values, behaviors, attitudes, myths, frames of reference, shared understandings, habits, and other characteristics. An organization's culture and its departmental subcultures exert powerful influences on the way work is carried out, what is accomplished, and how well the organization and its subunits adapt to internal and external changes.

The study findings suggest that two cultures predominate at the Smithsonian: academic and bureaucratic. The key aspects of these Smithsonian cultures as relates to exhibitions are summarized here.

An academic orientation is the foremost value within the Smithsonian culture.

The Smithsonian has a strong academic culture, similar in many ways to that of a university. This evolution is logical given the Institution's research mission and emphasis and the academic background of its previous leadership. This culture has served the Institution well and continues to be appropriate to its research and scholarly activities. It assures the accuracy of exhibition content. It does not, however, always provide the needed underpinnings for strong, compelling exhibition plans and exhibition making, which call for a visitor-centered orientation, risk taking, innovation and creativity, multidisciplinary projects, acceptance of change, openness to the outside, organizational learning, and organizational accountability. The following characteristics pose a challenge to change in exhibitions:

Scientists, curators, and historians have greater prestige than other groups involved with exhibitions such as designers or educators. Their outlook is directed primarily toward exhibition content and the opinions of their peers. While scholarship is essential to Smithsonian exhibitions, it should not be an end in itself but rather one of many elements that contribute to excellence.

The principal allegiance of Smithsonian subject-matter specialists is to their own disciplines and departments. They have a strong sense of ownership of collections and gallery space, are reluctant to share resources, and pose obstacles to cross-disciplinary and inter-museum projects. Exhibitions, in contrast, work best when they draw on ideas, content, expertise, and presentation approaches from multiple sources. This is particularly true for the Smithsonian, which encompasses tremendous variety in collections, subject matter, and expertise.

Scholarly research is carried out over relatively long periods with imprecise schedules, and it often addresses relatively narrow concerns representing the edges of existing

knowledge. In contrast, non-specialist audiences need overarching principles and ideas or new knowledge expressed in terms they can understand, rather than the details of new scholarship.

Creativity is at the heart of exhibition excellence. Creativity requires a culture that embraces divergent thinking, risk taking, broad perspectives, and an appreciation of the value of failure.

Scholars are often oriented toward didactic presentation of subject matter to students, and their focus on the content of subject matter can hinder them from engaging with audiences in the most effective ways.

The Smithsonian also shares many of the characteristics of public bureaucracy and its culture.

As a trust instrumentality of the federal government, the Smithsonian is inclined to acceptance of hierarchy, aversion to risk, insularity, resistance to change, and a preference for procedures over service to customers. Employees want the constancy of their physical surroundings, and they identify with and express their loyalty to their departments rather than to the organization as a whole, in this case the Smithsonian Institution. For the most part, staff perform their tasks within hierarchical structures that foster control and create intra-organizational walls. Organizations with relatively fixed boundary demarcations are less conducive to change than those with flexible, open systems.

Neither academic nor bureaucratic cultures are generally attuned to the development of a learning organization, which requires risk taking, pursuit of innovation, a multidisciplinary focus, ongoing interaction with the external environment, a focus on customer interests and feedback, flexibility in the face of change, and a willingness to engage in critical self-analysis and continual improvement. These same qualities contribute greatly the development of dynamic, first-class exhibitions.

Culture is shaped in part by events in an organization's history that often achieve mythical proportions and shape attitudes, behaviors, and beliefs. The controversies over the *Enola Gay* exhibition at the National Air and Space Museum in 1995 and, to a lesser extent, *The West as America* at the then National Museum of American Art (now the

Lynching

In March 2000, the New York Historical Society, in collaboration with the Community Service Society, sponsored *Without Sanctuary: Lynching Photography in America*. The well-received exhibition consisted of powerful photographs and postcards of lynchings in America from the 1870s through the 1950s, collected by James Allen and John Littlefield. Each photograph was accompanied by a label telling what was known about the incident.

The New York Historical Society developed the exhibition in response to the overwhelming public interest generated by an earlier, brief display of the collection at a private New York gallery. The stated purpose of the society's exhibition was to "provide an opportunity for a dialogue among New Yorkers about a part of our past that is difficult for us to confront. We expect to provide a setting that will allow people to learn about the photographs and to share their responses with one another and with special facilitators we have enlisted to address their questions and emotions."

Smithsonian American Art Museum [SAAM]) in 1991 have evolved into negative myths. Those myths reinforce many attributes of bureaucratic cultures and contribute much to the conservatism of interpretation and presentation in Smithsonian exhibitions. In addition, these types of myths make it hard for exhibit makers to break the mold. OP&A is concerned that unless the myths are addressed, they will impede efforts to develop an exhibition culture that supports enduring programs of superior exhibitions.

The public today has a greater acceptance of alternative viewpoints, particularly when presented in a careful way. As is apparent from controversial exhibitions at other museums, when done properly, they can lead to productive dialogue on important topics and draw in people who might not normally visit exhibitions. This nation's history is fraught with the noble and beautiful, as well the violent and ugly. Its population groups have had, and continue to have, widely different experiences. People view museums as neutral and trusted venues where they can try to understand their different personal and national histories, including the darker sides. Particularly in today's turbulent times, the role of museums, including national ones, in supporting social understanding and dialogue has grown in importance. As other museums have shown, exhibitions with difficult content can be tackled successfully when handled with sensitivity to different perspectives and interpretations.

Although organizational cultures are not static, managing and transforming them are ambitious and difficult undertakings. Obstacles abound, including the age of the organization, the unwillingness to change, timing, poor communications, static views of the organization's business, and insularity from the larger environmental context in which the organization exists. If the Smithsonian wishes to improve exhibitions significantly and to respond positively to the directions in which the museum community is moving, its leadership will need actively to address those aspects of its culture that pose significant challenges to the strengthening of exhibitions. It will need to move with facility between the academic and government cultures on the one hand and that of the exhibition-making world on the other.

Leadership

Developing the kind of exhibition programs discussed in this report will require formulation of mission and vision statements, policy decisions at the central level, rethinking of the values that underlie exhibitions, far greater understanding of different audiences, and changes in philosophy

and culture throughout the Institution. Implementation will involve difficult tradeoffs. More frequent exhibition turnover may require more fundraising support so that more exhibitions can be produced. It may also require greater use of outside exhibitions or more partnerships with other museums to develop exhibitions jointly. If resources are not available, it may be necessary to scale back and do less but with better results, instead of doing more that falls short of the Smithsonian's standards or at excessive human cost.

In short, the delivery of compelling, first-class exhibitions that engage the mosaic of the American public and foreign visitors requires strong, dynamic, and creative leadership. The study team believes that the high level of visitation has resulted in complacency about exhibition making and a sense that the Smithsonian is doing all it needs to. It has not experienced the urgent need for visitors that drives other museums to address audiences continually through innovative and highly engaging exhibitions. The conclusions and recommendations presented here call for change in some of the most intractable areas of organizational life within a decentralized exhibition-making system.

The greatest potential obstacles to raising the bar for exhibitions will be organizational inertia and the failure of management at all levels to encourage new attitudes and practices and to hold itself and those reporting to it accountable for the exhibitions that result. In addition, the Smithsonian exhibition community, which includes its leaders, must transform itself into a learning organization. These changes will take place only if leadership is exercised fully and vigorously.

Recommendations

1.

The central Smithsonian administration should provide clear guidance for exhibitions.

Mission and Vision

The central administration should develop Smithsonian-wide statements of exhibition mission, vision, and goals.

MISSION. The exhibition mission statement should clearly articulate the public purpose(s) of the program: what it is doing, why, and for whom. It should be accompanied by core values of the exhibition program, such as accuracy, variety, creativity, innovation, relevance, and suitable presentation, relationship among Smithsonian exhibitions, and a definition of the Institution's national leadership role in exhibition excellence.

VISION. The exhibition vision statement should describe the program's unique status and provide an image of its future.

GOALS. Goals should set out the general ends and outcomes embodied in the exhibition mission, such as what benefits users should derive from experiencing exhibitions and how target audiences should be affected.

Policy

The Regents should issue an exhibition policy that updates, extends, and refocuses SD-603, Exhibition Planning Guidelines. The policy should address the following:

ROLE. The place of exhibitions among the Smithsonian's national and public responsibilities

BOUNDARIES. What is and is not acceptable in Smithsonian exhibitions

PRIORITY. The priority of exhibitions relative to other core functions

STAKEHOLDERS. The role of external stakeholders in exhibition decisions

INCLUSIVE VISITORSHIP. The principle of service to all Americans

VISITOR SATISFACTION. The fulfillment of visitors' expectations

ACCOUNTABILITY. The responsibility of the Secretary, under secretaries, and museum directors

GUIDELINES. Guidelines for museums' exhibition planning, exhibition-making processes, and the quality of individual exhibitions, as follows:

Museum Exhibition Planning Guidelines

EXHIBITION STRATEGIC PLANNING. As part of its overall strategic plan, each museum should develop exhibition goals that:

Are consistent with the Smithsonian's strategic goals and exhibition policy

Address issues such as target audiences; linkages to collections, research, and education; use of temporary and permanent exhibitions; range of topics addressed; mix of presentation approaches; principles that should guide design and content; responsiveness to contemporary events; and performance measures.

CREATIVITY. The exhibition plan should include originality in content, concepts, and presentation approaches.

VARIETY. Each exhibition should specifically identify and target audiences who should be identified in various ways, including education level, culture and ethnicity, language, learning style, age, gender, background, experience preferences, and visit group (e.g., families). A range of audiences and related exhibitions should be targeted within each museum and across the Smithsonian as a whole.

FUNDRAISING. For potential donors and funders, museums should prepare portfolios of exhibition ideas that have successfully completed concept development.

SCHEDULING. Proposed exhibitions should be moved forward to the design development stage only when there is a commitment of at least 50 percent of their funding.

UPDATING. Most exhibitions should be replaced or updated within 10 years.

Exhibition-Making Guidelines

OPENNESS TO IDEAS. Museums should solicit and develop promising exhibition ideas from a wide range of sources.

INNOVATION AND CREATIVITY. Museum exhibition-making processes should be organized to promote innovation and creativity at every stage.

MULTIPLE PERSPECTIVES. Exhibition making should be informed by diverse voices. Methods should include:

Soliciting the input of target audiences through research, information gathering, prototyping, and testing.

Designating an individual on the core team as visitor representative, who is responsible for visitor study and testing and whose input has equal weight with that of other team members.

Routinely including multiple perspectives, such as those of internal and external experts in subject matter, design, and communication; representatives of supporting departments, such as education, marketing, and development; and experts in fields allied with exhibitions such as recreation, leisure, theater, cinematography, and business.

GOAL ORIENTATION. By the end of the concept development stage, all exhibitions should have clear goals whose attainment should be a continual focus throughout the remaining stages of the development process.

LIFE-CYCLE FUNDING. Exhibition budgets should reflect life-cycle costs, particularly maintenance and evaluation, and funds should be raised and set aside to cover these costs.

ACCOUNTABILITY. Management should ensure accountability throughout the exhibition-making process. Methods should include:

Tracking progress on exhibition projects using a project management system that covers a minimum set of data required by the central administration.

Conducting internal debriefings for projects, and deriving, documenting, and applying lessons learned.

Exhibition Quality Guidelines

COMFORT. Exhibitions should provide an environment that visitors find comfortable and that enables them to experience the exhibition easily. Key aspects of comfort include:

Physical and intellectual accessibility

Ease of wayfinding

Ease of movement

Sufficient, accessible seating

Appropriate temperature

Satisfactory control of sound

Timely maintenance of interactives, videos, and audio features, lighting, labels, cabinetry, and spaces

Friendly, helpful security personnel and other staff

ENGAGEMENT. Museums should provide exhibitions that allow visitors to engage easily and to feel personally enriched by the experience. Key aspects of engagement include[1]:

Subjects and settings that address visitors' desires for personal connection and meaning, emotional impact, intellectual stimulation and learning, excitement, inspiration, social interaction, and fun

1. Research shows that the availability of staff in exhibitions greatly enhances the visitor's experience. Docents and other floor staff are not covered by this study, however, and so are not included in the guidelines.

Discernible themes or stories

Designs that are well integrated with content, up-to-date, and functional

Appropriate use of interactives

Experiences that involve multiple senses

Sensitivity to different learning styles

Up-to-date content and interpretation

Balanced interpretation of sensitive topics

RELEVANCE. Exhibitions should help visitors:

Relate to what they experience in their own lives

Respond to contemporary events and issues

Find personal meaning

RESPONSIVENESS TO SMITHSONIAN STAKEHOLDERS. Exhibitions should address the requirements of stakeholders, which include the Congress, Board of Regents, donors, senior management, and staff. Responsiveness includes:

Alignment with the Smithsonian's and museums' missions and strategic plans

Fulfillment of funding or donation agreements

Reliable, accurate information and informed viewpoints

Protection and care of collections on display

VISITOR SATISFACTION. At least 50 percent of visitors to Smithsonian exhibitions who are surveyed should report unqualified satisfaction with their experience by FY2004, and 75 percent by FY2006. Among target audiences, the ratings should be higher.

2.

The Smithsonian should ensure Institution-wide coordination of and support for exhibition programming and exhibition making.

Under secretary (or director) for pan-Institutional support programs. The Secretary should appoint an under secretary (or director) who would be responsible for guiding and coordinating selected pan-Institutional support programs, including exhibitions, education, libraries, archives, and publishing.

Exhibition Support Office. The Secretary should establish a pan-Institutional Exhibition Support Office (ESO) at the beginning of FY2004.

Reporting. The ESO should report to the under secretary (or director) for pan-Institutional support programs.

Functions.

Support central administration responsibilities.

Serve as a focal point for central guidance on exhibitions by assisting with exhibition missions, policies, and strategic plans.

Review each museum's exhibition plan to ensure that Smithsonian strategic exhibition objectives and quality guidelines are reflected.

Notify museum directors, and, if necessary, Smithsonian senior management of issues that need attention.

When asked by senior management, work with museums on selective aspects of exhibition making.

Develop a standard Smithsonian-wide management system for exhibition accountability that produces the core data needed by the central administration.

Review the data and advise museums on possible remedial actions where the data indicate problems meeting performance objectives and quality standards.

Coordinate and promote Smithsonian-wide exhibition programming.

Develop and administer a master database of planned and existing Smithsonian exhibitions, including information such as target audiences, content areas, locations, sizes, schedules, costs, concept models, designs, and presentation approaches.

Facilitate formal and informal contacts among exhibition units at the Smithsonian by organizing regular (quarterly, semi-annual, or annual) networking meetings on exhibition fields such as design, lighting, interactives, or fabrication. (See "Optimize the use of exhibition resources Smithsonian-wide" under Recommendation 2.)

Identify and promote partnerships between the Smithsonian and external organizations, including exchange programs that allow exhibit makers to work on different projects at different organizations.

Identify and manage exhibition-related research of common interest to museums, such as techniques to reach underserved audiences and best practices in exhibition evaluation. The research should be conducted by the Office of Policy and Analysis and coordinated by ESO.

Establish and administer central administration incentives for exhibition development.

Optimize the use of exhibition resources Smithsonian-wide (see also Recommendation 3).

Administer and promote the internal contracting system as a basis for efficiently and fairly sharing exhibition resources across units.

Develop and administer a master database of Smithsonian exhibition resources, including information such as staff and equipment; exhibition specifications; contractors; new presentation techniques, designs, materials, and technology; multimedia and interactives; materials available for reuse; visitor study methodologies and results of studies; new exhibition-

related research and findings; marketing and promotion; evaluations; project management; performance measurement methodologies and results; and lessons learned. Information and materials should come from Smithsonian museums, other museums, professional associations, vendors, recreation and entertainment industries, and businesses.

Develop and maintain an internal exhibition listserv.

Coordinate internships and fellowships in exhibition making with relevant Smithsonian units, such as the Office of Fellowships and Grants and Smithsonian Center for Education and Museum Studies.

Provide consultation services.

Assist museums with exhibition strategic planning.

Assist museums with the development of cost planning and value engineering.

Review and advise on technical specifications for requests for proposals, including for multimedia and interactives.

Advise on exhibition performance measurement.

Assist in developing pre-service and in-service training.

OFFICE OF EXHIBITS CENTRAL. The Smithsonian should continue to offer central exhibition-making services through OEC, provided that OEC meets the following requirements for reporting, cost recovery, and services:

REPORTING. Organizationally, OEC should report to the under secretary (or director) for pan-Institutional support programs (see above).

COST RECOVERY. OEC should charge for labor and materials on the same basis as museums charge one another under the internal contracting system.

SERVICES. The mix and level of OEC services should be based on an assessment of demand by clients (in order of their

priority), and of which services can be more efficiently and effectively contracted out and which are best handled internally.

Office of Policy and Analysis. OP&A should support pan-Institutional exhibition making by coordinating and conducting studies.

