

Smithsonian

Fiscal Year 2018

Submitted to the Committees on Appropriations
Congress of the United States

Smithsonian Institution

Fiscal Year 2018

Budget Justification to Congress

May 2017

SMITHSONIAN INSTITUTION
Fiscal Year 2018 Budget Request to Congress
TABLE OF CONTENTS

INTRODUCTION

Overview	1
FY 2018 Budget Request Summary.....	8

SALARIES AND EXPENSES

Summary of FY 2018 Changes	13
Fixed Costs	
Salary and Related Costs	16
Utilities, Rent, Communications, and Other	18
Summary of Program Changes	23
No-Year Funding.....	29
Object-Class Breakout	29
Federal Resource Summary by Performance Objective and Program Category	30

MUSEUMS AND RESEARCH CENTERS

Grand Challenges and Interdisciplinary Research	32
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Unlocking the Mysteries of the Universe

Introduction, <i>Unlocking the Mysteries of the Universe</i>	34
National Air and Space Museum	35
Smithsonian Astrophysical Observatory	42
Major Scientific Instrumentation.....	47

Understanding and Sustaining a Biodiverse Planet

Introduction, <i>Understanding and Sustaining a Biodiverse Planet</i>	53
National Museum of Natural History	54
National Zoological Park.....	63
Smithsonian Environmental Research Center	70
Smithsonian Tropical Research Institute.....	74

Valuing World Cultures

Introduction, <i>Valuing World Cultures</i>	82
Arthur M. Sackler Gallery/Freer Gallery of Art	83
Center for Folklife and Cultural Heritage.....	88
Cooper Hewitt, Smithsonian Design Museum.....	94
Hirshhorn Museum and Sculpture Garden.....	98
National Museum of African Art	104

Understanding the American Experience

Introduction, <i>Understanding the American Experience</i>	109
Anacostia Community Museum	110
Archives of American Art	115
National Museum of African American History and Culture	119

National Museum of American History, Behring Center	131
National Museum of the American Indian	142
National Portrait Gallery	146
National Postal Museum	153
Smithsonian American Art Museum.....	157

MISSION ENABLING

Introduction, Mission Enabling	163
Outreach	164
• <i>The Smithsonian Institution Traveling Exhibition Service; Smithsonian Affiliations; the Smithsonian Center for Learning and Digital Access; the Office of Fellowships and Internships; and the Smithsonian Institution Scholarly Press</i>	
Communications	169
Institution-wide Programs	172
• <i>Research Equipment Pool.....</i>	<i>174</i>
• <i>Latino Initiatives Pool.....</i>	<i>174</i>
• <i>Asian Pacific American Initiative Pool.....</i>	<i>175</i>
• <i>Collections Care and Preservation Fund</i>	<i>175</i>
• <i>Information Resources Management Pool.....</i>	<i>178</i>
Smithsonian Exhibits.....	179
Museum Support Center	182
Museum Conservation Institute	184
Smithsonian Institution Archives	190
Smithsonian Libraries	192
Office of the Chief Information Officer.....	196
Administration	199
• <i>The offices of the Secretary; the Under Secretary for Museums and Research/Provost; the Under Secretary for Finance and Administration/Chief Financial Officer; the Assistant Secretary for Education and Access; and the Deputy Under Secretary for Collections and Interdisciplinary Support. Administration also includes the central activities of human resources, diversity, financial and contract management, and legal services.</i>	
Office of the Inspector General	204
Facilities Maintenance	206
Facilities Operations, Security, and Support	210

FACILITIES CAPITAL

Overview	215
Summary Tables	218
Revitalization	220
National Air and Space Museum (NASM)	220
National Museum of Natural History	222
National Zoological Park	225
Cooper Hewitt, Smithsonian Design Museum	229
National Museum of the American Indian	230
Hirshhorn Museum and Sculpture Garden	232
Smithsonian Institution Building (Castle)	233
Smithsonian Tropical Research Institute	234
National Museum of American History	236
Smithsonian Environmental Research Center	240
Smithsonian Astrophysical Observatory	241
Suitland Collections Facility	243
Fire-Alarm Panel Replacement, Multiple Facilities	245
Multiple Locations, Revitalization Projects	245
Construction Supervision and Administration	245
Facilities Planning and Design	246
Construction, NASM Udvar-Hazy Collections Storage Module	247

APPENDIX

Organization Chart	249
Visitation Chart	250
Trust Funds Summary	251
Appropriation Language and Citations	253
Adjustments to FY 2017 Funding	261

THE SMITHSONIAN INSTITUTION'S IMPACT ON AMERICA

The Smithsonian greatly appreciates the continued support of the Administration, the Congress, and the American people, and takes seriously the crucial role the Institution plays in advancing the civic, educational, scientific, and artistic life of this nation. As a public trust, the Smithsonian addresses some of the world's most complex issues and uses ever-evolving technologies to broaden access to information for citizens, students, and policy makers.

Thanks to the bequest of English scientist James Smithson, Congress established the Smithsonian Institution in 1846 as an independent federal trust instrumentality, a unique public-private partnership that has proven its value as a cultural and scientific resource for more than 171 years. The federal commitment provides the foundation for all we do, and is especially helpful in attracting private support. We leverage our federal funding to enrich the lives of the American people and advance our mission: "the increase and diffusion of knowledge."

The Smithsonian is a world leader in research and discovery, addressing today's relevant issues, and helping the American people understand our role in the world through the arts and humanities. We use cutting-edge technology to provide unprecedented access to our treasures and inspire educators, students, and lifelong learners of all ages.

Through the current fiscal year, we will continue implementing our Strategic Plan that focuses on five "Grand Challenges" and promotes interdisciplinary and Institution-wide collaboration. Accordingly, we are improving facilities maintenance and collections care to be better stewards of America's treasures. We also continue to seek out new federal, state, and local partners to expand our reach. In addition, we will soon unveil a new Strategic Plan that places a greater emphasis on topics of vital public interest; incorporates a creative and energetic focus on the arts throughout the Institution; promotes diversity leadership to increase inclusion in our own museums and those throughout the country; emphasizes our global reach in programming and science; increases digital access to our collections and research for the public; and refocuses capital expenditures on crucial maintenance and revitalization of existing facilities.

The Smithsonian is large and diverse, encompassing art, history, science, education, and culture. We have 19 museums, 21 libraries, nine research centers, the National Zoo, and 216 Affiliates in 46 states, Puerto Rico, and Panama. We are also open every day of the year, except Christmas Day. We have research and education facilities in eight states and the District of Columbia, and are involved in research in more than 140 countries. For the last full fiscal year, our museums had more than 29 million visits, and another 4.5 million people visited our traveling exhibitions. In addition, the magazines *Smithsonian* and *Air and Space* have a combined readership of more than eight million people. On television, the Smithsonian Channel is distributed by eight of the top nine cable TV operators and is available in 38 million households nationwide.

Our collections total 156 million objects, including 145 million scientific specimens, 340,000 works of art, and two million library volumes. We also care for 156,000 cubic feet of archival material, 16,000 musical instruments, and more than 2,000 live animals. We have the Star-Spangled Banner; Samuel Morse's telegraph; Thomas Edison's light bulb; the Hope Diamond; the Wright Flyer; one of Amelia Earhart's planes; Louis Armstrong's trumpet; labor leader Cesar Chavez's jacket; the Lansdowne portrait of George Washington; the Congressional Gold Medal awarded to Japanese American World War II veterans; the *Spirit of Tuskegee* airplane; the camera John Glenn used on his historic first voyage into space; a wide array of Asian, African, and American art; the Apollo 11 command module, *Columbia*; and the space shuttle *Discovery*. We hold all these objects in trust for the American people and preserve these priceless national treasures for future generations to enjoy.

In 2016, our visitors enjoyed nearly 100 new exhibitions, including: *E Mau Ke Ea: The Sovereign Hawaiian Nation* at the National Museum of the American Indian; *Unbound: Narrative Art of the Plains* at the George Gustav Heye Center; *Suspended Animation* at the Hirshhorn Museum and Sculpture Garden; *The Art of the Qur'an: Treasures from the Museum of Turkish and Islamic Arts* at the Arthur M. Sackler Gallery; *Outwin 2016: American Portraiture Today* at the National Portrait Gallery; *Senses of Time: Video- and Film-based Works of Africa* at the National Museum of African Art; *Trailblazing: 100 Years of Our National Parks* at the National Postal Museum; the newly renovated and upgraded *Boeing Milestones of Flight Hall* at the National Air and Space Museum (NASM); Neil Armstrong's lunar extravehicular gloves and helmet at NASM's Udvar-Hazy Center; *Mending Broken Hearts: Innovation Inside the Body* at the National Museum of American History; *Turtle Ocean*, an art installation composed entirely of marine debris, at the National Museum of Natural History; *By the People: Designing a Better America* at Cooper Hewitt, Smithsonian Design Museum; *Watch This! New Directions in the Art of the Moving Image* at the Smithsonian American Art Museum; *Visions and Revisions: Renwick Invitational 2016* at the Renwick Gallery; *Garden Inspirations* at the S. Dillon Ripley Center; *Expanding the Legacy: New Collections on African American Art* at the Archives of American Art; and the 11 breathtaking and thought-provoking permanent galleries that reside in our new Museum, the National Museum of African American History and Culture.

Digital technology allows us to reach new, diverse audiences more than ever before. In FY 2016, our websites attracted more than 134 million unique visitors. In social media, we currently have more than 11 million followers on Facebook and Twitter alone, with tens of thousands more engaging with us on other platforms. Our new podcast, *Sidedoor*, debuted in October, featuring behind-the-scenes stories from the Smithsonian's museums, research centers, and world-renowned experts. The podcast has reached people in all 50 states and more than 146 countries, with more than 370,000 downloads to date. On the interactive front, NASM's *GO FLIGHT* digital experience debuted in July, featuring a giant digital wall display that invites visitors to explore the Museum's stories and artifacts in person, as well as a mobile app that allows them to take a digital version of the Museum's space flight collection home with them.

For years, we have been digitizing our objects, specimens, archival materials, and library books. So far, our museums and libraries have created digital images for 2.5 million objects, specimens, and books, and electronic records for more than 29 million artifacts and items in the national collections. Our archives have created 3.9 million digital images, and now have electronic records and metadata for close to 120,000 cubic feet of archival material. Our Transcription Center, with 8,500 volunteers, has transcribed 286,000 pages of data. Furthermore, we have implemented rapid-capture digitization, a cutting-edge, conveyor-belt technology to accelerate the digitization of our collections. This technique has established the Smithsonian as a leader in digitizing our nation's intellectual capital and cultural heritage for future use.

Thanks to the work of our Digitization Program Office, we are now leaders in the field of 3D scanning, allowing our treasures and specimens to be seen in an entirely new light. Our collection of 3D digitized Smithsonian objects, available online, features more than 50 items, including the lunar command module *Columbia*, Abraham Lincoln's life mask, the Wright Flyer, fossil whales, a remnant of the Cas A supernova, and soon the space shuttle *Discovery*. With the Explorer tool offered on the website, users can connect with the Smithsonian's collections in new and exciting ways, and can even create replicas of Smithsonian objects via 3D printers, for scientific research or use in the classroom. In addition, the Smithsonian team is currently developing a new 3D collection website that features updated content and functionality, most notably the ability to interact with Smithsonian collection objects using Virtual Reality applications. Also, building on the success of 3D scanning of iconic Smithsonian objects, the team is working on automating the 3D scanning pipeline so that hundreds of objects can be scanned in just weeks. In a recent pilot project, the Smithsonian team 3D scanned more than 100 paleobiology specimens in a two-week period. Along with these collection scanning pilot projects, the team is developing standards for storing and sharing 3D content, which can be used to create the first Smithsonian 3D database in non-proprietary formats, making this valuable scientific data accessible to future generations.

Another part of our mission for the "diffusion of knowledge" involves serving millions of people annually, from preschoolers to senior citizens, with myriad educational offerings. We produce educational materials ranging from supplementary resources for all grade levels to science curricula for K–8 through our Smithsonian Science Education Center. More than 2,300 of these learning resources are tied to national standards and available online for free. Smithsonian speakers, traveling exhibitions and webinars, hosted by Smithsonian Affiliate museums, also bring Smithsonian educational offerings into many communities. Additionally, in FY 2016, the Smithsonian Institution Traveling Exhibition Service (SITES) took large and small exhibitions to museums and provided educational materials to schools and libraries for a total of 41 exhibitions in 760 communities and in all 50 states, the District of Columbia, Australia, Canada, Mexico, Panama, and Puerto Rico, reaching an audience of 4.5 million people.

We have numerous dedicated education, learning, and discovery spaces in our museums, including centers at the National Museum of the American Indian, Smithsonian American Art Museum, and the National Postal Museum. Our research centers also have

education spaces, such as those at the Smithsonian Tropical Research Institute, the Smithsonian Environmental Research Center, and the Smithsonian Marine Station at Fort Pierce, Florida. The Institution also serves the public appetite for education through the National Museum of American History's *Object Project*, a 4,000-square-foot space in the Museum's Innovation Wing, the National Museum of Natural History's *Q?rius*, our 10,000-square-foot science education center for teenagers, and the National Air and Space Museum's various education spaces that are integrated into exhibits. Last November, the National Museum of the American Indian's George Gustav Heye Center began construction on its imagiNATIONS Activity Center. We continue to connect with young learners through the Hirshhorn's *ARTLAB+* program for teens and Cooper Hewitt's Smithsonian Design Center in Harlem. Smithsonian Affiliates also provide unique Smithsonian educational experiences by hosting Spark!Lab — hands-on invention centers developed by the National Museum of American History.

In June 2016, the Smithsonian Center for Learning and Digital Access unveiled the Smithsonian Learning Lab, an online toolkit that enables people to find, customize, and share digital museum resources. The Learning Lab offers free digital access to more than a million diverse resources from across the Smithsonian, along with easy-to-use tools to organize, augment, and personalize these assets. The website is designed to support the learning needs of teachers and students in K–12 classrooms, higher education, and other blended learning environments.

The Smithsonian's facilities require consistent care and maintenance to enable us to serve our visitors. When it reopened to the public in November of 2015, the Renwick Gallery, home to the Smithsonian American Art Museum's craft and decorative arts program, demonstrated how a comprehensive renovation can breathe new life into a building. The inaugural exhibition of gallery-sized installations, titled *WONDER*, was a huge success that garnered much favorable publicity for the gallery.

Our next major facilities capital project will be the renovation of the National Air and Space Museum building. The 750,000-square-foot building, which opened in 1976, hosts six to seven million visitors each year and has welcomed more than 330 million people in the past 40 years. The constant flow of visitors has well exceeded original projections. Smithsonian Facilities staff teams have spent the past three years planning for and overseeing the design of this massive project, which will be the first major overhaul of the building's infrastructure. This work is necessary to ensure that the building can continue to handle its large number of visitors and provide a suitable environment for the priceless artifacts.

The Smithsonian takes collections stewardship very seriously. Our collections are a vital national asset, and we are continually improving storage conditions and balancing the preservation of and access to these collections. In 2015, we completed our in-depth study of collections space needs and developed a blueprint for going forward. It is called *Securing the Future for Smithsonian Collections: Smithsonian Collections Space Framework Plan*. This plan helps guide our short- and long-term facilities capital, real-estate, and collections-care project decisions, and provides cost-effective strategies for renovation and new construction.

The collections we maintain are a valuable resource for scientists from federal agencies such as the Departments of Agriculture and Defense, and the United States Geological Survey. We work with the White House's Office of Science and Technology Policy to coordinate our efforts with federal agencies and avoid duplication of activities. Collections acquired a century or more ago are still being used today to address the effects of global change, the spread of invasive species, and the loss of biological diversity and its impact on interconnected ecosystems. Federal, state, and local authorities often look to our collections for answers during events such as flu epidemics, oil spills, volcanic eruptions, or aircraft downed by bird strikes.

We leverage our strengths with our strategic national and international partners for a combined greater impact. Increasingly, that impact has been felt in the area of cultural heritage protection. In recent years, we joined recovery efforts following events such as the March 2015 attack on the Bardo National Museum in Tunisia, the April 2015 earthquake in Nepal, and the ongoing destruction of cultural heritage in Syria and Iraq. Congress recently established the Smithsonian as a member of the Coordinating Committee on International Cultural Property Protection, and directed the Institution to protect and preserve international cultural property that is threatened by armed conflict, political instability, or natural disasters. The Smithsonian moved quickly to implement the new law by working with the International Centre for the Study of the Preservation and Restoration of Cultural Property to co-host a month-long course called *First Aid to Cultural Heritage in Times of Crisis*. The course was conducted in June of 2016 and equipped participants with the necessary skills and knowledge to respond quickly to emergency situations.

These and other Smithsonian projects foster international collaboration and bring together governments, foundations, and the world's leading thinkers and scientists. We bridge disciplines and borders, whether rescuing art from the rubble of damaged galleries and museums, helping to save endangered species, or inspiring tomorrow's artists, scientists, and leaders. Far beyond museums or laboratory walls, our teams are making discoveries, preserving the past, and sharing insights with audiences of all ages. By working with governments and organizations around the world, we amplify our impact. Our method of cross-disciplinary collaboration gets results and produces a shared legacy of progress and discovery.

More specifically, our interest in helping develop Queen Elizabeth Olympic Park in East London, which we announced two years ago, has progressed. Last June, we announced our intention to enter into a groundbreaking collaboration with the Victoria and Albert Museum, through its future development, *V&A East*. The Boards of both the V&A and the Smithsonian authorized their respective leaders to sign a non-binding Letter of Intent to outline the plan and process for this collaboration. The primary activity will be a combined exhibition space to be jointly curated by Smithsonian and V&A staff members, as well as separate space for Smithsonian self-curated exhibitions. We expect the new building to open in 2022 and that it will help the Smithsonian expand our scope to reach new audiences without the need for federal funding.

Smithsonian scientists also work around the globe to help save endangered, vulnerable, and threatened species, such as: Asian elephants; Panamanian golden frogs; African kori bustards; Asian tigers; Przewalski's horse; the African scimitar-horned oryx; coral reefs; North American black-footed ferrets; Cuban crocodiles; Asian clouded leopards; and giant pandas, such as the National Zoo's Bei Bei, who celebrated his first birthday in August.

In today's world of long-distance travel and new technologies, deadly viruses can reach around the globe in 24 hours, and nearly 75 percent of emerging pathogens in humans come from animals. With that in mind, the Smithsonian is a founding partner in the USAID-funded Emerging Pandemic Threats Program, which helps public health officials avoid the next major pandemic. Veterinary scientists and pathologists from the National Zoo and the Smithsonian Conservation Biology Institute are conducting regional wildlife pathology workshops to train biologists and conservationists to recognize and identify the next global health threat in its initial stages. These actions, in turn, will prove vital to prevent pandemics from occurring.

The Smithsonian's 500 staff scientists are also tackling other vital issues of the day, making important discoveries, and sharing them with the public. For example, scientists at the Harvard-based Smithsonian Astrophysical Observatory are continuing to explore the universe's boundless mysteries, from carbon-based planets capable of supporting life at its earliest stages to a planet currently forming in an Earth-like orbit around a young star light years away from our own solar system.

Our cutting-edge work in genomics is making the Smithsonian a world leader in searching for answers to genome-scale questions about the animals, plants, and ecosystems of our planet. Our goal, along with our strategic partners, is to solve worldwide problems of biodiversity loss, disease transmission, and environmental degradation as well as train future generations of scientists and citizens to understand our natural world. The Smithsonian's genomics initiative is built on a foundation of vast global research expertise, the world's largest natural history collections, the most significant concentration of biodiversity scientists anywhere, and a long and trusted history of studying nature and accurately documenting our discoveries.

The Smithsonian will build on the momentum of the climate change statement, symposium, and past efforts of the *Living in the Anthropocene* initiative, by developing a strategic Institution-wide response to climate change in four ways: by increasing knowledge of the human and natural environment through research, making research findings available to the public, protecting our collections, and operating our facilities and programs in a sustainable manner.

With our international partners and worldwide reach, the Institution is particularly well connected to study biodiversity issues. The Smithsonian's ForestGEO (Global Earth Observatories) network is a worldwide partnership of more than 95 institutions working to monitor the health of six million trees (including 10,000 species) on 63 plots in 24 countries. Our follow-up initiative, Tennenbaum Marine Observatories, or MarineGEO, seeks to replicate this success by assessing the health of coastal areas

and the oceans at large, with the goal of determining how to manage these important resources. Last September, we opened the new Gamboa Laboratory at the Smithsonian Tropical Research Institute in Panama, which represents a \$20 million investment on the part of the U.S. Government and private donors to support the Institution's Grand Challenge of "Understanding and Sustaining a Biodiverse Planet."

The National Museum of Natural History (NMNH) is the leading partner in a global effort called the *Encyclopedia of Life* (EOL), an ambitious project to continue building a key repository of scientific information about virtually every form of life on Earth. The EOL is an online database with more than 1.9 million pages, and more than 90,000 scientists use it for their work. Its financial, logistical, and research support comes from numerous partners, including the MacArthur and Sloan Foundations.

On a related note, the NMNH also houses the Consortium for the Barcode of Life, an international initiative devoted to developing DNA barcoding as a global standard for the identification of biological species. The technique uses a short DNA sequence from a standardized position in the genome as a molecular diagnostic marker for species identification. As the recognized U.S. leader in DNA barcoding, the Smithsonian seeks to increase its research and training capacity to better work with strategic partners in expanding the frontiers of knowledge in this exciting field.

We can do all this thanks to more than 6,500 dedicated employees — award-winning scientists and scholars, curators, researchers, historians, and experts in fields from astrophysics to zoology — and more than 6,300 on-site volunteers, more than 800 research Fellows, more than 900 research associates, nearly 1,800 interns, and 8,500 digital volunteers: brain power that benefits the Smithsonian and the world many times over. Because of their level of commitment, the Smithsonian was, for the seventh year in a row, ranked as one of the best places to work in the federal Government.

Building on this legacy, with the continuing support of Congress, the Administration, our Board of Regents, and the American people, we will offer more opportunities to enlighten and engage the public in the future. A significant example is the new National Museum of African American History and Culture that opened to great acclaim in September of 2016. This important and beautiful Museum demonstrates the power of the Smithsonian to educate, inspire, and bring people together.

I am honored to be a part of this great Institution that serves our nation and the world. Today, with its free museums, distinguished research and scholars, iconic American treasures, and a vast array of information accessible from its websites, the Smithsonian remains a resource of extraordinary value for the American people and the world. As such, the Smithsonian will continue to prove its worth as an investment in the future and a steward of our past.

SMITHSONIAN INSTITUTION FY 2018 BUDGET REQUEST SUMMARY

Account	FY 2016 Enacted	FY 2017 CR Level	FY 2018 Request
Salaries and Expenses	\$696,045,000	\$694,722,000	\$719,000,000
Facilities Capital	<u>\$144,198,000</u>	<u>\$143,924,000</u>	<u>\$228,000,000</u>
Total	\$840,243,000	\$838,646,000	\$947,000,000

For fiscal year (FY) 2018, the Smithsonian’s request to fund operating expenses and revitalization of the Institution’s physical infrastructure is **\$947 million**. The total amount includes **\$719 million** for Salaries and Expenses (S&E) and **\$228 million** for the Facilities Capital account. A detailed summary of the changes requested is provided in the table at the end of this section.

SALARIES AND EXPENSES

FIXED COSTS INCREASES

- **Salaries and Related Costs (+\$11,338,000)** — This request funds a 1.9 percent pay raise for FY 2018, the annualization of pay in FY 2017, and an adjustment for Workers’ Compensation.
- **Non-pay Fixed Items (+\$7,406,000)** — The Institution requests additional funding, largely for inflation-related increases in utilities, rent, software licenses, and other operating costs. Details are provided in the S&E section of this budget submission.

PROGRAM INCREASES

This budget request for FY 2018 places the programmatic increases into the broad categories of the Smithsonian’s Strategic Plan, thereby linking the funds directly to the Institution’s overall mission and the strategic goals of the Grand Challenges.

STRENGTHENING COLLECTIONS

- **Collections Staffing (+\$150,000)** — Currently, the Institution has vacancies within our collections staff, impacting our ability to provide optimal care for collections. These vacancies hinder our ability to strengthen and share our collections with diverse national and international audiences. This funding will allow the Smithsonian to supplement its collections management staffing in support of excellent research, and improve exhibitions and digitization of the nation’s vast collection of artifacts.

MISSION ENABLING

- **Facilities Maintenance (+\$1,600,000)** — The Smithsonian requests an increase of \$1.6 million to support the facilities funding required to maintain the new National Museum of African American History and Culture (NMAAHC).
- **Facilities Operations and Support (+\$1,560,000)** — The Institution requests an increase of \$1.56 million to address priority operating and safety needs and to support the facilities funding required to operate NMAAHC.
- **Security (+\$6,540,000)** — The Institution requests an increase of \$6.54 million to address critical security needs. As the physical footprint of the Smithsonian has increased and as facilities are revitalized, the Institution's security and law-enforcement needs have also grown. Additionally, the Smithsonian wants to improve its ability to prepare for and respond quickly to shooter attacks. Consequently, the Institution requests an increase for security positions and additional contract security guards to continue full-time magnetometer screening and bag searches at the Institution's most visited museums, including NMAAHC.
- **Information Technology (IT) Security (+\$350,000)** — This funding request supports the upgrade and replacement of aging IT security infrastructure at the Smithsonian. The request includes funds for security monitoring, response, and assessment; and recurring funds to maintain and/or replace outdated and inadequate intrusion-detection systems.
- **Human Resources Recruitment (+\$150,000)** — The Institution requests an increase of \$150,000 for an additional recruitment specialist to meet the Smithsonian's hiring goals, provide quality and timely advice and service to all units, minimize risks, and improve the recruiting hiring ratio and response time. The Office of Human Resources (OHR) is receiving more applications per vacancy announcement while the size of the OHR staff has been steadily shrinking.
- **Privacy Specialist (+\$150,000)** — The Institution is requesting \$150,000 to hire a privacy specialist to mitigate the risk of unauthorized acquisition, use, or disclosure of personally identifiable information (PII), including credit card data and Social Security numbers. This position will enable the Institution to both investigate incidents and continue training to prevent security breaches, as well as develop methods to identify and respond to potential future data breaches of PII content.

PROGRAM DECREASE

- **Development Costs (-\$4,966,000)** — FY 2017 is the final year that the NMAAHC will use federal funds for planning and development strategies, to include fund raising, for support of Museum programs and research. In FY 2018, these activities will be supported with non-federal funds. Therefore, the Smithsonian is realigning \$4,966,000 to support other high-priority, Institutional requirements.

FACILITIES CAPITAL

The request for the Facilities Capital program (**\$228,000,000**) is essential to arrest the deterioration of some of the Smithsonian's oldest and most visited buildings and maintain the current condition of other facilities through systematic renewal and repair. This amount will allow the Facilities Capital Program to address all of the top priority one projects ready to be fixed in FY 2018.

For FY 2018, the requested funds will enable the Institution to begin the major renovation project at the National Air and Space Museum (NASM) and to complete the construction of the Dulles Collections Storage Module at the Udvar-Hazy Center, which is essential for the NASM renovation project to go forward (\$100.0 million). The request will also continue major revitalization work at the National Museum of Natural History (\$22.0 million), the National Zoological Park (\$26.05 million), and the National Museum of American History (\$2.0 million). In addition, these funds will allow the Smithsonian to perform critical revitalization work at the Cooper Hewitt, Smithsonian Design Museum (\$5.0 million); National Museum of the American Indian (\$6.65 million); Hirshhorn Museum and Sculpture Garden (\$2.0 million); Smithsonian Institution Building (Castle) (\$2.6 million); Smithsonian Tropical Research Institute (\$1.9 million); Smithsonian Environmental Research Center (\$4.0 million); Smithsonian Astrophysical Observatory (\$2.2 million); the Suitland Collections Facility (\$10.1 million); and fire-alarm replacement across multiple facilities (\$2.0 million). This budget request also provides for critical revitalization projects throughout the Institution, program support, and projects costing under \$1 million each (\$14.5 million). Furthermore, this request accounts for planning and design of future projects (\$27.0 million). Details are provided in the Facilities Capital section of this budget request.