Traveling exhibitions. OP&A should extend this study to include exhibitions produced by the Smithsonian that are shown in non-Smithsonian locations.

Underserved audiences. To determine the best ways to attract audiences that are currently underrepresented, OP&A should design and coordinate a multiyear research program of test projects at the Smithsonian. The Smithsonian should identify and disseminate the results nationally, apply best practices within the Smithsonian, and establish related performance objectives.

Services to visitors. To maximize the return on investment in exhibitions and to support the Smithsonian's strategic goal of public impact, OP&A should conduct, as an adjunct to the exhibition policy study, a study of all services for visitors: how visitors are informed of or attracted to the Smithsonian; how they are treated (e.g., information services, wayfinding, security personnel, docents, and interpreters); and what provisions are made for their comfort (e.g., seating, restrooms, food service, and crowd control). The study should address the relationship of these services to audience draw and the satisfaction of exhibition visitors.

Exhibition performance. OP&A, in consultation with ESO, should develop standard items for exhibition performance evaluations and coordinate their use and analysis. These should include, at a minimum, visitor satisfaction, audience composition, and the extent to which visitors cite specific exhibitions as a reason they are visiting the Smithsonian.

Information services. OP&A should collaborate with the museums on the application of current research on how audiences engage with exhibitions. OP&A should coordinate with outside museums to develop a better database for the development of benchmarks and lessons learned.

3.

The Smithsonian should optimize the use of the human resources available across the Smithsonian for exhibition activities.

CRITICAL SKILL REVIEW. The Office of Human Resources (OHR) should coordinate a critical skill review for exhibition making.

The review should determine what types and levels of core exhibition expertise should be available within the Smithsonian and what should be contracted out.

On the basis of this review, the ESO should identify which skills need enhancing and which skills can be reduced or reassigned across the Institution.

REALIGNMENT OF STAFFING. Consistent with the implementation of this report's recommendations, museums should align their exhibition staffs with needs.

OHR should coordinate the modification of existing job classifications and the addition of any new classifications that might be needed, such as exhibition developer.

Museums should recruit permanent exhibition staff on the basis of their interdisciplinary orientations, ability and willingness to perform multiple roles, and other characteristics commensurate with the required culture (see Recommendation 4).

Museums should make greater and more strategic use of temporary employees, interns, fellows, and volunteers in exhibition design and production.

TRAINING. The Smithsonian and its museums should ensure that permanent employees have current knowledge of and exposure to different ideas and techniques.

OHR, in coordination with ESO, should develop Institution-wide pre-service and in-service training programs.

OHR should provide standardized training and cross-training for project managers.

Museums should expand cross-training of exhibition employees to smooth uneven workloads and to expand the internal availability of critical skills.

4.

Smithsonian management should provide strong leadership in implementing the changes, particularly in culture and accountability, needed to meet its strategic objectives for exhibitions and quality guidelines.

Culture

PUBLIC SERVICE ORIENTATION. Dedication to public service should be demonstrated in exhibitions by a greater concern for the experience of visitors.

CREATIVITY AND INNOVATION. Creativity and innovation should be rooted in respect for divergent thinking, pursuit of new solutions, experimentation, risk taking, acceptance of trial and error and failure, openness to change, and continual learning.

COMMITMENT TO INSTITUTIONAL GOALS. Commitment should be expressed as support for the Smithsonian's strategic aims and an eagerness to work across administrative boundaries.

RECEPTIVITY TO CHANGE. Change should be developed through the search for and adoption of new trends, technologies, techniques, materials, and strategies that improve exhibition effectiveness and impact.

CONTINUAL LEARNING. Learning for oneself, one's museum, and the Smithsonian should be nurtured through continuous innovation, testing, adaptation, and a willingness to look at performance critically and to be accountable.

Accountability

PROJECT MANAGEMENT. Each exhibition project should have a project manager with authority over costs and schedules.

PROCESS REVIEW. Museums should ensure that lessons learned from the exhibition-making process are applied to improve the process and should provide ESO with reports of lessons learned.

EXHIBITION ASSESSMENT. Museums should ensure that exhibitions receive assessments of performance against benchmarks and desired outcomes, using a variety of evaluation mechanisms.

5.

The Secretary should establish a task force to initiate implementation of the recommendations in this report.

COMPOSITION. The implementation task force should consist of up to twelve people appointed by the Secretary.

REPORTING. The implementation task force should report to the under secretary (or director) of pan-Institutional support programs and work closely with OP&A.

ACTIVITIES. Activities of the implementation task force should include:

Initiating the development of the Smithsonian's exhibition mission, vision, and central policy.

Planning the establishment of the ESO, including staffing and funding, and describing the linkages between the ESO and other units. The plan should include a schedule that provides for full implementation by the beginning of FY2004.

Findings: The Management and Making of Exhibitions

This section summarizes the study findings that are the basis for the conclusions and recommendations in this report. It begins with an overview of selected aspects of exhibitions at the Smithsonian, followed by a discussion of exhibition quality. Next, it looks at exhibition management, focusing on the roles of the central administration and on exhibition planning and exhibition making in the museums.

An Overview of Exhibitions at the Smithsonian

Number and Nature of Exhibitions

In FY1999 and FY2000, 23 Smithsonian museums opened 209 exhibitions (table 1)[1]. These exhibitions filled almost 1.25 million square feet (sf) of space in Smithsonian buildings and at other locations across the nation. Of the 62 permanent exhibitions on display at the three largest museums (NMAH, NMNH, and NASM) and the National Zoological Park (NZP) as of September 2000, 58 percent were installed 10 or more years earlier, and 45 percent were installed 15 or more years earlier, or prior to 1987.

The Visiting Public

Total annual attendance at Smithsonian museums in Washington, DC, and New York City, defined as the total number of visits made by all visitors during the year, has remained fairly consistent over the past few

1. See Office of Policy and Analysis, *Capability Profiles of Exhibit Departments* (Washington, DC: Smithsonian Institution, Office of Policy and Analysis, 2002). Available at www.si.edu/opanda/reports/htm.

years at approximately 33 million, although the Smithsonian experienced a sharp drop in visitation following September 11, 2001. The monthly attendance figures in calendar year 2002 were all lower than in 2000.[2]

Each year about 10 million unique individuals come to the Smithsonian on the Mall, visiting an average of three Smithsonian museums. Some individuals make more than one museum visit during a year. The National Endowment for the Arts 1997 Survey of Public Participation in the Arts (SPPA 97)[3] found, for instance, that a single art museum visitor made an average of 3.3 visits to art museums in that year, either to one museum or to different museums.

Table 1. Smithsonian Exhibition Activity FY1999–2000

	Exhibit opened	*Square feet (sf)*
Venue only; not originated at SI	30	161,071
Venue only; originated by another SI unit	5	11,114
Traveling exhibition; originated at SI	47	158,080
Temporary exhibition; originated at SI	100	735,167
New permanent exhibition	15	87,370
Reinstallation of permanent exhibitions	8	87,036
Rotation of objects in existing exhibitions	4	7,800
All exhibitions	209	1,247,638

Year-long studies of visits to major Smithsonian museums on the Mall in 1994–1996 showed that four out of five Smithsonian visits were made by people who lived outside of the Washington, DC, metropolitan area.[4] Men made more visits to the Smithsonian (55 percent) than women. Among visits by U.S. residents, Caucasians comprised 84 percent, Asian Americans 6 percent, African Americans 6 percent, and Hispanics 3 percent. About 27 percent of all visits were made by someone younger than 20 years, 25 percent by ages 20 to 34, 36 percent by ages 35 to 54, and around 12 percent by ages 55 or older. Seventy percent of visits were made by people who had been to the Smithsonian before, although the previous visit might have been many years earlier. In the case of visiting

2. The Office of Protection Services provides visit counts collected at entries to Smithsonian facilities. The counts therefore include entries by individuals coming to visit exhibitions and attend programs, as well as by those entering to use the telephone, shop, eat, or cut through the building. Staff who use public entries are also included unless their identification cards are clearly visible.

3. "1997 Survey of Public Participation in the Arts," Summary Report, Research Division Report No. 39 (Washington, DC: National Endowment for the Arts, 1998), 15.

4. Zahava D. Doering and Adam Bickford, *Visitors to the Smithsonian Institution: A Summary of Studies* (Washington, DC: Smithsonian Institution, Institutional Studies Office, April 1997), iii–vii.

adults 25 years of age and over, about two in three had bachelor's degrees (66 percent), and nearly one-third of those (31 percent) had graduate degrees.

Visitors from the Washington, DC, metropolitan area were better educated than the average visitor, with 43 percent having graduate degrees and 78 percent college degrees. Fifteen percent were younger than 20. Twenty-one percent of visits by residents of the Washington, DC metropolitan area were by African Americans.

Subsequent studies at the Smithsonian have demonstrated that the audience composition at Mall museums has not changed significantly in the eight years since the year-long studies.[5] The cumulative effect is that visitors to a Smithsonian museum on any given day are not representative of the economic, racial, and ethnic makeup of the United States.

Exhibition Quality

The Secretary has made the development of first-class, compelling exhibitions with strong public impact a foremost priority for Smithsonian museums. An obvious question this study needed to address was the quality and performance of Smithsonian exhibitions at the time of the study.

Assessing quality is a difficult undertaking. Within the museum community there is no universally accepted set of criteria for defining quality or performance in exhibitions. There are many questions about defining quality, including: whose viewpoint is to be used—exhibition makers, museum administrators, critics, elected officials, donors, or visitors—and what evidence can be collected and how? Indicators that museums typically use to demonstrate quality or performance include the attainment of pre-set goals (effectiveness); visitor satisfaction; attendance and related metrics such as shop sales; physical and intellectual accessibility; education; and the accreditation standards of AAM, which look at how exhibitions support a museum's mission, engage visitors, and protect the objects on display. Less frequently, museums look at the time a visitor spends in an exhibition, audience composition, and exhibition maintenance.

Smithsonian museums rarely measure exhibition quality and have not used a common set of indicators, nor have they adopted shared quality standards. Therefore, no comparable, multiyear, Smithsonian-wide data on exhibition performance are available. The study team looked at the limited data for the Smithsonian on several indicators and at comments by interviewees. The data and comments referred to all exhibitions on

5. See, for example, *Visitors' Opinions About Security Measures in Smithsonian Museums* (Washington, DC: Office of Policy and Analysis, Smithsonian Institution, 2002).

view from 2000 until 2002. Where similar information was available for external museums, it is also presented.

EFFECTIVENESS. The attainment of pre-set goals was the most common standard for Smithsonian exhibitions. In the few exhibitions that museums evaluated for attaining the goal of communicating information and specific messages to visitors, the marks were generally not high.[6] One reason is that brief, unfocused visits to exhibitions are not an effective way to transmit knowledge, a point made frequently in the literature on exhibitions. As one Smithsonian interviewee explained, "most people don't and can't come away from a single visit with a lot of new knowledge, for example, on the Civil War. The exhibition may cause a lot of thinking and open people's minds to ask questions." A second reason is that the people most likely to enter an exhibition, other than children, are already familiar with the information and messages that exhibition makers present and that evaluations generally measure.

VISITOR SATISFACTION. In 11 Smithsonian visitor studies over the past five years, between 20 and 50 percent of visitors selected a top category when asked to rate their satisfaction with a Smithsonian exhibition or museum. Some external museums that measure visitor satisfaction have set their standards much higher than that, at 80 to 90 percent. For example, the United States Holocaust Memorial Museum has a goal of a 90 percent excellent rating by visitors.

TIME SPENT IN EXHIBITIONS. Among eight Smithsonian exhibitions at three museums where timing studies were done (NMAH, NMNH, and NZP), *The American Presidency* had an average visit time of 36 minutes, while the visit time for the other seven exhibitions ranged between 9 and 19 minutes. A recent external study that produced a body of time data for 110 exhibitions (including a handful of Smithsonian museums) found that, on average, visitors to 90 of the exhibitions spent less than 20 minutes.[7] Other research strongly suggests that when entrance to an exhibition is by ticket (with or without a fee), as was the case with *The American Presidency,* visitors spend considerably more time.[8]

ACCESSIBILITY. The consensus is that the Smithsonian's Accessibility Program is a leader in this area. The program has developed excellent accessibility guidelines, some of which are being used around

6. Zahava D. Doering, "Introduction to Volume 42/2," *Curator* 42, no. 2 (April 1999): 71–73.

7. Beverly Serrell, "Paying Attention: Visitors and Museum Exhibitions" (Washington, DC: American Association of Museums, 1998), 19.

8. Personal communication, Beverly Serrell to Zahava Doering, March 26, 2001.

the world. A number of interviewees commented, however, that compliance with the accessibility guidelines across the Smithsonian was inconsistent. The principal complaint from visitors was the readability of labels.

MAINTENANCE. Designs considered to be at the forefront of exhibitions often involve interactive elements: videos or films, computers, mechanical devices, and audio. How well these elements, and the exhibitions in general, are maintained is an important factor in visitor satisfaction. A number of external museums, especially science centers and other facilities with large numbers of interactive exhibits, regularly monitor exhibition maintenance. The two most common indicators used are the number or percentage of interactives that are not working properly at a given moment and the amount of time it takes to repair or replace a broken interactive from the time it is reported. Because visitors are sensitive to maintenance issues, these museums tend to set high standards. Typically, science centers aim for 90 percent or more of interactives to be working and a repair time of less than two hours. Until the repair is completed, many museums either remove the interactive or place a sign on the station stating that the museum is working to fix it.

After hearing complaints about poor maintenance from a group of museum professionals who visited Smithsonian exhibitions, the study team looked at various exhibitions on the Mall to assess the level of maintenance. It found that maintenance was very inconsistent, and in some cases remarkably poor. In four exhibitions that ranged from one to five years old, between 6 percent and 30 percent of interactive elements were not functioning, and often the museum had not put up signs alerting visitors. Some older exhibitions had more serious physical problems, such as buckling floors, damaged drywall, trash, dirty walls, heavy dust, and other signs of neglect.

ATTENDANCE. There has been considerable discussion at the Smithsonian over attendance as an indicator of quality. The study team cannot comment on attendance because, for the most part, the Smithsonian measures visits to museums, not exhibitions. Some interviewees, however, questioned higher attendance as an appropriate goal. They believed that increasing the numbers of visitors during peak capacity was likely to create overcrowding and detract from visitor satisfaction.

The study team looked at whether visitors were attracted to the Smithsonian by specific objects and/or exhibitions. That is, did visitors select the Smithsonian because of its exhibitions? During the year-long studies conducted on the Mall in 1994–1995, about half the visitors indicated that they came to see something in particular, such as the Hope Diamond or the *First Ladies* exhibition.

Exhibition Management

The discussion below addresses what role the central administration played in Smithsonian exhibitions (in particular, the guidance provided to museums), what support services it provided, and how it held museums accountable. It also looks at how the museums managed their exhibition programs and how they made exhibitions. Before turning to those areas, however, the range of resources available for exhibition programming and development across the Smithsonian is reviewed.

Smithsonian Exhibition-Related Resources

Collectively, the Smithsonian has extensive and varied resources to apply to exhibitions, including collections, staff, space, funds, equipment, and technology. The scope of these resources varies considerably across units. In addition, the Office of Exhibits Central provides design, production, and other exhibition services to Smithsonian clients and, more recently, Smithsonian affiliates.

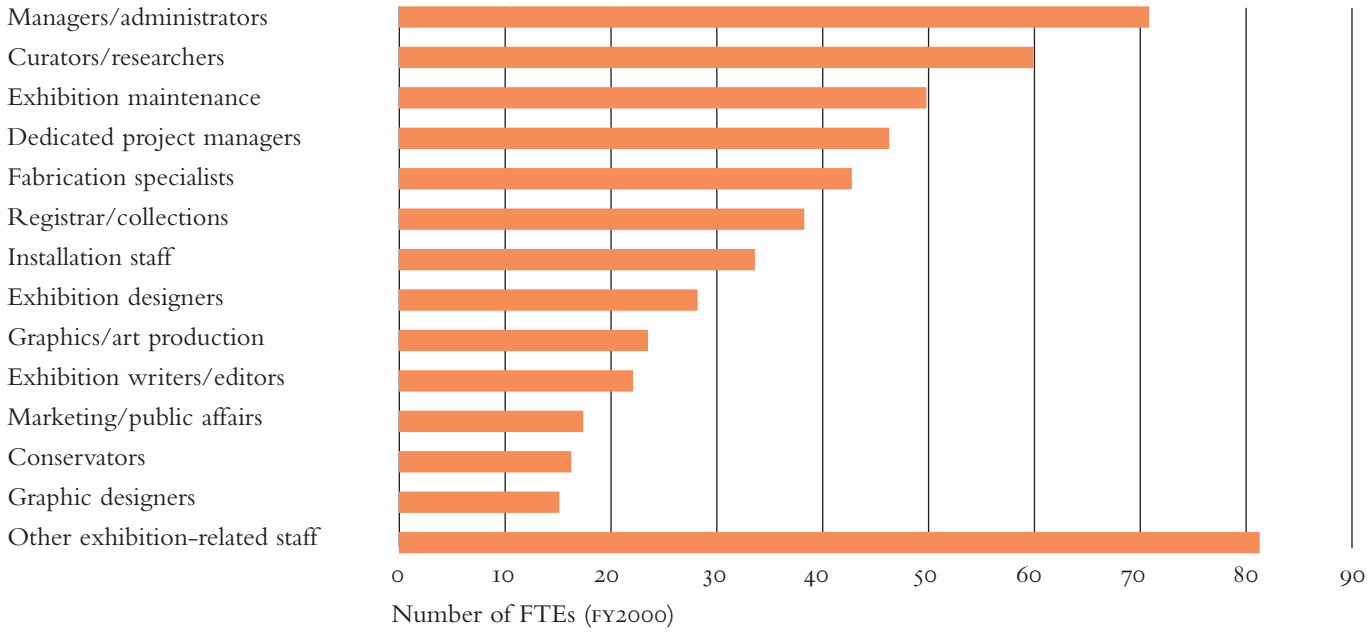
Human Resources

Numbers and skill areas. Staff who work on the conceptualization, design, production, and maintenance of exhibitions are the most important exhibition resource at the Smithsonian. Based on data that the museums mounting exhibitions reported in the OP&A exhibition survey, 551 full-time equivalent (FTE) staff were directly engaged in exhibition activities in FY2000.[9] These exhibition FTEs fell into 42 exhibition-related skill areas; figure 1 shows their distribution, grouped into 14 broad categories ("other" consists of skill areas that each had less than 2 percent of total exhibition-related FTEs).

Collectively, the Smithsonian had staff with almost all the skills required to develop and produce exhibitions. They included 71 FTE managers/administrators, 60 FTE curators, 46 FTE project managers, 42 FTE fabricators, and 29 FTE designers at the high end. At the low end, they included 4 FTEs working with multimedia (which could include computer interactive exhibits), 4 FTE detailers, 2 FTEs for audiovisual production, and 1 FTE for visitor research.

9. One full-time equivalent is equal to the aggregate number of hours worked by one Smithsonian position regardless of whether one or more than one employee accounted for the hours worked.

Figure 1. Smithsonian Exhibition Workforce by Skill Categories



Smithsonian exhibition staff interviewed for the study indicated that their departments could use additional staff capabilities. Among the most desired were technology skills including audiovisuals, multimedia, and CAD. The data indicate that few Smithsonian museums possessed adequate three-dimensional CAD capability. This capability permits designers to do virtual mockups of a potential design that emulate a visitor's experience.

While collectively the Institution had nearly a full range of exhibition design and production skills, the museums had varying skill mixes. Clearly, differences in the nature of the exhibitions mounted by Smithsonian units contributed to this variation. Art museums present exhibitions that are dominated by objects, and history and science museums present exhibitions that use more technology.

The exhibition workload was uneven at both the unit and project levels in the 23 exhibition-producing units, with slack periods when certain exhibition staff were not needed full-time and considerable overtime periods, as in the weeks before an exhibition opening. During slow periods, staff carried out other assigned activities that sometimes were not exhibition-related. In busy periods, Smithsonian museums tended to augment their internal skills by contracting out or, less frequently, by calling on other Smithsonian units.

Training. The OP&A survey data on training for exhibition staff showed that the museums spent some $118,000 on training in FY2000,

about $214 per FTE. A number of staff said they paid for their own training, with their supervisors providing administrative leave. The recent report on a Smithsonian workforce analysis made the following point with respect to training:

> *Many Smithsonian employees will be asked to change the way they do things in the next five years.... The Smithsonian's history of investing in employee training is spotty, and it is likely to be reluctant to begin investing in training in a period of severely constrained resources. But such investments are a core element of effective human capital.*[10]

The report also stated that, as exhibition staffs at NMAH and NMNH decrease in numbers and the museums contract out more work, curators and exhibition staff would need to develop project management skills. Some Smithsonian museums have begun to emphasize cross-training, and there was evidence that more museums are moving in this direction. What was not clear from the OP&A exhibition study was whether cross-training produced staff with sufficient skills to produce excellent exhibitions, individually and collectively.

When asked how staff can best upgrade their skills in areas with consistently new techniques and technologies, Smithsonian interviewees mentioned:

- Bringing in new skills by hiring new staff fresh out of school
- Formally training existing staff with the potential to learn technological and other advances in the field
- Working with interns or fellows, particularly those from leading design or technology schools. Some external museums said that they had established formal internships and fellowships with design schools such as the Rhode Island School of Design, Pace University, and the Fashion Institute of Technology. The study team did not find any such formal arrangements at the Smithsonian.
- Exchanging design staff with other Smithsonian units either by working together or through detailing

10. Herb McClure & Associates, *Workforce Planning Project: Staffing Analysis for the Smithsonian* (Washington, DC, 2002), 56.

Efficiency. The study team looked at the productivity of Smithsonian employees. Some external museums indicated that they have done more exhibitions with the same number of Smithsonian staff; one art museum even said it could have produced twice as many. Several commercial exhibition firms similarly told the study team that they could have produced an equivalent number of exhibitions with fewer employees. These firms attributed their apparent edge in efficiency to greater flexibility in managing human resources. Rather than depending on a largely permanent labor force, they:

- Hire younger workers with less seniority, who are current with new presentation approaches and technological aspects of exhibition design and production
- Provide fewer fringe benefits such as vacation and personal leave
- Operate in a less labor-intensive environment by using up-to-date equipment and software
- Use fewer supervisors for line workers
- Use temporary employees when possible for tasks unique to a single exhibition project
- Place great emphasis on rigorous project management

The study team could not quantify conclusively whether or to what degree Smithsonian museums committed exhibition resources more or less efficiently than other museums and commercial firms, given substantial differences in exhibition research, content, quality, size, and projected exhibition schedule. The study team tried to assess these claims using a benchmark for efficiency used by commercial firms—annual billing per staff —and it presents the results here with the caveat that they are preliminary and not definitive. The targets for annual billings per staff set by those firms, which were located in geographical areas with different pricing structures, were $90,000 to $100,000. Based on these benchmarks and reported Smithsonian expenses for exhibition staff and other costs, exclusive of contracts and in-kind costs, commercial firms would have used 5 percent to 17 percent fewer FTEs than did the Smithsonian.[11]

11. Private sector costs will vary depending on such factors as the firms' locations and overhead rates.

Funding

Out-of-pocket expenditures (i.e., excluding Smithsonian labor) for the exhibitions that opened in FY1999 and FY2000 totaled nearly $43 million. Respondents to the OP&A exhibition survey estimated that the FY2000 exhibition-related staff costs were about $30 million a year (or $60 million for the two years). The museums did not estimate the value of internal administrative support, equipment, and other infrastructure. Analysis of data from non-Smithsonian museums suggests that direct costs for exhibitions at the Smithsonian were comparable to direct costs elsewhere.[12]

About half of all spending for exhibition purposes in FY1999 and FY2000 was covered by federal one-year appropriations, about 85 percent of which went for personnel costs. Designated donations provided about one-third of all exhibition spending, of which 90 percent went for non-personnel expenses. Over the two years, Institutional trust funds and earned income paid for 10 percent or less of all exhibition-related spending; another 10 percent or less came from federal no-year funds, 1 percent from government grants and contracts, and 1 percent from income derived from restricted endowment funds.

Facilities

In FY2000, the Smithsonian units that produced exhibitions occupied more than 6 million square feet of space in facilities in Washington, DC (5.6 million sf), New York City (209,000 sf), and Panama (300,000 sf) (table 2)[13]. One-third of that space was for public use. Half of the public use space (nearly 1 million sf) was dedicated exclusively to exhibitions, and an additional 16 percent (nearly 300,000 sf) was for both exhibitions and other uses. Aggregated, two-thirds of all the public use areas in Smithsonian museums were available for exhibitions, or one-fifth of all indoor space in Smithsonian exhibition-producing museums. An additional 4 percent of the total space (270,000 sf) was non-public space designated for exhibition support. By way of comparison, a 2000 survey by the Association of Art Museum Directors reported that the total exhibition space in an average art museum was approximately 69 percent of the total public space.[14] The figure for Smithsonian art museums was around 75 percent.

12. *The Costs and Funding of Exhibitions* (Washington, DC: Smithsonian Institution, Office of Policy and Analysis, August 2002). The comparison of exhibition costs is approximate since staff time is not included in Smithsonian figures. Some external museums include labor costs, especially when contracting for exhibition development and production, while others follow the Smithsonian practice.

13. Total assignable space as reported by units in the OP&A exhibition survey.

14. Association of Art Museum Directors, "2000 Statistics Survey" (New York: AAMD, 2000).

Table 2. Indoor Facilities

Indoor locations	*Total space, sq ft (A)*	*Public use space sq ft (B)*	*% (of A)*	*Exclusively exhibitions (% of B)*	*Exhibition support space (% of A)*
Washington, DC	4,503,785	1,398,959	31	58	5
National Zoo	1,093,244	247,689	23	43	1
New York City	208,898	77,150	37	33	4
Panama	300,126	96,282	32	32	0
All exhibit producers	6,106,053	1,820,080	30	30	4

The Central Administration's Role

The central administration's role in exhibition programming and individual exhibitions has involved three principal areas: central guidance that provides a framework for museum exhibition programming; central support functions such as development, contracting, and some exhibition-making services; and accountability.

Central Smithsonian Guidance

SD-603, Exhibition Planning Guidelines, is the only central policy relating to exhibitions. It contains a background statement that emphasizes scholarship, preservation, accessibility, and quality of interpretation and lists ten principles that all museum guidelines for planning and making exhibitions should include. These principles do not address visitor experience. Three principles governing "sensitive issues" specify that museums are to identify those groups that might have "concerns about the exhibition topic or approach" and, "[w]here desirable, museums should collect and analyze information about the experiences and expectations of visitors and others during the exhibition planning phases and through assessment of audience responses to the completed exhibition." SD-603 requires updated exhibition planning guidelines for all Smithsonian units that create exhibitions and places accountability for exhibitions and their results with the unit directors.

In FY2002, the central administration issued a Smithsonian-wide strategic plan that provided strategic direction for exhibitions. Objective 1.1 states that the Smithsonian should "offer compelling and first-class exhibitions and other public programs." The performance indicators for exhibitions (most have no specific targets) include number of visits, including during non-peak times; percentage of "favorable" ratings for visitor "enjoyment, learning, personal relevance, and appreciation of

museum objects"; percentage of visitors who would recommend a Smithsonian visit to friends; percentage of exhibitions that meet guidelines for "quality, presentation, information, and maintenance"; number of exhibitions with ties to other exhibitions; and percentage of exhibitions currently under development that are behind schedule by six months or over budget by 10 percent.

In the context of ongoing changes and dialogue in the museum world about exhibition programming, along with changes within the Smithsonian, the central guidance on exhibitions now available to Smithsonian museums does not address certain critical macro-level policy issues. For example, what obligation does a national museum have to give voice to the myriad audiences in this country—to help different population groups connect to their roots and their national identities? What should be the relationship between Smithsonian exhibitions and collections, research, and education? Whom does the Smithsonian serve? As one expert said about organizational missions in general, using the example of a zoo,

> *The question for the zoo, indeed any organization, is whom it serves. The animals housed in its exhibits or the animals still free? The children with dollars to spend or the poor children who live too far away to attend? The dolphins or the timber wolves? The coral reef or the birds? The answer, of course, is "all of the above." Unlike private firms, which usually have a choice in the markets they serve, non-profit and government agencies are often required to serve everyone. It is in the constant struggle to serve these different and often competing audiences that the zoo finds both conflict and strength. And it is in its willingness to ask about mission that the zoo confronts its relationship to the outside world.*[15]

Other national museum authorities have specifically addressed these macro policy questions in their guidance to national museums. Thus, the National Museum of Australia is committed to

15. Paul C. Light, *Sustaining innovation: Creating nonprofit and government organizations that innovate naturally* (San Francisco: Jossey-Bass, 1998), 62.

> *interpreting and communicating what it means to be an Australian and to explore its consequences for all Australians…One of the main vehicles by which the Museum delivers these messages is through its exhibition program…This policy recognizes the national focus of the Museum's role, and the need to deliver exhibitions through a network of venues and by the innovative use of new and emerging technologies, as well as by traditional methods. It also recognizes the importance of community involvement in the development and delivery of the Museum's exhibition program.*

The Blue Ribbon Commission on NMAH recommended that America's national history museum should

> *be fair, accurate, and sensitive to America's traditional values and aspirations as well as the reality and diversity of the American experience. . . . be attentive to differing schools of historical thought and interpretation. . . . NMAH must fairly and accurately treat issues of race, ethnicity, gender, creed, and other dimensions of diversity as inextricably entwined with the American historical experience.*[16]

Neither the strategic plan nor other central administration guidance provides direction as to what priority the museums should assign to their exhibition programs relative to other core functions such as collections, research, and education, and what level of resources to allocate to exhibition programming. Smithsonian interviewees indicated that, in fact, they receive mixed messages. They pointed out, for example, that the performance evaluation criteria of some key staff involved with exhibitions did not encourage involvement with exhibitions. At the same time that staff were being asked to focus more attention on exhibitions, they were also being asked to expand other programs. Although support from development offices was crucial to exhibitions, since most funding other than for

16. *Report of the Blue Ribbon Commission on the National Museum of American History* (Washington, DC: Smithsonian Institution, March 2002), III. Recommendation (11).

labor had to be raised from external sources, development offices had no explicit guidance as to the relative priority they were to place on fundraising for exhibitions.

Central Functions and Services

Traditionally, the central administration has not played a significant role in exhibition programming and the making of exhibits. Exhibition making is decentralized, with responsibility delegated to the museum directors.

Central planning. A number of interviewees commented on the overall lack of cohesiveness, or spine, across Smithsonian exhibitions in the different museums. Several commented that they did not experience a sense of coherence between the buildings and the exhibitions in them and across museums. They said a sense of "the nation" or the telling of the national story was lacking and that exhibitions collectively offered a fractured, kaleidoscopic view. Some interviewees wanted a sense of direction and understanding of what the Smithsonian is about that transcends the individual museums—what one person described as "the message, the Smithsonian as a meaningful abstract idea."

Coordination. A number of interviewees commented on the absence of mechanisms and systems for coordinating exhibitions and exhibition making, for collecting and disseminating information, and for sharing resources, including collections, across museums. Although the museums must now link their strategic plans to the Institutional plan, that requirement is not backed by a related mechanism for pan-Institutional coordination of exhibitions. For example, there is no system for reviewing, across all museums, which audiences are being targeted when, and whether there are gaps in the Smithsonian's overall service to different population groups. Similarly, there is no mechanism to assess the variety of design and degree of turnover of exhibitions across the Institution to ensure that the different ways in which visitors engage with exhibitions are addressed. There was an unsuccessful attempt by the former Provost's office to set up a Web-based pan-Institutional exhibition schedule that would allow the museums to see what each was planning and when openings were scheduled. The system depended on the museums entering and updating their information, and this did not happen. VIARC provides current and near-term exhibition names and brief descriptions, but those are after-the-fact, covering only those exhibitions about to open or already on display, too late for exhibition planning and development purposes.

Interviewees commented on the lack of a central repository of information relating to, for example, the location of exhibition resources,

Partnership

Paul Light distinguishes among collaboration, cooperation, and coordination, which he sees as different forms of partnership. "Cooperating means contributing resources, promoting others, and sharing information. Coordinating means reconciling activities, sharing resources, and producing joint projects. Collaborating means sharing program responsibilities, creating new systems or programs, and collective planning.

The goal of cooperating is to improve agency performance by staying informed. The goal of coordinating is to produce an outcome that no single agency could achieve on its own. The goal of collaborating is to promote a collective vision and coordinated actions."*

*Paul Light, *Sustaining Innovation: Creating Nonprofit and Government Organizations That Innovate Naturally* (San Francisco: Jossey-Bass Publishers, 1998), 76–77.

opportunities for internal training, lessons learned from exhibition projects, final exhibition costs, contractors, experience with new materials or techniques, trends in allied fields such as the entertainment industry or in the business world, and advances in project management. One interviewee called for an Institution-wide database that would capture and disseminate such information. Implementation of such a system would, however, encounter several obstacles: there is no requirement for standard documentation, no system for collecting and disseminating information, and a norm of not sharing information regularly.