**SMITHSONIAN INSTITUTION
FY 2018 BUDGET SUMMARY
BY APPROPRIATION ACCOUNT**

SALARIES AND EXPENSES	FTEs	Amount
FY 2017 Continuing Resolution Level	4,200	\$694,722,000
<u>FIXED COSTS INCREASES</u>	0	18,744,000
Salaries and Related Costs	0	11,338,000
Utilities, Rent, Communications, and Other	0	7,406,000
<u>PROGRAM INCREASES</u>	45	10,500,000
Strengthening Collections	1	150,000
Collections Manager	1	150,000
Mission Enabling	44	10,350,000
Facilities Maintenance	6	1,600,000
Facilities Operations and Support	14	1,560,000
Security	22	6,540,000
Information Technology Security	0	350,000
Management Operations	2	300,000
<u>PROGRAM DECREASE</u> (National Museum of African American History and Culture development operations)	-20	-4,966,000
Total FY 2018 Salaries and Expenses	4,225	\$719,000,000

**SMITHSONIAN INSTITUTION
FY 2018 BUDGET SUMMARY
BY APPROPRIATION ACCOUNT**

FACILITIES CAPITAL	FTEs	Amount
FTEs in Base	48	
Revitalization		
National Air and Space Museum (NASM)		90,000,000
National Museum of Natural History		22,000,000
National Zoological Park		26,050,000
Cooper Hewitt, Smithsonian Design Museum		5,000,000
National Museum of the American Indian		6,650,000
Hirshhorn Museum and Sculpture Garden		2,000,000
Smithsonian Institution Building (Castle)		2,600,000
Smithsonian Tropical Research Institute		1,900,000
National Museum of American History		2,000,000
Smithsonian Environmental Research Center		4,000,000
Smithsonian Astrophysical Observatory		2,200,000
Suitland Collections Facility		10,100,000
Fire-Alarm Panel Replacement		2,000,000
Multiple Location Revitalization Projects		14,500,000
Facilities Planning and Design		27,000,000
Construction: NASM, Collections Storage		10,000,000
Total FY 2018 Facilities Capital	48	\$228,000,000
FY 2018 REQUEST, ALL ACCOUNTS	4,273	\$947,000,000

**SMITHSONIAN INSTITUTION
SALARIES AND EXPENSES (S&E)
FY 2018 Required Request**

	FTEs	Amount
FY 2017 Continuing Resolution Level	4,200	\$694,722,000
Fixed Costs Increases		
Salaries and Related Costs	0	11,338,000
Utilities, Postage, Rent, Communications, and Other	0	<u>7,406,000</u>
Total Fixed Costs Increases		18,744,000
Program Increases		
Strengthening Collections		
Collections Manager	1	150,000
Mission Enabling		
Facilities Maintenance	6	1,600,000
Facilities Operations and Support	14	1,560,000
Security	22	6,540,000
Information Technology Security	0	350,000
Management Operations	2	300,000
Total Program Increases	45	10,500,000
Total Increases	45	29,244,000
Program Decrease		
National Museum of African American History and Culture	-20	-4,966,000
Total Program Decrease	-20	-4,966,000
Subtotal S&E	25	24,278,000
FY 2018 Total Salaries and Expenses	4,225	\$719,000,000

SMITHSONIAN INSTITUTION

Salaries and Expenses

Unit Detail of the FY 2016 Enacted, FY 2017 Full-Year CR and the FY 2018 Request

(\$s in Thousands)

FTE = Full-Time Equivalent

	FY 2016		FY 2017		FY 2018		ANALYSIS OF CHANGE			
	Enacted/Adjusted		Full Year CR		Request		(FY 2018 Increases)			
	FTEs	\$000	FTEs	\$000	FTEs	\$000	Pay & Benefits \$000	Rent & Utilities \$000	Fixed Other \$000	Program Change FTEs \$000
MUSEUMS AND RESEARCH CENTERS										
Unlocking the Mysteries of the Universe										
35	151	19,209	151	19,172	151	19,693	521	0	0	0
42	99	24,141	99	24,095	99	24,450	350	5	0	0
								5		
47	0	4,118	0	4,110	0	4,118	0	0	8	0
									8	
32	1	184	1	184	1	184	0	0	0	0
	251	47,652	251	47,561	251	48,445	871	5	8	0
Subtotal, Unlocking the Mysteries of the Universe										
Understanding and Sustaining a Biodiverse Planet										
54	335	48,503	335	48,411	335	49,407	996	0	0	0
63	208	26,382	208	26,332	208	26,864	532	0	0	0
70	32	3,956	32	3,948	32	4,193	245	0	0	0
74	191	14,166	191	14,139	191	14,386	247	0	0	0
32	3	1,523	3	1,520	3	1,543	23	0	0	0
	769	94,530	769	94,350	769	96,393	2,043	0	0	0
Valuing World Cultures										
83	45	6,111	45	6,099	45	6,228	129	0	0	0
88	17	2,581	17	2,576	17	3,178	72	230	300	0
								230	300	
94	36	4,810	36	4,801	36	4,897	76	20	0	0
								20		
98	37	4,414	37	4,253	37	4,344	79	12	0	0
								12		
104	28	4,399	28	4,391	28	4,554	163	0	0	0
32	2	284	2	283	2	284	1	0	0	0
	165	22,599	165	22,403	165	23,485	520	262	300	0
Subtotal, Valuing World Cultures										
Understanding the American Experience										
110	19	2,252	19	2,248	19	2,336	88	0	0	0
115	17	1,880	17	1,876	17	1,916	40	0	0	0
119	165	41,347	165	41,268	145	32,987	426	(3,741)	0	(4,966)
								(3,741)		(20)
										(20)
131	163	22,697	163	22,654	164	23,776	722	250	0	150
										150
										250
142	216	31,726	216	31,666	216	32,235	569	0	0	0
146	56	6,200	56	6,188	56	6,382	176	18	0	0
								18		
153	6	1,109	6	1,107	6	1,126	18	1	0	0
								1		
157	89	9,723	89	9,705	89	9,958	253	0	0	0
32	4	595	4	594	4	601	7	0	0	0
	735	117,529	735	117,306	716	111,317	2,299	(3,472)	0	(19)
Subtotal, Understanding the American Experience										
Total for Museums and Research Centers										
	1,920	282,310	1,920	281,620	1,901	279,640	5,733	(3,205)	308	(19)
										(4,816)

SMITHSONIAN INSTITUTION

Salaries and Expenses

Unit Detail of the FY 2016 Enacted, FY 2017 Full-Year CR and the FY 2018 Request

(\$\$ in Thousands)

FTE = Full-Time Equivalent

Page #		FY 2016		FY 2017		FY 2018		ANALYSIS OF CHANGE					
		Enacted/Adjusted		Full Year CR		Request		Pay & Benefits		Rent & Utilities		Fixed & Other	
		FTEs	\$000	FTEs	\$000	FTEs	\$000	\$000	\$000	\$000	\$000	FTEs	\$000
	MISSION ENABLING												
	<i>Program Support and Outreach</i>												
164	Outreach	64	9,045	64	9,028	64	9,284	256	0	0	0	0	0
169	Communications	22	2,594	22	2,589	22	2,644	55	0	0	0	0	0
172	Institution-wide Programs	0	13,284	0	13,259	0	13,284	0	0	25	0	0	0
	<i>Inflation to Institution-wide pools</i>									25			
179	Smithsonian Exhibits	28	3,009	28	3,018	28	3,143	125	0	0	0	0	0
182	Museum Support Center	18	1,866	18	1,862	18	1,891	29	0	0	0	0	0
184	Museum Conservation Institute	22	3,277	22	3,271	22	3,337	66	0	0	0	0	0
190	Smithsonian Institution Archives	20	2,253	20	2,264	20	2,406	142	0	0	0	0	0
192	Smithsonian Libraries	86	10,654	86	10,634	86	11,150	216	0	300	0	0	0
	<i>Subscriptions inflation</i>									300			
	Subtotal, Program Support and Outreach	260	45,982	260	45,925	260	47,139	889	0	325	0	0	0
196	Office of the Chief Information Officer	95	50,462	95	50,408	95	52,546	434	0	1,354	0	350	350
	<i>Communications Fixed Costs</i>									1,354			
	<i>IT Security</i>												
199	Administration	181	34,773	181	34,803	183	35,545	382	0	60	2	300	300
	<i>Audit Costs</i>									60			
	<i>Management Operations: Human Resources Office</i>											1	150
	<i>Management Operations: Privacy Office</i>											1	150
204	Office of the Inspector General	24	3,451	24	3,444	24	3,512	68	0	0	0	0	0
	Facilities Services												
206	Facilities Maintenance	395	73,877	395	73,737	401	76,568	1,231	0	0	6	1,600	1,600
	<i>NMAAHC Maintenance</i>										6	1,600	1,600
210	Facilities Operations, Security, and Support	1,325	205,190	1,325	204,785	1,361	224,050	2,601	8,564	0	36	8,100	8,100
	<i>Central Utilities</i>								924				
	<i>Central Rent</i>								7,640			14	1,560
	<i>Facilities Operations</i>											22	6,540
	<i>Security Requirements</i>												
	Subtotal, Facilities Services	1,720	279,067	1,720	278,522	1,762	300,618	3,832	8,564	0	42	9,700	9,700
	Total for Mission Enabling	2,280	413,735	2,280	413,102	2,324	439,360	5,605	8,564	1,739	44	10,350	10,350
	GRAND TOTAL, SMITHSONIAN INSTITUTION	4,200	696,045	4,200	694,722	4,225	719,000	11,338	5,359	2,047	25	5,534	5,534

SALARIES AND EXPENSES

FY 2016 Enacted	696,045,000
FY 2017 Continuing Resolution Level	694,722,000
FY 2018 Request	719,000,000

For FY 2018, the Institution requests **\$719.0 million** in the Salaries and Expenses (S&E) account. Approximately 77 percent of the increase is attributable to fixed costs for sustaining base operations (e.g., pay, rent, utilities), and the remainder is for high-priority requirements throughout the Institution.

FIXED COSTS

SALARY AND PAY-RELATED COSTS (+\$11,338,000) — The Institution requests an increase of \$11.338 million for higher salary and pay-related costs. The request funds the proposed 1.9 percent pay raise in January 2018, the annualization of the enacted January 2017 pay raise, and a decrease in Workers' Compensation costs, as follows:

Salary and Related Costs:

	<u>Request</u>
▪ January 2018 pay raise (3/4 year at 1.9%)	8,431,000
▪ Annualization of 2017 pay raise (1/4 year at 2.88%)	3,334,000
▪ Workers' Compensation	-427,000
Total	\$11,338,000

- **Proposed January 2018 Pay Raise of 1.9 percent (+\$8,431,000)** — This provides for a proposed 1.9 percent pay raise in January 2018 for three-quarters of a year.

- **Annualization of the January 2017 Pay Raise of 2.88 percent (+\$3,334,000)** — This increase funds the annualization of the enacted 2.88 percent pay raise in January 2017 for the first quarter of FY 2018.

- **Workers' Compensation (-\$427,000)** — This request supports the provisions of Section 8147(b) of Title 5, *United States Code*. The Workers' Compensation for FY 2017 is **\$3,151,000**, based on a Department of Labor (DOL) invoice for costs incurred from July 1, 2014 through June 30, 2015. This represents a decrease of -\$296,000 from the prior-year cost of \$3,447,000 payable in FY 2017; and the FY 2018 bill is **\$3,020,000**, based on a DOL invoice for costs incurred from July 1, 2015 through June 30, 2016. This represents a decrease of -\$131,000 from the prior-year cost of \$3,151,000 payable in FY 2018. The total decrease is -\$427,000 for Workers' Compensation costs.

FY 2018 Increased Pay Costs (Dollars in Thousands)

Line Item	FY 2017 Annualized	FY 2018 Pay Increase	FY 2018 Total Pay
National Air and Space Museum	139	382	521
Smithsonian Astrophysical Observatory	109	241	350
National Museum of Natural History	320	676	996
National Zoological Park	168	364	532
Smithsonian Environmental Research Center	31	214	245
Smithsonian Tropical Research Institute	78	169	247
Biodiversity — Consortium	7	16	23
Arthur M. Sackler Gallery/Freer Gallery of Art	41	88	129
Center for Folklife and Cultural Heritage	22	50	72
Cooper Hewitt, Smithsonian Design Museum	23	53	76
Hirshhorn Museum and Sculpture Garden	23	56	79
National Museum of African Art	33	130	163
World Culture — Consortium	0	1	1
Anacostia Community Museum	14	74	88
Archives of American Art	12	28	40
National Museum of African American History and Culture	125	301	426
National Museum of American History, Behring Center	156	566	722
National Postal Museum	6	12	18
National Museum of the American Indian	179	390	569
National Portrait Gallery	42	134	176
Smithsonian American Art Museum	67	186	253
American Experience — Consortium	2	5	7
Outreach	60	196	256
Communications	19	36	55
Museum Support Center	9	20	29
Museum Conservation Institute	21	45	66
Smithsonian Institution Archives	18	124	142
Smithsonian Libraries	69	147	216
Smithsonian Exhibits	22	103	125
Office of the Chief Information Officer	127	307	434
Administration	188	621	809
Inspector General	22	46	68
Facilities Maintenance	373	858	1231
Facilities Operations, Security, and Support	809	1792	2601
Subtotal, Pay Costs	\$3,334	\$8,431	\$11,765
Workers' Compensation	0	-427	-427
Total, Pay-Related Costs	\$3,334	\$8,004	\$11,338

UTILITIES, POSTAGE, RENT, COMMUNICATIONS, AND OTHER FIXED COSTS (+\$7,406,000) — For FY 2018, the Institution requests an

increase of \$7,406,000 for utilities, postage, rent, communications, and other fixed-cost accounts, as detailed in the chart below. The requested increase reflects consumption and rate changes in the utilities accounts, inflationary increases, and program needs in rent accounts. In addition, the increases for Communications and Other Support are requested to provide for fixed software licensing and maintenance costs, inflationary increases for library subscriptions, and to meet compliance requirements.

The following table displays the FY 2017 and FY 2018 estimates. The details that follow address the specific changes affecting the FY 2018 accounts.

**Federal Utilities, Postage, Rent, Communications,
and Other Fixed Costs
FYs 2017–2018
(Dollars in Thousands)**

	FY 2017 Estimate	FY 2018 Estimate	Change
Utilities:			
Electricity	20,403	21,536	1,133
Chilled Water	6,614	2,947	-3,667
Steam	7,749	8,180	431
Natural Gas	3,211	3,088	-123
DC Gov't Water/Sewer	3,222	6,292	3,070
Other Water and Fuel Oil	<u>1,151</u>	<u>1,231</u>	<u>80</u>
Subtotal, Utilities	42,350	43,274	924
Postage	1,511	1,511	0
Motor Fuel	370	370	0
Rental Space:			
Central	32,350	39,990	7,640
Unit	<u>8,296</u>	<u>5,091</u>	<u>-3,205</u>
Subtotal, Rent	40,646	45,081	4,435
Communications	18,178	19,532	1,354
Other Support	2,527	3,220	693
Total	\$105,582	\$112,988	\$7,406

UTILITIES (+\$924,000) — Justified here, but included in the Facilities Operations, Security, and Support line item, is a requested increase to cover the costs of energy and water. The request includes the following:

- **Electricity (+\$1,133,000)** — Electricity is used to operate the Smithsonian’s large infrastructure. The major use of electricity is for air-conditioning that provides essential climate control to protect the priceless national collections as well as ensure the comfort of visitors and staff. The request covers anticipated cost increases in FY 2018 for current services for all accounts (+\$899,000) and a downward adjustment for lower-than-projected rate increases in FY 2017 (-\$1,118,000). The request funds the anticipated surcharges by the Potomac Electric Power Company to recover costs of the DC PLUG initiative to place the District of Columbia’s power lines underground (+\$387,000). The request also funds increased electricity costs incurred from new and renovated facilities at the Smithsonian’s Tropical Research Institute (STRI) and the Environmental Research Center (+\$508,000). In addition, the request funds the cost of electricity at the new Udvar-Hazy Dulles Collections Storage Module 1 and the recently opened National Museum of African American History and Culture (+\$233,000), as well as decreased reimbursements due to the closure of the National Museum of Natural History’s IMAX theater for 12 months while construction is ongoing (+\$204,000).
- **Chilled Water (-\$3,667,000)** — Chilled water costs represent both the annual cost of the fixed, 15-year debt service for the joint project between the General Services Administration (GSA) and the Smithsonian to supply chilled water from GSA’s central plant to the Smithsonian’s south Mall facilities, and the variable cost for actual chilled water usage. The net decrease reflects the return of the annual debt service funding (-\$4,279,000) as a result of the final payment in FY 2017, which was offset by a rate increase of 2.4 percent in FY 2018 (+\$94,000) and higher-than-expected rate increases and usage (+\$525,000), as well as anticipated increased reimbursements in FY 2018 (-\$7,000).
- **Steam (+\$431,000)** — The Smithsonian uses steam for heating and humidification, and to produce hot water for facilities on the Mall and in New York City. The requested increase covers escalation as stipulated in Energy Savings Performance Contracts (ESPCs) (+\$85,000), increased usage at the National Museum of American History due to the restoration of HVAC systems (+\$233,000), and decreased reimbursements due to the closure of the National Museum of Natural History’s IMAX theater for 12 months of ongoing construction and lower-than-expected reimbursable usage (+\$113,000).
- **Natural Gas (-\$123,000)** — The Smithsonian uses natural gas and propane for heating and generating steam. The net decrease covers cost increases for rates and usage in FY 2018 (+\$119,000) and a downward adjustment for lower-than-projected rate increases (-\$394,000). The request also funds the cost of natural gas at the new Udvar-Hazy Dulles Collections Storage Module 1 and the recently opened National Museum of African American History and Culture (+\$152,000).

- **DC Water and Sewer (+\$3,070,000)** — Funds cover the costs of both water and sewer services provided by the District of Columbia Water and Sewer Authority (DCWSA). The net increase includes rate and billing adjustments transmitted by DCWSA to the Smithsonian (+\$3,124,000), as well as anticipated increased reimbursements in FY 2018 (-\$54,000).
- **Other Water and Fuel Oil (+\$80,000)** — Funds provide water service for facilities outside of Washington, DC, and fuel oil used in dual-fuel boilers and generators for emergency power. The request covers anticipated cost increases in FY 2018 for current services for all water usage (+\$146,000) and a downward adjustment for lower-than-projected rate increases (-\$10,000). The net increase for fuel covers cost increases for rates and usage in FY 2018 (+\$78,000) and a downward adjustment for lower-than-projected rate increases (-\$134,000).

POSTAGE — Funds provide for all official domestic and international mail services. No increases are requested for postage in FY 2018.

MOTOR FUEL — Funds provide for motor fuel that powers the Smithsonian’s motor vehicle fleet and scientific research vessels. No increases are requested for motor fuel in FY 2018.

RENTAL SPACE (+\$4,435,000) — Funds provide for the long-term rental of office, collections and warehouse storage, and laboratory space. For FY 2018, the Smithsonian requests an increase of \$7,640,000 for centrally-funded lease requirements and a decrease of -\$3,205,000 for unit-funded, programmatic lease requirements, as follows:

- **Central Rent (+\$7,640,000)** — Justified here, but included in the Facilities Operations, Security, and Support line item, are increases needed to support leased office and storage space, as follows:

Transfer from Unit Rent (+\$3,741,000) — This transfers the National Museum of African American History and Culture rent funds to the Central Rent Account for leased space at Capital Gallery.

Escalation (+\$3,149,000) — This request funds annual rent increases in accordance with the terms of current lease contracts, and lease-related services. Among the contracts, the annual escalation rate for base rent averages three percent, and operating and real-estate taxes are each projected to increase at four percent above FY 2016 estimates.

Additional Base Rent (+\$750,000) — This request funds additional leased office and collections storage space for the National Portrait Gallery and Smithsonian American Art Museum at the Victor Building, which is located at 750 9th Street, NW, Washington, DC. The additional space is required to accommodate collection staffing needs and to properly care for and store the national collections.

- **Unit Rent (-\$3,205,000)** — Justified here, but included in the following museums' line items, are unit-funded rent increases needed to support Smithsonian programs. The increases are as follows:

Transfer to Central Rent (-\$3,741,000) — This transfers the National Museum of African American History and Culture rent funds to the Central Rent Account for leased space at Capital Gallery.

Escalation (+\$56,000) — Provides funding for the annual escalation of contractual lease costs and lease-related services. The requested increase supports leased space occupied by Cooper Hewitt, Smithsonian Design Museum (+\$20,000); Hirshhorn Museum and Sculpture Garden (+\$12,000); Smithsonian Astrophysical Observatory (+\$5,000); National Postal Museum (+\$1,000); and the National Portrait Gallery (+\$18,000).

Center for Folklife and Cultural Heritage (+\$230,000) — This increase provides base rent funds for approximately 5,000 square feet of leased collections storage space to house audio and video collections in an environmentally controlled space. Currently, the collections are housed in substandard environmental conditions that put them at risk from deterioration. The requested funds will ensure long-term preservation of these irreplaceable recordings for future generations.

National Museum of American History (+\$250,000) — This increase provides base rent funds for approximately 5,000 square feet of leased collections storage space to protect and preserve the large, heavy, industrial artifacts that are returning to the Smithsonian from the National Museum of Industrial History in Pennsylvania.

COMMUNICATIONS (+\$1,354,000) — The communications base budget supports the operations of the Institution's voice and data telecommunications infrastructure. The requested increase covers the higher cost of software and hardware maintenance fees for existing investments, and the expansion of central storage and backup systems used to house, manage, and protect the rapidly growing number of digitized collections assets.

The requested increase (+\$1,354,000) supports: the Enterprise Resource Planning architecture; RedHat/Linux enterprise platforms; business analytics software; a software distribution system for Macs; SharePoint administration; an employee safety system; the Institution's Facilities Management system; Wi-Fi maintenance at the new National Museum of African American History and Culture; and the personnel records management system. The requested increases will enable systems to stay current and cover rising annual maintenance and operating costs, cover the costs of the upgraded Internet2 connection that allows the exchange of large datasets with external collaborators and sharing of high-resolution images and 3D models (needed for scientific research), and covers the annual

recurring cost of a high-speed network connection to the new STRI lab in Gamboa, Panama.

OTHER SUPPORT (+\$693,000) — An additional \$693,000 is requested to offset the effects of inflation and to cover other fixed costs. The Smithsonian Libraries requires additional funding to adequately address inflationary increases in library subscriptions (+\$300,000). This increase will enable the Libraries to cover the extraordinary inflation costs of purchasing journals and electronic databases, which are critical to support the Institution's many research programs and scientists.

The Institution also requests an increase of \$300,000 to support the Smithsonian Folklife Festival's compliance with regulations instituted by the National Park Service in its management of the turf on the National Mall, which strictly limit how the Festival can use this high-visibility space.

In addition, the Smithsonian requests an increase of \$60,000 to fund the inflationary costs of the Institution-wide personal property audits, and to pay the fees associated with processing local vouchers through the federal travel-management system (Concur). The Institution also requests \$33,000 to cover inflationary increases in the Institution-wide pool funds and for the Major Scientific Instrumentation program.

SUMMARY OF S&E PROGRAM CHANGES

	FY 2017 CR Level Base	FY 2018 Program Changes	FY 2018 Fixed Costs	FY 2018 Total
Excellent Research	87,760		+2,682	90,442
Broadening Access	79,933		+2,728	82,661
Revitalizing Education	17,138		+1,044	18,182
Strengthening Collections	75,646	+150	+1,976	77,772
Mission Enabling	434,245	+5,384	+10,314	449,943
• Facilities Maintenance	73,737	+1,600	+1,231	76,568
• Facilities Operations Support	148,297	+1,560	+6,320	156,177
• Security	68,699	+6,540	+1,480	76,719
• IT Security	65,873	+350	-231	65,992
• Management Operations	72,673	+300	+1,514	74,487
• Ensuring Financial Strength	4,966	-4,966	0	0
○ National Museum of African American History and Culture development costs				
Total S&E Program Changes	\$694,722	+\$5,534	+\$18,744	\$719,000

Note: For a complete list of program categories, see page 31

EXCELLENT RESEARCH

The Smithsonian's Strategic Plan articulates Grand Challenges that provide an overarching strategic framework for Smithsonian programs and operations. The five Grand Challenges are:

- *Unlocking the Mysteries of the Universe*
- *Understanding and Sustaining a Biodiverse Planet*
- *Valuing World Cultures*
- *Understanding the American Experience*
- *Magnifying the Transformative Power of Arts and Design*

Meeting these Grand Challenges will allow the Smithsonian to integrate the work of many disciplines within its museums and research centers, as well as broaden the Institution's external collaborations. The challenges are grounded in research and emphasize complementary education and outreach programs. Together, they will continue to influence how the Smithsonian directs its resources and focuses its energies for maximum effectiveness to serve the public.

BROADENING ACCESS

New tools and technologies will exponentially broaden our access worldwide. The nation's growing diversity challenges us to reach new audiences and ensure that Smithsonian collections, exhibitions, and outreach programs speak to all Americans. We also work to provide a welcoming and informative experience for visitors who come from around the world. To accomplish this, we will leverage the power of technology, using new media and social networking tools to deliver information in customized ways and bring our resources to those who cannot visit our facilities in person. Digitizing the collections and making them accessible online are major institutional priorities, as is exploring next-generation technologies.

The Smithsonian has implemented the first-ever Institution-wide digitization strategic plan that includes developing the framework of digitization policies; making assessments to account for the state and progress of digitization; and clarifying digitization priorities to guide resource allocation and planning. In addition, the Smithsonian has strategically invested in creating a standard mass-digitization process that enables replicable, cost-effective, and high-quality digitization for all Smithsonian priority collections. In FY 2018, the Institution will continue to digitize more of the national collections and make them more accessible. However, no additional resources are requested in this FY 2018 budget submission.

REVITALIZING EDUCATION

The Smithsonian will continue to provide authentic and inspiring Science, Technology, Engineering, and Mathematics (STEM) experiences for teachers and students by drawing on the scientific and engineering assets of the Federal

government. In particular, the Smithsonian will advance STEM goals by serving as a conduit between federal mission agencies and other non-profit organizations — including the Smithsonian’s 216 Affiliate museums. The Institution will build and support learning communities which include educators in schools and informal learning settings; assist with the identification of curricula in various modalities; and work with partners to identify, develop, and disseminate STEM engagement materials and experiences. The STEM initiative will also advance professional development opportunities that incorporate next-generation science standards and align with individual state education standards.

In FY 2018, the Smithsonian will continue to work with federal agencies offering STEM programs so that the Institution can identify and disseminate content that takes advantage of each agency’s unique assets; create complementary materials and avoid duplication of effort; and share a centralized portal for the broad dissemination of our educational offerings. However, no additional resources are requested in this FY 2018 budget submission.

STRENGTHENING COLLECTIONS

Collections stewardship remains a key component and core priority of the Smithsonian’s Strategic Plan. Assembled throughout the Institution’s history, Smithsonian collections are fundamental to carrying out the Institution’s mission and supporting the Grand Challenges, serving as the intellectual base for scholarship, exhibition, and education. As recognized by the America COMPETES Reauthorization Act of 2010, the proper management, documentation, preservation, and accessibility of collections are critical to the nation’s research and education infrastructure, and to enable researchers to address the significant challenges our country faces.

Collections stewardship — the systematic development, documentation, management, preservation, and use of collections — is not a single process or procedure but a series of components which are interwoven, interdependent, and ongoing. The condition of facilities housing collections, the quality of storage and preservation, and the ability to document collections in manual and digital formats directly affect the Smithsonian’s ability to make collections available to scholars and the general public worldwide. Because collections stewardship is fundamental to the Smithsonian’s mission, there is a vital need to accomplish basic collections management activities for the accountability, preservation, storage, digitization, and accessibility of the collections. The Institution must also substantially improve its collections scholarship and management to ensure that our vast collections are properly exhibited and interpreted for the Smithsonian’s worldwide audiences, including the scientific community.

Collections Management (+\$150,000 and +1 FTE): Several recent Inspector General collections stewardship audit reports have identified a critical need to fill high-priority positions to care for and preserve collections, including ensuring full inventory control over collections, providing proper preservation of collections at risk, and supporting a robust digitization program to make collections available online to

national and international communities. The FY 2018 request includes one collections manager for the National Museum of American History (+\$150,000, +1 FTE). Additional details are included in the Museum’s unit narrative.

MISSION ENABLING

As Smithsonian senior leadership deliberates on how best to use our vast resources for the public good, the Institution must also include strategies on how to support those resources — both physical and human. The backbone of the Smithsonian must remain a dedicated workforce of employees and volunteers with 21st century skills and perspectives. Strong, responsive support services — such as collections stewardship, facilities management, security support, and management operations — are essential to accomplish the Smithsonian’s mission. The following increases support our newest Museum, the National Museum of African American History and Culture; increase security support at our high-risk museums; upgrade and replace aging information technology (IT) security infrastructure; and fund required management operations.

<u>Category</u>	FY 2018 Program Changes (\$000s)	FY 2018 FTEs Changes
MISSION ENABLING		
• Facilities Maintenance	+1,600	+6
• Facilities Operations and Support	+1,560	+14
• Museum Security	+6,540	+22
• IT Security	+350	0
• Management Operations	+300	+2
• Ensuring Financial Strength	-4,966	-20
Total Increases	+\$5,384	+24

Facilities Maintenance — Base: (\$73,737,000); FY 2018 Increase: (+\$1,600,000, +6 FTEs)

For FY 2018, the Smithsonian requests an increase of **\$1,600,000** and 6 FTEs to enable its maintenance program to continue the work of stabilizing and standardizing the overall condition of Institution facilities. The increase will complete the funding of facilities and security operations for the National Museum of African American History and Culture (NMAAHC). This increase provides a minimal level of preventive maintenance and building system reliability for the new Museum to ensure that proper environmental conditions are maintained for collections and public expectations are met. Additional details are included in the Facilities Maintenance section of this budget request.

Facilities Operations and Support — Base: (\$148,297,000); FY 2018 Increase: (+\$1,560,000, +14 FTEs)

For FY 2018, the Smithsonian requests an increase of **\$1,560,000** and **14 FTEs** to address high-priority operating and safety requirements. The increase will fund high-priority needs to complete funding of facilities operations for the National Museum of African American History and Culture (NMAAHC). This request reflects the fact that the facilities operations budget has remained steady in recent years, losing ground to inflationary pressures and, at the same time, the Smithsonian's operations and physical footprint have grown, creating additional requirements. Accordingly, this budget request includes funds to hire additional building service workers and supervisors for the new Museum. Additional details are included in the Facilities Operations, Security, and Support narrative of this budget request.

Security — Base: (\$68,699,000); FY 2018 Increase: (+\$6,540,000, +22 FTEs)

As the physical footprint of the Smithsonian has increased and facilities are revitalized, the Institution's security and law-enforcement needs have also grown. To evaluate the effectiveness of existing security resources versus the current requirements, the Smithsonian conducted a phased security staffing analysis for each of its major facilities. The facility analyses confirmed that the Smithsonian needs to fill its currently vacant security positions and also add contract staff to provide a higher level of security around building perimeters, including visitor screening, as well as in interior public spaces such as galleries.

Consequently, the Institution requests **\$6,540,000** for security positions and for additional contract security guards so the Smithsonian can continue full-time magnetometer screening and bag searches, and to provide additional security in galleries and other public spaces. These actions will address needs at the Smithsonian's highest risk facilities, which are the National Museum of African American History and Culture, National Museum of American History, National Museum of Natural History, National Air and Space Museum, and the National Museum of the American Indian. Additional details are included in the Facilities Operations, Security, and Support narrative of this budget request.

Information Technology (IT) Security — Base: (\$65,873,000); FY 2018 Increase: (+\$350,000)

This funding request (**+\$350,000**) supports the upgrade and replacement of aging IT security infrastructure at the Smithsonian. The request includes funds for security monitoring, response, and assessment; and recurring funds to maintain and/or replace outdated and inadequate intrusion-detection systems. Additional details are included in the Office of the Chief Information Officer narrative of this budget request.

Management Operations — Base: (\$72,673,000); FY 2018 Increase: (+\$300,000, +2 FTEs)

The following chart summarizes the requested requirements:

<u>Category</u>	FY 2018 Increases \$000s	FY 2018 Increases FTEs
Human Resources Recruitment	+150	+1
Privacy Specialist	+150	+1
Total Increase	+\$300	+2

- Human Resources Recruitment (+\$150,000, +1 FTE)** — The Institution is requesting an increase of **\$150,000** for a recruiting specialist to meet the Smithsonian’s hiring timeliness goals, provide quality and time-sensitive advice and service to all units, minimize risks, and improve the recruiting and hiring ratio and response time. The Office of Human Resources (OHR) has seen a steady increase in the number of applications being received per vacancy announcement, while the size of the OHR staff has been steadily shrinking. In addition, the new OHR recruitment specialist will enable the Institution to fully engage and collaborate with units to address the challenges of increasing diversity in the Smithsonian’s workforce. Additional details are included in the Administration narrative of this budget request.
- Privacy Specialist (+\$150,000, +1 FTE)** — The Institution is requesting an increase of **\$150,000** to hire a privacy specialist to support the Smithsonian community. In pursuit of its mission, the Smithsonian collects, uses, and disseminates personally identifiable information (PII), including credit card data and Social Security numbers, from employees, volunteers, interns, Fellows, research associates, contractors, patrons, donors, and physical and virtual visitors via hundreds of websites and at physical locations around the world. The privacy specialist will support the further development and implementation of strategies to mitigate the risks inherent in the collection, use, and dissemination of that PII. The addition of a privacy specialist will also further enable the Institution to investigate incidents and support initiatives to prevent breaches, as well as respond to future incidents involving PII. Additional details are included in the Administrative narrative of this budget request.

Ensuring Financial Strength — (Base: \$4,966,000; FY 2018 Decrease (-\$4,966,000, -20 FTEs)

- FY 2017 is the final year that the NMAAHC will use federal funds for planning and development strategies, to include fund raising, for support of Museum programs and research. In FY 2018, these activities will be supported with non-federal funds. Therefore, the Smithsonian is realigning \$4,966,000 to support other high-priority, Institutional requirements.

NO-YEAR FUNDING — The following table provides the Salaries and Expenses (S&E) requests for No-Year Funding in FYs 2017 and 2018. The National Museum of African American History and Culture is funded with two-year S&E resources beginning in FY 2018. The small increases in the other no-year accounts are to fund the pay raise increase in the National Museum of Natural History’s Repatriation Program and inflationary increases in the other programs.

No-Year Funding Request
(Dollars in Thousands)

Salaries and Expenses	FY 2017 CR level	FY 2018 Request	Change from FY 2017
No-Year Funds			
National Museum of African American History and Culture *	41,268	0	-41,268
National Museum of Natural History			
Exhibition Reinstallation	952	954	+2
Repatriation Program	1,377	1,401	+24
Major Scientific Instrumentation	4,110	4,118	+8
Collections Acquisition	434	435	+1
Total, No-Year Funds	\$48,141	\$6,908	-\$41,233

* The National Museum of African American History and Culture converts from no-year to two-year funding.

OBJECT-CLASS FUNDING — The following table provides an object-class breakout of resources for the Salaries and Expenses account.

Object-Class Request
(Dollars in Millions)

Salaries and Expenses	FY 2017 CR level	FY 2018 Request	Change from FY 2017
Salaries and Benefits	434	448	+14
Travel and Transportation	6	6	0
Rent, Utilities, Communications, and Other	94	100	+6
Other Services	121	125	+4
Supplies and Materials	16	16	0
Equipment	18	18	0
Land and Structures	6	6	0
Total, Object-Class Funds	\$695	\$719	+\$24

FEDERAL RESOURCE SUMMARY BY PERFORMANCE OBJECTIVE AND PROGRAM CATEGORY

The Smithsonian has developed its FY 2018 budget request by reviewing all resources, both base amounts and identified increases or decreases, in relation to the Institution's performance plan and overall Strategic Plan.

The Institution's program performance goals and objectives are aligned with the program categories used in the federal budget and the Institution's financial accounting system. This enables the Institution to more clearly demonstrate the relationship between dollars budgeted and results achieved.

The table below summarizes the request by program category and details the pay increases and program changes. The table on the following page summarizes the Institution's FY 2017 and FY 2018 **Salaries and Expenses** estimates and the proposed changes by strategic goal, performance objective, and program category.

FY 2018 Budget Federal Resources by Program Category Salaries and Expenses (\$s in 000s)

Federal Resources by Performance Objective and Program Category											
Salaries and Expenses (\$s in thousands)											
Performance Objective/ Program Category	FY 2017		FY 2018		Change		Fixed Pay	Fixed Rent/ Utilities	Fixed Other	Program Change	Total
	FTEs	\$000	FTEs	\$000	FTEs	\$000					
Excellent Research	555	87,760	555	90,442	0	2,682	1,804	0	310	568	2,682
Broadening Access	546	79,933	545	82,661	-1	2,728	1,577	0	306	845	2,728
Revitalizing Education	150	17,138	152	18,182	2	1,044	822	0	0	222	1,044
Strengthening Collections	524	75,646	524	77,772	0	2,126	1,649	283	13	181	2,126
Mission Enabling	2,425	434,245	2,449	449,943	24	15,698	5,486	5,076	1,418	3,718	15,698
<i>Facilities Operations</i>	661	148,297	675	156,177	14	7,880	1,249	5,071	0	1,560	7,880
<i>Facilities Maintenance</i>	395	73,737	401	76,568	6	2,831	1,231	0	0	1,600	2,831
<i>Security and Safety</i>	724	68,699	746	76,719	22	8,020	1,470	0	0	6,550	8,020
<i>Information Technology</i>	161	65,873	160	65,992	-1	119	574	0	1,358	-1,813	119
<i>Management Operations</i>	464	72,673	467	74,487	3	1,814	962	5	60	787	1,814
<i>Ensuring Financial Strength</i>	20	4,966	0	0	-20	-4,966	0	0	0	-4,966	-4,966
TOTAL	4,200	694,722	4,225	719,000	25	24,278	11,338	5,359	2,047	5,534	24,278

Federal Resources by Performance Objective and Program Category

Salaries and Expenses (\$s in thousands)

Performance Objective and Program Category	FY 2017		FY 2018		Change	
	FTEs	\$000	FTEs	\$000	FTEs	\$000
Excellent Research	555	87,760	555	90,442	0	2,682
Research						
Engage in research and discovery	441	71,073	441	72,659	0	1,586
Ensure the advancement of knowledge in the humanities	114	16,687	114	17,783	0	1,096
Broadening Access	546	79,933	545	82,661	-1	2,728
Digitization and Web Support						
Provide improved digitization and Web support	90	14,084	90	14,710	0	626
Public Programs						
Provide reference services and information	143	22,121	144	22,701	1	580
Exhibitions						
Offer compelling, first-class exhibitions	313	43,728	311	45,250	-2	1,522
Revitalizing Education	150	17,138	152	18,182	2	1,044
Education						
Engage and inspire diverse audiences	150	17,138	152	18,182	2	1,044
Strengthening Collections	524	75,646	524	77,772	0	2,126
Collections						
Improve the stewardship of the national collections	524	75,646	524	77,772	0	2,126
Mission Enabling	2,425	434,245	2,449	449,943	24	15,698
Facilities						
Improve the overall cleanliness and efficient operation of Smithsonian facilities	613	141,146	627	148,889	14	7,743
Implement aggressive and professional maintenance program	395	73,737	401	76,568	6	2,831
Execute an aggressive long-range revitalization program and limited construction of new facilities	3	542	3	557	0	15
Security and Safety						
Provide world-class protection for Smithsonian facilities, collections, staff, visitors and volunteers	724	68,699	746	76,719	22	8,020
Provide a safe and healthy environment	45	6,609	45	6,731	0	122
Information Technology						
Modernize the Institution's information technology systems and infrastructure	161	65,873	160	65,992	-1	119
Management Operations						
Strengthen an Institutional culture that is customer centered and results oriented	162	24,120	164	25,541	2	1,421
Ensure that the Smithsonian workforce is efficient, collaborative, committed, innovative, and diverse	100	19,322	101	19,136	1	-186
Modernize the Institution's financial management and accounting operations	108	16,205	108	16,627	0	422
Enhance the reputation of the Smithsonian by maintaining good relations with the news media and with federal, state, and local governments	37	5,261	37	5,283	0	22
Modernize and streamline the Institution's acquisitions management operations	57	7,765	57	7,900	0	135
Ensuring Financial Strength						
Secure financial resources required for Institution's mission	20	4,966	0	0	-20	-4,966
TOTAL	4,200	694,722	4,225	719,000	25	24,278

GRAND CHALLENGES AND INTERDISCIPLINARY RESEARCH

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2016 ENACTED	10	2,586	0	15	0	18	0	0
FY 2017 ESTIMATE	10	2,581	0	15	0	18	0	0
FY 2018 REQUEST	10	2,612	0	0	0	0	0	0

STRATEGIC GOAL: EXCELLENT RESEARCH

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2017		FY 2018		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
Research						
Engage in research and discovery	4	1,704	4	1,727	0	23
Ensure the advancement of knowledge in the humanities	6	877	6	885	0	8
Total	10	2,581	10	2,612	0	31

BACKGROUND AND CONTEXT

The Smithsonian's Strategic Plan for 2010–2017 articulates the Grand Challenges which provide an overarching strategic framework for Smithsonian programs and operations. Meeting these challenges will enable the Institution to integrate the work of many disciplines within the Smithsonian museums and research centers, as well as broaden our external collaborations. The challenges are grounded in research and emphasize complementary education and outreach programs; together, they influence how the Smithsonian directs its resources and focuses its energies. The Smithsonian has developed and implemented a Grand Challenges Awards initiative to advance cross-disciplinary, integrated scholarly efforts across the Institution that relate to one or more of the Grand Challenges. Using a competitive internal process, the Smithsonian is distributing externally raised funds designated for the purpose of advancing research, broadening access, revitalizing education, and encouraging new ways of thinking that involve emerging technology. The funding may also help to leverage additional resources, both internal and external, thereby amplifying the scope and breadth of cross-cutting research initiatives. The Smithsonian uses the Grand Challenges to present the

high-level view of the Strategic Plan in the budget; funds are distributed through existing Smithsonian units with subject-matter expertise to make the most of the actual expenditures in the areas being supported.

The Grand Challenges are:

- *Unlocking the Mysteries of the Universe*
- *Understanding and Sustaining a Biodiverse Planet*
- *Valuing World Cultures*
- *Understanding the American Experience*
- *Magnifying the Transformative Power of Arts and Design*

Although there are no specific units primarily associated with the new, overarching Grand Challenge of Magnifying the Transformative Power of Arts and Design, all Smithsonian museums, research centers, and offices will look for opportunities to integrate the goals and objectives of this challenge into their activities and programs, as appropriate, by:

- serving as a laboratory of ideas, research, and artistic practice;
- advancing the power, breadth, and vitality of artistic creativity for the inspiration and benefit of all;
- protecting and preserving cultural memory embodied in works of art; and
- promoting the importance of the arts and design in the public sphere.

In FY 2018, this budget request includes an increase of \$31,000 for necessary pay for existing staff funded under this line item. Below is a summary of the FY 2018 Grand Challenges budget.

Grand Challenges	FY 2017 CR Base \$000s	FY 2018 Increase \$000s	FY 2018 Total \$000s
Universe	184	0	184
Biodiversity	1,520	+23	1,543
Necessary Pay Increase		+23	+23
World Cultures	283	+1	284
Necessary Pay Increase		+1	+1
American Experience	594	+7	601
Necessary Pay Increase		+7	+7
Total	\$2,581	+\$31	\$2,612

Introduction, *Unlocking the Mysteries of the Universe*

The Smithsonian will continue to lead in the quest to understand the fundamental nature of the cosmos, using next-generation technologies to explore our own solar system, meteorites, the Earth's geological past and present, and the paleontological record of our planet.

RESEARCH Goal: The Smithsonian will continue to advance knowledge at the forefront of understanding the universe and the solid Earth.

ACCESS Goal: Inspire people to probe the mysteries of the universe and planetary systems.

UNITS primarily associated with this Grand Challenge:

- **National Air and Space Museum**
- **Smithsonian Astrophysical Observatory**
- **Major Scientific Instrumentation**

NATIONAL AIR AND SPACE MUSEUM

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2016 ENACTED	151	19,209	61	10,722	31	9,062	2	958
FY 2017 ESTIMATE	151	19,172	72	20,233	34	8,631	6	1,362
FY 2018 REQUEST	151	19,693	75	48,093	34	8,452	5	665

STRATEGIC GOALS: EXCELLENT RESEARCH; BROADENING ACCESS; REVITALIZING EDUCATION; STRENGTHENING COLLECTIONS; AND MISSION ENABLING

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2017		FY 2018		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
<i>Research</i>						
Engage in research and discovery	8	2,522	8	2,578	0	56
Ensure the advancement of knowledge in the humanities	23	3,154	23	3,225	0	71
Broadening Access						
<i>Digitization and Web Support</i>						
Provide improved digitization and Web support	3	300	3	303	0	3
<i>Public Programs</i>						
Provide reference services and information	15	1,500	15	1,534	0	34
<i>Exhibitions</i>						
Offer compelling, first-class exhibitions	16	2,193	16	2,234	0	41
Revitalizing Education						
<i>Education</i>						
Engage and inspire diverse audiences	12	1,289	12	1,318	0	29
Strengthening Collections						
<i>Collections</i>						
Improve the stewardship of the national collections	43	4,932	43	5,148	0	216
Mission Enabling						
<i>Facilities</i>						
Execute an aggressive, long-range revitalization program and limited construction of new facilities	2	304	2	312	0	8
<i>Information Technology</i>						
Modernize the Institution's information technology systems and infrastructure	14	1,510	14	1,544	0	34
<i>Management Operations</i>						
Ensure that the Smithsonian workforce is efficient, collaborative, committed, innovative, and diverse	2	145	2	149	0	4
Modernize the Institution's financial management and accounting operations	7	914	7	933	0	19

Performance Objective/ Program Category	FY 2017		FY 2018		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Enhance the reputation of the Smithsonian by maintaining good relations with the news media and with federal, state, and local governments	5	310	5	313	0	3
Modernize and streamline the Institution's acquisitions management operations	1	99	1	102	0	3
Total	151	19,172	151	19,693	0	521

BACKGROUND AND CONTEXT

The Smithsonian's National Air and Space Museum (NASM) collects, preserves, studies, and exhibits artifacts and works of art related to the history, culture, and science of aviation and spaceflight and the study of the universe. Its research and outreach activities serve multiple audiences within and beyond its walls. The Museum commemorates the past and is committed to educating and inspiring people to appreciate the importance of flight to humanity.

NASM is administered as one Museum with multiple locations: the National Mall Building (NMB); the Steven F. Udvar-Hazy Center in Chantilly, Virginia; and the Paul E. Garber Facility in Suitland, Maryland. NASM provides access to the nation's aviation and space flight history to an average of 7– 9 million on-site visitors from all parts of the globe each year, making it the most visited museum in the world. In addition, NASM draws tens of millions of virtual visitors to its website and broadcast and webcast educational programming.

NASM has been loved by generations of visitors, and our staff has successfully ensured the Museum's relevance for them. However, as we look ahead, the Museum faces many challenges that will require the Smithsonian's best efforts to continue this record of success.

In FY 2017, NASM is continuing to collect and preserve the nation's aviation and space artifacts and perform original research in aviation and space history and planetary science to support its broad array of exhibitions, programs, publications, and outreach activities. To accomplish its public service mandate and reach diverse audiences, the Museum draws upon a mixture of in-house resources, contracted resources, and a large corps of volunteers and docents. NASM is entering an exciting era of change. As we renovate the NMB and reimagine the exhibits, NASM personnel are also rethinking the identity of America's favorite Museum. The new NASM will be more than a destination to visit, it will be an experience available to visitors anywhere at any time. The heart of this new identity is a seamless visitor experience that combines the on-site exhibits with online platforms.

The initial efforts of our in-house artifact movement planning team have been enhanced by adding an artifact movement logistics planning consultant and scheduler. This consultant team will work with the Museum's collections staff to determine how artifact movement and conservation requirements will affect the scheduled de-installation/installation of exhibits. To support the revitalization

schedule, in mid-FY 2018, NASM will close some public areas and begin to demount several exhibits located primarily at the west end (Zone 1) of the Museum. In addition, the flight simulators will be relocated and a temporary gift store will be introduced at the east end of the Museum.

The Museum transformation began in the summer of FY 2016, with the relaunch of our central exhibit space, the *Boeing Milestones of Flight Hall*, and a brand new digital platform, GO FLIGHT. *Milestones* holds some of aviation's greatest treasures. GO FLIGHT brings together an all-new website, mobile app, and a 200-square-foot, in-gallery touchscreen wall. This new approach will break down the walls between the Museum and its visitors, and enable the Museum to meet people where they are, rather than wait for them to come to NASM buildings. Our goal is to establish a deeper relationship before, during, and after an on-site visit. We have also installed a camera with people counter software directly above the Interactive Wall in the *Boeing Milestones of Flight Hall* to count the number of visitors approaching and using the Wall. This data will add to our suite of analytics for determining usage patterns and tracking the success of iterative changes to the Wall experience. An early step in that process is our new wi-fi page, that invites visitors to provide their email if they wish to hear from us. If they do so, they receive a coordinated sequence of emails welcoming them to the NASM family and guiding them through a variety of on-site and online content and programming.

Another step forward in the NASM transformation was the formation of our Museum Engagement Team, a multi-departmental group that works directly with the Future State Committee of the NASM Board of Directors. The Committee provides critical guidance and financial support for the team's projects, and the collaboration has already paid dividends. The team launched a pilot app that served as a prototype for GO FLIGHT, developed a podcast series that will start this spring, and is exploring applications for virtual and augmented reality experiences. Our new direction will require a new level of agility in broadening access to collections. The Museum Engagement Team has spun off working groups to tackle specific aspects of the digital transformation. Our Interactives Working Group assists exhibit teams in identifying opportunities to unite on-site and online visitor experiences across all media installations in our first reopened galleries. We have also begun developing the concept of an Innovation Lab that will provide a mobile capability designed to involve the visitor in the development of new products and programs. It will provide visitors with a behind-the-curtain look at the new NASM, while giving us vital feedback in real time. The flexible design will allow it to double as a multi-media studio, and will feature interactive elements which invite independent visitor participation and generate useful data even when the space is not staffed. The NASM Innovation Lab will be an industry innovator for visitor engagement, and will be an exciting way for our guests to take part in shaping the future of America's favorite Museum.

In FY 2017, the Museum is continuing to ensure stewardship and access to its peerless collection of aerospace artifacts and produce expert scholarship and

research while developing content and scripts for the new galleries. Nine west-end galleries are in 65 percent design with 100 percent design completion scheduled for late 2017. These include the galleries of *Early Flight*, *Reinventing Flight*, and *A Nation of Speed*, *Exploring the Planets*, *America by Air*, *We All Fly*, *Destination Moon*, *Wright Brothers* and *One World Connected*. We are also beginning conservation efforts on more than 5,000 artifacts which will be moved, stored, transported, or displayed in new gallery spaces during the next several years.

Since the Museum will be under renovation and the *Apollo* exhibit closed during the 50th anniversary of the moon landing, the Apollo command module will be sent out “on the road.” The last time the Apollo 11 command module *Columbia* traveled the United States was in 1970. Now, almost 50 years later, the historic spacecraft that helped take us to the moon and back is headed out on the road for a nationwide tour. Organized in partnership with the Smithsonian Institution Traveling Exhibition Service (SITES), the *Destination Moon: The Apollo 11 Mission* tour will launch in 2017, and will travel through 2019. Following the tour, the command module will be placed on permanent display in the new exhibition *Destination Moon*. The Museum’s conservation team will spend the next six months preparing the artifact for travel and display.

This FY 2018 budget request includes an increase of \$521,000 for necessary pay and other salary costs for existing staff funded under this line item.

MEANS AND STRATEGY

Public Engagement — NASM continues to reach diverse audiences through exhibitions, educational programming, publications, and electronic outreach. In 2017, we are using our transformation as an opportunity to refine and strengthen NASM’s educational role throughout the Museum and the world. Senior leadership is aligned around a long-term vision and strategy, has identified best practices, and is designing and executing a national museum education strategy in order to “Inspire all individuals to reach their full potential by sharing stories and experiences about aviation, spaceflight, and the universe.” Our goals are to transport our nation’s aeronautical and space treasures and stories beyond the walls of the Museum through digital technology, and cultivate the next generation of science, technology, engineering, art, and mathematics (STEAM) and history learners by creating and sharing high-quality education content aligned with national education priorities.

In FY 2018, NASM will target middle-school students nationally to increase STEAM skills and bring attention to careers and educational opportunities through digital programming and education content. To accomplish this, NASM will build a student portal where middle-school students can engage and interact with NASM’s content and interactive applications. NASM will also cultivate a middle-school ambassador program that will create a long-term relationship with NASM and its stories. In addition, NASM will further enhance

the middle-school experience by instituting a school program that engages all middle-school student groups during their visits to the Museum.

NASM staff and volunteers will continue to provide a variety of Museum programs, from daily activities such as docent-led tours, lectures, and science demonstrations which reach hundreds of thousands of visitors annually, to big Family Day events such as the Heritage Family Days and Innovations of Flight that can reach 20,000 to 50,000 diverse visitors at one event. In FY 2017, NASM expanded the student Explainers Programs at both Museum locations (NMB and the Udvar-Hazy Center) to include an e-Explainer approach that promises to reach massive audiences beyond the Museums' walls. In addition, NASM is developing and delivering Interactive Video Conferencing (IVC) lessons at the fourth-, fifth-, and sixth-grade levels as another example of the Museum's outreach initiatives for audiences where they live. Our astronomy programs, which include the Public Observatory and educational programming in the planetarium, will remain an important component of STEAM education.

NASM continues to advance the strategic goal of Broadening Access to its collections by making collections, archival documents, and images available via publicly accessible websites. The NASM collections and archives databases contain extensive information on the history and provenance of each artifact, and are an effective way to offer in-depth information to the public through electronic or digitized means. To date, approximately 30 percent of NASM's displayed artifacts are also available online. NASM's electronic resources may also encourage more researchers to request access to the Museum's archives and collections, and to make in-person visits to follow-up on initial online research efforts. Our Archives Department will be capturing high-resolution images for the 3,300 artifacts being placed in our new exhibits so that we can use them for public engagement and to deepen our relationships with visitors outside the walls of the Museum.

Exhibitions — NASM opened *Art of the Airport Tower* at NMB during the first quarter of FY 2017. This stunning exhibition brought a heightened awareness to the architectural beauty and historical significance of these structures. The airport tower has come to symbolize and define each airport, each community, and even each country. Towers were given their own integrated style and characteristics, while still reflecting the basic needs of the air-traffic controllers.

Clouds in a Bag: The Evelyn Way Kendall Ballooning and Early Aviation Collection opened at the Udvar-Hazy Center early in FY 2017 and will remain on display for approximately two years. The permanent exhibition will follow and be installed adjacent to the existing display on ballooning and early aviation. This collection is represented through artwork and on memorabilia, such as decorative fans, china, snuff boxes and prints. *Clouds in a Bag* uses these pieces to explore the public's fascination with the first balloon flights.

In observance of the 100th anniversary of the American entrance into World War I, NASM opened *Artist Soldiers: Artistic Expression in the First World*

War in the spring of 2017. This is a collaborative art exhibition with the National Museum of American History. This exhibition examines artistic expression in the Great War by first-hand participants, both through official art by commissioned American Expeditionary Force combat artists and spontaneous works by individual soldiers.

Apollo Telescope Mount — NASM completed a major restoration project of the Museum's Apollo Telescope Mount (ATM) located in the Space Hangar at the Udvar-Hazy Center. The ATM was a backup to the one used in 1973 on the Skylab space station to study high-energy solar activity.

Collections — NASM plans to enhance collaboration with private collectors and other Smithsonian museums by requesting loans of key artifacts to help share with the public new exhibits on the inspiring stories of America's role in pioneering aeronautics and space exploration. While NASM has a substantial number of artifacts currently on loan to other museums, as well as the *Destination Moon* traveling show, it is expected that new or additional outgoing loans may need to be limited during the revitalization of the National Mall Building, due to the sheer volume of work that this effort represents.