The study team did not find many examples of museums sharing resources, even when exhibition development workloads were uneven. The data indicate that units lacking a certain skill were least likely to try to obtain it formally (for example, through a contract arrangement) from other Smithsonian units with the skill. Rather, they tended to fill gaps by using external contractors; informally "borrowing" skills from other Smithsonian museums or getting in-kind services; obtaining in-kind services from external organizations; and cross-training. When sharing of skills occurred, interviewees said that it was typically the result of personal relationships, not organizational policy. There has been little use of the internal contracting system put in place in August 2002 (see Appendix E), which affords Smithsonian museums a formal way to contract their staff out to other units in return for a fee consisting of the cost of salaries and benefits and an additional overhead and incentive charge. Some interviewees speculated that museum managers feared internal contracting would limit their flexibility and might indicate that they have excess staff at their museums.

Another example of problems with sharing, heard in this and other OP&A studies, was that it is easier to borrow an object from an outside museum than from a Smithsonian museum. In response to the statement in the 2002 Employee Perspective Survey that "There is adequate cooperation across units at the Smithsonian," 57 percent of exhibition staff primarily engaged in exhibition activities disagreed or strongly disagreed, compared with 44 percent of all other employees.

It also appears that Smithsonian museum managers rarely considered exhibition-making resources from an Institutional perspective. For example, to OP&A's knowledge, museums have not pursued job sharing (e.g., allocating the time and salary of a highly trained specialist) between two Smithsonian museums, neither of which requires a full-time specialist.

Contracting. The study team did not find significant issues relating to central contracting support (contracting is discussed in greater detail on page 91). The most common concern was the time it took to let con-

tracts, a phenomenon found throughout the federal government. Interviewees also noted some lack of the expertise needed to prepare requests for proposals and to review bids in specialized areas such as audiovisuals and multimedia.

Exhibition-making services. For several decades, the Smithsonian has had a central exhibition-making services office, now called the Office of Exhibits Central (OEC). OEC offers general design and production services, as well as specialized services such as taxidermy, model making, and packing and crating.[17] Most interviewees expressed satisfaction with the timeliness and quality of OEC's work, and they appreciated the low or no cost services.

Interviewees also pointed out a number of concerns about OEC's operations. Foremost was the inability of museums to get on OEC's schedule. OEC's management said, however, that expanding its capacity to meet demand required some level of cost recovery for its labor. Although it had repeatedly requested that authority, the central administration failed to reach a decision. Interviewees also suggested that the problem of getting on OEC's schedule was related in part to a lack of clarity about OEC's role: which units it should work for (for example, those without an internal exhibition-making capacity) and what services it should provide. Absent adequate central guidance, the office had extended its services to all units at the Smithsonian, and its most recent strategic plan indicates that it wants to move beyond direct exhibition-making services into ancillary services such as project management, brokering of contract services, and exhibition consulting.

Another common theme was a lack of transparency in OEC's procedures, foremost among them the process for selecting clients and the basis for charging clients. Interviewees thought that OEC's design capability was uneven and that it paid insufficient attention to innovation and state of the art. Since 1995, senior OEC management had been addressing longstanding problems that included confusion over OEC's role, internal divisiveness, poor communication, mistrust among staff, and other human resource issues. At the time of the study, the study team found that OEC had yet to resolve many of these issues, despite a number of management initiatives. Examples of persistent problems were planning that was not informed by systematically derived data (such as a needs survey of actual and potential clients) or cost-benefit analyses,

17. OP&A completed a study of OEC in January 2001. The comments here about OEC are based on interviews with all OEC staff at that time, as well as interviews with clients, review of documentation, and visits to two private exhibition-making firms. The study team understands that OEC has instituted further management and operational changes since the study concluded, which the team has not reviewed. In addition, since the time of the OEC study, OEC has been placed under the Under Secretary of AMNP.

unclear staff roles and responsibilities, and inadequate accountability, including weak project management. These problems impeded coordination of OEC's three service divisions, smooth project implementation, and interaction with clients.

Visits to two private sector design and production firms revealed substantial differences between their operations and those of OEC. Particular points were OEC's inadequate project management capability, limited training (including cross-training[18]) and inability to keep up with trends in design, graphics, and fabrication technology. The visits also highlighted the deficiencies of OEC's facility at 1111 North Capitol Street, which include very inadequate space, layout, and work environment.

The Craft Services Division of the Office of Facilities Operations, Office of Facilities, Engineering, and Operations, formerly provided exhibition construction services (such as drywall, electrical, and wall painting) on a cost-reimbursable basis. It phased out this support because it lessened its ability to carry out its core maintenance responsibilities. For the most part those services are no longer available for exhibitions.

When interviewees were asked what kind of central exhibition-making services they wanted, they most often mentioned specialized services such as taxidermy, consulting services on audiovisuals or visitor studies, emergency services of many types, and general design and production, particularly in the case of smaller, non-museum units but on occasion the larger museums as well.

Funding. For a number of years the central administration administered a Special Exhibition Fund (SEF) for the planning and implementation of special exhibitions. The Regents established the fund in the 1960s, with $3 million or so, and in 1987 a competitive award system with guidelines and panels was instituted. Over time the fund was used as an agent for change, for example, to promote a team approach to exhibition-making and to support evaluations. One interviewee said that it "brought about the team process…[it] encouraged people to be inclusive in their process." The evidence suggests that at its height the SEF played an important role in exhibition development. The application process itself helped exhibition-makers figure out what they wanted to do, and, in addition to providing much-needed support, an award was seen as a stamp of approval that provided leverage for exhibition fundraising outside the Smithsonian.

Currently, the SEF is available only to AMNP and IAM, while Science receives special funds for research and travel instead. The amount of the SEF is determined annually during the formulation of the

18. Since the completion of the OEC study, OEC has done more cross-training.

Smithsonian budget, based in part on the prior year's amount and in part on the overall financial situation of the Institution. Last year the SEF was slightly under $1 million. The Under Secretary of AMNP and the director of IAM have agreed on the division of the SEF between their divisions, and each decides how to allocate the funds across their units. In 2003, however, the funds have been escrowed until further notice.

Most exhibition fundraising was handled at the museum level, in coordination with the central development office. The central development office, however, also secured funds for exhibitions and helped the museums identify prospects.

Human resource management. A number of interviewees commented that the criteria for evaluating staff performance did not encourage exhibition activity for certain categories of staff who were core to exhibition making, particularly curators, scientists, and other subject-matter specialists. In addition, there were few rewards or incentives for creativity, innovation, risk taking, and change, although these are considered critical to a dynamic exhibition program at the forefront of current practices and approaches. One interviewee suggested several incentives aimed at exhibition excellence, such as awards (cash, work-related travel funds, and sabbatical time), recognition, and support for future projects through the provision of funding or support staff. Another person suggested giving extra incentives to museums that produce "successful" exhibitions, based on imaginative concepts, innovation in presentation, and efficiency. Competition based on results, this person said, is the most effective way to promote positive change. Recent literature from the business world indicates, however, that systems of incentives need to be carefully designed if they are successfully to support both creativity and routine operations, as some incentives tend to encourage one at the expense of the other.[19]

The data from the OP&A exhibition survey, combined with comments by interviewees, raised questions about whether the museums have the right skill sets in the right amounts for exhibition making. For example, one interviewee suggested having "two tracks for curators—one for research and one for exhibitions." To the study team's knowledge, the Smithsonian has not conducted a critical skill analysis for exhibition making or developed new position descriptions to match actual exhibition work and position requirements.

19. See, for example, Jonathan D. Day, Paul Y. Mang, Ansgar Richter, and John Roberts, "Has Pay for Performance Had Its Day?" *McKinsey Quarterly* 4 (2002), www.mckinseyquarterly.com (accessed December 9, 2002).

Accountability. Consistent with the decentralized nature of exhibition making, traditionally there was limited central oversight of Smithsonian exhibitions. One external interviewee remarked, "There's a lot going on [at the Smithsonian] that wouldn't be tolerated or would be more closely monitored elsewhere." A museum expert asked recently with respect to Smithsonian exhibitions, "Isn't there an expectation that 'national museum' status means near perfection?" Another person commented that Smithsonian directors have not been held accountable to a higher "national" standard. In a recent presentation to the Smithsonian Institution Council, the Secretary said, "Since the Smithsonian mounts more exhibitions than any other institution, you would think that they would be qualitatively better than others. I don't think the ones we're doing today are bad. On a scale of 1 to 10, where 10 is greatest, I've never seen one below 7.5 or 8, but you'd think we should be in the 9-plus range."

Interviewees commented that central financial accounting systems (which the central administration is now replacing with a new Enterprise Resource Planning system [ERP]) were weak. Interviewees also noted that only recently did the central administration introduce systematic performance measurement. These initiatives are still new, and as yet there is no:

- Central requirement for the collection of the core data from the museums needed to monitor exhibition performance and conduct trend and other analyses
- Linkage between the ERP and non-financial performance indicators
- Smithsonian-wide exhibition cost accounting system consistent with audit standards, particularly with respect to labor costs
- Standard reporting on exhibitions
- Common exhibition vocabulary and definitions across museums that would underlie a central database.

When the Smithsonian Office of Inspector General (OIG) audited traveling exhibitions at selected units in 2001, it found that no museum was able to provide the financial data needed for an audit, and each used different accounting systems, which also varied within museums across projects.[20] The study team found this same situation in its review of the

20. "Financial Management of Traveling Exhibitions," Audit Report No. A-00-03, Office of Inspector General, Smithsonian Institution, Washington, DC, September 26, 2001.

costs of permanent and temporary Smithsonian exhibitions that opened in FY1999 and FY2000. The greatest problem was that the museums did not track internal labor expenses, so that the major cost component of most exhibitions was missing. This deficiency will be corrected to some extent by the addition of a labor module to the ERP. There were also, as noted, no Smithsonian-wide standards with respect to the quality and performance of exhibitions.

Exhibition Program Management by the Museums

The study looked at how Smithsonian museums managed their exhibition programs—the complex gamut of museum activities and resources involved in delivering exhibitions to the public. The term "exhibition program" encompasses a museum's strategic exhibition guidance, which sets forth the purpose, strategies, themes, audiences, and desired goals/outcomes and related performance indicators that should be addressed in a museum's exhibition plan; the exhibition plan, which contains a schedule of existing and planned exhibitions that put the museum's exhibition strategy into operation; and resources, particularly staff, equipment, and funds.[21] The study team looked at the guidance museums provide for the formulation of their exhibition programs and at how museums choose the exhibitions that they include in their exhibition plans.

Exhibition Program Guidance

When interviewees at Smithsonian museums were asked to define the purpose of their exhibitions, they generally stated that it was to support the museum's overall mission. Some museums had developed specific exhibition mission statements, which typically emphasized in general terms the display and interpretation of the museum's collections, presentation of research being conducted by the museum, and visitor education.

NMNH issues a strategic vision—"a shorter-term, directional statement that establishes decision-making criteria" for activities—for each strategic planning period. The statement for the period 2002–2005 states:

21. The ERP definition for an exhibition program is: "A display or environment accessible to the general public in person or via a Smithsonian website, which typically includes objects or living animals, texts, and other media. Includes all costs directly supporting the development and realization of the physical/virtual exhibition and its key components, such as research, planning, text preparation, exhibition and graphic design, multi-media design and development, prototyping, production, fabrication, construction, plantings that are part of the design of the exhibition, collection management activities (such as identifying, conserving, packing, and shipping of objects or living animals), installation, security (any security costs beyond the normal security cost of public access, such as security required during construction/installation, additional security required by a specific design, etc.), evaluation, documentation, maintenance, repair, rotation of objects or living animals, alterations, revisions, renovations, and deinstallation. Also includes essential consumables in the exhibition that are distributed free of charge to visitors as part of the experience, such as brochures."

By the year 2006, the exhibitions program of the National Museum of Natural History will be known and respected as interactive, audience-centered, equitable, flexible, elegant, and proven effective. They [exhibitions] will not be ends in and of themselves, but hubs in a system of learning opportunities designed to change learners' beliefs, attitudes, and knowledge of the natural and cultural world in particular and measurable ways. Their scientific content will be accurate and up-to-date and present the natural and cultural world as an interconnected and interdependent place.

The *Exhibition Guidelines* of the National Museum of the American Indian (NMAI) state that exhibitions:

> Are created and planned in collaboration with Native peoples
>
> Taken as a whole, are hemispheric in scope
>
> Explore the continuity of cultures
>
> Express the principles of Community, Locality, Vitality, Viewpoint, and Voice
>
> Promote and articulate the dominance of Native voices in exhibitions
>
> Promote, develop and enhance research, including traditional Native and academic scholarship through the exhibition process
>
> Create and maintain ongoing relationships with Native communities and museum visitors.

Interviewees cited other reasons for doing exhibitions, such as celebrating cultural heritage months, acquiring a collection, highlighting research results, and displaying new acquisitions. Some also said that their museums sought in their exhibition plans to attain a careful balance of culture, media, type, size, and other characteristics.

The literature on exhibitions discusses the importance of visitor expectations in defining an exhibition's purpose. For example, "In today's wide spectrum of museum philosophies, the two end states seem to be (1) a curator-driven, collections-based museum with a passive stance on public programs, and (2) an audience-driven, educationally-active muse-

um that positions itself as a relevant community resource."[22] Few of the Smithsonian statements of purpose say much about the experiences that visitors have indicated they want: to see authentic, exceptional objects; have a personal, emotional experience; spend pleasant time with family and friends; have fun; and be challenged and learn. One Smithsonian interviewee said, "I think most people who work here resist the national idea, the idea that people ask things of this space which leads to an acknowledgment of the emotional and spiritual."

The August 2002 NMAH document, *Visitor Experiences at the National Museum of American History,* is one strategic document that addresses visitor expectations. It states that visitors to the museum's exhibitions

> *should experience fun, wonder, surprise, and the sheer pleasure of learning as they encounter a diversity of exhibit topics and formats, effective orientation methods, wonderful objects, and active programming. They should find places that speak to their own interests, experiences, memories, and learning styles; and they should feel comfortable here.*

Despite this type of language, interviewees commented on a lack of coherence and flow among exhibitions in Smithsonian museums and within specific museums and a failure to address adequately the needs of visitors. As one person said, "museums plan project to project and not to the whole. We're not thinking globally." The report of the 2002 NMAH Blue Ribbon Commission contained strong language about the fragmentation of exhibitions at that museum. NMAH, it stated, "does not seem to meet any obvious test of comprehensibility or coherence…" The commission concluded that the museum should "be structured to present either a coherent set of provocative questions, or a coherent set of possible thematic interests, or a coherent sequence of topics and Museum experiences." It was unclear to the Blue Ribbon Commission why the museum covered some subjects when others that seemed more important were not addressed, for example, religion, immigration, slavery and race relations, the history of diversity, and the cowboy.

The study team had difficulty at all the museums determining what information informed exhibition decisions and the extent to which exhibition makers used sources such as findings from visitor studies,

Evocations of the Titanic

Titanic: The Exhibition, as presented at the Museum of Science and Industry in Chicago, unfolds through a series of rooms reminiscent of the frames of a storyboard used in filmmaking, with each room focusing on one aspect of the *Titanic*'s story. The rooms are suffused with violin music punctuated by blasts of a ship's horn. Cases hold sparse arrangements of artifacts—a single bowler hat or a pair of spectacles—with LED lighting creating the effect of water-filtered light on mournful objects. The first room sets the somber tone with one poignant artifact, the *Titanic*'s bell, hanging over a circle of white sand. A 12-foot model of the *Titanic* dominates the second room, which focuses on the building of the ship. Passengers come to life in the third room,

22. Emlyn H. Koster, "In Search of Relevance: Science Centers as Innovators in the Evolution of Museums," *Daedalus* 128, no. 3 (Summer 1999): 287.

where you meet John Jacob Astor, who sent his pregnant second wife into a lifeboat, staying behind to perish, and the "unsinkable" Molly Brown, who wore several pairs of stockings to pass out to other women in her lifeboat. Rooms with a spectacular life-size replica of *Titanic*'s grand staircase and recovered artifacts such as corked champagne bottles, glassware, and china reveal the opulent side of the voyage. In stark contrast, the next section, depicting the sunken Titanic, has the largest piece of the ship ever recovered. A simulated, touchable "iceberg" enhances the feeling of cold ocean depths. In the final room, the disproportionate number of first-class survivors is illustrated by the names of first-, second-, and third-class passengers and crew listed in rows by survivors and deceased.

feedback and lessons learned from previous exhibitions, and research on audience engagement with exhibits and the nature of informal learning through exhibitions.

Formulation of the Exhibition Plan

The makeup of a museum's exhibition plan, which generally spans 5 to 10 years, begins with the generation of ideas for exhibitions and a scan of exhibitions available outside the Smithsonian. It became clear from the interviews that although the exhibition guidelines of some Smithsonian museums specifically state that they should accept ideas from any source, most ideas for in-house exhibitions originated with subject-matter specialists (defined here as curators, historians, scientists, and the like). Moreover, exhibitions organized elsewhere usually required initial approval from the curatorial or scientific departments. At least one museum decided not to take popular outside exhibitions from reputable sources because the museum had no in-house expertise in the subject area. In contrast, a senior manager at one external museum said that the museum "has staff whose job is to look under every rock… They look for pre-existing interests in society. What is on the cover of *Time* and *Newsweek?* Formative evaluation includes seeing what's cooking in the marketing library." When the *Henley* submarine was raised from the Charleston River, that museum immediately wondered how to get it for an exhibition.