Much of FY 2017 will be focused on planning and design completion for the National Mall Building Revitalization, with an approximate construction start date in March 2018. Staff relocations to leased space will include Advancement, Curators, and Communications while the remaining staff will remain within the Museum during revitalization. We have already begun efforts to clean, scan and begin packing up offices. While we will complete design on the west end in FY 2017, the exhibit teams have finalized the concepts and the estimated costs of the remaining 14 exhibit spaces have been reviewed and approved. The east end design was delayed until FY 2018 to maximize resources and to better align with revitalization schedules.

The Smithsonian Institution will award the contract for the construction of a state-of-the-art storage building in FY 2017 at the Dulles Collection Center adjacent to the Udvar-Hazy Center. This building will serve as swing space for receiving artifacts from the NMB as we begin construction in FY 2018. Artifact logistics will be the biggest challenge throughout revitalization and transformation. NASM has more than 5,000 artifacts affected during these moves. These artifact moves will take place from multiple locations such as Garber, the Udvar-Hazy Center, and NMB, and will also include returning loans, new loans from other institutions, objects of all sizes, and items from most of the NMB galleries. Approximately 3,300 objects are being re-installed into the Museum as part of the transformation, including artifacts not currently on display at the NMB. Of the artifacts presently in the NMB, approximately 2,000 are not coming back into the building. Some will go into long-term storage in the new Dulles Collections Center or be exhibited at the Udvar-Hazy Center. Many of the artifacts will require some type of conservation effort and collections staff has evaluated how long the treatment time will be for each artifact. Total treatment of all the artifacts is

estimated to take approximately 15,000 workdays, including conservation and restoration. This work has already begun in FY 2017.

Scientific Research — To achieve the strategic goal of Excellent Research, NASM's Center for Earth and Planetary Studies (CEPS) conducts basic research related to planetary exploration, with an emphasis on Mars, Mercury, and the moon, and curates galleries and public offerings in the planetary sciences. NASM scientists continue to work as members of the science teams for the Mars Exploration Rover, Mars Express, Mars Reconnaissance Orbiter, Lunar Reconnaissance Orbiter, Mars Science Laboratory, and MESSENGER missions. NASM scientists work with the data from these and other missions to solar system bodies, and convey this exciting information to the public. Basic research continues to concentrate on the National Research Council and NASA priorities to determine the origin of solar system bodies and habitable planets, with an emphasis on understanding the past climate of Mars and publishing the results of this research in scientific literature.

Exceptional research productivity for CEPS scientists continues into FY 2017 with an average of 2.6 peer-reviewed scholarly papers published per scientist per year. Ensuring continued success in the years to come will be a major objective for NASM.

Historical Research — NASM continues to lead in the field of aerospace history by producing books, scholarly articles, and other publications, and by making presentations at professional conferences on the history of aerospace technology, aviation, aerodynamics, space flight, and space sciences. Based on their research and expertise, the curatorial staff will continue to evaluate potential acquisitions for the national collections and respond to numerous public inquiries. NASM will also continue to upgrade exhibits dealing with aviation and space flight, thereby ensuring that current materials are available to the public.

Management — NASM will pursue the Mission Enabling strategic goal through the Museum's own strategic goal of Operational Excellence. Staff will expand their human capital capabilities through strategic workforce planning, developing key performance indicators, and supporting metrics which gauge organizational success.

NONAPPROPRIATED RESOURCES — General trust funds support research, education, exhibitions, and fund raising, including salaries and benefits. Donor/sponsor-designated funds support costs related to specific programs and projects. Fund raising is under way for future exhibitions, education initiatives, and public programs. Government grants and contracts support research and other scientific activities.

SMITHSONIAN ASTROPHYSICAL OBSERVATORY

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2016 ENACTED	99	24,141	99	21,382	9	4,890	203	78,003
FY 2017 ESTIMATE	99	24,095	106	22,980	10	6,354	228	70,161
FY 2018 REQUEST	99	24,450	106	23,014	11	7,905	203	68,302

STRATEGIC GOALS: EXCELLENT RESEARCH; BROADENING ACCESS; AND MISSION ENABLING

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2017		FY 2018		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
Research						
Engage in research and discovery	90	19,312	90	19,638	0	326
Broadening Access						
Public Programs						
Provide reference services and information	1	191	1	195	0	4
Mission Enabling						
Security and Safety						
Provide world-class protection for Smithsonian facilities, collections, staff, visitors, and volunteers	0	150	0	160	0	10
Information Technology						
Modernize the Institution's information technology systems and infrastructure	0	180	0	185	0	5
Management Operations						
Ensure that the Smithsonian workforce is efficient, collaborative, committed, innovative, and diverse	8	4,262	8	4,272	0	10
Total	99	24,095	99	24,450	0	355

BACKGROUND AND CONTEXT

The mission of the Smithsonian Astrophysical Observatory (SAO) is to advance the public's knowledge and understanding of the universe through research and education in astronomy and astrophysics. The secondary mission is to be of service to the national and international astronomical communities, and to society in general, in areas associated with our primary mission. The Observatory has an extraordinary record of achievement in developing and successfully implementing large, complex, and

innovative observational and theoretical research projects. SAO also supports the investigative research carried out by individual researchers and small groups. These varied activities create the distinctively fertile research environment that drives SAO's success and makes the Observatory a recognized leader in the global astrophysical field of science.

SAO's work directly supports the first of the Grand Challenges outlined in the Smithsonian's Strategic Plan: Unlocking the Mysteries of the Universe. The goal calls for the Smithsonian to "advance knowledge at the forefront of understanding the universe and solid Earth."

Founded in 1890, SAO is the largest and most diverse astrophysical research institution in the world. SAO has helped develop some of the world's most sophisticated astronomical instruments, with high resolution at wavelengths across the electromagnetic spectrum, to probe the mysteries of the universe. Alone, and in powerful partnerships with the National Science Foundation (NSF), the National Aeronautics and Space Administration (NASA), and the Department of Energy, it has pioneered the development of orbiting observatories and large, ground-based telescopes; the application of computers to study astrophysical problems; and the integration of laboratory measurements and theoretical astrophysics. Observational data are gathered at SAO's premier facilities: the Submillimeter Array (SMA) in Hawaii; the 6.5-meter diameter Multiple Mirror Telescope (MMT); the Very Energetic Radiation Imaging Telescope Array System (VERITAS); and related telescopes at the Fred Lawrence Whipple Observatory in Arizona. In addition, SAO conducts research with a broad range of powerful instruments aboard rockets, balloons, and spacecraft (most notably the Chandra X-ray Observatory, the Spitzer Space Telescope, the Hinode Telescope, and the Solar Dynamics Observatory); and at locations as diverse as the high plateaus of northern Chile and the Amundsen South Pole Station. Headquartered in Cambridge, Massachusetts, SAO collaborates with the Harvard College Observatory to form the Harvard-Smithsonian Center for Astrophysics.

For more than 60 years, SAO astronomers and their colleagues have made revolutionary discoveries which have changed our fundamental understanding of the universe and our place in it. We have discovered and examined planets in orbits around other stars, watched as new stars are born, and discovered bizarre remnants of dead stars that emit vast quantities of x-rays. We have determined that the universe is 13.7 billion years old, and that it is populated with billions of galaxies, many of which have supermassive black holes at their centers. In addition, we have found convincing evidence that most of the matter in the universe is an unexpected mixture of some kind of unseen "dark matter," with normal matter making up less than four percent of the total; and that the expansion of the universe is apparently accelerating, driven by a mysterious and invisible "dark energy." At the same time, SAO astronomers work systematically on the vital basic research that seeks to explain the sun and its x-ray-emitting corona, the nature of the solar system, the abundant elements in our Milky Way Galaxy, the gas and dust between the stars, the formation and evolution of galaxies, and other important questions about the nature of the universe.

Today, SAO continues to use advanced technologies to make new discoveries, leading to a coherent story of the cosmos from the Big Bang to intelligent life here on Earth.

SAO's research is unique and world renowned because of the strength and diversity of its observers, theorists, instrument developers, engineers, and laboratory experimentalists, and because SAO emphasizes multiple strategies that draw from the strengths of both small projects and large research centers. Indeed, SAO's extraordinary research success is partly the result of the rich cross-fertilization that its outstanding scholars bring to each other in a climate that nurtures collaborative excellence and sharing of ideas.

SAO's pre-eminence is underscored by the recognition that its researchers receive from leading scientific organizations. For instance, a senior SAO scientist received the 2014 Karl Schwarzschild Medal in recognition of a lifetime of outstanding contributions to astrophysics. Other major awards received by SAO scientists include the Gold Medal of Merit from the Institute of Applied Astronomy of the Russian Academy of Sciences, the Henry Norris Russell Lectureship, the highest honor of the American Astronomical Society (AAS), and the Newton Lacy Pierce Prize, also given by the AAS. Together with its partner, the Harvard College Observatory, SAO is the top choice of graduate- and postdoctoral-level young scientists for astrophysics. Continued federal support makes this leadership possible.

In a measure of just how highly regarded the work of the Observatory staff is, the AAS named SAO scientist Christine Jones-Forman as its president for 2016 – 2018.

This FY 2018 budget request includes an increase of \$350,000 for necessary pay for existing staff and \$5,000 for rent escalation that are both included in the Fixed Costs section of this budget submission.

MEANS AND STRATEGY

To achieve the goal of Excellent Research, SAO scientists will make optimal use of various astronomical facilities to support their research, including the ground-based optical and radio telescopes owned and operated by SAO in Arizona and Hawaii, and space-based telescopes, most notably the Chandra X-ray Observatory, which is operated by SAO on behalf of NASA, and NASA's Solar Dynamics Observatory. SAO scientists also have research privileges at the two 6.5-meter Magellan telescopes in northern Chile (because of SAO's partnership with the Harvard College Observatory). In addition, SAO scientists and engineers are leading the science operations team and carrying out a vital scientific research program in very high-energy astrophysics with the VERITAS telescope in southern Arizona. These facilities enable SAO scientists to make substantial progress in answering fundamental questions about the origin and nature of the universe, including efforts to understand more about dark energy and dark matter, as well as questions about the formation and evolution of the Earth and similar planets. In addition, SAO scientists

will continue their work on future space missions, collaborating with NASA and its research center on missions to study the sun, the x-ray universe, and the outer solar system.

SAO scientists are leading the development of the international Event Horizon Telescope, which will draw radio telescopes around the globe into one network, including SAO's SMA, to operate as one gigantic radio observatory to study the physics of the supermassive black hole at the center of the Milky Way Galaxy. SAO is collaborating with Taiwan's Academia Sinica, Institute of Astronomy and Astrophysics, to establish a radio observatory in Greenland. The telescope was delivered to Thule in 2016 and will be brought into operation in 2017. This radio observatory will play a crucial role in operating the Event Horizon Telescope when it turns its attention to the even more massive black hole in the galaxy M87.

SAO scientists and engineers also play leading roles in the development of new techniques and instrumentation for astronomy. Much of this effort is now directed toward enabling technologies for the next generation of major telescopes. SAO scientists and engineers took the lead in designing critical elements of the Giant Magellan Telescope's wavefront control system that allows the seven huge mirrors to work as a single optical element. SAO also continues to lead in the design and development of the first instrument that will be installed on the GMT: the GMT-Consortium Large Earth Finder (G-CLEF), which will enable astronomers to detect signs of life on planets orbiting nearby stars.

SAO scientists take a leadership role in astrophysics by participating in or hosting national and international conferences (e.g., the American Astronomical Society, the International Astronomical Union, and the Astronomical Data Analysis Software and Systems conference series), by participating as keynote and/or invited speakers at such meetings, and by serving on a diverse range of astronomical and astrophysical review panels. SAO scientists will also continue to publish in leading peer-reviewed journals, such as the *Astrophysical Journal*, the *Astronomical Journal*, and *Astronomy & Astrophysics*. In addition, SAO developed and operates the Astrophysics Data System, which is recognized as a world leader in the dissemination of scientific literature.

SAO will achieve the strategic goal of Broadening Access by producing and delivering educational services and products rooted in SAO research to meet the educational needs of the Observatory's audiences. This sustained outreach effort gives SAO increased publicity and recognition.

The goal of Mission Enabling will be achieved by making SAO's information technology (IT) infrastructure robust, reliable, and secure; maintaining a cooperative environment through communication and activities that underscore SAO's special mission and each staff member's contribution to its success; evaluating managers and supervisors on their compliance with applicable equal opportunity laws, rules, and regulations, and on the effectiveness of their efforts to achieve a diverse workforce; and facilitating the use of small, minority, women-owned, and other underused

businesses in SAO's procurement operations and business relationships. These management tools will continue to support and enhance SAO's scientific and educational missions.

NONAPPROPRIATED RESOURCES — General trust funds come primarily from overhead charged on grants and contracts. SAO uses these funds to support administrative functions approved in the Indirect Cost Budget submitted to the Office of Naval Research, as required by Office of Management and Budget Circular A-122, *Cost Principles for Nonprofit Organizations*. Donor/sponsor-designated funds come primarily from restricted gifts from individuals, foundations, and corporations, which are earmarked for particular purposes; restricted endowment funds; and non-governmental grants and contracts. Government grants and contracts come from Government agencies for research in areas of SAO's expertise. SAO often conducts this research in cooperation with governmental, academic, and research institutions in the United States and abroad.

MAJOR SCIENTIFIC INSTRUMENTATION

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2016 ENACTED	0	4,118	0	0	0	0	0	0
FY 2017 ESTIMATE	0	4,110	0	0	0	0	0	0
FY 2018 REQUEST	0	4,118	0	0	0	0	0	0

STRATEGIC GOAL: EXCELLENT RESEARCH

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2017		FY 2018		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
<i>Research</i>						
Engage in research and discovery	0	4,110	0	4,118	0	8
Total	0	4,110	0	4,118	0	8

BACKGROUND AND CONTEXT

Smithsonian science is engaged in research and discovery focused on the origin and evolution of the universe, the formation and evolution of Earth and similar planets, the discovery and understanding of biological diversity, and the study of human diversity and cultural change.

The Smithsonian Astrophysical Observatory's (SAO) work directly supports the first of the Grand Challenges outlined in the Smithsonian Institution Strategic Plan: Unlocking the Mysteries of the Universe. This goal calls for the Smithsonian to "advance knowledge at the forefront of understanding the universe and solid Earth."

To achieve the strategic goal of Excellent Research, the Smithsonian uses its no-year funding from the Major Scientific Instrumentation (MSI) line item to develop large-scale instrumentation projects with advanced technologies that enable scientists at SAO to remain at the forefront of astronomy and astrophysics research. The Smithsonian's criteria for proposing and selecting MSI projects are: 1) the instrumentation will enable compelling scientific advances that would not otherwise occur (either at SAO or anywhere else in the world) for some time to come; 2) the instrumentation is novel and technically advanced, and would not be developed without SAO's contribution; and 3)

the science enabled by the innovative instruments significantly advances the Smithsonian Institution's Strategic Plan. The fundamental role for federal appropriations is to support the basic scientific infrastructure that enables SAO to conduct research, compete for external grants and funding, publish in peer-reviewed journals, and inform the public about the latest scientific discoveries in an exciting and compelling manner. Because of the magnitude of the costs involved and the time required to fabricate major new instruments and reconfigure existing ones, the Institution requests that MSI funds for these projects be kept available until they are spent.

Innovative instrumentation has enabled astronomers to make fundamental discoveries about the universe, such as the existence of more than 3,000 planets around nearby stars and the bizarre remnants of dead stars that emit large quantities of x-rays in the Milky Way Galaxy. Scientists have determined that the universe is 13.7 billion years old and that it is populated with billions of galaxies, many of which have supermassive black holes at their centers. Research has produced strong evidence that the expansion of the universe is accelerating due to a mysterious and invisible "dark energy." Today, SAO scientists use advanced technologies to produce a coherent story of the cosmos from the Big Bang to the origins of life on Earth. MSI funds are used to meet this objective.

Three SAO projects are included in the FY 2018 MSI line item: the Greenland Telescope; the Submillimeter Telescope Array (SMA) on Mauna Kea, Hawaii; and Advanced Telescope Instrumentation for the converted Multiple Mirror Telescope (MMT) at SAO's Fred L. Whipple Observatory at Mt. Hopkins, Arizona.

The FY 2018 budget request includes an increase of \$8,000 for inflationary increases justified in the Other Fixed Costs section of this budget submission.

MEANS AND STRATEGY

SAO's mission is to engage in astrophysical research and discovery. Observational astrophysics is the basic science responsible for the understanding of the universe and its components beyond Earth. SAO has made leading contributions to many key discoveries in astrophysics, including: 1) the remarkable discovery that the expansion of the universe is accelerating; 2) the discovery of enormous patterns traced by galaxies in the universe; 3) the most compelling demonstration of the existence of supermassive black holes at the centers of most galaxies; 4) the discovery of very high-energy gamma rays; 5) the most convincing observational evidence for the existence of dark matter; and 6) the discovery of planets orbiting other stars. SAO scientists contributed to these discoveries by using key facilities that enable observations in several different bands of the electromagnetic spectrum (i.e., the broad range of light that is emitted by objects in the universe). These contributions have put SAO in the forefront of this generation of astronomers and astrophysicists.

SAO's pre-eminence is underscored by the recognition that its researchers receive from leading scientific organizations. For instance, senior SAO scientist Michael

McCarthy received the 13th International Mez-Starck Prize, awarded at the 26th Austin Symposium on Molecular Structure and Dynamics (2016), and senior SAO scientist Margaret Gellar was awarded an honorary degree by the University of Turin, which was founded in 1404 and is one of the oldest universities in the world. Together with its partner, the Harvard College Observatory, SAO is the top choice of graduate- and postdoctoral-level young scientists doing astrophysics research. Continued federal support makes this leadership possible.

SAO scientist Christine Jones-Forman is the president of the American Astronomical Society, which further underscores the esteemed reputation of this Smithsonian science program.

SAO's strength in observational astrophysics depends on its major ground-based facilities, the Submillimeter Array and the MMT, and the National Aeronautics and Space Administration's (NASA) space-based facilities, including the Chandra X-ray Observatory, the Spitzer Space Telescope, and the Solar Dynamics Observatory. Access to both ground- and space-based observatories enables SAO scientists to conduct research that would be impossible with either type of observatory alone. SAO's future strength in ground-based observational astrophysics is critically dependent on equipping the Submillimeter Array and its optical telescopes with powerful new instruments, and establishing the new Greenland Telescope. This leadership depends on developing specialized instruments and facilities that do not now exist. A team of talented scientists and engineers must work together, over several years, to develop these tools with support from multi-year MSI funding.

Greenland Telescope (\$500,000)

SAO, in partnership with the National Science Foundation (NSF) Division of Polar Programs, has identified a high, dry, northern site on the Greenland ice sheet as the ideal place for high-frequency radio astronomical observations that require excellent atmospheric transmission and exceptional atmospheric stability.

The NSF Division of Polar Programs is redeveloping the Greenland Summit Station to better isolate current clear air and snow research from other activities. The development of astronomical activities at the site is a key element of redevelopment plans. Retrofitting and commissioning of the telescope, which was transferred to SAO from NSF Astronomy, is being undertaken by SAO's partner institution, the Academia Sinica Institute for Astronomy and Astrophysics (ASIAA) in Taiwan. These investments by NSF and by our Taiwanese collaborators will be greatly leveraged by the SAO contribution.

Significant funding for instrument development for the telescope is being provided by external partners, including the international academic community. The Smithsonian considers this an excellent opportunity to capitalize on a highly leveraged use of federal funds with high-value science returns on the investment.

The Greenland Telescope will form the northernmost node of a Very Long Baseline Interferometer (VLBI), operated jointly with the SMA (Hawaii) and the ALMA telescope array (Chile), to make unprecedented observations of the event horizon of the supermassive black hole (six billion times the mass of our sun) at the heart of the giant galaxy M87. This will complement the observations to be made in the southern hemisphere of the less massive black hole (only four million solar masses) at the center of our own Milky Way Galaxy. The combination of these observations will revolutionize our understanding of gravity where it is at its strongest, the very edges of black holes, and provide pioneering data for astronomers and physicists to analyze as they pursue the Smithsonian's Grand Challenge of Unlocking the Mysteries of the Universe. When the Greenland Telescope is not connected to the VLBI network, it will exploit its high, dry location and stable atmosphere to make sensitive measurements of molecules in space at the highest frequencies accessible from the ground.

In FY 2018, SAO and ASIAA will connect the antenna, presently located in Thule, Greenland, at the United States Air Force base, with the SMA. Preliminary science operations will commence immediately, and we will prepare to traverse to the Summit Station.

Submillimeter Telescope Array (\$1,718,000)

The SMA is a pathfinder instrument operating at wavelengths between the radio and the infrared, and will have a major impact in exploring the cool universe. During this past year, scientific studies have continued to focus on the study of the distant universe, high-energy phenomena, planet-forming disks, and star formation, including the important role that magnetic fields play in star formation and the dynamics of molecular clouds. In this last area, the SMA leads the field due to polarimetry instrumentation developed at SAO, which we plan to further enhance during the coming year.

The SMA is the only submillimeter instrument in the world that can respond rapidly to alerts of rare or unique events detected by other observatories. When NASA's Fermi and Swift satellites detected unusual activity in the transient black hole binary in V404 Cygni, the SMA formed part of a worldwide observing campaign to monitor the outburst. V404 Cygni was briefly the brightest object in the x-ray sky, and the SMA captured a corresponding increase in the submillimeter brightness by more than a factor of 50 in less than an hour.

The SMA is a key element of the Event Horizon Telescope, linking several submillimeter observatories, on continental scales, to examine the black hole at the center of the Milky Way at high angular resolution. The Greenland Telescope will join the Event Horizon Telescope once it is established in Thule, and will enable key observations of the black hole at the center of the galaxy M87.

The capacity to conduct a particular scientific observation with the SMA is directly dependent on three factors: the collecting area or size of the telescope array, the weather, and the sensitivity and number of receivers in operation during an observation.

The collecting area of the telescope array is fixed at 8 x 6-meter-antennas and cannot be augmented without significant additional funding.

The sensitivity of the SMA instrumentation depends on the instrumentation that processes the incoming signals. SAO is developing new capabilities that will ultimately make the entire SMA 12 to 24 times more sensitive than it was when commissioned. (This is as though each of the telescopes became 12–24 times larger. Note that the range of enhancements depends on the operational model of the array.) Funds are requested in FY 2018 to enable the array to become 6–12 times more sensitive, a significant step toward the full enhancement.

Advanced Telescope Instrumentation for the Multiple Mirror Telescope (\$1,900,000)

The MMT, a joint project of SAO and the University of Arizona, dedicated in 1979, was originally made up of six identical 1.8-meter telescopes in a single altitude-azimuth (naval-gun-type) mount. The multiple-mirror design provided what was then a state-of-the-art solution to the technological limitation in casting large mirrors. Following advances in mirror-casting technology developed by the University of Arizona in the 1990s, SAO replaced the six smaller mirrors of the original MMT with a single mirror 6.5 meters in diameter. This large mirror more than doubled the light-gathering capability of the telescope, and a set of large corrector lenses increased its field of view 400 times.

The converted MMT is an extremely powerful telescope, but requires sophisticated instruments to analyze the light it collects. When we finalize the development of Binospec, an imaging spectrograph with dual 8'x15' fields of view, it will replace two generations of earlier spectrographs and become the dominant instrument used during dark moon phases when the best observations can be made.

SAO expects Binospec to be a “game-changer,” enabling the MMT to compete on an equal footing with the largest telescopes in the world. Binospec’s huge light grasp will enable SAO scientists to carry out pioneering explorations of the structure and evolution of galaxies, the structure of the Milky Way, and the nature of dark matter and dark energy. Binospec’s nimbleness in moving between spectroscopy and imaging will enable Smithsonian scientists to lead in observing transient events like supernova explosions and gamma-ray bursts to map the geometry of the universe and accurately detect objects at the farthest reaches of the universe. The scientific opportunities opened by Binospec will help attract the critical next generation of astrophysicists who will exploit the power of the Giant Magellan Telescope for the next 20 to 30 years.

SAO scientists are advising their counterparts at the Autonomous University of Mexico (UNAM) on the development of a new telescope that will be very similar to the MMT. Located at the excellent San Pedro Martir site in Baja, Mexico, with an estimated construction time of five to seven years, SAO plans to relocate Binospec at minimal cost to this new facility. Access to an additional telescope will expand the capacity of Binospec to conduct novel observations of the universe.

The MMT is a superb platform on which to develop innovative technologies for the new generation of extremely large telescopes, including the Giant Magellan Telescope (GMT). SAO is the lead institution for the design and construction of a major new spectrograph, the GMT Consortium Large Earth Finder (G-CLEF), which will allow extraordinarily sensitive probing of the atmospheres of some of the potentially habitable planets being found orbiting nearby stars. G-CLEF will enable SAO astronomers to probe for diatomic oxygen (breathable air), one of the prime ingredients for life as we know it.

In FY 2018, MSI funds will be used to complete the commissioning of Binospec and enable its transition to full scientific operations.

MSI funds will also be used to advance the design of G-CLEF, and to carry out tests of G-CLEF technologies on the MMT. G-CLEF will ultimately be moved to Chile and installed on the Giant Magellan Telescope.

SAO's expertise in building large and powerful instruments is a crucial capability in the era of extremely large telescopes that is now upon us. Continued MSI funding will enable SAO to conduct this research and maintain the United States' lead in this important scientific field.

Introduction, *Understanding and Sustaining a Biodiverse Planet*

The Smithsonian will use the resources of its scientific museums and research centers to significantly advance our knowledge and understanding of life on Earth, respond to the growing threat of environmental change, and sustain human well-being.

RESEARCH Goal: The Smithsonian advances and synthesizes knowledge that contributes to the survival of at-risk ecosystems.

ACCESS Goal: The Smithsonian inspires all generations of learners to turn knowledge of life on Earth into awareness and action aimed at improving sustainability.

UNITS primarily associated with this Grand Challenge:

- **National Museum of Natural History**
- **National Zoological Park**
- **Smithsonian Environmental Research Center**
- **Smithsonian Tropical Research Institute**

NATIONAL MUSEUM OF NATURAL HISTORY

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2016 ENACTED	335	48,503	31	5,754	50	15,247	14	3,933
FY 2017 ESTIMATE	335	48,411	33	6,000	52	19,700	15	4,200
FY 2018 REQUEST	335	49,407	33	6,100	54	26,700	16	4,500

STRATEGIC GOALS: EXCELLENT RESEARCH; BROADENING ACCESS; REVITALIZING EDUCATION; STRENGTHENING COLLECTIONS; AND MISSION ENABLING

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2017		FY 2018		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
Research						
Engage in research and discovery	115	16,824	115	17,171	0	347
Broadening Access						
Digitization and Web Support						
Provide improved digitization and Web support	4	481	4	491	0	10
Public Programs						
Provide reference services and information	14	1,695	14	1,730	0	35
Exhibitions						
Offer compelling, first-class exhibitions	47	6,853	47	6,994	0	141
Revitalizing Education						
Education						
Engage and inspire diverse audiences	30	3,455	30	3,526	0	71
Strengthening Collections						
Collections						
Improve the stewardship of the national collections	90	14,218	90	14,510	0	292
Mission Enabling						
Facilities						
Improve the overall cleanliness and efficient operation of Smithsonian facilities	4	820	4	836	0	16
Security and Safety						
Provide world-class protection for Smithsonian facilities, collections, staff, visitors, and volunteers	1	176	1	180	0	4

Performance Objective/ Program Category	FY 2017		FY 2018		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
<i>Information Technology</i>						
Modernize the Institution's information technology systems and infrastructure	15	2,173	15	2,219	0	46
<i>Management Operations</i>						
Strengthen an institutional culture that is customer centered and results oriented	4	559	4	570	0	11
Enhance the reputation of the Smithsonian by maintaining good relations with the news media and with federal, state, and local governments	7	727	7	742	0	15
Ensure that the Smithsonian workforce is efficient, collaborative, committed, innovative, and diverse	3	330	3	336	0	6
Modernize the Institution's financial management and accounting operations	1	100	1	102	0	2
Total	335	48,411	335	49,407	0	996

BACKGROUND AND CONTEXT

The mission of the National Museum of Natural History (NMNH) is to understand the natural world and our place in it. We seek to inspire curiosity, discovery, and learning about nature and culture through outstanding research, collections, exhibitions, and education. Building upon its unique and vast collections and associated data, field research stations, specialized laboratories, and an internationally recognized team of staff scientists, research associates, federal agency partners, and Fellows, the Museum provides fundamental knowledge to a wide array of constituencies ranging from federal agencies to the public. The Museum's scientific research focuses broadly on discovering, documenting, and understanding biodiversity; studying the formation and evolution of the Earth and other planets; exploring human diversity and cultural change; and evolutionary patterns and processes throughout the history of life on Earth. This research provides new understanding and relevance to broader national and international scientific agendas, looking at such important societal issues as global change, biodiversity, cultural conflict, and natural hazards.

Natural history science (that is, the observation, description, documentation, and analysis of the natural world) is foundational to many science domains and is critical to understanding our ever-changing world. NMNH science spans an enormous breadth of natural history and our expert staff contributes a depth of knowledge that is among the finest in the world. Our authoritative expertise in diverse research areas also helps NMNH demonstrate the relevance and importance of natural history science in general. Our massive and varied scientific collections provide a powerful (but incompletely exploited) research resource for increasing our understanding of life on Earth.

NMNH science has global impact and is widely cited by the greater scientific community. Our scientists document and analyze how species arise, evolve, persist, diversify, and interact with each other and with the environment,

as well as how they move and go extinct. Our earth and planetary scientists contribute to our understanding of Earth's history as well as the effects of geologic and meteoritic phenomena on Earth's atmosphere and biosphere. They study the dynamic planet we inhabit in all its aspects, from its surface to its core. NMNH anthropologists use collections and field-based studies to help understand the continually evolving story of our species and its interactions with other life and the planet. Our Museum's science staff also translates science to society through their diverse and dedicated outreach efforts, and invests heavily in training and mentoring the next generation of new scientists.

Our collections and collections expertise are fundamental to our science. The scope and breadth of NMNH collections provide a vast research infrastructure that supports our scientific mission. NMNH scientists work with their professional colleagues around the world to draw on these collections and make new discoveries and test new theories. NMNH collections also represent an invaluable historical archive, documenting billions of years of planetary, geological, organismal, and cultural changes.

The Museum's stewardship of its collections, making up more than 145 million natural history specimens and human artifacts, is at the core of its mission. This set of collections, the largest of its kind in the world, is an unparalleled resource for collections-based research on the diversity of life on Earth, including plants, animals, fossils, minerals, and human activity. These anthropological, biological, and geological specimens and objects are the foundation for all of the Museum's scientific products. With their unparalleled spatial breadth and temporal depth, the collections promote analyses and interpretations that enable scientists to connect observations of contemporary phenomena with the past and around the world so that we can better understand our planet and the effect of human activities on it. The Museum's collections capture the imagination and stimulate the next generation of scientists, and are important for maintaining the Institution's intellectual infrastructure and keeping our nation competitive in international science and the application of scientific knowledge. NMNH collections and their attendant information are a dynamic resource used by researchers, educators, and policy makers worldwide.

In addition, NMNH's collections serve as critical reference materials for U.S. Government agencies. These resources are actively and collaboratively used by staff members of the Departments of Defense, Commerce, Agriculture, and Interior, who are housed in NMNH facilities. For example, tens of thousands of insects urgently requiring identification are sent to NMNH from ports of entry each year. Scientists at the U.S. Department of Agriculture and NMNH consult the collections and rapidly provide identifications to border control agencies so that U.S. agricultural and economic interests are kept secure from damage by potentially invasive species. The NMNH bird collections provide answers to the Federal Aviation Administration (FAA) and the U.S. Department of Defense, revealing the species of birds that damage aircraft, and leading to improved

habitat control around airports and better aircraft and engine design to prevent accidents in aviation.

The National Cancer Institute relies upon NMNH as a trusted repository for plant specimens that must be kept as vouchers for pharmacological and biomolecular research. Similarly, the U.S. Department of the Interior Bureau of Ocean Energy Management relies on the NMNH as a trusted repository for the ecologically significant invertebrate animals it collects in the course of its research. Meteorites collected from Antarctica are deposited at NMNH by the Johnson Space Center and the National Aeronautics and Space Administration (NASA).

In the area of law enforcement, the Federal Bureau of Investigation benefits from the identifications and analyses conducted by experts in the Department of Anthropology, who consult the human skeletal collections when providing answers about the remains of crime victims. In the area of public health, analyses of the collections have provided vital clues regarding the spread of H5N1, the Avian Flu virus, the Zika virus, and the etiology of past influenza epidemics.

The NMNH's first-class research and collections support its exhibitions and educational outreach. As one of the most visited museums in the world, NMNH provides diverse public audiences with presentations on every aspect of life on Earth. In FY 2016, the Museum hosted close to seven million visitors, and, through many affiliations and partnerships, NMNH takes its science, exhibitions, and public programs to other museums and non-traditional exhibition venues, such as libraries, schools, and universities across the country. With a growing network of interactive websites (which hosted more than 15 million unique visitors), distance-learning experiences, social media and software applications (apps), the Museum is transforming itself into a true electronic classroom, which is potentially accessible to everyone — free of charge.

The FY 2018 budget request includes an increase of \$996,000 for necessary pay and other related salary costs for existing staff.

MEANS AND STRATEGY

To achieve the Smithsonian's goal of Excellent Research in FY 2018, NMNH will implement its new science strategy that prioritizes strengthening the scientific core of the Museum, by enhancing the research environment, building digital platforms and informatics pipelines to mobilize natural history collections data, training the next generation of natural history scientists, and deploying the Museum's natural history knowledge effectively in an era of rapid global change.

The NMNH has a long history of training future scientists, including those abroad, which strengthens the Museum's collections and connections with these

countries. The NMNH is committed to training future generations of scientists by increasing the number of postdoctoral Fellowship awards and providing an entry-level research experience for the most talented undergraduates in the Earth and life sciences, as well as anthropology. The NMNH will also continue to emphasize collaboration with foreign students and colleagues to broaden the Museum's international science network.

A combination of federal and private funding will be used in FY 2018 to advance the NMNH's goals of investing in the next generation of scientists and researchers. Through the Museum's academic programs, it will continue to create a staircase of academic opportunity to mentor the next generation of museum scientists and professionals. These programs take students and young professionals from the early stages of exploration in high school to the postdoctoral peak of stepping into the role of being professional scientists, by offering various Fellowship and internship programs for undergraduates, graduates, and postgraduates.

In FY 2018, the NMNH will achieve the Smithsonian's strategic goal of Strengthening Collections by continuing to emphasize: collections preservation and access projects related to initiatives in preserving indigenous languages through preservation of manuscripts, recordings and moving images, and photographs; preserving and digitizing fossil collections and associated paper records; and preserving biological specimens at ultra-cold temperatures to document biodiversity as part of the Global Genome Initiative.

Collections Care Initiative funding will support replacing cabinetry, applying laser-cleaning technology for fragile collections, linking ownership records previously digitized with their associated specimen records, surveying archival collections, and providing technical assistance for a digitization strategy that will make hundreds of thousands of glass slide-mounted specimens accessible for broader use by scientists.

In addition, an essential element of the NMNH's plans to achieve the strategic goal of Strengthening Collections in FY 2018 is the Museum's commitment to the stewardship of its federal scientific collections. As demonstrated by federal agencies' uses of the collections, and underscored by a recent survey of federal collections, these resources play an important role in public health and safety, homeland security, trade and economic development, medical research, and environmental monitoring. They also provide the foundation for the Museum's diverse research, exhibits, and public outreach programs. The NMNH will continue to strengthen its commitment to cutting-edge research and state-of-the-art stewardship of the collections, in partnership with affiliated federal agencies such as the Departments of Defense, Commerce, Agriculture, and the Interior. Federal funding is the linchpin for maintaining and preserving these priceless collections and their valuable information for future generations, while also supporting their use for important ongoing research that,

for example, facilitates recovery efforts after natural disasters such as volcanic eruptions and the associated loss of biodiversity. The breadth of NMNH research and its collections of biological, geological, and anthropological objects foster an interdisciplinary environment that attracts other academic institutions, foreign researchers, and national and international policy makers.

To achieve the strategic goals of Broadening Access and Revitalizing Education, the NMNH will use funding to maintain and upgrade permanent exhibitions, replace outdated exhibits with multi-disciplinary, interactive exhibitions on the Mall and in other venues through traveling exhibits, and to conduct more digital outreach across the country. Both the permanent and temporary exhibitions reflect best practices in visitor experience planning and informal science education, and the Museum will continue to develop these exhibits as part of an array of public outreach activities.

In March 2017, the Museum opened its *Objects of Wonder* exhibition, which showcases more than 1,000 of its treasured collections objects. This new exhibition explores the breadth, scope and splendor of some of more than 145 million artifacts, and examines how scientists use Smithsonian collections to enlighten and illuminate our understanding of nature and human culture. In the exhibit, visitors can see a lion and pair of shoebills collected in 1909 by Teddy Roosevelt; the world's largest seed, the shockingly shaped coco de mer; preserved mammoth meat and hair collected in 1901; skulls from Dian Fossey's gorillas; whale earwax; a 40-foot painted house front from a Tsimshian village, collected in 1875 for the U.S. Centennial Exposition; a stunning new acquisition of lapis lazuli from Afghanistan; and a diversity of eggs, insects and deep-sea corals — to name just a few of the spectacular objects on display.

The Museum also completed the deinstallation of the former Dinosaur Hall and is close to finishing the renovation of the new *David H. Koch Hall of Fossils — Deep Time*. This major exhibit space overhaul included the renovation of the 31,000-square-foot halls in preparation for the *Deep Time* exhibit, which is scheduled to open in June of 2019. This project required removing and conserving about 2,000 paleontological collections. The specimens are now being remounted for display. The Museum is using a \$35 million privately funded gift for the exhibit fabrication and remounting of the fossils in the hall. This exhibit effort demonstrates how successfully the Museum is combining federal funding with its own philanthropic fund raising.

The Museum has several new exhibits under development, which will be on display later in FY 2018. *Narwhal, Revealing an Arctic Legend*, is slated to open in August of 2017, and will feature life-sized narwhal models, real tusk specimens, hands-on explorations, and traditional knowledge and objects gathered in close cooperation with Inuit tribal elders and hunters. *Outbreak! Epidemics in a Connected World* will open in May of 2018, and will examine the ways infectious diseases reveal an intricate interconnectedness of humans, animals, their

environments, and microbes. It will explore why infectious diseases emerge where they do, how they spill over from animals to people, why they can amplify and spread so quickly, and where to look for the next outbreak. This exhibit will draw on the combined expertise of Smithsonian biologists, anthropologists, and National Zoo veterinarians. To maximize the global impact of *Outbreak*, the Museum hopes to design a second version of the exhibition that communities can display in hospitals, libraries, train stations, coffee shops and other venues around the world. This smaller exhibition will be distributed for free, worldwide, in partnership with critical public health institutions. Finally, a new *Garden Lounge* will open in FY 2018, and will serve as a welcoming interior garden rest and recharge area for visitors. It will feature live plants and a relaxing atmosphere with botany content as a theme. Bright sunlight, enhanced seating, and designated outlets for charging mobile devices will welcome visitors to the space.

In FY 2018, the NMNH will continue to inspire public appreciation of and engagement with science and the natural world through efforts in our education, outreach and visitor experience programs. In FY 2017, more than 150 expert-led programs allowed visitors from around the world to engage with a huge diversity of NMNH researchers, postdoctoral students, collections managers, scientific illustrators, and other staff about the real stories behind cutting-edge Smithsonian research. The Museum's partnership with the National Oceanic and Atmospheric Administration (NOAA) brought in additional experts from around the country, including biologists, economists, and meteorologists, to help connect visitors with the latest information on rising sea levels and their impact on fisheries, changing storm patterns, and the ties between ocean health and human health.

Meanwhile, Q²rius, The Coralyn W. Whitney Science Education Center — the Museum's science, technology, engineering, and mathematics (STEM) learning facility — brings NMNH research and collections assets to the forefront, allowing for public participation on site, online, and through classrooms. In FY 2018, the Museum will continue to design Q²rius programs to inspire, nurture, grow, and diversify the next generation of STEM professionals by helping citizens become aware of their connection to current issues affecting the natural and cultural world. To achieve this, the Museum will create more opportunities for visitors to participate in learning experiences based on current research and authentic collections in Q²rius.

Also, in FY 2018, the NMNH will continue implementing its public engagement plan to coordinate its many outreach efforts. This plan focuses the Museum's permanent and temporary exhibitions, educational and outreach programs, and Web outreach on the major research themes identified in the Science Strategic Plan: Understanding the formation of the Earth and similar planets, discovering and understanding life's diversity, and exploring human diversity and cultural change.

In FY 2018, the NMNH will continue to make available the Museum's science experts and collections from behind the scenes, and provide the public with opportunities to engage with scientists, their research, collections, and research-grade scientific equipment, with programs such as "The Scientist Is In" and "The Artist Is In" series. In addition, the Museum will continue to host special themed days and festivals that bring the public and NMNH science experts together to focus on a specific area of natural history and science work, such as National Fossil Day, World Ocean Day, International Polychaete Day, Invasive Species Awareness Day, Mount St. Helens Day, Pollinator Week, the Orchids Festival, the Environmental Film Festival, Boy Scout Day, the Innovation Festival, and the Smithsonian-wide National Math Festival.

The Museum will also continue to reach out to a growing local, national, and international audience, including children and families, students and teachers, adults, and especially teenagers who visit the Museum on the Mall or its extensive presence online. Outreach activities will include traveling exhibitions, distance learning, and in-depth, online resources, including the Ocean Portal, Human Origins and Q?rius websites, as well as digitized collections and long-standing programs of lectures, films, and teacher education.

These NMNH programs and resources will continue to inspire citizens by making them aware of current issues related to the natural and cultural world, helping them understand their role in addressing those issues, and enabling them to participate in experiences that inspire stewardship, conservation, and protection of natural and cultural diversity. In addition, Museum staff are focusing their efforts to build new youth audiences and increase youth participation in a continuum of opportunities that inspire, nurture, grow, and diversify the next generation of STEM professionals. Through innovations in educational technology, these efforts will serve visitors to the nation's capital as well as millions of people around the world who cannot visit the Museum in person. The NMNH will continue to use focused audience research and evaluation tools to study the effectiveness of its public education and outreach efforts.

NONAPPROPRIATED RESOURCES — General trust funds support salaries and benefits of administrative personnel, development and business activities, and other program-related costs. The Museum raises funds from private sources to support research, exhibitions, public programs, and administrative functions. This includes securing donations from special events to promote new exhibitions and educational initiatives, and public outreach. Donor/sponsor-designated funds are vital to support exhibition hall renovations, such as the major gifts that have helped to fund the major renovations of the *Fossil Hall* and *Human Origins Hall*, establish Fellowship programs at the Museum, and offer educational activities and programs such as Q?rius, the STEM education and experience center. In addition, significant endowment gifts support internships and Fellowships which introduce more students to the natural sciences, as well as help the Museum

maintain and update its educational programs for the *Ocean Hall*, and study of human origins.

In FY 2018, gift funding will support the Global Genome Initiative to use emerging genomic research technologies to drive understanding of Earth's biodiversity to new levels by systematically studying, collecting, organizing, and sharing genomic samples of non-human species to preserve and understand the genomic diversity of life on Earth.

Also, in FY 2018, endowment funds will continue to support a variety of research, exhibit, and education programs, including the Ernest S. ("Tiger") Burch, Jr. Endowment, which promotes and interprets the multi-disciplinary study of Arctic peoples and their cultures, past and present. Additionally, the Harold Robinson and Vicki Funk Fund supports the creation of an award to fund and sustain the work of Fellows, researchers and curators conducting research involving Compositae (sunflower family) collections in the U.S. National Herbarium within the NMNH. These endowments are important in providing operational and research support to scientists as they conduct their important work. In addition, the Museum continues to receive grants and contracts from both non-Government and Government institutions. The NMNH was awarded 62 external grants and contracts totaling \$8.3 million in FY 2016. These funds support both cutting-edge research and exhibitions, and demonstrate both international and cross-agency collaboration on shared projects and issues.

Finally, in FY 2018, grant funding will support LINEAGE, a cross-platform learning experience for exploring the history of life on Earth; support graduate student studies in marine science; and fund research to understand chemical cues in settlement site selection on coral reefs, possibly leading to more effective management of marine environments.

NATIONAL ZOOLOGICAL PARK

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2016 ENACTED	208	26,382	26	8,303	34	6,491	10	2,294
FY 2017 ESTIMATE	208	26,332	26	8,303	34	6,491	10	2,294
FY 2018 REQUEST	208	26,864	28	8,572	35	6,641	11	2,398

**STRATEGIC GOALS: EXCELLENT RESEARCH; BROADENING ACCESS;
REVITALIZING EDUCATION; STRENGTHENING COLLECTIONS; AND
MISSION ENABLING**

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2017		FY 2018		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
<i>Research</i>						
Engage in research and discovery	25	2,617	25	2,681	0	64
Broadening Access						
<i>Exhibitions</i>						
Offer compelling, first-class exhibitions	5	764	5	777	0	13
Revitalizing Education						
<i>Education</i>						
Engage and inspire diverse audiences	2	262	2	267	0	5
Strengthening Collections						
<i>Collections</i>						
Improve the stewardship of the national collections	159	19,556	159	19,963	0	407
Mission Enabling						
<i>Security and Safety</i>						
Provide world-class protection for Smithsonian facilities, collections, staff, visitors, and volunteers	5	799	5	812	0	13
<i>Information Technology</i>						
Modernize the Institution's information technology systems and infrastructure	4	821	4	831	0	10

Performance Objective/ Program Category	FY 2017		FY 2018		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Management Operations						
Strengthen an institutional culture that is customer centered and results oriented	6	1,113	6	1,133	0	20
Ensure that the Smithsonian workforce is efficient, collaborative, committed, innovative, and diverse	0	116	0	116	0	0
Enhance the reputation of the Smithsonian by maintaining good relations with the news media and with federal, state, and local governments	2	284	2	284	0	0
Total	208	26,332	208	26,864	0	532

BACKGROUND AND CONTEXT

In FY 2018, the Smithsonian’s National Zoological Park (NZN) will be more than halfway through implementing the NZN strategic plan, *Our Plan to Save Species*. With the Strategic Plan as the roadmap, the focus in FY 2018 will continue to be to:

- **Fortify and Focus Science, Animal Care, and Collections Management to Advance Global Conservation and Sustainability**

As the Smithsonian’s National Zoo and Conservation Biology Institute (NZN/SCBI) are leaders within the American Zoological Association (AZA) community and for all zoos in North America, their work to sustain genetically viable live collections and ensure the diversity of species’ populations held in zoos is a challenge; no one zoo can accomplish this feat on its own. It is only through the coordination and collaboration of all zoos — facilitated by the AZA — that North American zoos can continue to thrive. One of NZN/SCBI’s key contributions to ensuring the survival of endangered species is the work that occurs at NZN/SCBI’s 3,200-acre Conservation Biology Institute (SCBI) in Front Royal, Virginia. In recognition of NZN/SCBI’s importance, Dennis Kelly, Zoo director, currently serves as chairman of the AZA Board.

NZN/SCBI is world-renowned for its heroic efforts to research, breed, and reintroduce some of the world’s most critically endangered species. More than 300 species are exhibited at the Rock Creek Park campus and 20 species at Front Royal. Both locations house and care for some of the world’s most endangered animals, such as kiwi, clouded leopards, red pandas, and cheetahs, among others. Some of these animals enter NZN’s facility when little is known about them and they are already headed toward extinction.

NZN/SCBI researchers work to identify solutions to threats facing endangered animal populations and develop standards or best practices for medical care, husbandry, and safety for zoo animals. These efforts have been a key contributing factor in raising the husbandry standards for all animals throughout the AZA community and worldwide. NZN/SCBI’s accomplishments

range from protecting elephants and their caretakers, and understanding the specifics of cheetah reproduction, to the reintroduction of scimitar-horned oryx to the wild in Chad.

One important consideration in ensuring the collection's safety is introducing more intensive animal quarantine and screening procedures to prevent disease transmission from wildlife to livestock, people, and other animals in the Zoo's collections — these practices are now part of the standard of care. New veterinary medical procedures, diagnostics, and testing keep animals healthy and able to breed. More sophisticated medical equipment is being used and new and labor-intensive approaches are increasingly deployed to provide life-saving veterinary care and hand-rearing that means the difference between life and death for these very rare animals. NZP/SCBI develops and shares this expertise as well as breeding and research protocols throughout the AZA and the worldwide zoo community.

However, all of these new protocols, tests, and management practices are resource intensive. When almost every birth at Front Royal is of an endangered animal whose individual survival contributes to the overall survival of that species, these resources are well-spent. For these reasons, NZP/SCBI must strategically augment staffing with a select number of well-trained animal care professionals and veterinarians — staff who are essential for ensuring that the Zoo succeeds in its vital mission of saving species.

The extensive space available at the Front Royal facility and the capability it allows to appropriately house and raise endangered species according to their particular needs has been instrumental to NZP/SCBI's exceptional success in species preservation. Yet, with 3,200 acres, there is a cost associated with this species preservation on such a large campus. Activities such as fence maintenance (18 miles of perimeter, 36 miles of cross, eight miles of electric) and gate maintenance (207 manual, nine electric), snow removal, mowing nearly 500 acres of pastures and 19 acres of holding yards, and maintaining the 10 miles of overhead and underground power lines are vital to ensure the health, safety, and welfare of the Front Royal research and breeding collection.

Highlights from past years include an SCBI scientist being named "cheetah species survival plan coordinator" for all accredited zoos in North America. In this role, SCBI coordinates a nationwide "breeding centers coalition," a nine-facility consortium that manages the most genetically valuable cheetahs in spacious, naturalistic enclosures. The result was increased cheetah reproduction. To date, in FY 2017, there have already been 10 cubs from two litters. Scientific studies led by SCBI have further contributed to improvements in animal management techniques; one study demonstrated that allowing multiple males to live together as they would in the wild improves reproductive qualities, including sperm production.

This dual emphasis on animal management and research is applied every day to other rare species. For example, SCBI scientists are using their expertise in collaboration with the Patuxent Wildlife Breeding Center to improve recovery of the endangered whooping crane. Despite this species experiencing a reduction to fewer than 20 individuals in the 1960s, SCBI studies have revealed no adverse effect on male fertility. Meanwhile, SCBI scientists are developing new sperm freezing and hormonal monitoring methods so that artificial insemination programs can be more effective in reproducing under-represented species of birds. These innovative tools also are being applied to conservation programs for rare Asian crane species maintained in SCBI's animal collection at Front Royal, including the white-naped and hooded cranes. SCBI scientists are using this hard won expertise to increase total animal numbers and put these populations of rare species on a trajectory to sustainability.

NZP/SCBI science does not stop at the borders of the Front Royal campus or Rock Creek Park facility. For example, NZP/SCBI and its partners are working hard to develop techniques to preserve more than 11 species of corals. Their techniques have enabled corals to be frozen and subsequently thawed to enable out-planting of new corals. Thousands of juvenile corals produced from cryopreserved material are currently being raised at the National Sea Simulator in Australia.

- **Expand Our Reach and Impact**

Science alone cannot solve the planet's extinction crisis. NZP/SCBI has an important role in teaching both the public about its role in preventing the extinction crisis and the next generation of researchers and scientists who are trained at the Smithsonian-George Mason University School of Conservation (SMSC) and serve as interns, Fellows, residents, and postdoctoral students throughout the Zoo.

Teaching and mentoring programs impact a growing number of students. NZP/SCBI restructured its internship program to ensure that these important learning opportunities are as effective as possible. Also, a specialized summer program for high-school juniors and seniors takes place on the Front Royal campus and complements the Friends of the National Zoo (FONZ) camp, providing an introduction to conservation field studies and careers.

NZP/SCBI also engages the millions of people who visit the National Zoo in Rock Creek Park. In FY 2016, NZP leveraged increased visitation to increase public awareness of species under threat. During visits, guests are introduced to flagship species. Flagship species such as pandas and Asian elephants act as goodwill ambassadors to help the public support conservation of that species and their habitat, and by doing so protect other species sharing the same habitat or vulnerable to the same threats.

FY 2016 saw an increase in collection animals at Rock Creek (from 2,083 to 3,413 collection specimens). Significant mammal additions in FY 2016 and expectations for FY 2017 include a male Asian elephant, a baby orangutan, a sea lion pup and a seal pup. Zoo staff expects successful breeding for the carnivores (lions/tigers), giant pandas, great apes, and pinnipeds (sea lions and seals). The addition of large animals increases feeding costs for meat, fish and other food items. An aging herd of female elephants requires increased medical care as well.

New arrivals encourage the public to visit or return to the Zoo, but once they arrive NZP/SCBI deploys multiple outreach channels to further engage the public. Our surveys tell us that interaction with a keeper or interpreter has the most impact in educating the public. Keeper demonstrations are the most impactful of all interactions, so each day the keepers host a variety of experiences, from fish feeding in Amazonia to elephant training and the daily sea lion demonstrations. Since keepers have many other responsibilities and their availability is limited, NZP/SCBI organizes and focuses the energy of an extensive volunteer community, using resources from concessions income. Volunteer interpreters are on the front lines of engaging the public in connecting to the animals that they see. Paid staff train the interpreters to focus on messages most relevant to the animals visitors see, and assure that interpreters are well-versed on the challenges facing these species in their native environments.

However, neither keepers nor interpreters can be available for each and every visitor. During FY 2016, NZP/SCBI completed its phase one digital sign program throughout the Park. Digital signs accomplish multiple goals, one of which is to provide an early warning system for events that need to be communicated quickly, such as adverse weather conditions, an escaped animal, or other security incidents in the Park. On a daily basis, digital signs help provide visitors with maps of exhibits and facilities, schedules of activities such as keeper demonstrations, and more in-depth information about the animal collection. NZP/SCBI plans to build on the success of the digital program and will continue installing new signs as funds become available.

Even more visitors come through the NZP/SCBI's new, active website. Since the beginning of FY 2016, NZP/SCBI's website experienced 67 million page views during 23 million sessions. In FY 2016, NZP webcams were viewed more than 40 million times by in excess of 14 million people — six times the number of in-person visitors in the Park. In FY 2016, NZP/SCBI launched a revamped website using new technology that is more mobile friendly, allows for easier updating of content, and enables us to leverage the interest in our site through a deeper engagement with users. NZP webcams attract and retain visitors, but also serve a dual function at NZP/SCBI. First and foremost, webcams allow keepers to safely monitor animals during critical times such as illness, pregnancy and birth. Second, the public webcams bring the animals to the public even when they cannot visit in person. NZP/SCBI's goal is to have a more robust webcam program for the public in the near future.

NZP/SCBI leverages the website for citizen science as well. SCBI is the co-creator and leader of eMammal, a regional wildlife project that uses citizen scientists and trail cameras to monitor wildlife across public lands in the mid-Atlantic States. In the past three years, volunteers have captured more than two million wildlife images which have been checked by experts and deposited within a Smithsonian digital repository. This program has been recognized as one of the top citizen-science programs in the country.

- **Strengthen Core Foundations of People, Places, and Fiscal Resources for Mission Success**

Past years have seen significant upgrades to NZP/SCBI's capital infrastructure.

The next planned major public-facing exhibit renovation is of the historic 1928 Bird House and surrounding plateau, which will turn the facility into an educational celebration of birds and bird migration. FY 2016 marked the completion of the design phase for this first-of-its-kind Zoo attraction that immerses visitors in birds' miraculous annual journeys. It will engage visitors directly in NZP/SCBI's world-renowned and pioneering research led by scientists at the Smithsonian Migratory Bird Center, while also inspiring the public to participate in protecting migratory birds and their shrinking habitats. It was an SCBI scientist, along with more than 20 other conservation organizations, who developed *The State of the Birds 2014* — the most comprehensive review of long-term trend data for U.S. birds ever conducted. The report found bird populations declining across several key habitats and included a “watch list” of bird species in need of immediate conservation help. This exhibit is essential to tell that important story.

Planning a Zoo renovation is a major undertaking that must ensure the safety of the existing live collection while expanding the number and variety of the species on exhibit. In FY 2017, the Bird House and surrounding area was closed to the public and the collection transferred to various suitable locations so that construction can safely begin in FY 2018.

This FY 2018 budget request includes an increase of \$532,000 for necessary pay and other related salary costs for existing staff.