All museums had a committee, usually called the exhibition and program committee and typically composed of curatorial and education staff, which reviewed proposed ideas and made recommendations to senior management, including the director, on which of the ideas should go into concept development.[23] Generally, ideas proposed by subject-matter specialists could not move forward to the committee for review until they had been reviewed within the specialist's department and approved by the chair. The exhibition and program committee also reviewed the concept development package for proposed exhibitions and recommended to senior management and the director which exhibition concepts should go into the exhibition plan. Finally, it reviewed progress at key milestones and had to sign off on the work for a project to move forward. The director had final approval at key points and when major issues arose.

For their idea reviews, the exhibition and program committees required submissions, often very detailed, that covered content, interpretation, target audience, associated programs, projected budget, potential for

23. The OP&A white paper on external exhibition making, *The Making of Exhibitions: Purpose, Structure, Roles and Process* (Washington, DC: Smithsonian Institution, Office of Policy and Analysis, October 2002), available at www.si.edu/opanda/reports.htm, provides context for Smithsonian practices.

fundraising, publications, and scheduling, as well as the justification for the proposed exhibition. Based on the process that interviewees described, ideas that went from a curatorial and science department to the committee had a strong chance of moving into concept development and into the plan because of the influence of the subject-matter specialists.

When an idea was approved for concept development, the exhibition and program committee or senior management established a core project team, generally centered on the subject-matter specialist, a designer, and a project manager. The museum sometimes provided the team with a charter or other document that defined the purpose/goals of the proposed exhibition and/or the roles and responsibilities of team members. The job of the core team was to flesh out the idea into an exhibition concept and prepare documentation that described the exhibition concept in more elaborate detail and provided a preliminary budget. The team could call on other people as required. Following approval by the director, the exhibition concept was included in the exhibition plan. As interviewees described it, the process was essentially a linear one from idea conception to finished exhibition, guided largely by the thinking of the individual who proposed the exhibition idea.

The following points emerged about the process of selecting exhibition concepts.

The players. A significant number of interviewees commented on the dominant role of subject-matter specialists throughout the idea and concept development stages. Some remarked on the tension between these specialists and designers primarily, but also between them and other team members. A common theme in the interviews was the high value placed on scholarly expertise within the Smithsonian and the subordinate status of designers and others. As a result, interviewees said, addressing the variety of experiences that visitors seek and the ways they engage with exhibitions was not emphasized during concept development. Some interviewees said that the scholarly focus of subject-matter experts stifled imagination, innovation, and inspiration and contributed to the homogeneity of exhibition programs and their orientation toward well-educated adult audiences. There was a tendency toward scholarly presentation of materials with substantial text, a large number of objects, and staid, traditional design. The predominant exhibition concept models were, as noted, the didactic communication of ideas or object display, which the subject-matter experts typically saw as the best ones for communicating their scholarship and connoisseurship. Many subject-matter specialists appeared to assume that their interests, values, and approaches best served their audiences. One interviewee offered a different attitude, however, saying, "Our mandate isn't to know stuff and spill it out, but to

Spies Are Everywhere

The International Spy Museum in Washington, DC, a new, for-profit museum that functions as a single extended exhibition, is devoted to espionage. Displays of spy paraphernalia, interactives that test visitors' skills, spaces with evocative environments, theatrical narrations, and concise text immerse visitors in the world of spying, from its beginnings to the modern day, and engender emotional responses. There's even an HVAC duct through which to crawl to eavesdrop...or place a bug. The use of the atomic bomb is highlighted by images, sound, and light in a powerful narration. Each presentation is tailored to its particular mode of experience, and the variety of experiences offers something for just about every visitor. Because the exhibition never loses its focus, spying becomes omnipresent, and by the time visitors leave, the museum has subtly colored how they perceive their world.

know audiences and publics and…[to let go] of our insistence that we know the *right* way."

The concept development team rarely included someone with specific expertise in visitor engagement, nor were ideas and possible presentations regularly tested with target audiences. Education staff was generally responsible for ancillary activities such as public programs and materials for use by schools. On occasion, a member of the museum's education department was assigned the role of visitor representative. The consensus was, however, that education departments did not have enough staff to participate extensively and that most educators did not in fact have the expertise or experience to "represent" exhibition audiences. More frequently, educators were brought in at the last minute only for ancillary programming. Some museums, particularly recently, have been contracting with outside firms to do audience testing.

Another point raised by interviewees was the limited use of people from outside the museum (either within or outside the Smithsonian) to expand the team's thinking and provide fresh perspectives. Examples of outside experts were scholars, market researchers, audience specialists, community representatives, and specialists from allied industries. On those occasions when museums called on outside specialists, they tended to look for content experts rather than other kinds of professionals, such as theater designers, visitor researchers, or writers with different perspectives and skills.

A few recent Smithsonian exhibitions used a different visitor-focused, holistic approach with good results. One example is *Invention at Play* that opened at NMAH in 2002. It was produced by the Lemelson Center in NMAH along with the Science Museum of Minnesota and the National Science Foundation. The exhibition team explored alternative presentations during concept development and tested them with target audiences. The team altered its thinking in response to its own research and the audience tests. Within the core team, content specialists, designers, and educators were equal partners.

The creative process. Most exhibition people classify the development of exhibition plans and individual exhibitions as creative ventures. No interviewees, however, described Smithsonian processes that fostered creativity and innovation. Neither idea reviews nor concept development involved open-ended brainstorming to identify different and perhaps original ways to approach a topic. No one mentioned a museum taking a risk by moving unconventional ideas into concept development to see what could be made of them because they might be of interest to the public. Rather, the pattern during concept development was to follow the approach specified in the idea document, rather than to engage in

wide-ranging exploration and experimentation with alternative ways to present a topic and then test them with potential audiences. Some Smithsonian interviewees said outright that the Smithsonian culture stifled innovation and creativity: "Experimentation is not part of the SI mission" and "There is no experimental mindset. I see people afraid of mistakes, afraid of disappointing scholarly peers, and afraid of doing something different."

Another factor said to exert a strong influence on the selection of exhibition ideas was the legacy of the *Enola Gay* and *The West as America* controversies. A number of interviewees referred to the stultifying effect these events have had on creativity and risk taking. An interviewee noted that "our concern with these events has drifted too far, bogging us down in conservatism."

There was a strong tendency to look down on the entertainment industry because of the fear of "Disneyfication." Smithsonian exhibitions did not benefit from ideas, approaches, technologies, and strategies at the forefront of exhibition making or audience service found in the industry. More than one interviewee expressed the point that "We are poor at accepting new ideas, let alone acting upon them." One pointed to the benefits of openness to the outside world, commenting, "Some of our most successful and well-attended installations have surpassed the typical exhibit experience by drawing from other mediums to create extraordinary physical installations that stimulate our senses, emotions, and intellectual engagement without prolonged explanations. Many exhibitions still continue to be developed in the same manners as a publication, with safe, predictable results."

The study team reviewed some of the current literature on creativity in non-profit and profit-making organizations and government agencies. Common themes included the importance of an environment that supports creative thinking by encouraging risk taking, accepting failure, assembling the right group of people, formally allocating time for brainstorming and exploration, and emphasizing practical outcomes in the form of usable products. Two experts described systems theories of creativity as having "a common view of creativity as a complex, unpredictable and multidimensional process, requiring different types of thinking . . . 'divergent' thinking (taking problems apart, lateral or 'out of the box' thinking, spontaneous and intuitive thought), and 'convergent' thinking (putting together evidence and testing solutions), 'vertical' thinking within a clear set of boundaries, rational and logical thought)." In their opinion, "individual creativity will only thrive when individuals are part of a larger creative 'system,' through which different ideas and

Humanity in Transition

The powerful photographs of internationally renowned photographer Sebastião Salgado, displayed in the traveling exhibition, *Migrations: Humanity in Transition,* address a major contemporary social crisis. The single idea behind this exhibition is the current global phenomenon of mass migration and the related "social and political transformations now occurring in a world divided between excess and need." The photographs document displaced groups including the Latin American exodus to the United States, refugees from all sides in the former Yugoslavia, the Indians of Brazil's Amazon, Jews leaving the former Soviet Union, migrants to major urban centers, victims of rural poverty throughout Asia, the Middle East, and Central and South America, refugees from civil wars in Africa, exiled Palestinians in Lebanon, and Vietnamese "boat people." To Salgado, it is "a disturbing story because few people uproot themselves by choice. Most are compelled to become migrants, refugees, or exiles by forces beyond their control, by poverty, repression, or war."* The exhibition leads each visitor to question his or her place in the world and the defensibility of passive observation.

*"Migrations, Humanity in Transition: Photographs by Sebastião Salgado," press release, International Center of Photography, New York, NY, 2001, www.icp.org/exhibitions/salgado/press_press.html (accessed January 6, 2002).

Fostering Creativity

When the Pew Charitable Trusts' Venture Fund wanted to improve its grant making, it studied how profit-making companies foster creativity. Some of the findings include:

Commit time to idea generation.
Companies believe it is important to schedule specific time (weekly and even daily) just for generating ideas.

Be attuned to innovation opportunities.
Creative companies purposefully search for new opportunities in unexpected occurrences, external changes, new perceptions, and new knowledge.

Tap outside experts.
Some organizations use outside "idea brokers" to help with unfamiliar fields. These "aliens" bring different expertise.

Design a supportive physical environment.
Well-designed space can support creativity. For example, companies have designed space to promote and sustain the informal but often productive meetings that spring up around coffee areas and water fountains.

Encourage "creative abrasion."
Managers put together groups with the intellectual diversity needed to produce new ideas and support them in vigorously debating, challenging, and exploring what they come up with. The "creative abrasion" that occurs among the right group of non-like-minded people can produce innovative results.

*Adapted from Mary Ann Stover, Suzanne Cole, Michael Burton, and Page Snow, *The Business of Ideas* (Philadelphia, PA: Venture Fund of the Pew Charitable Trusts, Dec. 2000).

aptitudes can collide in unpredictable ways."[24] Another expert talked of establishing "a special task force that is given a mandate to think outside the box, a separate unit to scan the external environment for promising ideas, or a laboratory of some kind to research and test a particular approach. The goal is not to pick a handful of stars and mad scientists who will be freed from all earthly duties. Rather it is to create an opportunity to pretend, if only for a moment, that anything is possible."[25] Royal Dutch/Shell has used six-person "GameChanger" innovation teams to field suggestions e-mailed by fellow employees and assess them at weekly meetings. Members were encouraged to listen carefully to each person's idea and to add their thoughts to build an idea into a more valuable contribution. "What's really going on in these groups is courage enhancement. By creating an atmosphere of safety and reducing the pressure to succeed, the groups give people the confidence to share their ideas."[26]

Funding issues. One product of the concept development stage was a fairly detailed preliminary budget, which became the basis for fundraising. The budget was usually developed in-house based on similar projects at the same museum, since the detailed design had not yet been done.

Interviewees made several points about exhibition budgets. When budgets contained inaccurate cost estimates, changes in exhibition design—sometimes major—were necessary. When the budgets failed to include full life-cycle costs, funds for critical post-opening tasks such as exhibition modifications and maintenance were not available. When funds for such items were included, it was not uncommon to use them to cover shortfalls in funding for design and production. The same problems were true for ancillary components such as education programming.

Another important point made by interviewees was that exhibition concepts were moved into design development before the museums had substantial commitments of external funding or had made a firm commitment to pay for the exhibition internally. In some instances, failure to obtain the necessary funding required stopping a project, on occasion for lengthy periods, until funding could be found or major modifications could be made to the design. A related issue was inadequate planning with respect to needed support from the development office for fundraising. Interviewees acknowledged, however, that museum development offices had small staffs and that their first priority was capital projects.

24. Chris Bilton and Ruth Leary, "What Can Managers Do for Creativity? Brokering Creativity in the Creative Industries," *International Journal of Cultural Policy* 8, no. 1 (2002): 53, 57.
25. Light, 62.
26. Richard Farson and Ralph Keye, "The Failure-Tolerant Leader," *Harvard Business Review,* Special Innovation Issue (August 2002): 102–103.

A representative from an outside museum said that many people in the exhibition business viewed the Smithsonian with envy. His and other museums needed to raise funds to pay for labor and had to be more accountable to board members for financial matters. He added that although the public purpose of the Smithsonian was well understood, any organization needs to minimize its costs. If they do, they will receive more contributions.

Exhibition variety. A number of interviewees inside and outside the Smithsonian thought that Smithsonian exhibition plans did not offer sufficient variety from the perspective of visitors. One interviewee noted that the vast majority of Smithsonian exhibitions were intended for a general, undifferentiated audience. Many comments touched on a failure to identify different audience groups and to develop exhibitions specifically for them. Commenting on his museum, one non-Smithsonian exhibit developer said, "We have learned there is no such thing as an 'average museum visitor.' We have learned to appeal to a wide variety of visitor types ('the visitor rainbow') by incorporating a wide variety of design and interpretive approaches, especially interactive approaches." A Smithsonian interviewee noted, "One thing that kills us is…[that] 99.9 percent of our exhibitions are aimed at a general audience… If we had just one kids' exhibition in each museum or an exhibition for a very specific audience, both visitors and sponsors would be interested." A journalist commenting on one Smithsonian museum spoke of the need to do a better job serving different audiences: "There seems to be widespread agreement that…for all the richness of its collections, [the museum] must think more carefully about the needs and tastes of contemporary audiences in presenting them to the public." Ron Chew, director of the Wing Luke Asian Museum in Seattle, talks often about the importance of museums' addressing topical issues. To create that capacity, he calls on museums to commit to a shorter, "journalistic" exhibition development process. "Journalists work fast under the duress of relentless deadlines. Their charge is to address topics of relevance and interest to large segments of the general public. Good journalists combine a talent for explanation with a flair for teasing anecdotes out of interviews and a passion for shedding light on controversy and social wrongs."[27]

A particular issue raised by the NMAH Blue Ribbon Commission and others was the paucity of exhibitions aimed at audiences from minority racial and ethnic groups. The commission found that NMAH exhibitions omitted fundamental themes reflective of the history of these

Art Play

A huge, colorful, abstract painting by Elizabeth Murray led one pint-sized child in a group of kids with whom she was meeting to say, "What I'd really like to do is jump into the picture." And so the picture became a room in the exhibition, *Art Inside Out*, at the Children's Museum of Manhattan. In the room, young children can rearrange sculptural furnishings and colorful shapes, while older children can create and project collages based on Murray's designs onto a large video screen. A second artist, photographer William Wegman, created a "home" of living room, studio, bedroom, and kitchen, furnished with fanciful versions of everyday objects and his famous photographs of Weimeraner dogs in human costume. The artist's weird but humorous video shorts evoke children's reactions. Access to a third room, this one by artist Fred Wilson, is through the giant head of a man. Several galleries display reproductions of original artworks of men and animals in confrontational groups. Identical busts of Egyptian Queen Nefertiti in gradations of brown provoke children to think about race and art, and children make their own installations using Wilson's choices of figurative objects and abstract egg-shaped wooden blocks.

27. Ron Chew, "Toward a More Agile Model of Exhibition Making," *Museum News* 79, no. 6 (November/December 2000): 47–48.

Power, Politics & Style

Power, Politics & Style: Art for the Presidents, a recent temporary exhibition at the Baltimore Museum of Art, looked at how American presidents have used everything from furnishings and fashion to portraits and china to communicate their political philosophy to the nation. One hundred objects from 15 presidents illustrated the central theme: American presidents have used two main styles, "regal" and "republican." The regal style suggests a person of power, pomp, and distance, while the republican style suggests a man of the people. The prototypical presidents for the two styles were Washington (regal) and Jefferson (republican). From the introductory section to the activity center where visitors can don a bow tie and white gloves and take part in a mock state dinner, the theme is reinforced. Nearly every label references the terms regal or republican. At the end of the exhibition, visitors are given a "ballot" and asked to identify certain images and objects as regal or republican. Visitors' answers confirm that most absorbed the ideas and facts presented in the exhibition.

groups in this country. The study team found a general Smithsonian pattern of installing exhibitions aimed at minorities mainly in the Arts and Industries Building, primarily during heritage or ethnic history months.

Presentation is another aspect of variety. As described in an OP&A white paper written for this study, most exhibition presentations fall into four distinct categories, although an exhibition may contain elements from more than one of them: [28]

Artifact display: the artifacts, preferably original and shown in the best possible viewing conditions, serve on their own as the means of communication with visitors, who engage as observers.