MEANS AND STRATEGY

The health, well-being, and safety of both the animals and staff of the NZP/SCBI are its highest priority. The Zoo's SCBI is world-renowned for its efforts to research, breed, and reintroduce some of the world's most critically endangered species, including the Przewalski's horse, golden-lion tamarin, black-footed ferret, scimitar-horned oryx, red-crowned cranes, and many others. Accepted standards or best industry practices for medical care, husbandry, and safety for Zoo animals are continually increasing. For example, federal and state

regulations require intensive animal quarantining and screening procedures to prevent disease transmission to livestock, people, and other animals in the living collection.

In addition, increased diverse threats, such as Highly Pathogenic Avian Influenza, require staffing to respond to new requirements and maintain a viable collection. Furthermore, new veterinary medical procedures, diagnostics and testing require advanced medical equipment and expertise, and breeding and research protocols designed to save endangered species from extinction require new, more time-intensive, sophisticated management approaches to ensure the safety of animals and staff. Finally, when every birth of an endangered animal may impact the survival of a species, new and labor-intensive approaches are increasingly needed to provide life-saving veterinary care and hand-rearing that means the difference between an animal's life and death. For these reasons, the NZP/SCBI must strategically augment staffing with a select number of well-trained animal care professionals and veterinarians — staff who are essential for ensuring that NZP/SCBI successfully achieves its vital mission of saving species and enlisting public support for that purpose.

NONAPPROPRIATED RESOURCES — General trust funds support salaries and benefits of the director and general operational requirements for adequate animal care, professional training in conservation sciences, and animal acquisitions. Donor/sponsor-designated funds support the costs related to specific programs and projects, including: field and captive studies on Sahelo-Saharan antelopes, amphibians, cheetahs, giant pandas, Asian elephants, tigers, and clouded leopards; ecological studies on migratory birds; and the documentation and monitoring of biodiversity and habitat quality in selected sites around the world. A large percentage of these funds supplement federal funding for renovating and modernizing NZP/SCBI. Private donations for multiple small- to medium-sized projects or for the extensive Bird House renovation fund a portion of construction costs and support all exhibit interpretive design and implementation. Government grants and contracts support a wide array of scientific studies on the biology and habitats of endangered and threatened species. Concessions, such as food and retail shop sales, fund the NZP/SCBI Information Technology Support and Help Desk, exhibit maintenance, visitor services, volunteer programs, and the communications team.

SMITHSONIAN ENVIRONMENTAL RESEARCH CENTER

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2016 ENACTED	32	3,956	10	937	18	2,529	36	4,619
FY 2017 ESTIMATE	32	3,948	10	1,300	11	2,000	40	5,000
FY 2018 REQUEST	32	4,193	10	1,300	11	2,000	25	3,000

STRATEGIC GOALS: EXCELLENT RESEARCH; REVITALIZING EDUCATION; AND MISSION ENABLING

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2017		FY 2018		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
<i>Research</i>						
Engage in research and discovery	24	3,155	24	3,390	0	235
Revitalizing Education						
<i>Education</i>						
Engage and inspire diverse audiences	1	44	1	0	0	-44
Mission Enabling						
<i>Management Operations</i>						
Strengthen an institutional culture that is customer centered and results oriented	4	583	4	614	0	31
Modernize the Institution's financial management and accounting operations	3	166	3	189	0	23
Total	32	3,948	32	4,193	0	245

BACKGROUND AND CONTEXT

The Smithsonian Environmental Research Center (SERC) is a leader in research on land and water ecosystems in the coastal zone. SERC's innovative research and unique setting advance basic environmental science in the zone where most of the world's population lives, and provides society with the knowledge to solve the environmental challenges of the 21st century.

Research and discovery remain the core activities at SERC. Scientists use the unique site on the shore of the Chesapeake Bay, and other sites, including the Smithsonian Marine Science Network, to investigate the ecological

interconnections of aquatic, terrestrial, and atmospheric components of complex landscapes, with comparative studies on regional, continental, and global scales.

SERC maintains a vigorous professional training program dedicated to producing the next generation of scientists. Through its efforts to achieve extramural funding and establish external partnerships, SERC hosts a large number of undergraduate interns, graduate students, postdoctoral Fellows, and visiting scientists, with success in reaching candidates from underserved communities.

SERC intends to redevelop its programs for public engagement. School-based programs, serving thousands of children annually, continue to be a major emphasis of SERC's public efforts. In addition, SERC intends to expand its public outreach by incorporating new citizen science programs and enhanced volunteerism.

SERC will continue to update and streamline management systems and functions, and advance construction of its Facilities Master Plan. In FYs 2017 and 2018 SERC will revisit and update its 2008 Facilities Master Plan, the goal of which is to address the remaining elements of the 2008 Plan and revisit the site priorities. By the end of FY 2017, SERC will have completed work on its 1.5-mile entrance to the main campus, which is necessary for the safe travel of staff and visitors in passenger vehicles and school buses. In addition, SERC plans to implement the next phase of the Master Plan, including design of the Information Commons that will be the Institution's first "Net-zero energy" building. Other projects include developing a campus-wide storm water management plan, design of the Green Village to provide more housing for a growing number of visiting and collaborating scientists and students, and much-needed new support facilities for the Smithsonian Facilities staff.

The FY 2018 budget request includes an increase of \$245,000 for necessary pay and other related salary costs for existing staff.

MEANS AND STRATEGY

SERC has an advantage in furthering its research goals and priorities by operating its 2,650-acre site on the Chesapeake Bay. Using the unique assemblage of streams, shoreline, forests and agricultural fields, its scientists investigate the interconnections of aquatic, terrestrial, and atmospheric components of complex landscapes. SERC's research campus also supports research efforts of other collaborators and agencies (e.g., the U.S. Department of Agriculture, U.S. Geological Survey, U.S. Fish and Wildlife Service, and many universities and state agencies). SERC develops innovative approaches and instrumentation to measure environmental changes at four ecological levels (i.e., global change, landscape ecology, ecology of coastal ecosystems, and population and community ecology), and has developed unique, long-term, and

experimental data sets on environmental change. SERC has been a leader in developing the Smithsonian's Marine Science Network of sites along the western Atlantic Ocean for comparative coastal studies, as well as in developing the Tennenbaum Marine Observatories Network. SERC is a partner site in the National Ecological Observation Network (NEON). As such, in FY 2015, SERC completed construction of a sampling tower array to support a node for environmental data collection that feeds a national network established to observe and interpret changes in terrestrial environments. During its 50-year history, SERC has built a reputation for world-class research, producing many publications that are rich in data and multi-disciplinary and integrative in analysis.

SERC's research, education, and outreach efforts are closely aligned with the Smithsonian's Strategic Plan. By building on existing strengths and special programs, SERC enhances its successful research on the following topics: land-sea linkages of ecosystems; landscape ecology of coastal watersheds; estuarine ecology; invasive species (especially in coastal ecosystems); global change impacts on biotic and chemical interactions; biocomplexity of structure and processes in key ecosystems; and community and population ecology.

During the next five years, SERC research on coastal marine ecology will focus on four key, interrelated areas: the structure and dynamics of marine food webs; the integrity and biodiversity of crucial marine ecosystems; linkages of ecosystems at the land-sea interface; and the ecological regulation of marine biodiversity. SERC seeks to expand its expertise in the ecology of invasive species and how they affect coastal ecosystems. To implement these goals, SERC will continue to link its research with national and international research networks and enhance the Marine Science Network and the Tennenbaum Marine Observatory Network, which was conceived to coordinate and align the extensive marine research efforts throughout the Smithsonian. SERC is also developing scientific and technological capabilities in analytical chemistry, remote sensing, and instrumentation in coastal watersheds and connected ecosystems. In addition, SERC is working with partners in the National Museum of Natural History and the regional research community to develop DNA barcode libraries for all of the species of fishes and major groups of invertebrates of the Chesapeake Bay. This will become a shared resource for tracking biodiversity, species distributions, and foodweb structures in the nation's largest estuary.

SERC also continues to strengthen its public outreach programs. In addition to providing a lecture series, workshops, and expert consultation for the public, teachers, and public officials, SERC remains open to the public six days a week. Also, in addition to offering formal programs to the public, SERC encourages visitors to explore the Center's many trails through forests and fields, as well as more than 12 miles of shoreline along the Chesapeake Bay.

SERC continues to implement its comprehensive Facilities Master Plan through projects that provide critical infrastructure improvements and allow for

controlled and operationally sustainable growth during the next decade. One of the key components of the plan is the focus on reducing energy and water consumption across the campus. The incorporation of sustainable improvements at the campus will ensure long-term savings in operating costs and a reduction in SERC's carbon footprint. SERC expects future projects to reach design standards that exceed those set by the recently completed, award-winning Charles McC. Mathias laboratory, as the Center establishes its leadership in the areas of innovative design and functionality.

SERC has established management controls to ensure proper accounting for its research activities, including indirect cost recovery in its sponsored research program. Moreover, the staff strives to maintain an excellent record of safety and protection for all staff and visitors. In conjunction with the Institution's central administrative offices, SERC maintains its excellent record of property management and protection of sensitive information and data.

NONAPPROPRIATED RESOURCES — General trust funds support fund raising and internship/Fellowship programs. In addition, core administrative support is funded through an indirect cost recovery derived from extramural research and education awards. Donor/sponsor-designated funds provide critical operating support related to specific programs and projects in research, public education, and professional training. Most of SERC's scientific research program of \$5.5 million annually is supported by Government grants and contracts, including the National Ballast Information Clearinghouse, which was established by Congress as part of the National Invasive Species Act of 1996.

SMITHSONIAN TROPICAL RESEARCH INSTITUTE

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2016 ENACTED	191	14,166	48	2,674	24	4,163	22	2,095
FY 2017 ESTIMATE	191	14,139	50	2,810	32	4,518	21	1,445
FY 2018 REQUEST	191	14,386	50	2,833	32	4,590	21	1,445

STRATEGIC GOALS: EXCELLENT RESEARCH; BROADENING ACCESS; REVITALIZING EDUCATION; AND MISSION ENABLING

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2017		FY 2018		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
Research						
Engage in research and discovery	114	9,135	114	9,311	0	176
Broadening Access						
Digitization and Web Support						
Provide improved digitization and Web support	3	172	3	171	0	-1
Public Programs						
Provide reference services and information	9	562	9	625	0	63
Revitalizing Education						
Education						
Engage and inspire diverse audiences	2	359	2	357	0	-2
Mission Enabling						
Security and Safety						
Provide world-class protection for Smithsonian facilities, collections, staff, visitors, and volunteers	15	541	15	538	0	-3
Provide a safe and healthy environment	2	148	2	147	0	-1
Information Technology						
Modernize the Institution's information technology systems and infrastructure	6	375	6	373	0	-2
Management Operations						
Strengthen an institutional culture that is customer centered and results oriented	10	1,121	10	1,116	0	-5
Ensure that the Smithsonian workforce is efficient, collaborative, committed, innovative, and diverse	5	222	5	221	0	-1
Modernize the Institution's financial management and accounting operations	12	769	12	795	0	26

Performance Objective/ Program Category	FY 2017		FY 2018		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Enhance the reputation of the Smithsonian by maintaining good relations with the news media and with federal, state, and local governments	3	267	3	266	0	-1
Modernize and streamline the Institution's acquisitions management operations	10	468	10	466	0	-2
Total	191	14,139	191	14,386	0	247

BACKGROUND AND CONTEXT

In 1910, Smithsonian Secretary Charles Walcott received a request from President William Howard Taft to send a scientific expedition to Panama to study the environmental impact of the Panama Canal. The President of Panama, Pablo Arosemena, invited the Smithsonian to extend its study to the entire isthmus (1910–1912), establishing a relationship that more than 100 years later continues to be a remarkable scientific resource for both countries and the world. The Smithsonian Tropical Research Institute (STRI) is now the principal U.S. organization dedicated to advancing fundamental scientific discovery and understanding of biological and cultural diversity in the tropics, and its contribution to human welfare. STRI plays a critical role for the U.S. Government and the Smithsonian by maintaining world-class research facilities in Panama, where each year approximately 1,400 resident and visiting international scientists and university students access the diverse tropical environments STRI stewards. Of these, STRI most notably serves as the official custodian for the Barro Colorado Nature Monument (BCNM) in Panama under the terms of the Convention on Nature Protection and Wildlife Preservation in the Western hemisphere, ratified by the U.S. Senate in April 1941 and codified in the Panama Canal Treaties. The BCNM is the only mainland tropical reserve under U.S. stewardship and served as the original base of operations for the 1910 expedition.

Why is the Smithsonian in Panama? What is now Panama was under water until about three million years ago. The rise of the Isthmus of Panama changed the world. It connected North and South America and separated the Atlantic from the Pacific, setting into motion global change that dramatically impacted marine and terrestrial life. STRI has been located at the heart of this event for more than a century. Its nine research facilities, situated throughout Panama's diverse ecosystems, serve as an unparalleled field research platform to investigate the critical events that shaped the world and its tropical diversity. Furthermore, the 1,400 resident and visiting scientists and students hosted by STRI each year make it a critically important teaching and research platform for the nation.

Scientific Productivity

A Visiting Committee of outside experts regularly evaluates the relevance, quality, and performance of STRI scientists. In their last review, the Visiting Committee used National Research Council criteria to measure the productivity and impact of STRI science compared to 142 of the best university research departments in the United States. STRI scientists ranked first in all measures of scientific relevance (e.g., publication

citations), quality (e.g., scientific honors), and productivity (e.g., publication numbers). In addition, the number of young scientists who choose STRI as the base for their graduate and postgraduate research training provides an annual measure of the relevance and quality of STRI science to the future of tropical biology and policy.

STRI's 25 staff scientists and 160 research assistants-in-residence share the science platform with scientists from the United States and international organizations. Each year, approximately 1,400 visiting scientists conduct research at STRI facilities with STRI scientists who are leaders in their fields. This collaborative effort has produced more than 11,000 scientific publications of record over the past century, and results in a new scientific publication, on average, every 18 hours.

Scientific Direction

The long-term research conducted by STRI scientists and collaborators is a critical contribution to the Smithsonian Institution's 2010–2017 Strategic Plan, *A Smithsonian for the 21st Century*, set forth in 2009, particularly through its contributions to the Grand Challenge, Understanding and Sustaining a Biodiverse Planet. However, STRI also contributes to Unlocking the Mysteries of the Universe through its paleontology program, and to Valuing World Cultures through its anthropology and archeology programs. In addition to investigating animal behavior, ecology, physiology, and the evolutionary changes that have occurred in the tropics, STRI has invested for the long term in several other core research directions. These include:

Environmental Health

The Panama Canal Watershed provides drinking water for more than one million Panama residents and sustains the Panama Canal, which is critical to U.S. trade and commerce. One-half of the watershed has been deforested. STRI's Agua Salud Project uses the Panama Canal's central role in world commerce to focus global attention on the ecosystem services provided by tropical forests in comparison with other types of land cover, providing rigorous quantitative data on a critical topic much debated by policy makers. The hydrology portion of the project focuses on how forests help sustain water-related ecosystems by mitigating the effects of droughts and floods and purifying water.

Panama Amphibian Rescue Conservation Project

Amphibians are disappearing around the world. A systematic global assessment of all 5,743 known amphibian species determined that one-third of all species surveyed are in danger of extinction. What is particularly alarming to conservationists is that 122 amphibian species are believed to have gone extinct since 1980, compared to just five bird species and no mammals during the same period. The main cause of this massive extinction is the pathogenic chytrid fungus *Batrachochytrium dendrobatidis* (Bd), which causes a disease called Chytridiomycosis.

In response to the massive loss of Panama's amphibian biodiversity, due mainly to the chytrid fungus, STRI has partnered with African Safari, Houston Zoo, Cheyenne Mountain Zoo, Zoo New England, Defenders of Wildlife, and the Smithsonian Conservation Biology Institute (SCBI) to found the Panama Amphibian Rescue

Conservation (PARC) project. PARC has several key goals to: prevent species extinctions by establishing *ex-situ* (quarantine) assurance colonies of endangered amphibians threatened with extinction from the chytrid fungus, which is decimating amphibians worldwide; develop tools to mitigate the disease and lead to reintroductions of the amphibians in the wild; and engage constituents to support conservation of amphibians and habitats. To date, the project has built two *ex-situ* facilities in Panama, and successfully bred more than 10 endangered amphibian species, including the Panamanian Golden Frog, a conservation flagship species now extinct in the wild. STRI scientists actively monitor disease and frog populations in the wild, use the latest molecular tools to find beneficial skin bacteria to help frogs fight Chytridiomycosis infections, research genetic mechanisms of chytrid resistance in Panamanian Golden Frogs, and develop assisted reproduction technologies to breed frogs in captivity and cryopreserve their gametes for future use.

Monitoring Forest Health and the Global Carbon Cycle

Combining private and federal support, STRI collaborates with the Smithsonian Environmental Research Center (SERC), National Zoo/SCBI, National Museum of Natural History (NMNH) and the Smithsonian Astrophysical Observatory (SAO) to create the Smithsonian Institution Global Earth Observatories (SIGEO), the largest terrestrial-based Earth observation system in the world. Additional U.S. partners and supporters include the National Science Foundation (NSF), National Aeronautics and Space Administration, National Oceanic and Atmospheric Administration, the U.S. Department of Agriculture Forest Service, U.S. Department of Energy, the U.S. Geological Survey (USGS), and the Centers for Disease Control and Prevention, as well as 80 partner institutions. STRI's Center for Tropical Forest Science, formerly CTFS, now named ForestGEO, coordinates research activities in 25 countries on 64 standardized forest parcels, ranging from two to 50 hectares, in which each tree is mapped and measured every five years. This partner-based global network of 100 partners provides rigorous, widely available, systematic data on forest dynamics and carbon budgets. These data are used by scientists and decision makers around the world to improve our understanding of tropical forests and the societal benefits derived from forests. The expanding network allows for global comparisons and has yielded important new findings such as the discovery that old trees play an important role in carbon sequestration, which was previously unknown.

Monitoring the Oceans: MarineGEO

The great success of ForestGEO led to the creation of MarineGEO, a cross-bureau program that is developing a network of marine data-collection sites studying near-shore environments. MarineGEO is the first long-term, international research program to focus on understanding coastal marine life and its role in maintaining resilient ecosystems. By specializing in coastal ecosystems — where marine biodiversity and people are concentrated and interact most — this initiative provides policy makers with the science to support innovative solutions and advance management and protection of our oceans. The network concept includes monitoring basic parameters which include water acidity, temperature, salinity, specific conductivity, dissolved oxygen, and chlorophyll, with the intent of making all data available on the Web in real time. This network and the associated data sets improve our understanding of biodiversity and ecosystem processes.

To collect this information, STRI has installed sensors at MarineGEO sites on Panama's Caribbean and Pacific coasts.

STRI is important because of its mission, the Institute's location in the mainland tropics on the narrow Isthmus of Panama, and its relationship with the Government of Panama. Beyond its mission for the Smithsonian, two examples of collaboration with U.S. agencies underscore the important role STRI plays in Panama. The security and facilities infrastructure of Barro Colorado Island led the USGS to establish seismic monitoring equipment as part of its Caribbean Tsunami Warning System. In addition, the Continuously Operating Caribbean GPS Observational Network (COCONet) project, funded by the NSF, has partnered with STRI in developing a large-scale geodetic and atmospheric monitoring infrastructure in the Caribbean. This infrastructure forms the backbone for a broad range of geoscience and atmospheric investigations and enables research on process-oriented science questions with direct relevance to geohazards. U.S. and international partner agencies use STRI's marine station in Bocas del Toro as a COCONet site to monitor sea level rise and plate tectonics — the movement of Earth's crustal plates that can trigger major earthquakes.

Marine Invasions

New data are filling gaps in the understanding of the rise of the isthmus and its changing role in invasion species biology, biodiversity, and global climate. Trade through the Panama Canal increased dramatically since the June 2016 completion of the canal lock expansion project. STRI scientists and colleagues at SERC, in Maryland, are documenting the distribution of invasive marine organisms, providing an unparalleled platform to understand the biology of invasive species on a scale comparable to that of the Great American Interchange of terrestrial organisms that occurred when the rise of the Isthmus of Panama first linked North and South America three million years ago. Such research has profound implications for mitigating the problems of invasive species in the great seaways of the world, from the Panama Canal to the Great Lakes.

Marine Mammal Conservation

STRI scientists are radio-tracking humpback whales and other marine mammals, and revealed that the whales — notably mothers with calves — were at high risk of being struck by ships entering or exiting the Panama Canal. With support from Panama's maritime and Canal authorities, the International Maritime Organization approved a traffic separation scheme (TSS) in 2014, and officially implemented it as international policy. The scheme requires ships to maintain speed of not more than 10 knots from August 1 to November 30 every year, through two designated ship traffic lanes approximately three miles wide. This type of marine conservation work is a U.S. State Department priority and demonstrated that the TSS could reduce potential collisions between ships and whales by 95 percent. Additionally, the work has led the governments of Colombia, Ecuador, and Peru to collaborate with STRI and request the Institute's scientific expertise and counsel on this topic.

The FY 2018, budget request includes an increase of \$247,000 for necessary pay for existing staff.

MEANS AND STRATEGY

STRI is the only major research institute to locate modern scientific instrumentation and facilities at the edges of tropical forests and coral reefs. STRI staff lead internationally recognized research programs and assist scientific visitors with obtaining visas, collecting permits, transportation, housing, computing, and library needs. STRI staff are also mentors for students from universities across the United States and around the world. Panamanian staff and the support of the Government of Panama, including rent-free use of multiple properties, have fostered Smithsonian research in Panama for more than 100 years and STRI has been an exceptional ambassador of goodwill for the United States in Panama and throughout Latin America.

As part of its core mission, STRI will continue to enhance the Smithsonian's platform for long-term research on biodiversity, ecosystems, and the impacts of environmental change. This will be accomplished through novel research, education of the next generation of scientists, and the dissemination of scientific findings to its audiences.

Policy makers and scientists need long-term data on fluctuations in the primary productivity of forests around the globe, as well as information on changes in the abundance and distribution of biological diversity, to distinguish the components of global change that can be ascribed to planetary processes from those that may be caused by human activity. The Smithsonian Institution is building on its unique research infrastructure to provide the required data by expanding its global network of dynamic, long-term tropical forest plots into the temperate zone, and by collecting additional data on vertebrates, insects, and soil micro-organisms, in addition to the trees in the ForestGEO plots that scientists have monitored for more than three decades. Smithsonian researchers are answering the following questions: How are changing environments altering forest biomass? Does the rate of carbon sequestration by forests vary with latitude, hydrological condition, and soil fertility? How are the diversity and the relative abundance of forest organisms changing over time and space? What components of observed changes are due to human activities? How can people modify their behavior and economies to ameliorate any changes detrimental to global society?

STRI shares knowledge, experience, and expertise with the next generation of tropical scientists. In particular, STRI hosts more than 800 pre- and postdoctoral students each year, half of whom come from the United States. For many, their experience at STRI is their first real opportunity to be scientists. The experience is transformational. As mentors, the Institute's researchers guide these future investigators, encouraging their scientific development and challenging them to develop the scientific rigor required to make new discoveries, and to share them for the welfare of humankind.

STRI continues to work with primary school science teachers to inspire wonder and critical thinking skills in the classroom. In Panama and through digital partnerships with school districts in the United States, STRI continues to explain field and laboratory science and make environmental research accessible to teachers and students.

ENABLING STRI's MISSION THROUGH ORGANIZATIONAL EXCELLENCE

STRI continues to advance the vision detailed in the 20-year plan for upgrading its facilities, some of which date back to the pre-World War II era of Panama Canal defense. The 20-year STRI facilities plan represents an important opportunity for the Smithsonian to provide its world-class group of tropical scientists with the modernized, sustainable, and state-of-the-science facilities needed to face the environmental challenges of the 21st century.

STRI also offers important facility resources for federal agencies and universities. For terrestrial research, STRI serves as the headquarters for ForestGEO, and as a base for tsunami-monitoring equipment installed by the USGS. In addition, STRI is discussing with the Federal Aviation Administration the best way to scientifically assess aircraft bird-strike hazards. For marine research, the access to two oceans provided by STRI marine facilities permits scientists to move between experiments in the eastern Pacific Ocean and the Caribbean Sea in a few hours, and represents a principal component of the Smithsonian MarineGEO network that extends from the Chesapeake Bay to Florida, Belize, and Panama. The recurring two-ocean theme in marine science at STRI has resulted in landmark studies of the evolution and ecology of tropical marine species and communities, as well as research funded by NSF and National Institutes of Health for the ecologically guided discovery of new pharmaceutical compounds. STRI's MarineGEO site in Bocas Del Toro (Caribbean) and the Naos Marine Laboratories (Pacific) provide direct access to two oceans, and take on increased importance as experimental platforms for studying the impact of climate change and ocean acidification on coastal coral reefs, sea grasses, and mangroves.

STRI's primary research facility on the Pacific coast of Panama is Naos Laboratories, which provides easy access to key coastal, marine, and off-shore environments. It is situated in a unique location that provides ready access to two very different marine ecosystems, in the Gulf of Panama and the Gulf of Chiriqui, including areas impacted by human activities. This facility is a key resource for a highly productive team of researchers, led by eight STRI scientific staff members working in fields such as marine biology and ecology, animal behavior, evolutionary and molecular biology, species-host interactions, species invasions, archaeology, and paleontology. This site is also essential to MarineGEO.

STRI's facilities include the Galeta Laboratory, the oldest scientific facility on the Caribbean coast of Panama. The laboratory houses a long-term monitoring environmental data operation, including the most thoroughly documented recovery from a major oil spill. The current infrastructure allows staff scientists and scientific visitors to carry out research in coastal ecosystems such as mangroves, coral reefs, and sea grass beds, and on invasive species, due to its proximity to the Panama Canal entrance. Galeta is also home to one of STRI's most dynamic and successful public outreach programs.

Research conducted at both laboratories has greatly contributed to the increase of our understanding of tropical biodiversity. STRI continues to support scientific research at these sites because they offer an unparalleled opportunity to conduct evolutionary and

ecological studies in contrasting environments, including comparisons of marine habitat, ecosystems, and species dynamics between these two oceans.

FY 2018 will be another year in which STRI continues to more efficiently use its available resources while at the same time adapting its work to be more cost-effective in the ever-expanding economy of Panama. STRI's organizational efforts will include continued upgrades of its physical plant by seeking to reduce deferred maintenance and to conduct more design planning. In addition, STRI will rely on its restructured organization, including its Information Technology department and Finance and Administration areas, to better and more efficiently meet the needs of its scientific computing community as well as the business needs of the Institute. Lastly, STRI will continue to find innovative ways to allocate available resources for novel research that helps the Smithsonian meet the Grand Challenge of Understanding and Sustaining a Biodiverse Planet.

NONAPPROPRIATED RESOURCES — General trust funds support salaries for a small percentage of STRI employees involved in research, public outreach, and fund raising. Donor/sponsor-designated funds support specific programs and projects to investigate key indicators of global environmental health.

More specifically, donor-designated support also provides an endowed chair for the director of STRI, an endowed staff position in tropical paleoecology, and an endowed chair for the director of ForestGEO. With private funds, STRI will begin a new initiative to understand the critical role played by microbes in marine ecosystems, and host a series of post-doctoral Fellows. STRI will also leverage additional private funding to hire a new staff scientist and begin a new initiative to understand the critical role played by microbes in forest ecosystems.

The chair in paleoecology currently investigates how Earth's environment has changed during the last 60 million years, in part by taking advantage of the multi-billion-dollar expansion of the Panama Canal, which has exposed new fossils and geologic strata during the massive excavations. Donor-designated support also funds postdoctoral studies of the relationship between organism brain size and behavioral complexity, and postdoctoral Fellowships in tropical marine biology, using STRI's Bocas del Toro and Galeta field stations in the Caribbean and its Naos Laboratories and Rancheria Island field station in the eastern Pacific Ocean.

Introduction, Valuing World Cultures

As a steward and goodwill ambassador of cultural connections, with a presence in some 140 countries and expertise and collections that encompass the globe, the Smithsonian will build bridges of mutual respect and present the diversity of world cultures and the joy of creativity with accuracy and insight.

RESEARCH Goal: The Smithsonian contributes insights into the evolution of humanity and the diversity of the world's cultures, arts, and creativity.

ACCESS Goal: The Smithsonian will inspire audiences to explore the cultural and artistic heritages of diverse peoples.

UNITS primarily associated with this Grand Challenge:

- **Arthur M. Sackler/Freer Gallery of Art**
- **Center for Folklife and Cultural Heritage**
- **Cooper Hewitt, Smithsonian Design Museum**
- **Hirshhorn Museum and Sculpture Garden**
- **National Museum of African Art**

ARTHUR M. SACKLER GALLERY/FREER GALLERY OF ART

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2016 ENACTED	45	6,111	7	1,168	56	11,495	0	0
FY 2017 ESTIMATE	45	6,099	8	2,335	65	14,236	0	0
FY 2018 REQUEST	45	6,228	7	1,024	71	12,331	0	0

STRATEGIC GOALS: EXCELLENT RESEARCH; BROADENING ACCESS; REVITALIZING EDUCATION; STRENGTHENING COLLECTIONS; AND MISSION ENABLING

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2017		FY 2018		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
<i>Research</i>						
Engage in research and discovery	6	1,429	6	1,435	0	6
Broadening Access						
<i>Digitization and Web Support</i>						
Provide improved digitization and Web support	0	43	0	55	0	12
<i>Public Programs</i>						
Provide reference services and information	3	265	3	265	0	0
<i>Exhibitions</i>						
Offer compelling, first-class exhibitions	16	2,144	16	2,184	0	40
Revitalizing Education						
<i>Education</i>						
Engage and inspire diverse audiences	5	425	5	456	0	31
Strengthening Collections						
<i>Collections</i>						
Improve the stewardship of the national collections	12	1,367	12	1,387	0	20
Mission Enabling						
<i>Management Operations</i>						
Ensure that the Smithsonian workforce is efficient, collaborative, committed, innovative, and diverse	1	143	1	153	0	10
Modernize the Institution's financial management and accounting operations	2	283	2	293	0	10
Total	45	6,099	45	6,228	0	129

BACKGROUND AND CONTEXT

The Freer Gallery of Art and the Arthur M. Sackler Gallery (FSG) celebrate the artistic traditions of Asia and hold what are widely regarded as among the most important collections of Asian art in the world. The Museums collect, study, exhibit, and preserve exemplary works of Asian art, as well as works by Whistler and other American artists of the “Aesthetic Movement” as represented in Charles Lang Freer’s original gift. The combined resources of the Museums are directed toward programs that advance the understanding of the arts of Asia and of the Museums’ collections, and foster empathy for other cultures.

In FY 2018, the FSG will re-open the Freer Gallery of Art with a public celebration after a nearly two-year closure to fully renovate its heating, ventilation, and air-conditioning (HVAC) system and reinvigorate its galleries, public auditorium, and visitor amenities. The FSG will also build on the excitement generated from the innovative exhibitions initiated in the Arthur M. Sackler Gallery which contextualize its growing permanent collection. International loan exhibitions and complementary public programs will provide audience engagement with both historical and contemporary topics, and access to some of the finest works of art from Asia. The Museums will also further the goal of Broadening Access by realigning resources in FY 2018 to position FSG as a world leader in digital collections management initiatives. This will be done by maintaining 100 percent digitization as its collections grow, improving the FSG website with a new content management system that will allow linkages between thousands of different types of records and media, and a new search tool for online collections. FSG will continue to increase the digitization of its publications, and enhance the visitor experience with new ways to access its research and wealth of assets, such as ensuring an Americans with Disabilities Act (ADA) compliant website. The new programming effort for the International Gallery in the S. Dillon Ripley Center, managed jointly by FSG and the National Museum of African Art, enters its fifth year. This gallery, with links to both Museums, allows programmatic collaboration, provides a testing ground for new types of exhibitions, and affords new opportunities to achieve the Institution’s strategic goals of Broadening Access and Revitalizing Education.

The FSG will achieve the goal of Excellent Research by maintaining its impressive record of hosting research Fellows and scholarly visitors, through its publications, and by searching for new funding sources for research.

In addition, the FSG will address the strategic goal of Mission Enabling by continually assessing and enhancing staff development and oversight of internal controls.

The FY 2018 budget request includes an increase of \$129,000 for necessary pay and other related salary costs for existing staff.

MEANS AND STRATEGY

To achieve the goal of Broadening Access, the FSG continues to direct resources to raise attendance and assert its pre-eminence in the field of Asian art by mounting and

traveling high-profile exhibitions. For the FSG's October 14 relaunch at the beginning of FY 2018, exhibitions will focus on the Museums' outstanding collections.

Two innovative mid-duration exhibitions will open on the north and south sides of the Sackler: *Encountering the Buddha: Art and Practice across Asia* expands the understanding of Buddhism in Asian art through both beautiful objects and immersive spaces. Visitors can step into a Tibetan Buddhist shrine, travel the Buddhist world with an eighth-century Korean monk, visit a Sri Lankan stupa, meet teachers and guardians, and discover the ways art and place embody and express the teachings of Buddhism. In *RESOUNDING: Bells of Ancient China*, musical innovations in the Bronze Age meld with today's digital technology in an interactive exploration of ancient Chinese bells. Research by archaeologists, art historians, musicologists, material scientists, and physicists indicates that the Smithsonian's holdings span the entire length of the Bronze Age and reflect a variety of regional types and a wide range of uses; early instruments and a bell set discovered in a Chinese tomb will be accompanied by videos of ancient bells being played, and visitors will even get a chance to compose their own music on bronze bells.

The first quarter of FY 2018 includes additional temporary special exhibitions: The Sackler will host the traveling exhibition, *DIVINE FELINES: Cats in Ancient Egypt*, that explores cats and lions in ancient Egyptian mythology, kingship and everyday life with some 70 diverse representations from the world-famous holdings of the Brooklyn Museum, some newly conserved and shown for the first time, along with select objects from the FSG collection. The FSG's contemporary Asian art series, *PERSPECTIVES*, continues with internationally acclaimed artist Subodh Gupta's monumental installation *Terminal*. Composed of towers of brass containers connected by an intricate web of thread, *Terminal* converts the readymade materials into a glimmering landscape that welcomes visitors to the Sackler pavilion. In December 2017, art and conservation science converge in *UNVEILING THE BUDDHA*, a small exhibition of three, life-size 6th century Chinese lacquer Buddhas (including a major piece from the FSG collection), which are the earliest and the only known existing examples of their kind. Through these objects, visitors are introduced to lacquer and the science of the materials' analysis, about which new research by FSG conservators revealed a startling discovery. In the spring of 2018, the FSG collection will be the focus of a major temporary exhibition that will highlight a selection of Central Asian Ikats and show them through the lens of both traditional and contemporary uses and function — chiefly fashion — demonstrating the enduring allure of these richly patterned textiles.

FSG continues to develop major exhibition projects in collaboration with U.S. museums and with international scholars and institutional partners in China, Japan, Korea, India, Sri Lanka, and Italy. Sharing select exhibitions through multi-venue presentations is an integral component of several exhibition projects under development, and touring versions of FSG collection-based exhibitions are being made available.

Turquoise Mountain: Artists Transforming Afghanistan concludes its presentation in the Ripley Center International Gallery at the end of October 2017. Extended by popular demand, this exhibition — a bold FSG experiment — aligns with two Smithsonian strategic goals — Broadening Access and Revitalizing Education —

through its use of an immersive installation and digital technology to present an inspirational story of the resilience of artistic beauty and the human spirit. The exhibition has been enhanced by rich public programs, with the participation of visiting Turquoise Mountain artisans, to create an emotionally stirring experience of the stories presented. A completed visitor study ranks the exhibition's Overall Visitor Experience as the second highest of FSG exhibitions surveyed in the past five years, and the fifth highest of exhibitions surveyed since 2004.

Most importantly, in the fall of 2017, the Freer collections will be reinstalled after a nearly two-year closure for a major capital building project. Old favorites and new gems will be displayed in refreshed galleries with new interpretive content that will enhance visitors' understanding of the breadth and beauty of Asian art. The reinvigorated Freer Gallery of Art will include more welcoming visitor entrances, careful incorporation of digital technology within the Museum, a renovated Meyer Auditorium, and increased amenities to offer visitors a more welcoming environment and gallery experience. Newly-developed audio content, increased ADA resources, and enhanced wayfinding will provide increased accessibility and an integrated experience across the two Museums. The renovation of the Meyer Auditorium will include simulcast capabilities for sharing programs with partners around the globe and developing distance-learning opportunities.

The FSG will further broaden access by reaching new and diverse audiences through its groundbreaking educational and scholarly programs on the arts of Asia. These involve hosting a series of international conferences and workshops, and collaborating within the Smithsonian and with outside organizations such as the National Museum in Beijing, the Hermitage Museum in St. Petersburg, Russia, the Uffizi in Florence, Italy, and the British Museum in London.

Enabling the Museums to be the center for public engagement on the arts of Asia, the Museums' website continues to undergo refinements to allow greater access to our collections, which are now fully digitized. With the help of a major Getty Foundation grant, an online publication of the Pulverer Collection of Japanese books was recently launched. In addition, in the past several years, the FSG has collaborated with Ritsumeikan University to digitize more than 100,000 images of Japanese books of art.

The FSG will achieve the Institution's strategic goal of Excellent Research by coordinating its own collections more vigorously with researchers in universities in the Washington, DC area, as well as internationally, and ensuring that the FSG has appropriate distribution, in print and online, of scholarly publications and data resources.

The Museum's department of public and scholarly engagement, which is responsible for the public-facing activities of the FSG in the areas of public programs, education, media relations and advertising, will launch new initiatives developing effective visitor engagement strategies as a result of a year-long visitor study of the Freer. As part of its goal to advance Revitalizing Education initiatives, and to provide greater access to high-quality educational resources, the FSG will re-examine state, county, and municipal educational mandates to ensure that the Museums' programs support public schools' curricula. In addition, the FSG will devote more resources to

develop long-term teaching materials based on the Museums' world-renowned collections, and to add more educational content on the FSG website to make it the premier online U.S. resource for information on the arts of Asia.

The FSG will achieve the strategic goal of Strengthening Collections by continuing to devote resources to its internationally renowned conservation department and laboratory. The department is led by a director who is one of the most respected figures in the field. In FY 2018, curators and researchers will continue to study and publish new research on the collections, including ancient Chinese art from Dr. Paul Singer's collection. With a grant from the Andrew Mellon Foundation, the FSG established an endowment for a mid-level position for Chinese painting conservation, and, in collaboration with the Mellon Foundation, is building a nexus of institutions in the United States, China, and Europe to ensure adequate succession planning in a field where many leading practitioners are due to retire within a very few years of each other. Additionally, with continued support from the David Berg Foundation, the FSG will continue its research into Nazi-era provenance issues, further strengthening international ties developed in previous years. The FSG is also collaborating with the Carnegie Museum of Art to develop a linked-open-data facility for provenance research that is expected to be of major benefit to the entire field.

To meet the strategic goal of Mission Enabling, the FSG will continue to improve its administrative efficiencies and reporting mechanisms, ensuring that its workforce is efficient and skilled, and to adopt best practices for safeguarding Smithsonian resources. The FSG continues to dedicate training funds to leadership and supervisory training to equip our managers and supervisors with the information, skills, and tools needed to make effective decisions. An impressive proportion of senior management has gone to leadership training at the Center for Creative Leadership, and more than 80 percent of staff have attended project management training. The FSG strategic plan continues through FY 2018 and aligns with the Smithsonian's overall strategic plan in terms of both timing and goals. The FSG continues to closely track progress against its strategic plan through the use of its management tracking system commissioned from AchieveIT. This system enhances accountability by linking the strategic plans and goals of the Museums directly to departmental activities and outputs.

NONAPPROPRIATED RESOURCES — General trust and donor/sponsor-designated funds are generated from memberships, revenue sharing from Museum shop sales and the Smithsonian Channel; participation fees from traveling exhibition venues; special events; unrestricted and restricted gifts and grants; and endowment income. The Museums are highly dependent on nonappropriated sources of income to provide the quality of exhibitions, programs, and publications expected by visitors and scholars, both online and on site.

CENTER FOR FOLKLIFE AND CULTURAL HERITAGE

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2016 ENACTED	17	2,581	11	1,782	3	414	5	1,782
FY 2017 ESTIMATE	17	2,576	8	1,346	7	1,620	0	30
FY 2018 REQUEST	17	3,178	8	1,346	7	2,090	1	560

**STRATEGIC GOALS: EXCELLENT RESEARCH; BROADENING ACCESS;
REVITALIZING EDUCATION; STRENGTHENING COLLECTIONS; AND
MISSION ENABLING**

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2017		FY 2018		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
<i>Research</i>						
Ensure the advancement of knowledge in the humanities	1	170	1	175	0	5
Broadening Access						
<i>Digitization and Web Support</i>						
Provide improved digitization and Web support	2	160	2	165	0	5
<i>Exhibitions</i>						
Offer compelling, first-class exhibitions	6	989	6	1,326	0	337
Revitalizing Education						
<i>Education</i>						
Engage and inspire diverse audiences	2	205	2	211	0	6
Strengthening Collections						
<i>Collections</i>						
Improve the stewardship of the national collections	4	475	4	485	0	10
Mission Enabling						
<i>Facilities</i>						
Improve the overall cleanliness and efficient operation of Smithsonian facilities	0	160	0	390	0	230
<i>Security and Safety</i>						
Provide world-class protection for Smithsonian facilities, collections, staff, visitors, and volunteers	0	100	0	100	0	0

Performance Objective/ Program Category	FY 2017		FY 2018		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
<i>Management Operations</i>						
Strengthen an institutional culture that is customer centered and results oriented	0	60	0	62	0	2
Modernize the Institution's financial management and accounting operations	2	257	2	264	0	7
Total	17	2,576	17	3,178	0	602

BACKGROUND AND CONTEXT

The Center for Folklife and Cultural Heritage (CFCH) is a research, collections, education, publications, and public programming unit of the Smithsonian Institution with the mission to “promote greater understanding and sustainability of cultural heritage across the United States and around the world.” It is the largest of a triumvirate of federal offices (with the Library of Congress’ American Folklife Center and National Endowment for the Arts, or NEA’s, Folk and Traditional Arts program) that supports traditional arts and culture in the United States and abroad. For five decades, the CFCH has accomplished this mission through research, documentation, preservation, presentation, education, social enterprise, and publication. It has collaborated with thousands of organizations, foundations, and governments in the United States and worldwide. The Smithsonian Folklife Festival and Smithsonian Folkways Recordings are its most visible products, reaching more than 100 million people each year and earning major recognition, including one of the first Best Practice Citizen Diplomacy awards from the U.S. Center for Citizen Diplomacy, 30 Grammy Award nominations, seven Grammys, one Latin Grammy, and 26 Independent Music Awards.

The CFCH, with its highly qualified staff, nearly one-quarter of whom hold doctoral degrees, and first-rate production capabilities for public events, also produces multi-media website features and publications, exhibitions, documentary films, symposia, print publications, educational materials, and more. Ethnographic research and documentation are fundamental to all of its products and anchor its active engagement in high-profile international cultural heritage policy forums. Its Ralph Rinzler Folklife Archives and Collections house, preserve, and provide access to its world-class collections. Professional training efforts offer opportunities for more than 130 interns each year and include hosting advanced study Fellows from countries around the world.

The FY 2018 budget request includes an increase of \$602,000, including \$72,000 for necessary pay and other related salary costs for existing staff. Additionally, the request includes an increase of \$230,000 for rental space to provide adequate storage space that meets collections care standards. There is also an increase of \$300,000 for the annual Folklife Festival to comply with rigorous new National Park Service regulations governing the use of the National

Mall. All of the above increases are explained in the Fixed Costs section of this budget submission.

MEANS AND STRATEGY

Research, production capacity, and entrepreneurial resource leveraging are the keys to how the CFCH accomplishes its core mission. Earned revenues are used to employ half of its staff, create its public products, and deliver them to a broad national and international public of scores of millions. Institutional collaboration and major public impact nationally and internationally are also key to fulfilling its mission. Institutional collaborations (more than 100 partnerships in the past six years), fund raising, and mission-driven business activities leverage the Center's modest federal investment many times over to reach millions of people per year.

The CFCH achieves this through the Smithsonian Folklife Festival (with 5.25 million visitors on site and online), Smithsonian Folkways Recordings (with more than 80.8 million listeners via recordings, radio programs, downloads, and audio streams), websites and social media (15.2 million visits), the Smithsonian Cultural Sustainability Initiative, and other products. The CFCH also periodically applies its event production capacity to put on other major, national cultural events consistent with its mission, such as the National World War II Reunion, the First Americans Festival for the opening of the National Museum of the American Indian, and programs for the Olympic Games and presidential inaugurations. In 2014, the CFCH finalized a new strategic five-year plan, which sets ambitious goals for the future and harmonizes its work with the Strategic Plan of the Smithsonian as a whole; this realignment can be seen in the reallocation of funds across program categories. As of 2017, the CFCH is making remarkable progress at meeting these goals, which include specific metrics for publications, reaching new audience members, and partnerships. In 2017 and 2018, the CFCH will collaborate with at least seven Smithsonian units, 35 nonprofit organizations, at least two other federal agencies, and four foreign countries to create and deliver programmatic content.

The 2018 Smithsonian Folklife Festival takes as its central theme cultural heritage enterprise. Organized in partnership with individuals and organizations around the globe, the Festival will explore how community-based cultural industries — i.e., artisan craft, local food production, independent music production, and heritage tourism — sustain livelihoods, express identity, and strengthen relationships. To date, featured programs include Catalonia (Spain) and Armenia, with others to be announced. From June 28 to July 8, 2018, participants will learn from each other by sharing their successes, challenges, and opportunities. Festival visitors will interact directly with practitioners and consider the role that creativity and cultural heritage play in their own lives.

Since its inception, the Festival has engaged teachers through workshops both on and off site. As part of continuing efforts to extend the event's impact beyond its annual 10-day run on the National Mall, in 2018, Festival staff will convene an advisory group to help identify goals and strategies for engaging K–6 educators. Additional opportunities to expand impact and exchange are presented by "off-cycle" public programming. Conversations, performances, and screenings with partners throughout Washington, DC and around the country, with emphasis on Smithsonian Affiliations, will amplify the missions of the Institution and the Center. In order to execute the above as the Festival contends with increasing production costs, a thoughtful reconsideration of fundraising strategies and opportunities to earn revenue will be conducted. The goal is to ensure the long-term fiscal health of this venerable cultural resource that has fostered exploration, exchange, and engagement for more than 50 years.

Also in 2017 and 2018, the CFCH will further harness the power and reach of the Web to broaden access to Festival content far beyond Washington, DC, through programmatic features preceding, during, and following the 10-day Mall event. The CFCH will accomplish this by further increasing the interactivity of its websites, aggressively aiming to increase visits to all of its websites by two million in 2017, for a total of 20 million. The CFCH is also continuing its partnership with *FACES* magazine, which "takes young readers around the world and back to get an honest and unbiased view of how children in other countries and world regions live." *FACES* has a monthly circulation of more than 400,000, reaching millions of young people and those who mentor them.

Smithsonian Folkways Recordings has completed the acquisition of 700 albums on the iconic 'down home' music label Arhoolie, and made them available to music lovers in both hard copy and online. Folkways will continue its *African American Legacy* and *Tradiciones/Traditions* series of African American and Latino music, producing at least six albums of new material. A multi-disc box set on hip-hop traditions will be publicized in FY 2017 and released in FY 2018, and Smithsonian Folkways Recordings will also release a major box set to highlight the enduring musical contributions of Pete Seeger to mark the centennial of his birth. In addition to these landmark releases, Folkways will release an additional 15 recordings in FY 2018.

In addition, Folkways will continue to extend its reach to millions more listeners, distributing almost 4,000 albums (50,000 tracks) of audio to teachers, students, scholars, and the general public. Digital distribution will expand further, opening new horizons for the creation and delivery of the Center's educational content via downloadable audio streams, "podcast" feeds, and multi-media video features. Folkways will also bolster its million-plus circulation of digital content from non-Smithsonian websites such as iTunes U, now available in more than 67 countries. It will expand its collaboration with private partners to deliver the entire Folkways collection to more than 560 libraries throughout the continent and beyond. The *Musica del Pueblo* virtual exhibition will expand its offerings of

American and Latin American content by featuring even more video and audio recordings as well as text from and about Latino roots musical traditions. This mission-critical content will also generate additional revenues through online and retail sales.

A third signature program, the Smithsonian Cultural Sustainability Initiative, invigorates the Center's long-established commitment to community engagement, cultural documentation, and support of cultural vitality. Three ongoing five-year programs respond to the urgency of the need to save endangered languages and cultural expressions and the associated loss of their knowledge: a USAID-funded "Integrated Development Program to Preserve Cultural Heritage and Improve Sustainable Livelihoods in Ethnic Tibetan Communities in China" and "My Armenia," which is linking cultural heritage preservation with sustainable tourism development in innovative ways. The third is a privately funded research initiative for "Sustaining Minority Languages in Europe" (SMiLE), which is part of the Smithsonian's larger Recovering Voices Initiative.

Center curators and research staff will continue to publish books, articles, and Web features, and make professional presentations at gatherings of specialists. In 2014, we set aggressive publication targets for the entire Center, and by the end of FY 2016 Center staff had published 111 research-based products. The CFCH's cultural heritage policy team will continue its vital participation in U.S. and UNESCO cultural heritage policy formulation by consulting with the U.S. Department of State, cooperating with UNESCO, and collaborating with other national and international organizations.

The yield from ethnographic research and multi-media primary sources will add to the Ralph Rinzler Folklife Archives and Collections' strategically important holdings of music and cultural traditions from the United States and around the world. Both the Folklife Festival and Smithsonian Folkways draw from and contribute to the world-class holdings of the Ralph Rinzler Folklife Archives and Collections. Containing a dozen record labels, more than a half century of documentary research, and extraordinary records of grassroots cultural traditions from around the globe, it provides a *sine qua non* folklife resource for both researchers and the public alike. In recognition of its important holdings, UNESCO inscribed the Moses and Frances Asch Collection in its Memory of the World Register in 2015. The Folklife Archives will tackle three main challenges in 2018 — receiving a plethora of incoming ethnographic research and documentation; accessioning the vast collections associated with the acquisition of Arhoolie Records; and assessing, cataloguing, preserving, and making available endangered, valuable paper and audiovisual holdings through setting priorities for delicate and critical collections materials. Central funds from within the Institution will further support the Rinzler Archives' digitization and dissemination efforts.

Through these activities, the CFCH will take major steps to fulfill the Smithsonian Grand Challenges of Understanding the American Experience, Valuing World Cultures, and Magnifying the Transformative Power of the Arts and Design. The CFCH will contribute to the Smithsonian's strategic goals of Broadening Access and Mission Enabling by continuing to improve its information technology infrastructure and related project budgeting and planning.

EXPLANATION OF CHANGE

The FY 2018 budget request includes an increase of \$602,000, including \$72,000 for necessary pay and other related salary costs for existing staff funded under this line item. Additionally, the request includes an increase of \$230,000 for rental space to provide adequate storage space that meets collections care standards. There is also an increase of \$300,000 for the annual Folklife Festival to comply with rigorous new National Park Service regulations governing the use of the National Mall. All of the above increases are explained in the Fixed Costs section of this budget submission.

NONAPPROPRIATED RESOURCES — General trust funds support salaries and benefits of approximately one-quarter of the CFCH's personnel, and revenues from Folkways Recordings pay nearly half of staff salaries and expenses. Donor/sponsor-designated funds cover costs related to specific projects such as the Smithsonian Folklife Festival, some research efforts, and several other educational programs. At the beginning of FY 2017, with the support of the Smithsonian National Campaign, the CFCH raised more than its \$4 million goal to support the Center's mission.

COOPER HEWITT, SMITHSONIAN DESIGN MUSEUM

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2016 ENACTED	36	4,810	28	3,651	25	6,174	0	155
FY 2017 ESTIMATE	36	4,801	30	3,922	21	8,023	0	125
FY 2018 REQUEST	36	4,897	30	4,000	21	8,100	0	125

STRATEGIC GOALS: EXCELLENT RESEARCH; BROADENING ACCESS; REVITALIZING EDUCATION; STRENGTHENING COLLECTIONS; AND MISSION ENABLING

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2017		FY 2018		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
<i>Research</i>						
Ensure the advancement of knowledge in the humanities	4	342	4	345	0	3
Broadening Access						
<i>Digitization and Web Support</i>						
Provide improved digitization and Web support	1	104	1	105	0	1
<i>Public Programs</i>						
Provide reference services and information	1	124	1	125	0	1
<i>Exhibitions</i>						
Offer compelling, first-class exhibitions	4	312	4	315	0	3
Revitalizing Education						
<i>Education</i>						
Engage and inspire diverse audiences	3	257	3	260	0	3
Strengthening Collections						
<i>Collections</i>						
Improve the stewardship of the national collections	7	1,939	7	1,982	0	43
Mission Enabling						
<i>Facilities</i>						
Improve the overall cleanliness and efficient operation of Smithsonian facilities	11	1,090	11	1,110	0	20
<i>Information Technology</i>						
Modernize the Institution's information technology systems and infrastructure	1	168	1	175	0	7

Performance Objective/ Program Category	FY 2017		FY 2018		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
<i>Management Operations</i>						
Ensure that the Smithsonian workforce is efficient, collaborative, committed, innovative, and diverse	1	109	1	115	0	6
Modernize the Institution's financial management and accounting operations	2	267	2	270	0	3
Enhance the reputation of the Smithsonian by maintaining good relations with the news media and with federal, state, and local governments	1	89	1	95	0	6
Total	36	4,801	36	4,897	0	96

BACKGROUND AND CONTEXT

Cooper Hewitt, Smithsonian Design Museum (CHSDM), in New York City, is one of two Smithsonian museums located outside of Washington, DC. CHSDM is the only museum in the nation dedicated exclusively to historic and contemporary design. Its collection is international in scope and encompasses 212,000 objects representing 30 centuries of design, from China's Han Dynasty (200 B.C.) to the present. The Museum presents compelling perspectives on the impact of design on daily life through educational programs, exhibitions, and publications. After a major renovation, the Museum reopened in 2014, changing the way the Museum inspires, educates, and empowers people through design.

As the design authority of the United States, CHSDM's programs and exhibitions demonstrate how design shapes culture and history — past, present, and future. To achieve the Institution's strategic goals of Broadening Access and Revitalizing Education, the Museum will continue its dynamic exhibition programming and active roster of educational and public programs, as well as expand the number of programs offered in venues outside the New York metropolitan area in 2018. Together, these programs will help CHSDM engage larger, more diverse audiences, and fulfill its mission to serve as a catalyst for design education throughout the nation and internationally.

The Museum devotes resources to ensure the advancement of knowledge in the humanities by fostering a greater understanding of the role of design in everyday life and its impact on shaping the built environment of the past, present, and future; and to encourage the "by-products" of design thinking — such as creative problem solving and teamwork — in other disciplines and areas of life, through interactive, engaging, in-person and online experiences.

The FY 2018 budget request includes an increase of \$76,000 for necessary pay and other related salary costs for existing staff and \$20,000 for rent increases. Both of the increases are detailed in the Fixed Costs section of this budget submission.

MEANS AND STRATEGY

In FY 2018, Cooper Hewitt will continue to transform the Museum visit from passive to participatory with the most innovative, educational, immersive and interactive exhibitions for the public, focusing on the design process. The Museum will present several exhibitions, among them *Joris Laarman Lab: Design in the Digital Age* and *Design for the Senses*, as well as several rotations in the galleries that display the Museum's permanent collection. *Joris Laarman Lab* is the first museum exhibition dedicated to the furniture, objects and experiments of Dutch designer Joris Laarman and his Amsterdam based studio. *Design for the Senses* will invite people to encounter design with all of their senses and understand how space, materials, sound and light affect the mind and body. The interactive pen will continue to enhance the visitors' experience by letting them "collect" and "save" objects from around the galleries.

CHSDM resources will continue to support the strategic goal of Excellent Research, ensuring the advancement of knowledge in the humanities through exhibition-related and collection scholarly research to create the most innovative and educational exhibitions for the public.