Communication of ideas: a set of messages, narratives, or facts are supported by objects and conveyed to visitors in a didactic manner.

Visitor activity: the presentation responds to what visitors do in the space and provides a milieu in which visitors engage using multiple senses, taking away the meaning and experience they create.

Immersive environment: the exhibition provides an environment that envelops the visitor so that he or she gains a feeling for another time and place and can explore the possibilities the setting evokes.

Across the Smithsonian, the predominant concept models of exhibitions were artifact display and communication of ideas,[29] with each museum tending to emphasize one of the two models. The art museums tended to favor artifact display, while NMAH and NMNH tended to favor communication of ideas. Neither of these two concept models offers much opportunity for active visitor participation. As one non-Smithsonian interviewee noted, "People want to be active in a museum and make its content their own." Relatively few exhibitions involved the immersive environment model (for example, *Amazonia* at NZP) and the visitor activity model (for example, *How Things Fly* at NASM). NASM had the widest range of exhibition types. One Smithsonian interviewee noted: "Within the context of the Smithsonian there is room for incredible variety—theatrical, scholarly, entertainment.... We do the same exhibition over and over. People come looking for a variety of experience."

28. For a discussion, see *Exhibition Concept Models* (Washington, DC: Smithsonian Institution, Office of Policy and Analysis, 2002). Available at www.si.edu/opanda/reports/htm.

29. Ibid.

The exhibition guidelines of some museums specifically refer to variety.

Turnover—the number of exhibitions that open in the course of a year—is thought to be particularly important in attracting repeat visits by local audiences. The study team encountered several external museums that were actively targeting greater turnover. One was creating space for "special exhibits that would change every six weeks or so, and the public would then see more of the collection rotated in and out of display." Another made extensive use of traveling exhibitions to achieve its goal of 12 to 20 temporary exhibitions a year.

Among Smithsonian museums, there was wide variation in exhibition turnover. Several museums emphasized permanent exhibitions; the average age of those at NMNH, NMAH, NASM, and NZP was 16 years, with some on view for 40 years. The NMAH Blue Ribbon Commission commented on "the major long-term exhibition syndrome." It noted that the cost of permanent exhibitions and the amount of floor space they occupy can greatly restrict a museum's ability to mount the smaller, temporary exhibitions that provide the variety today's audiences want. It was not uncommon for the study team to hear of curators unable to develop exhibitions because their department did not "have" a gallery and there was no other space. The Freer Gallery of Art, in contrast, is mandated by conservation requirements to rotate many of the displays of its permanent collections twice a year.

Some Smithsonian museums were rethinking their traditional approach to the use and nature of permanent exhibitions and the mix of permanent and temporary exhibitions. One interviewee said that it made no sense to have exhibitions on a rapidly changing subject area if the exhibitions rarely changed. The plan at the interviewee's museum was to change self-generated shows every four years. However, some staff were holding to the "old paradigm—do one exhibition and leave it up for 30 years." When NMNH did the permanent *African Voices* exhibition, which opened in December 1999, it included one gallery that could be easily changed, and the museum replaces its content annually.

Organizational Boundaries

Interviewees indicated that the allegiance of exhibition team members to their home departments was often stronger than it was to the exhibition project. There was frequent reference both to the insular, stovepipe nature of the research disciplines and to tension between the research departments and the education and exhibition offices. A tendency to marginalize services such as development and public affairs was also noted. A number of staff spoke of their departments "owning" their collections and particular exhibition galleries. There was reluctance to include out-

Nose-to-Nose With Gorillas

Visitors to the immersive Congo Gorilla Forest at the Bronx Zoo, one of two AAM Museum Exhibition Competition winners in 2000, begin their experience by following a winding path amid unusual tropical plants and flowers and monkey sounds in the distance. The path takes them through a colobus monkey forest, to a Mbuti hunting camp with ancient potshards, and into a tunnel—a huge fallen ceiba tree where glow-in-the-dark mushrooms wink. They move on to an area inhabited by okapi and other exotic species. The trip ends in a building with small, informative interactive exhibits and a video by scientists and conservationists about tracking gorillas that stresses the importance of conservation efforts in the African rainforest. The video ends, the screen opens, and the gorillas are there, waiting to observe the visitors. In this much larger room, the public and the gorillas, some up to 600 pounds in size, view each other—up close, sometimes nose to nose—through two inches of laminated glass.

Meet Meg

Along with the price of admission, visitors to the Experience Music Project in Seattle receive MEG, a museum exhibit guide that serves as a virtual "companion" to personalize their museum visit. MEG, which consists of a hard drive/hip pack, handheld device, and headphones, can provide 20 hours of high-quality audio, video, and graphic content. To use MEG, the visitor points and clicks at a numbered icon near an artifact to get more information on that object, narrated by a musician or other music world personality. The visitor can "bookmark" items of particular interest for future reference. At the end of the visit, a staff person downloads the bookmarks to the museum's database. Later, using the identification number on the admission ticket, the visitor can access his/her personal bookmarks in the museum's Digital Lab or at home via the Web site, www.emplive.com.

side advisors from other disciplines or even exhibition specialists. Cooperation occurred because of individual relationships. An expert described his approach to a similar situation in another organization: "I found a hierarchical organization structured around the various disciplines and subdisciplines in geology. These had developed into competing empires…I stopped the rivalries…not by dismantling the divisions but by eliminating people's affiliation with them—I created a matrix structure…Because the new program managers no longer 'own' staff members, they have to devise projects that are interesting enough to attract people." [30]

Interviewees identified the same insularity when it came to working with other Smithsonian museums. One person commented: "I'm hearing balkanization, not talking and sharing standards and experiences." Another interviewee said: "We first need to transcend our current philosophy that art, history, and science museums are so vastly different in their processes that successes in one type of museum exhibition operation cannot be deployed in another." Commenting on the difficulty of borrowing objects from other Smithsonian museums, interviewees said one reason was that the lending Smithsonian museum did not trust the standard of care at the borrowing Smithsonian museum. The recent exhibition, *George Catlin and His Indian Gallery,* marked a departure from this norm. Its organizer, SAAM, received considerable cooperation from NMAI, which cosponsored many of the public programs connected with the exhibition. The exhibition also included objects from NMNH and the National Portrait Gallery. According to the OP&A survey data, of the 209 exhibitions that opened in FY1999–2000, excluding those of the Smithsonian Institution Traveling Exhibition Service and the Arts and Industries Building, five involved collaborations with one other Smithsonian museum.

Another example of the failure to collaborate, and thereby to leverage resources, is the lack of cross-promotion of exhibitions within the Smithsonian. In 2000–2001, for example, two museums separately presented an exhibition on music making—*Music in the Age of Confucius* in the Arthur M. Sackler Gallery and *Piano 300,* an NMAH exhibition in the International Gallery of the S. Dillon Ripley Center. Although the two venues were adjacent, there were no signs in either notifying visitors of the other exhibition. The same was true for *Santos: Substance and Soul* in the Arts and Industries Building and *A Collector's Vision of Puerto Rico* at NMAH, even though both included objects from the Vidal Collection. One initiative to strengthen connectivity is the Zoo's signage program, which refers to related material and activities at museums on the Mall.

30. David Falvey, "Stop the Bickering," *Harvard Business Review,* Special Innovation Issue (August 2002), 48–49.

A sign about butterflies at the Zoo tells visitors about the Insect Zoo and the Butterfly Habitat Garden at NMNH, activities of the Horticulture Service Division, and butterflies at the Smithsonian Environmental Research Center. The Zoo bison zone tells visitors about a buffalo hide painting at NMNH, a buffalo horn spoon at NMAI, and a George Catlin painting of a buffalo dance at SAAM. According to some interviewees, most museums have been reluctant to adopt this approach to signage.

Across the Institution, the study team found limited mechanisms for disseminating information about exhibitions among staff. There were few formal systems for sharing information on exhibition ideas and implementation—techniques, innovative solutions to presentation problems, cost-saving measures, lessons learned, and the like. An Exhibition Design Group stopped meeting some years ago, and efforts to revive it within the last two years failed. Instead, professionals relied on their own informal networks, which often did not extend much beyond their museums. Of the formal pan-Institutional groups such as the Congress of Scholars (primarily an advocacy organization), Council of Museum Education Directors (restarting after a lapse of many months), Material Culture Forum, and History Roundtable, most address broader matters than exhibitions. Participation in all these groups is voluntary. To encourage collaboration among its art museums, the IAMD director's office recently began to schedule regular meetings of its museum directors and senior staff to discuss exhibition ideas and possible collaborations. The discussion is to cover both approved exhibition ideas and those under discussion.

Both within and across exhibition-making specialties, professionals expressed a desire for greater sharing of information. When, as part of this study, OP&A organized a workshop on interactives, many of the participants did not know one another, even though they had been working in related or identical fields at the Smithsonian for years.[31] They expressed strong interest in more such exchanges.

The museums appeared to engage in somewhat more collaboration with outside museums than with one another. When the National Gallery of Art had a major exhibition on Whistler in 1995, the Freer-Sackler had a related exhibition. The data from the OP&A survey on exhibitions that opened in FY1999–2000 showed that six exhibitions involved collaborations with six external organizations.

31. The resulting OP&A report, *Developing Interactive Exhibitions at the Smithsonian,* can be accessed at www.si.edu/opanda/Reports/EX.Interactives.pdf.

External Contracting

Smithsonian museums contracted for significant exhibition design and fabrication, as well as for a number of more specialized services. For the exhibitions opening in FY1999–2000, the museums entered into hundreds of contracts that involved over a thousand services. Of the nearly $43 million in direct costs, nearly $32 million, or 74 percent, went to external contracts.

The preponderance of exhibition contracts (95–98 percent) was fixed price. A small percentage were cost-reimbursable (also called cost-plus), *The American Presidency* being one. In a fixed-price contract, the bidder assumes the risks to complete the project within the agreed-upon budget. The bidder typically hedges the risk by including a risk premium in the bid, with the amount based on the reputation of the organization issuing the contract. Because Smithsonian museums have a reputation for routinely asking for changes and for administrative delays, bidders assign them a higher risk premium than other museum clients. At the same time, competition among bidders may lead them to reduce their bids, thereby lessening the risk premium to some degree.

It was generally agreed that contracting requires the preparation of complete and clear plans, drawings, specifications, and a comprehensive scope of work so that changes are not likely, as well as realistic cost estimates to help the museum evaluate bidders' proposals. Once contracts are let, their implementation requires rigorous oversight by project managers, particularly in the case of cost-plus contracts. The sense was that Smithsonian museums were weak in these areas, contributing to some of the difficulties a few contractors experienced.

A final point made by a number of interviewees, as well as two commercial firms that contract with Smithsonian museums, was the importance of the Smithsonian having in-house capabilities in exhibition design, production, and project management. Sometimes a museum has to terminate a contract and does not have time to issue another, and it needs an internal capability to fall back on. The Smithsonian can only be a smart buyer of contract services and monitor them effectively if it has internal expertise in the different aspects of exhibition making. The development of good technical specifications and sound cost estimates requires in-depth internal expertise. Smithsonian interviewees also believed that in-house staff were more sensitive than contractors to the Institution's interests, more likely to look for the best and most economical solutions, and more likely to understand Smithsonian exhibition requirements such as the SD 410 review.

Performance Measurement and Accountability

According to Stephen Weil,

> *the process of measuring a program's results…requires an ability to articulate just what the public program is intended to accomplish…Why is this exhibition…being presented? What precisely is the result being sought? How is a visitor intended to be affected by participating in the program? By learning something? Feeling something? Being sensitized to something? Made more curious about something? Motivated to take action about something? Entertained or given pleasure?*[32]

SD-603 specifies that directors are accountable for the results of exhibitions and that each exhibition is to have "goals and benchmarks for evaluation." Nevertheless, the evidence from the study suggests that museum management did not pay much attention to articulating desired outcomes for individual exhibitions or exhibition programs. The study team found very few formal evaluations of exhibitions or attempts to measure performance against stated outcomes. Typically, evaluations focused on informal indicators such as attendance, shop sales, critical reviews, and peer opinions, none of which addresses effectiveness from the perspective of visitors or the successful communication of information. Debriefings and the identification of lessons learned after exhibitions opened were uncommon. As one Smithsonian interviewee said, with each project "you start the learning process all over again. You're not creating a culture of getting better."

Ultimately, responsibility for accountability in any organization rests with its head and senior managers, who set expectations and hold staff accountable for results. There was a sense that Smithsonian managers sometimes saw this responsibility as secondary to other tasks. Commenting in general about a not-uncommon attitude to performance measurement, two experts noted that "too often performance indicators are seen as serving accountability purposes only… The principal value of a formal set of performance indicators is that it forces us to think about how the program has succeeded so that we can plan for future success."[33] The experts also argued for paying attention to performance that seems immeasurable: "A common pitfall of performance management in government is to ignore

32. Stephen Weil, *Making Museums Matter* (Washington, DC: Smithsonian Institution Press, 2002), 18.

33. Andre Paradis and John R. Allen, "Performance Indicators: A Common Sense Approach," *Economic & Technology Development Journal of Canada* (2000), 86.

Kafka's City

The City of K: Franz Kafka and Prague, which originated at the Centre de Cultura Contemporània in Barcelona and was on view at the Jewish Museum, New York, uses Kafka's words, photographs, video images, selected artifacts, and sound to create an existential and intellectual atmosphere. Except for one space, the walls are a dark, murky green, with quotes in white block letters; the lighting is muted throughout. In "The Castle" section, constructed of mirrored walls, a white carpet, and white cubes, the viewer, sitting politely on a white cube and reflected on the walls, is challenged while watching the audio/video montage: "You're not from the Castle, you're not from the village, you are nothing. Unfortunately, though, you are something, a stranger." Sound and music permeate the spaces and heighten the overall sense of depression and despair. In the first room, "Primal Scene," for example, you can hear the sound of a drop of water falling repeatedly, accompanied by Smetana's "The Moldau," which is interrupted midstream by a loud noise. Narrations of Kafka texts and readings of texts by others in his life are heard throughout the exhibit.

that which seems immeasurable. This is a mistake because a non-quantifiable result may be just as important to program success as a quantifiable one."[34]

Exhibition Design and Implementation

Exhibition design and implementation—the design and fabrication of exhibitions, as well as their maintenance and other post-opening activities—are complex and time-consuming processes that require the cooperation of different departments and staff within a museum, and sometimes the assistance of other museums. The study team spent considerable time looking at how Smithsonian museums make their exhibitions to see if one way proved better than another. Following are the most common points raised by interviewees and identified by the study team.

DESIGN. The comment of one interviewee was fairly typical: "The world doesn't look to the Smithsonian to set the bar with respect to design, but rather scholarship, programming, and education." While praising the Institution for the scholarship of its exhibitions, many interviewees found them overly conservative and safe in content and design. Adjectives used to describe Smithsonian exhibitions were "bland," "corny," "stale," and "excessively politically correct." One interviewee thought the Smithsonian needed "to take risks with the design of exhibitions, with how they look, and with what they do for audiences. We could have more diversity…[but] because of the culture you get safe products, and they [exhibit makers] won't cross the line and be innovative." Another interviewee noted the absence of "a 'can-do' attitude at all levels, where staff are excited rather than phobic about new approaches." Instead, anything that looks unorthodox meets resistance. Interviewees also commented on the limited use Smithsonian museums made of design techniques from other fields, such as theater.

The study team noted that because the design stage too often began before the museum had raised a substantial part of the needed funds, teams often worked in an uncertain environment of schedule changes, budget reductions, design cutbacks, and postponements. Despite this funding reality, Smithsonian museums, unlike those elsewhere, generally did not include redundant elements or contingencies in their designs that

34. Ibid.

allowed easy accommodation of funding shortfalls without compromising exhibition goals.

Notwithstanding policy in many museums, the exhibition team only rarely involved target audiences in the design stage by prototyping and other testing methods. The study team heard from a non-Smithsonian museum about its mechanisms for consulting the public: "The front-end work also includes talking with teachers and the public. There is a prototyping lab for public evaluation."

FABRICATION AND INSTALLATION. Interviewees raised very few substantive issues with regard to fabrication and installation. One was a desire for some level of internal central exhibition-making services (discussed earlier in relation to OEC). One production need that interviewees discussed was a centralized capability to produce prototypes, especially for interactives. A second issue was the absence of a Smithsonian-wide system to coordinate internal resources to achieve economies of scale in production.

POST-OPENING ACTIVITIES. There were a number of comments relating to activities that take place after an exhibition opens, but three were especially significant. First, few museums evaluated the level of visitor satisfaction, and when they did, they rarely made modifications to address the problems that visitors identified. Second, the consensus among interviewees was that project debriefings and documentation aimed at identifying and using lessons learned were rare. Third, exhibition maintenance, as noted, did not receive the attention it warrants.

PROJECT MANAGEMENT. Interviewees inside and outside the Smithsonian pointed out that every exhibition project involves multiple risks of failure, such as changes in critical elements of the content or presentation; expenses that exceed available resources; design or production tasks that take longer than projected; lack of agreement among project team members on how to do project tasks; exhibition planning that depends on undeveloped design elements or interactive exhibits that do not work; the wrong people assigned to the project team at the wrong time; and unacceptable contractor performance.

To reduce these risks, strong project management is key throughout the exhibition development process. Many internal and external interviewees saw project management as a weak point in exhibition making at the Smithsonian. While Smithsonian museums were not unique, critical reviews and case studies of Smithsonian exhibitions emphasized that exhibition problems frequently arose because the project manager was not able to mitigate the risks. More than once, Smithsonian project managers said that they "had responsibility without authority." Interviewees thought that when project managers identified problems in the exhibition-making process, they should have the authority to stop payments and halt activities, subject to review by the museum director. As one design contractor said, design contracts should be project management-driven, and the project manager should have as much control as the senior interpretive specialist.

Project management also suffers from weak systems. Tracking of expenditures against the budget and cost accounting were, as noted, not conducted rigorously, and many museums had no systems to account for these expenses.

Interviewees noted that project management requires a number of different skills, including planning, financial administration, negotiation, assertiveness, scheduling, and an ability to understand the goals of exhibitions and to balance them against the realities of funding and schedule. This set of skills is rarely found in one person without training. Some interviewees rated project management training as more critical than training in exhibition design and production.

Appendix A

List of Museums and Organizations

Smithsonian Units

The OP&A study team conducted interviews with staff of the following Smithsonian units.

Accessibility Program
Archives of American Art
Arthur M. Sackler Gallery
Arts & Industries
Asian Pacific American Studies Program
Cooper-Hewitt National Design Museum
Freer Gallery of Art
Hirshhorn Museum and Sculpture Garden
Horticulture Division
International Art Museum Division
International Gallery
National Air and Space Museum
National Museum of African Art
National Museum of American History
National Museum of Natural History
National Museum of the American Indian
National Portrait Gallery
National Postal Museum
Office of Affiliations
Office of Contracting
Office of Exhibits Central
Office of National Programs
Office of Physical Plant, Facilities Services
Office of the Secretary
Renwick Gallery

Smithsonian Business Ventures
Smithsonian American Art Museum
Smithsonian Business Ventures
Smithsonian Center for Latino Initiatives
Smithsonian Center for Materials Research and Education
Smithsonian Institution Archives
Smithsonian Institution Libraries
Smithsonian Institution Traveling Exhibition Service
Smithsonian Tropical Research Institute
Under Secretary for Finance and Administration

External Museums and Organizations

Interviews

The OP&A study team conducted in-person or telephone interviews with staff of these museums and organizations:

Alternative Design
Amaze Design
American Museum of Natural History
Americans for Washington
American Visionary Art Museum
Andy Warhol Museum
Arch-et al Design
Arizona Science Center
Arizona-Sonora Desert Museum
Art Institute of Chicago
At large, Inc.
Autry Museum of Western Heritage
Blackhawk Museum
Boym Design Studio
BRC Imagination Arts
Brookfield Zoo/Chicago Zoological Society
Bronx Zoo
California Academy of Sciences
California Science Center
Canadian Museum of Civilization
Canadian Museum of Contemporary Photography

Carnegie Museum of Art
Carnegie Museum of Natural History
Carnegie Science Center
Castrigno and Co.
Carbone Smolan Associates
Chermayeff & Geismar, Inc.
Chicago Historical Society
Chicken and Egg
Cincinnati Museum Center
City Museum, St. Louis
Clear Channel Entertainment
Cleveland Museum of Art
Cooper, Robertson & Partners
Corcoran Gallery of Art
Children's Museum of Denver
Denver Museum of Nature & Science
Design and Production, Inc.
Detroit Institute of Arts
Discovery Place & Discovery Place Nature Museum
Entertainment Design Corporation
Experience Music Project
Exploratorium
EXPLUS, Inc.
Field Museum
The Floating Company
Fort Worth Zoo
Gallagher & Associates
George Eastman House
Glenbow Museum Library
Great Lakes Science Center
Harper's Ferry National Historical Park
Henry Ford Museum and Greenfield Village
Howard+Revis Design Services
Houston Museum of Natural Science
Israel Museum, Jerusalem
InLine Design Studio
Jeff Kennedy Associates
Krent/Paffett Associates, Inc.
Lookout
Los Angeles Zoo
Lyons/Zaremba Inc.

Jack Rouse Associates
Jurassic Park, Universal Studios, Orlando
Maryland Science Center
Museum of Contemporary Art, Chicago
Museum of Contemporary Art, San Diego
MET Studios, Inc.
MFM Designs
Mingei International Museum
Minneapolis Institute of Arts
Minnesota Historical Society/ History Center Museum
Missouri Historical Society
Monterey Bay Aquarium
Museum of Fine Arts, Houston
Museum of New Zealand Te Papa Tongarewa
Museum of Science, Boston
Moody Gardens
Museum of Flying
Museum of Jurassic Technology
Museum of Science and Industry, Chicago
Museum of Science, Boston
National Gallery of Art, Washington, DC
National Museum of Australia
National Park Service
National Parks Conservation Association
Natural History Museum of Los Angeles County
Naval Historical Society
Nelson-Atkins Museum of Art
New Jersey Historical Society
New Orleans Museum of Art
Nomad Labs
Ocean Journey, Colorado
Ontario Science Centre
Oregon Museum of Science and Industry
Pentagram
Perimetre Flux
Philadelphia Museum of Art
Phillips Collection
Pompeii, AD
Powerhouse Museum
Ralph Appelbaum Associates
Royal British Columbia Museum

Royal Ontario Museum
Ruben H. Fleet Science Center
San Diego Museum of Man
San Diego Zoo
San Francisco Museum of Modern Art
Science Museum, London
Science Museum of Minnesota
Scientific Art Studio
Seattle Art Museum
Skirball Cultural Center
St. Louis Art Museum
St. Louis Science Center
Strategic Leisure, Inc.
Studio Museum in Harlem
Tech Museum of Innovation
Tribe, Inc.
unified_field
Victoria and Albert Museum
Virginia Historical Society
Virginia Museum of Fine Arts
Walker Art Center
Walt Disney Imagineering
Wing Luke Asian Museum

Visits

The OP&A staff visited the following museums and organizations:

Amaze Design
American Museum of Natural History
American Visionary Art Museum
Anzac Memorial, Sydney, Australia
Arizona Science Center
Arizona-Sonora Desert Museum
Art Gallery of New South Wales
Art Gallery of South Australia
Art Institute of Chicago
Atami Museum
Australian Museum, Sydney
Australian War Memorial
Baltimore Museum of Art

Blackhawk Museum
Boston Museum of Science
Bronx Zoo
California Academy of Sciences
California Science Center
Canadian Museum of Civilization
Canadian Museum of Contemporary Photography
Chicago Historical Society
Children's Museum of Denver
City Museum, St. Louis
Cleveland Museum of Art
Cooper, Robertson & Partners
Corcoran Gallery of Art
Denver Art Museum
Denver Museum of Nature & Science
Edo-Tokyo Museum
Experience Music Project
Exploratorium
Field Museum
Franklin Institute Science Museum
Fukagawa Edo Shiryokan, Toyko
Gallagher & Associates
Getty Museum
Great Lakes Science Center
Henry Ford Museum and Greenfield Village
Houston Museum of Natural Science
International Spy Museum
International Wildlife Museum
Israel Museum, Jerusalem
J. Paul Getty Museum
Japan Folk Crafts Museum, Osaka
Japan Society Gallery
Krent/Paffet Associates, Inc.
Koryuji Temple, Kyoto
Los Angeles County Museum of Art
Los Angeles Zoo
Lyons/Zaremba Inc.
Maryland Science Center
Metropolitan Museum of Art
Mighty Eighth Air Force Heritage Museum
Migration Museum of South Australia

Miho Museum, Japan
Minneapolis Institute of Arts
Minnesota Historical Society/History Center Museum
Missouri Historical Society
MOA Museum, Attami, Japan
Monterey Bay Aquarium
Moody Gardens
Museum of American Art of the Pennsylvania Academy of the Fine Arts
Museum of Contemporary Art, Chicago
Museum of Contemporary Art, San Diego
Museum of Fine Arts, Houston
Museum of Flying
Museum of Jurassic Technology
Museum of New Zealand Te Papa Tongarewa
Museum of Oriental Ceramics, Osaka
Museum of Science, Boston
Museum of Science and Industry, Chicago
Museum of Tolerance
National Aquarium, Baltimore
National Civil Rights Museum
National Gallery of Art, Canberra, Australia
National Gallery of Art, Washington, DC
National Museum of Australia
National Museum of Ethnology, Osaka
National Museum of Natural Science, Taichung
National Museum of Science, Tokyo
National Palace Museum, Taipei
National Portrait Gallery, Canberra, Australia
Natural History Museum of Los Angeles County
Nauticus, The National Maritime Center
New-York Historical Society
Ocean Journey, Colorado
Ontario Science Centre
Peabody Essex Museum
Pennsylvania Academy of the Fine Arts
Perimetre-flux
Petersen Automotive Museum
Philadelphia Museum of Art
Powerhouse Museum, Sydney
Port Discovery, Baltimore
Reuben H. Fleet Science Center

Royal Botanic Gardens, Sydney, Australia
San Diego Museum of Man
San Diego Zoo
San Francisco Museum of Modern Art
Science Museum, London
Science Museum of Minnesota
Skirball Cultural Center
Solomon R. Guggenheim Museum
South Australia Museum
St. Louis Art Museum
St. Louis Science Center
Sydney Jewish Museum
Tech Museum of Innovation
Tokyo Metropolitan Museum of Photography
Tokyo National Museum
Victoria and Albert Museum
Virginia Museum of Fine Arts
Walker Art Center

Appendix B

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Appendix C

Office of Policy and Analysis Exhibition Study White Papers

Capability Profiles of Exhibit Departments, March 2002

Three Studies of Explore the Universe: *A New Exhibition at the National Air and Space Museum,* April 2002

Developing Interactive Exhibits at the Smithsonian, May 2002

Marketing Exhibitions: Will They Come? June 2002

Exhibition Concept Models, July 2002

The Cost and Funding of Exhibitions, August 2002

Exhibition Standards, August 2002

Exhibition Development and Implementation: Five Case Studies, August 2002

Exhibitions and Their Audiences: Actual and Potential, September 2002

21st Century Roles of National Museums: A Conversation in Progress, October 2002

The Making of Exhibitions: Purpose, Structure, Roles, and Process, October 2002

Appendix D

Office of Exhibits Central: Findings and Conclusions

In the fall of 2000, the Office of Policy and Analysis (OP&A) undertook a study of the Office of Exhibits Central (OEC) on behalf of the Under Secretary for Finance and Administration. The Under Secretary asked for the study in response to a request by OEC for additional staff resources. As part of the study, the Under Secretary also asked OP&A to examine the Institution's need for central exhibition-making services. When OP&A completed the OEC study in January 2002, the broader study of exhibitions for the Secretary was already under way. It became evident to OP&A that it could not respond to many of the issues that emerged from the OEC study until the results of the larger study of exhibitions were available.

This appendix provides the findings and conclusions that emerged from the OEC study, while the broader conclusions and recommendations relating to central exhibition-making services are found in the main sections of this report. The first part of this appendix looks at OEC, while the second addresses central exhibition-making services in general.

To gather perspectives on the timeliness, efficiency, and quality of the services OEC provided, the study team interviewed all OEC employees, as well as selected staff at other Smithsonian units that used OEC's services. The study team also asked these and staff in Smithsonian units that did not use OEC services for their opinions about the need for central exhibition-making services. The study team reviewed extensive secondary source materials that OEC provided, including handbooks, budgets, project schedules and documentation, planning documents, and reports. Finally, it visited two local commercial design and production companies to look at their facilities, services, and project management capabilities (see the addendum to this appendix).

Office of Exhibits Central

Findings

Before World War II, the approach to exhibitions at the Smithsonian, as well as at other research-oriented museums, was quite different from what it is today. Curators, preparators, and other staff carried out the exhibition function as time permitted.[1] As a result, exhibitions seldom changed. After World War II, the Smithsonian formed a committee of curators to consider how to modernize and improve the Institution's exhibitions. Then, in 1955, the Smithsonian created an Office of Exhibits by consolidating personnel and other exhibit resources from various units. This office was responsible for the design and production of both exhibitions for permanent halls and special and traveling exhibitions for the then-National Museum and its successor museums. In 1969, after the addition of a new function—training exhibit personnel from smaller museums around the country—the office was renamed the Office of Exhibits Programs.

A reorganization in 1973 created independent exhibition-making functions in three museums (National Air and Space Museum, National Museum of Natural History, and National Museum of History and Technology [now the National Museum of American History]), and the office was renamed again, becoming the Office of Exhibits Central (OEC). At that time, OEC had several functions: preparation of exhibits for units that had no exhibition staff; specialized exhibition services, including motion picture production and audiovisual services, plastic work, and model restoration; preparation of special and traveling exhibitions; and exhibition training programs. Over time, OEC refocused its services primarily around design, editing, graphics, fabrication, modelmaking, and taxidermy.

Until the mid-1990s, OEC's major client was the Smithsonian Institution Traveling Exhibition Service (SITES). At that time, OEC began to focus on developing more clients, in part because of a shift in the nature of SITES exhibitions to two-dimensional panels and away from objects, a format that did not take advantage of the skills of OEC's staff.

OEC and its predecessors have always been central Smithsonian units, but they have reported to different central offices. In the past 10 years, for example, OEC has reported to the Under Secretary for Arts and Humanities, the Provost, the Under Secretary for Finance and Administration, and, as of March 2002, the Under Secretary for American Museums and National Programs.

OEC Operations

This section looks at OEC's role and priorities as it defines them in its FY2002–2006 strategic plan; at its clients and services, staffing, budget, and facility; and at selected operational strengths and weaknesses. Unless otherwise noted, the data were provided by OEC and refer to FY2000.

OEC's role. OEC's draft FY2002–2006 strategic plan contains the following mission and vision statements:[2]

1. This history is taken from record unit 90 of the *Guide to the Smithsonian Archives, 1996*.

2. Office of Exhibits Central, "FY 2002–2006 Strategic Plan," draft, Smithsonian Institution, Office of Exhibits Central, Washington, DC, August 16, 2002.

> The mission of the Office of Exhibits Central is to provide comprehensive exhibition services to the Smithsonian Institution and the larger museum community that result in compelling, high-quality, and cost-effective exhibitions that connect the American people to their history and cultural and scientific heritages.
>
> OEC is a state-of-the-art facility with staff skilled in all areas of the exhibition production process; a project portfolio recognized throughout the museum community for its creativity, craftsmanship, and value; and a reputation for customer satisfaction and for generously sharing our knowledge and experience.

The plan goes on to list a number of priorities for OEC's operations:

> increase the amount of specialized work done in-house by OEC staff, taking advantage of its unique in-house skills that are either not found or are more expensive in the private sector;
>
> increase the amount of basic, repetitive work outsourced to private industry;
>
> increase our collaboration with other SI exhibition units to share knowledge, experience, and costs to produce better exhibits for our customers;
>
> improve the services offered to customers by supporting them in negotiating with contractors for routine jobs, producing better exhibits by using OEC staff who hold specialized skills, and by incorporating customer feedback into the daily routine; and
>
> expand our project management capability to ensure a more coordinated, full service approach to exhibit production.

Clientele and services requested. Some 30 Smithsonian units used OEC's services in FY2000, but two dominated. SITES accounted for half of OEC's graphic design and production hours, 25 percent of its fabrication hours, and 17 percent of the model shop's time.[3] NMNH, the second largest client, used more specialized services, including a high proportion of custom exhibitry such as modelmaking, taxidermy, and cabinets; the same was true for the other large museums. NMNH was the top client for the model shop, accounting for 65 percent of staff time worked, and for the fabrication unit, accounting for nearly half its staff time. NMNH and SITES projects combined represented about 70 percent of the workload of OEC's design and project management services.[4] OEC provided other non-museum units, such as the Smithsonian Institution Libraries, the Art & Industries Building, and the International Gallery, with core services similar to those provided to SITES, although on a much smaller scale. The art museums have traditionally made little use of OEC.

For the most part, OEC's exhibition projects involved work on particular components of an exhibition, rather than entire exhibitions, and it was called on

3. Recently, OEC has helped venues renting SITES exhibitions with their installation.

4. As of FY2002, the National Museum of the American Indian became a major client, with OEC handling the development of one of the three permanent exhibitions to be installed in the new Mall museum.

frequently to provide emergency exhibition services. It offered various other services, such as recycling of exhibition cabinets, use of a Bally Box (a temperature-controlled storage area that OEC and SITES purchased jointly), and small projects for the central administration, such as display cases, plaques, and decorations for Smithsonian events.

Almost all staff time was spent on exhibition-related projects, with just 6 percent spent on other activities. Nearly half of all person-days worked in FY1999 and 2000 involved fabrication services such as cabinetry, finishing, packing, crating, and installation. The model shop's services, including modelmaking, mounts, brackets, and prototyping, accounted for another 25 percent of staff time worked. Graphic design and production were 8 percent, and exhibition design and project management were 6 percent each.

OEC said that it charged clients only for materials and overtime, but interviewees and the document review indicated substantial variation in the approach to fees across projects. For several years, OEC asked the central administration to permit some level of cost recovery for its labor, which it saw as the only way to upgrade its facility at 1111 North Capitol Street and to expand its services. The proposal on the table at the time of the study was a $5 hourly rate for labor.

Staffing. As of November 2000, OEC's authorized federal staff level was 39 positions. At that time, it had 36 federal employees and one Trust employee. In addition, other Smithsonian units were funding one full-time and one part-time Trust employee working onsite at OEC. Those full-time staff were distributed as follows: 9 in Design, Editing, and Graphics[5]; 13 in Fabrication; 10 in Modelmaking; and 6 in Administration.

Budget. OEC's budget was slightly over $2 million, more or less the same level since 1995. Most of it went for personnel and basic operating expenses.

Facility. OEC occupies rental space in the North Capitol Street building. Over the years, it has made improvements to its space and upgraded some of its equipment and technology. However, the space is tight and cannot support a modern exhibition services facility or significantly expanded operations.

Operational Strengths and Issues

Interviewees said that with very few exceptions OEC completed its projects on time and that the quality of its services was excellent. Interviewees commented favorably on OEC's flexibility, collegiality, familiarity with Smithsonian review processes and conservation requirements, and ease of administration compared with contracting. Most interviewees mentioned the advantage of OEC's low-cost or free services. When asked whether they would still find OEC desirable if it charged what the private sector charges, many said they would because of the non-financial benefits that an in-house unit affords, as long as the quality remained high. In terms of administrative details, it is easier and quicker to work with OEC than to contract out; OEC is thoroughly familiar with Smithsonian exhibition requirements and operations; and OEC's internal status allows for more dialogue in working out design and fabrication details. However, some interviewees thought that that fluidity prevents OEC from working efficiently, as it has to deal with many changes.

5. After the study was completed, Graphics became a separate division.

OEC management has engaged in ongoing internal analysis of its operations and has focused considerable attention on improving them. Management initiatives have included development of mission and vision statements, articulation of organizational values, preparation of strategic plans, team building, cross-training, development of operational manuals for staff and clients to systematize processes and procedures, and upgraded project management. Despite these efforts, interviewees pointed to a number of areas they believed needed strengthening:

UNMET DEMAND. Many interviewees spoke of the extreme difficulty of getting on OEC's schedule, which was booked at least two years in advance. The principal unmet demand appeared to be quick turnaround and emergency-type services and adequate comprehensive exhibition-making services for Smithsonian units lacking internal resources. A significant number of people expressed frustration at a project selection and scheduling process that was not transparent and appeared to reflect what OEC wanted to do rather than what clients needed. There were also complaints that OEC assigned higher priority to non-exhibition services (cabinetry and displays for administrative offices and functions) than to exhibition projects. Because of these issues, many units decided to use external contractors and not bother with OEC.

UNCLEAR CENTRAL GUIDANCE. Both OEC staff and clients expressed confusion over OEC's mission and role within the Smithsonian. Interviewees said that the lack of central guidance played out in several ways: the apparent opportunism in the selection of clients and projects; a mix of services that did not necessarily align with client needs; and the vagaries of OEC's cost reimbursement system. OEC commented on the repeated failure of the central administration to reach a decision about cost recovery for labor expenses.

MANAGEMENT ISSUES. Since 1995, senior OEC management had been addressing longstanding problems that included poor internal communications, mistrust among staff, limited training, and confusing processes and procedures for both internal work and client interaction. Despite management's efforts, at the time of the OP&A study interviewees identified continuing problems in these areas. Examples were: difficulties with the work flow across the three service divisions because of distrust, poor communications, and different work styles; roles and responsibilities that were often unclear and sometimes overlapping; an uneven workload across staff; and a lack of accountability. Even while acknowledging that OEC was working to improve its project management, interviewees thought that this area remained weak and impeded easy coordination of projects across the three divisions, smooth project implementation, and good interaction with clients.

OP&A's review of the documents provided by OEC and comments by interviewees did not provide evidence that OEC decision making was data-driven or linked to detailed analysis of the actual and potential needs of clients, trends in the external environment, and lessons learned. OP&A notes, however, that the FY2002–2006 strategic plan calls for two customer surveys.

INAPPROPRIATE FACILITY. Compared to private-sector exhibition design and production operations (see the addendum), OEC did not make use of the latest materials, equipment, and technology, such as auto-CAD, digital graphics, and metalwork in cabinetry.[6] OEC's strategic objectives always include upgrades to the facility and equipment, but interviewees said that OEC's dependence on its federal budget, almost all of which goes for basic operations, and the limitations of the physical space have precluded needed modernization. They commented that OEC's work areas are excessively cramped; there is minimal space for storing materials or finished products pending shipment; and the HVAC and work-area ventilation systems are inadequate to handle certain types of equipment and fabrication activities.

Conclusions

The absence of central guidance on OEC's operations leaves it unclear who OEC's priority clients should be, what services it should be providing, and how it can best serve the Smithsonian as a whole. Commendably, OEC moved to develop its own operational guidance. However, it is not clear that the resulting selection of projects provides maximum benefit to the Institution. In addition, it appeared to OP&A that OEC often accepted projects and clients based on internal preferences and availability of staff skills. There was no evidence that OEC looked broadly at client needs and adjusted its skill mix accordingly or considered whether services were best handled internally or contracted out. OEC is, for example, cross-training an employee for plexiglass work, but OP&A heard from a number of interviewees that this work is best contracted out. OEC indicated that it intends to provide project management services for a fee and to serve as a broker for units wanting to contract services externally, but OP&A interviews revealed minimal demand for both services. OP&A questions whether, in this time of tight resources, units will want to pay for such services and whether there is sufficient demand to justify expanding in these areas instead of areas such as packing and crating. With respect to cost recovery, it was not clear whether OEC had done a thorough study of what impact different charge systems would have on clients, what the basis is for the $5 hourly rate and whether the resulting revenue stream would enable OEC to achieve its strategic objectives, and how OEC would implement a cost recovery system.

OP&A is concerned about the lack of evidence showing that OEC's strategic plan is based on sound data collection, including needs assessments with actual and potential clients, and on cost-benefit and other analyses. This question points to continuing management challenges at OEC despite considerable efforts to improve internal operations.

6. OP&A understands that since it conducted the study, OEC has upgraded its skills and equipment in some areas, such as metalworking.

The Need for Central Exhibition-Making Services

Interviewees expressed a strong interest in having central exhibition-making services, and it was clear that the demand exceeded OEC's capacity. However, OP&A did not do a comprehensive analysis of the level, nature, and location of the demand.

OP&A looked at three options for delivering central exhibition-making services, as described below.

Option 1: Maintain OEC as the central exhibition service unit, and address those issues that reduce its effectiveness and capacity.

For this option to be viable, OEC would need, within the framework of central guidance, to align its services and resources, particularly staff, with priority clients and their service needs. For example, a mission to serve units without in-house design or production capacity would focus OEC's talents and energies on those units before others. This redirection would likely mean the development of a more balanced mix of design, graphics, and production services. Other services, such as project management and contracting support, would need to be linked directly to documented demand. This redirection would require a reworking of OEC's strategic plan, based on central guidance as to priorities, on client input, and on an assessment of which services are best provided by OEC and which are best obtained through external contracts. OEC would also need to develop transparent and consistent systems for working with clients, particularly relative to accepting and scheduling jobs and charging fees. Based on interviewee feedback and internal recognition, OEC's project management capabilities, both internal and for client projects, require strengthening. A realistic determination of what technology and equipment are reasonable given the nature of OEC's space in the North Capitol Street building and available funding would be necessary. A concern is that under this scenario there might be insufficient focus on change in the way OEC conceptualizes and approaches its business. If so, wrong messages about the necessity to improve will persist, and skepticism will prevail. Another concern is that employees may perceive proposed changes as incremental and iterative to the status quo rather than as innovative and entrepreneurial.

Option 2: Maintain OEC as a central exhibition service unit but locate it under another unit with exhibition-making capabilities.

Moving OEC under another Smithsonian unit, but maintaining its role as a central exhibition-making service office, would require the same steps indicated for Option 1: clear central guidance as to priority clients and alignment of OEC resources with their service needs, and stronger management, particularly strategic planning and project management. The gain from this option would be the creation of a critical mass of management and resources—management systems, mix of staff, greater integration of skills, equipment, and technology—than OEC can assemble on its own. Upgrading of equipment and technology might be more

feasible because of the broader pool of users. Access to the administrative capacity of the other unit might enable OEC to expand the level of direct exhibition services it provides and become more sensitive to the needs of those responsible for all facets of exhibitions. Much could be gained in terms of training, increased flexibility, and involvement with other professionals. On the other hand, space constraints would require the continuation of a separate facility at North Capitol Street, which could undercut potential gains in efficiency. Moreover, locating OEC under another museum might conflict with OEC's pan-Institutional role. Problems could arise, for example, over the allocation of time on shared equipment and assignment of staff to external projects. Finally, the host unit may focus on achieving its own internal mission over providing services to other units.

Option 3: Disband OEC, distributing its resources to other units.

An alternative to accommodating the demand for exhibition services through a central unit is to distribute OEC resources to priority clients, thus giving them internal capability. Specialized skills, such as taxidermy, might be allocated to units such as NMNH that most need them. Given the scope of OEC resources, such a move would benefit some units while leaving others without access to low-cost internal exhibition development support. To some degree, internal contracting could bridge the gap. This arrangement would require major adjustments to the current level of organizational equilibrium and would result in considerable political resistance and greater protection of the units' boundaries. On the other hand, improvement in the timeliness of products may occur. Mission drift may become less of a concern.

OP&A concluded that there might be opposition to the second and third options, given loyalties to existing organizational structures and operational difficulties with change. Regardless of which option is pursued, several fundamental questions would need to be answered at the central administrative level before any steps are taken:

What are the mission and role of central exhibition-making services? Within that framework, what units, in order of priority, should receive services?

What services should be available internally, and which should be contracted out?

What is the optimal mix of services, taking into account the other exhibition resources across the Smithsonian and the new internal contracting system?

Should clients pay for central exhibition-making services, and at what level? OP&A believes that regardless of which option is adopted, central exhibition-making services should, with rare exceptions, be provided on a full cost-recovery basis. This shift should be undertaken only after careful analysis of the costs and benefits and the best approach to implementation. Cost recovery would provide the revenue stream needed to maintain up-to-date capabilities, and the challenge to be cost-competitive would foster effective management.

Addendum

Design and Production Services in the Private Sector

The study team visited two local commercial design and production firms to obtain additional perspectives on OEC's services, project management system, and facility. The visits revealed substantial differences between OEC's operations and those of the private-sector firms. OEC was shown to have minimal project management capability; a lack of detailers; limited training for staff; insufficient up-to-date technology such as auto-CAD, computerized production equipment, and metalworking; an inability to use industry trends and innovations; and an inadequate facility in terms of space, layout, and work environment.

Services

Both private companies have in-house design and production capabilities that encompass all the basic exhibition services, including design and detailing, graphics (primarily digital) and art production, engineering, conservation and mounting, fabrication (e.g., cabinetry, metalworking, and modelmaking), lighting, audiovisuals, crating and packing, and installation. One company has developed a strong multimedia and interactive capability; the other has an adequate capability but subcontracts complex work in these areas. Both subcontract unusual requirements or work overloads or hire temporary employees. Both facilitate the interface between design and production by heavy use of experienced detailers, who convert design concepts into working documents for fabricators.

Project Management

The companies have strong project management units with full-time, experienced staff separate from the design and production shops. Both companies assign a project team to each project, headed by an experienced project manager with authority to make decisions. The project teams include representatives of all service units that will be involved (e.g., design, fabrication, audiovisual, and installation). An experienced detailer is a core member of every team. Both companies have management information systems that allow effective tracking of milestones and costs.

Technology and Equipment

Both companies maintain up-to-date technology and equipment, e.g., auto-CAD, computer-controlled machinery, and metalworking equipment (to meet the industry shift to durable, lightweight metals in cabinetry). Staff receive regular training.

Facility

Both companies provide adequate, dedicated space for each core function, such as design, fabrication, artifact handling, and storage. The layout optimizes a smooth workflow. Proper health, safety, and environmental measures are in place, such as ventilation systems.

Location

Both facilities are located outside the Capital Beltway. That location has not impeded their ability to serve clients throughout the United States and abroad.

Appendix E

Guidelines for Providing and Receiving Exhibition Services Across Smithsonian Units

Throughout SI there are exhibition departments with highly talented and experienced professionals, including specialists in design, writing and editing, lighting, model-making, and production. Since the exhibition development often places different levels of demand on exhibition staff at different points in the process, SI and individual units would benefit if there were a way to make these resources available as an alternative to external contracting. Over time such a system would save money, build capacity, provide more advanced equipment and increase productivity. These guidelines are meant as the first steps towards these goals.

Initially NASM is requesting support in both design and production from other SI units, in accordance with these guidelines.

1. Identifying Needs

A unit needing services (the "client") informs other SI units of its needs and requests that those interested in providing all or part of these needs contact them.

a. In order to facilitate communication among exhibition production units, the Office of Policy and Analysis has established an "Exhibition Production Group" as a system-wide Groupwise address. The current names on this list represent those who have expressed interest in the resource-sharing experiment. Others who wish to join this list should contact Andrew Pekarik, OP&A, to have their names included.

b. NASM has requested production support for its Air Transportation Hall. A meeting was held with representatives of several SI exhibition production departments from diverse units on May 1. Notes of that meeting will be sent with these guidelines to members of the

Exhibition Production Group, and are available from OP&A. As a result of that meeting, NASM is preparing a detailed list of the services it needs for Air Transportation.

c. NASM is also requesting graphic design services for the Hazy Center.

d. Other units which would like to obtain services from other SI units should send an e-mail message to Exhibition Production Group or directly contact OP&A

2. Memorandum of Understanding

When the client and a provider unit reach agreement on what services will be supplied to the client, a Memorandum of Understanding (MOU) will be prepared that includes at least the following:

a. What services are being provided?

b. What is the schedule for the provision of services?

c. What are the estimated costs of services?

d. What necessary materials and equipment will the client provide?

e. How will materials and equipment be provided?

f. Who will provide the administrative support for obtaining materials and equipment?

g. How will the work be supervised?

h. What standards of quality must the work meet?

i. How much will the provider unit be compensated?

j. What will be the incentives or penalties?

k. How will possible changes in scope be addressed?

l. How will possible inability of the provider to accommodate changes in scope be addressed?

3. Compensation

The client will pay the cost of materials required for the project. In some cases, where specified in the MOU, the client may also provide funds for necessary equipment. Regarding staff time, the basic compensation rules are as follows:

a. The client will pay the service provider's unit for the time of the provider's personnel involved at their base salary rates plus benefits, and overtime, if authorized by the client.

b. Upon successful completion of the project an additional 10% will be transferred to the provider's unit for administrative expenses.

c. As an incentive, a second 10% will be transferred to the provider unit's Exhibition department, to be applied to Exhibition department expenses at the discretion of the lead person in the department who worked on this project.

d. The compensation amounts outlined here are base amounts, with the possibility of a premium rate for special circumstances, when agreed upon by the parties involved.

e. Funds will be remitted through internal transfers, as specified in the Memorandum of Understanding. The source from which the funds will derive and the source to which they will apply should be part of the MOU.

4. Accountability

Since the goal of this program is to meet the needs of units requiring assistance, it is important to maintain requisite levels of quality. The MOU should specify clearly what is required, how progress will be monitored, and what standards will apply.

a. If the client is not satisfied with the work and refuses to take delivery on all or part of the work, the client will cancel the MOU and only compensate the provider for the staff time involved up to the time of cancellation.

b. The project manager will be the conduit for the client's acceptance or rejection of the work performed (based on the agreed-upon standards).

c. Any disputes will be resolved by the senior administrators of the client and the provider unit.

5. Improvement of the System

The Office of Policy and Analysis should be informed of all projects that take place under these guidelines, so that they can be documented and so that any difficulties or complications can be addressed and resolved. Over time, OP&A will be able to provide model MOU's, process suggestions, and accounting procedures to simplify and improve this system.

a. Any proposed changes to these guidelines should be addressed to:

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