To achieve the goal of Strengthening Collections, the Museum continues to acquire objects for its internationally renowned permanent collection. With the digitization of the collection completed, the Museum continues to expand its online programs, such as the Object of the Day blog and channels for all exhibitions. The Museum will continue its 30-year partnership with the New School/Parsons with an on-site graduate program focused on the history of design and curatorial studies, which will give students and scholars access to objects in CHSDM's collections.

CHSDM will achieve the goal of Revitalizing Education by continuing to engage and inspire diverse audiences through efforts locally in the Museum and through continued national outreach. Cooper Hewitt offers a wide variety of educational opportunities and programs, most of which are free. The goal across all of the programs is to engage K–12 students in the design process through active observation, critical discussion, creativity, and presentation. The programs foster collaboration among students, teaching them how to work in teams, and to define problems and find solutions, while improving their verbal and written communication skills. Cooper Hewitt will welcome students to the Museum through design field trips, family programs, and participation through a new design outreach program that will engage students in object-based learning and develop the creative problem-solving skills designers use to move from idea to implementation.

The Museum will also continue to offer nationally recognized design thinking-focused professional development workshops for K–12 educators from across the country, leveraging its world-renowned design collection and

education team. The Museum's Design in the Classroom program provides educators with firsthand experience of the design process to promote a deeper understanding of design and its impact on teaching and learning.

In addition, CHSDM plans to make its educational opportunities available to a much broader audience in FY 2018 through fortified partnerships across the nation and the Educators Resource Center. The Educators Resource Center is a website that uses downloadable lesson plans aligned to national standards to show K–12 teachers how design-based learning works with diverse learning styles. These online tools provide educators with the resources they need to engage in the design process and use it effectively in their classrooms.

To further the Smithsonian's goal of Mission Enabling, CHSDM will enhance its reputation, and that of the Smithsonian, by continuing to secure significant media coverage across national and international print and digital platforms such as *The New York Times*, *The Washington Post*, and *The Wall Street Journal*, as well as general interest publications and those relating to all fields of design, and increase the Museum's social media presence. Cooper Hewitt will maintain and cultivate substantive relationships with the public, its existing membership community, state and local governments, children, educators, business leaders, and designers.

NONAPPROPRIATED RESOURCES — Nonappropriated resources support 70 percent of the Museum's operating budget. General trust funds are generated from memberships, Museum shop sales, admissions, special events, and unrestricted contributions. General trust funds support salaries and benefits of administrative personnel, development and business activities, and other program-related costs. The Museum also raises funds from private sources to support research, exhibitions, public programs, and administrative functions. This includes securing contributions for new exhibitions, educational initiatives, and public outreach. Donor/sponsor-designated funds are critical to support exhibitions and educational initiatives. In addition, significant endowment gifts support research, exhibitions, public programs, and administrative functions.

HIRSHHORN MUSEUM AND SCULPTURE GARDEN

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2016 ENACTED	37	4,414	4	2,426	21	7,325	0	0
FY 2017 ESTIMATE	37	4,253	3	2,666	20	5,939	0	0
FY 2018 REQUEST	37	4,344	3	2,666	20	6,250	0	0

STRATEGIC GOALS: EXCELLENT RESEARCH; BROADENING ACCESS; REVITALIZING EDUCATION; STRENGTHENING COLLECTIONS; AND MISSION ENABLING

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2017		FY 2018		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
Research						
Ensure the advancement of knowledge in the humanities	2	196	2	199	0	3
Broadening Access						
Digitization and Web Support						
Provide improved digitization and Web support	1	115	1	117	0	2
Public Programs						
Provide reference services and information	2	180	2	183	0	3
Exhibitions						
Offer compelling, first-class exhibitions	11	1,492	11	1,525	0	33
Revitalizing Education						
Education						
Engage and inspire diverse audiences	3	328	3	334	0	6
Strengthening Collections						
Collections						
Improve the stewardship of the national collections	7	911	7	938	0	27
Mission Enabling						
Security and Safety						
Provide world-class protection for Smithsonian facilities, collections, staff, visitors, and volunteers	1	78	1	79	0	1
Information Technology						
Modernize the Institution's information technology systems and infrastructure	1	95	1	97	0	2

Performance Objective/ Program Category	FY 2017		FY 2018		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
<i>Management Operations</i>						
Strengthen an institutional culture that is customer centered and results oriented	2	201	2	204	0	3
Ensure that the Smithsonian workforce is efficient, collaborative, committed, innovative, and diverse	2	160	2	163	0	3
Modernize the Institution's financial management and accounting operations	3	234	3	238	0	4
Enhance the reputation of the Smithsonian by maintaining good relations with the news media and with federal, state, and local governments	2	263	2	267	0	4
Total	37	4,253	37	4,344	0	91

BACKGROUND AND CONTEXT

The Hirshhorn Museum and Sculpture Garden (HMSG) is a leading voice for contemporary art and culture, providing a national platform for the art and artists of our time. The Museum seeks to share the transformative power of modern and contemporary art with audiences at all levels of awareness and understanding by creating meaningful, personal experiences in which art, artists, audiences, and ideas converge. The HMSG enhances public understanding and appreciation of contemporary art through acquisition, exhibitions, education and public programs, conservation, and research.

The Museum allocates resources to further the Institution's goals so that progress toward one goal advances work toward the others. For instance, through its efforts to pursue the goal of Excellent Research, the HMSG has developed a deep expertise in conserving time-based media works that are at the forefront of contemporary art, and this knowledge enables the Museum to sustain these works under the strategic goal of Strengthening Collections, and to display these works in compelling exhibitions under the strategic goal of Broadening Access.

The HMSG dedicates a significant portion of its resources to the Institution's goal of Broadening Access, primarily through its presentation of insightful, deeply researched exhibitions of modern and contemporary artists, many of them with novel thematic interpretations that win critical and public acclaim. The HMSG supplements these exhibitions with an active roster of public programs, scholarly publications, and carefully selected images in original catalogues, and through continued progress in digitizing images of every work in the collection and highlighting them on the Museum's website.

The Museum's extensive collection is central to its purpose, and, pursuant to the Institution's strategic goal of Strengthening Collections, the HMSG dedicates another substantial portion of its resources to the preservation of its thousands of artworks. These artworks have been highlighted in several collection shows, such as *Masterworks from the Hirshhorn Collection* in FY 2017.

The strength of this collection and the need to preserve it will be highlighted significantly as the Museum moves into its fifth decade, with plans for additional showcases of its unique collection. Moreover, the HMSG continues to make these artworks available to museums around the country with a very active loan program, and lends staff expertise on conservation matters to arts organizations worldwide.

The Museum contributes to the strategic goal of Revitalizing Education with ARTLAB+ and numerous educational programs, including a gallery guide program that serves the Museum's diverse audience and encourages viewers to learn about various fields of contemporary culture. The educational programs also make strong efforts to bring senior, non-museum education professionals into the Museum to expand on the HMSG's didactic approaches. ARTLAB+ is a digital media studio for local teenagers, giving them access to professional technology and art, and connecting them to artist mentors who build a community of young creators. ARTLAB+ has been a signature achievement of the Museum and has received critical acclaim from the broader educational community and from one of its early funders, the MacArthur Foundation, as well as support from the Pearson Foundation and the Smithsonian Youth Access Grant. The Museum also pursues the goal of Mission Enabling by constantly improving its financial and administrative management tools and procedures.

The FY 2018 budget request includes an increase of \$79,000 for necessary pay and other related salary costs for existing staff and \$12,000 to cover rent increases. Both increases are described in more detail in the Fixed Costs section of this budget submission.

MEANS AND STRATEGY

In FY 2018, Excellent Research continues as the Museum further develops a major public forum on the intersections of art, design, technology, and education, featuring international subject-matter experts and an interactive online component, effectively extending participation to audiences far beyond the walls of the Museum. Also, the HMSG will continue to expand its series of online and on-site programs dealing with the role of technology and new media in contemporary art, museum culture, and digital education.

Thanks to the success of our FY 2017 exhibitions, the HMSG saw record visitation and coverage by local and national media outlets. During the successful runs of *Ragnar Kjartansson* and *Yayoi Kusama: Infinity Mirrors*, the Museum experienced a 63 percent increase in visitation above the same period in the prior fiscal year. *Infinity Mirrors* was the HMSG's first exhibition to require timed-entry tickets. In response to demand that was even more enthusiastic than anticipated, the Museum enabled patrons to visit the exhibition through extended hours and other outreach efforts.

FY 2018 exhibitions will remain at the forefront of the HMSG's missions to broaden access to the arts and, specifically, to increase public understanding of and engagement with modern and contemporary art. FY 2018 exhibitions will include:

- A complete rehang of the Hirshhorn's permanent collection in the Museum's Third Level permanent collection galleries. This thematic reinstallation will allow for a complete rotation of artworks, making rarely displayed works from the Hirshhorn's collection accessible to the public.
- A site-specific commission by Los Angeles artist Mark Bradford, who will transform the Museum's third-floor galleries with an installation displayed along the full 400-foot circumference of the inner wall. The new commission, inspired by artist Paul Philippoteaux's 19th-century cyclorama in Gettysburg National Military Park, Pennsylvania, weaves past and present, illusion and abstraction, inviting visitors to reconsider how narratives about American history are shaped and contested. This exhibition was originally scheduled for FY 2017, but was rescheduled because the artist was chosen to represent the United States at the Venice Biennale International Art Exhibition.
- A selection of recent time-based media artworks, many from the Hirshhorn's own collection, to be mounted in the lower level galleries in November 2017, continuing the Museum's commitment to exploring and displaying the role of technology in art and society.
- The February 2018 opening of *Brand New: Art and Commodity in the 1980s*, the first museum exhibition to examine the artistic appropriation of commercial products in the late 20th century, a pivotal moment when artwork became a commodity and the artist became a brand. The exhibition surveys the origins and rise of the key group of artists in New York City's East Village who first used the language and objects of commerce as a radical new approach to art making.
- A retrospective exhibition of work by German artist Georg Baselitz. Co-organized with the esteemed Beyeler Foundation in Basel, Switzerland, this exhibition will be the first full-scale exhibition of Baselitz's highly influential painting, sculpture, and works on paper in the United States in more than 20 years.

The major exhibitions presented in FY 2018 will be complemented by smaller exhibitions. These smaller exhibitions that the HMSG is currently considering include interactive environments created by Thai artist Rirkrit Tiravanija, and family friendly interactive video work by Japanese collective *teamLab*. All exhibitions at the Hirshhorn are augmented with a combination of public tours led by gallery guides and invited specialists, as well as other public

programs. In addition, many exhibitions will be accompanied by brochures, catalogues, and online educational resources.

Through frequent content updates to the HMSG website, the Museum will further the goal of Broadening Access by engaging with local and remote audiences as they draw information from individualized knowledge portals. Planned content for the website includes audio and video from recent public programs, interviews with artists and curators, and searchable access to the Museum's collections. The HMSG will also refine its communication procedures to diffuse deep knowledge of contemporary art and culture, whether presented in the Museum or elsewhere, and not merely describe events in superficial terms. The Museum will continue to publish original catalogues to complement the viewing of its exhibitions as well as other books that examine modern art, design, and cultural shifts of the early 21st century.

The Museum will support Revitalizing Education with a range of programs geared toward people with varying levels of art experience and cultural interests, and by expanding or revising the concept of a museum as a center of learning. As in previous years, one or more working artists will lead youth and teacher workshops for K–12 teachers and students. Artists will also present their ideas and inspirations to people of all ages in the “Meet the Artist” programs and “In Conversation” interviews and panel discussions. The Museum will draw upon a diverse pool of artists, researchers, and experts from unexpected fields to provide interpretive tours in Friday Gallery Talks. It will present Washington's most thought-provoking film series, portraying art and critical thought from independent artists and documentary film makers from around the world. In concert with educational foundation sponsors, the HMSG will expand the ARTLAB+ program throughout the Museum to create an environment where teenagers can attend workshops to learn about and explore digital media. The Museum will also sustain its “Interpretive Guides” program, which brings advanced art students into the galleries to aid visitors' critical experience with art on display, and which develops the students' own education objectives and teaching skills.

In FY 2018, the Museum's main action to achieve the strategic goal of Strengthening Collections will continue to involve planning and fundraising efforts to reconfigure the office and storage space on the fourth floor, and to move the Conservation Lab from the basement to the fourth floor, where natural light will greatly enhance the Lab's activities. In addition, the HMSG will further develop itself as a center for research and preservation of time-based media (e.g., film, digital video, and audio) artworks. This will be done by integrating the work of conservation and exhibits to provide leading-edge presentation and responsible stewardship of the analog and digital time-based media artworks in the Museum's collection.

The Museum will also continue its efforts to photograph and catalogue the entire permanent collection, thereby bringing more of the collection to the public via extensive search features on the HMSG public website.

Under the goal of Mission Enabling, the Museum will continue to pursue capital projects that merge the functional with the artistic by including both artists and designers along with central Smithsonian engineering staff. The Museum will continue to refine its public spaces for visitors who use mobile technology in every facet of life, and expect access to Web-based knowledge and social media platforms to enliven their interpretive experience as they explore Museum galleries. The HMSG administration will continue to institute long-range program planning reviews to improve resource allocation, funds management, and more effective cost sharing with outside organizations which help support major exhibitions and programs. By identifying and working with partners in the private sector, HMSG senior leaders leverage the Museum's federal appropriations to the maximum extent possible.

NONAPPROPRIATED RESOURCES — General trust funds support salaries and benefits of administrative and development personnel, as well as some programs and public relations staff, development activities, and exhibition and program-related costs. Donor/sponsor-designated funds support development, exhibitions, public programs, communications, and marketing.

NATIONAL MUSEUM OF AFRICAN ART

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2016 ENACTED	28	4,399	6	993	4	1,502	0	0
FY 2017 ESTIMATE	28	4,391	4	900	8	975	0	0
FY 2018 REQUEST	28	4,554	6	1,000	8	975	0	0

STRATEGIC GOALS: EXCELLENT RESEARCH; BROADENING ACCESS; REVITALIZING EDUCATION; STRENGTHENING COLLECTIONS; AND MISSION ENABLING

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2017		FY 2018		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
<i>Research</i>						
Ensure the advancement of knowledge in the humanities	3	509	3	568	0	59
Broadening Access						
<i>Digitization and Web Support</i>						
Provide improved digitization and Web support	1	125	1	128	0	3
<i>Public Programs</i>						
Provide reference services and information	3	513	3	527	0	14
<i>Exhibitions</i>						
Offer compelling, first-class exhibitions	8	1,464	8	1,504	0	40
Revitalizing Education						
<i>Education</i>						
Engage and inspire diverse audiences	4	518	4	532	0	14
Strengthening Collections						
<i>Collections</i>						
Improve the stewardship of the national collections	5	644	5	661	0	17
Mission Enabling						
<i>Information Technology</i>						
Modernize the Institution's information technology systems and infrastructure	1	197	1	202	0	5
<i>Management Operations</i>						
Strengthen an institutional culture that is customer centered and results oriented	3	421	3	432	0	11
Total	28	4,391	28	4,554	0	163

BACKGROUND AND CONTEXT

Africa — the cradle of humanity — is part of everyone’s heritage. The mission of the National Museum of African Art (NMAfA) is to inspire conversations about the beauty, power, and diversity of Africa’s arts and cultures worldwide. The Museum’s vision is to be the world’s leading center of scholarly and artistic excellence on the arts of Africa. The Museum accomplishes its mission and vision through effective use of its unparalleled collections, exhibitions, programs, publications, and educational initiatives, which are widely accessible and strengthened through collaborations with African, diasporic, and global arts communities. The Museum collects and exhibits ancient to contemporary works of art from the entire continent of Africa and follows best practices, including rigorous provenance research, in carrying out this work. The NMAfA’s activities and programming support the Grand Challenges of the Smithsonian’s Strategic Plan, particularly in the areas of Valuing World Cultures, Understanding the American Experience, and Magnifying the Transformative Power of Arts and Design.

A key component of Museum operations is the creation of temporary and semi-permanent exhibitions of artworks from its own collection and from other museum and private collections.

Substantial selections from the Museum’s large and important permanent collection of traditional and contemporary African art will remain on view in FY 2018, with periodic rotations, in the *African Mosaic* gallery. In the Museum’s fountain area gallery space, the Museum will continue to present a small exhibition entitled *Currents: Water in African Art*, which opened in FY 2016 and features aquatic-themed artworks from the permanent collection. The small *Healing Arts* exhibition, which opened in FY 2017 in the Museum’s pavilion, will remain on view; it brings together selected traditional and contemporary artworks which explore knowledge, creativity, and the arts as they broadly intersect the theme of healing. At the end of FY 2017, the Museum will complete the exhibition entitled *Visionary: Viewpoints on Africa’s Arts*. The exhibition features works from the permanent collection of traditional and contemporary African arts, and it highlights the Museum’s Walt Disney-Tishman African Art Collection. The *Visionary* exhibition features cross-cutting themes and includes selected dense display areas that showcase particular strengths in the Museum’s collection. In addition, the Museum has revised its popular *Looking @ Art* gallery guide to complement NMAfA’s permanent collection exhibitions and to assist visitors in understanding the forms, materials, messages, and global relevance of Africa’s traditional and contemporary arts.

The FY 2018 budget request includes an increase of \$163,000 for necessary pay and other related salary costs for existing staff.

MEANS AND STRATEGY

The NMAfA will achieve the goals of Broadening Access and Revitalizing Education by directing resources to activities that will result in consistently high-quality programs and larger, more diverse audiences. The Museum will provide greater Web and digital access to NMAfA collections through enhanced navigation features via eMuseum and multi-media applications, and by completing additional image and object catalogue records for the Museum's public access database. The Museum's website will continue to add content such as podcasts, blogs, Facebook, Twitter, and other social media options, as well as online educational resources and activities for teachers and younger audiences. The NMAfA will also implement an expanded social media strategy in FY 2018 to better engage audiences worldwide in the arts of Africa.

The Museum will continue to seek visitor feedback on exhibitions and programs, and implement performance assessments of its public programs. The NMAfA will also continue to engage with our diverse audiences through programming and, in particular, through outreach with teachers of primary, secondary, and college students, as well as with representatives from African immigrant and other local community groups, and to seek input from these groups for exhibitions, programs, and activities. These efforts will result in more effective planning and development of programs and services, which will enable the Museum to reach its target groups and expand its audience base. In addition, marketing strategies will continue to be reviewed and tested to determine the most effective ways to communicate with diverse audiences.

Ongoing educational programs will include musical and dance performances, programs geared to younger visitors and family groups, such as reading, storytelling, and art-making activities, exhibition-related teacher/student workshops and teleconferences, and an annual Community Day. To attract mixed-generation and adult audiences, the NMAfA will present lectures with scholars and artists, gallery tours, community discussions, and film series linked to the ideas and themes explored in the Museum's current exhibitions and reflecting current trends in African-oriented and diasporan scholarship. In addition, the Museum will continue its successful evening events which feature special lectures and opportunities for enthusiasts of Africa and Africa's arts to gather. In addition, the Museum's leadership anticipates continuing the popular Director's Series, featuring the NMAfA's director talking with leading figures associated with Africa and its diasporas.

The Museum will continue to respond to the public regarding the quality and care of collections of African art and to help people learn about African art forms, styles, materials, and contexts of use as part of museum connoisseurship and object quality assessments. To educate casual and serious collectors of African art, the Museum's website will include more useful tips on object identification, assessment, and care. Furthermore, the Museum's successful

implementation of its conservation training Fellowship program, funded by a multi-year Mellon Foundation grant, will contribute to strengthening diversity and inclusion in the field of museum conservation.

To achieve the goal of Strengthening Collections, the Museum will continue digitizing and cataloguing its art and photographic collections, with a focus on recent acquisitions, the Museum's collection of contemporary art, selected works from the Walt Disney-Tishman African Art Collection, and the Eliot Elisofon Photographic Archives. Digital access to these materials will facilitate research and study by students, teachers, scholars, conservators, and the public. The Museum will continue to integrate contextual photographs from the Eliot Elisofon Archives with related objects in the collection.

In FY 2018, the Museum will continue to present two temporary exhibitions, *Invocations*, a multi-media suite of video projections by Nairobi-based artist Jim Chuchu, which opened in FY 2017, and *Senses of Time*, a contemporary, time-based video exhibition that opened in FY 2016 and was developed in collaboration with the Los Angeles County Museum of Art (LACMA), where it was shown concurrently in 2017 and also at the Wellin Art Museum at Hamilton College in New York state.

In early FY 2018, a portion of the NMAfA's 2014–2016 exhibition *Chief S.O. Alonge: Photographer to the Royal Court of Benin, Nigeria* will open at the National Museum in Benin City, Nigeria. The exhibition in Nigeria, which includes copies of Alonge photographs, exhibition text panels, and other materials, will remain on view indefinitely in Nigeria and involves collaboration with Nigeria's National Commission of Museums and Monuments, training of Nigerian museum colleagues, and outreach to communities in Benin City. The exhibition includes a scholarly publication with essays by NMAfA staff and invited scholars.

Another two new exhibitions will open at the NMAfA in the second half of FY 2018. In May 2018, the Museum will open the exhibition *World on the Horizon: Swahili Arts across the Indian Ocean*, which was organized by the Krannert Museum at the University of Illinois, Champaign-Urbana. The four-month-long exhibition will be presented in the *International Gallery*, a space that is jointly managed and shared by the NMAfA and the Freer and Sackler Galleries. Toward the latter part of FY 2018, the Museum will also open a special exhibition that features Senegalese gold jewelry drawn primarily from the NMAfA's collection of jewelry donated in 2012 by art historian Marian Johnson. It will be amplified by relevant images from the Museum's Eliot Elisofon Photographic Archives and by selected object and image loans from a limited number of outside private and public collections. In addition, the Museum will plan an exhibition and publication focused on African contemporary women artists, which may open in late FY 2018 or early FY 2019.

In FY 2018, the Museum will also devote staff resources to planning exhibitions in FY 2019 and beyond, including the *Striking Iron* exhibition developed by the Fowler Museum at the University of California Los Angeles (UCLA). Other possible Museum-developed exhibitions include the *Mechanics of Art*, *Visionary Leadership*, *African Minimalism*, and the *Creativity of Work*, and the NMAfA will seek additional loan shows developed by outside institutions. Staff members will also enhance displays of permanent collection artworks, with particular attention paid to audience engagement strategies. The Museum's emphasis on selected works from the NMAfA's permanent collection, displayed in galleries on all four levels of the Museum, is cost-effective and designed to attract general audiences, collectors, and scholars, as well as local school groups that rely on consistently available works of art for their themed tours and curriculum projects. The Museum will continue to develop rotating exhibitions from the permanent collection for the small *Point of View* gallery and adjacent galleries.

To address the strategic goal of Broadening Access, the NMAfA is focusing resources in several areas: information technology (IT) operations, staff performance and accountability, strategic audience engagement via social media, and effective relations with the media. The Museum's IT plan has integrated information technology functions for administration, collections management, exhibitions, and public access. The IT plan will continue to be reviewed on an annual basis, with updates made as needed. Museum administrators will continue to use the updated and revised strategic plan and feedback from visitor evaluations to update the NMAfA's operational plan and ensure high-quality public programs and experiences for all audiences.

The Museum integrates its strategic goals and operational plans, in concert with the Secretary's annual goals, into the performance plans for all NMAfA staff members. In addition, personnel and programmatic management responsibilities have been incorporated into the performance plans of all department heads to provide more effective review of programs, activities, and relevant projects. Educational brochures and special webpages will increase the educational value of NMAfA exhibits. Finally, the Museum will continue to forge strong relationships with the news media, corporations, foundations, community interest groups, and congressional representatives. Museum staff will accomplish this by further expanding the NMAfA's contact base and distributing more information online and via social media about Museum activities, events, and programs.

NONAPPROPRIATED RESOURCES — General trust funds support staff salaries, benefits, and travel. Funds raised from individual and corporate donors will support the NMAfA's major exhibition efforts, including exhibition-related publications, educational programming, and outreach initiatives. Corporate and foundation sponsorships also support the planning and development of exhibitions, including installation expenses and exhibition-related public programming, travel, and curatorial collaborations.

Introduction, *Understanding the American Experience*

America is an increasingly diverse society that shares a history, ideals, and an indomitable, innovative spirit. The Smithsonian will use its vast resources across disciplines to explore what it means to be an American and how the disparate experiences of individual groups strengthen the country as a whole, and to share our story with the peoples of all nations.

RESEARCH Goal: The Smithsonian advances and synthesizes knowledge that contributes to understanding the American experience, particularly with regard to its history, art, and culture, as well as its connections to the rest of the world.

ACCESS Goal: The Smithsonian turns knowledge into awareness, action, and results, and encourages American cultural vitality.

UNITS primarily associated with this Grand Challenge:

- **Anacostia Community Museum**
- **Archives of American Art**
- **National Museum of African American History and Culture**
- **National Museum of American History, Behring Center**
- **National Museum of the American Indian**
- **National Portrait Gallery**
- **National Postal Museum**
- **Smithsonian American Art Museum**

ANACOSTIA COMMUNITY MUSEUM

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2016 ENACTED	19	2,252	2	447	0	156	0	101
FY 2017 ESTIMATE	19	2,248	3	500	0	56	0	95
FY 2018 REQUEST	19	2,336	3	525	0	75	0	250

**STRATEGIC GOALS: EXCELLENT RESEARCH; BROADENING ACCESS;
REVITALIZING EDUCATION; STRENGTHENING COLLECTIONS; AND
MISSION ENABLING**

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2017		FY 2018		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
<i>Research</i>						
Engage in research and discovery	2	333	2	345	0	12
Ensure the advancement of knowledge in the humanities	1	147	1	152	0	5
Broadening Access						
<i>Public Programs</i>						
Provide reference services and information	3	414	3	429	0	15
<i>Exhibitions</i>						
Offer compelling, first-class exhibitions	3	399	1	101	-2	-298
Revitalizing Education						
<i>Education</i>						
Engage and inspire diverse audiences	1	75	3	399	2	324
Strengthening Collections						
<i>Collections</i>						
Improve the stewardship of the national collections	4	400	4	414	0	14
Mission Enabling						
<i>Management Operations</i>						
Strengthen an institutional culture that is customer centered and results oriented	2	200	2	207	0	7
Ensure that the Smithsonian workforce is efficient, collaborative, committed, innovative, and diverse	1	92	1	95	0	3
Modernize the Institution's financial management and accounting operations	1	94	1	98	0	4
Enhance the reputation of the Smithsonian by maintaining good relations with the news media and with federal, state, and local governments	1	94	1	96	0	2
Total	19	2,248	19	2,336	0	88

BACKGROUND AND CONTEXT

The Anacostia Community Museum (ACM), the first federally funded, community-based museum, was founded on September 15, 1967. The Museum's mission is to enhance understanding of contemporary urban experiences and strengthen community bonds by conserving the past, documenting the present, and serving as a catalyst for shaping the future. Its vision is to challenge perceptions, generate new knowledge, and deepen understanding about the ever-changing dynamics of a community.

As ACM enters its 50th year, the Museum finds itself at a critical point. Shifts in technology, neighborhood demographics and audience expectations have caused the ACM to reexamine its position within the community and the Smithsonian at large. This period of renewal will allow the ACM to restructure its mission in a way that is relevant and inclusive to all communities both near and far. Through targeted market research and in-depth community conversations, the ACM will embark on yet another transformation, reaffirming its place as a pillar of the community, champion of self-expression, and catalyst for social change. Using exhibitions, programming and educational outreach, the ACM will create points of intersection that challenge perceptions and promote understanding, creativity and innovation. This key role played by the Museum has a direct impact on how we engage with one another, positively shaping societal relations for the future.

The FY 2018 budget request includes an increase of \$88,000 for necessary pay and other related salary costs for existing staff.

MEANS AND STRATEGY

The ACM will continue to work toward accomplishing the Institution-wide goal to increase and diffuse knowledge by building on its unique strengths to engage and inspire more people. The ACM will embrace the Institution's Grand Challenges and share knowledge with the public through compelling exhibitions, education, public programs, and media products, and by telling the American story and highlighting American artistic, intellectual and technological leadership.

Using resources which engage the broad range of Smithsonian and external partners, the ACM will draw upon specific themes that bring groups of people together — social, ethnic, religious, geographic, cultural, and other commonalities. Specifically, the Museum will work with community partners to document and preserve heritage through art and its curation, by maintaining important historical artifacts, developing education and public programs, and caring for and expanding the collections. Through its website, the ACM will disseminate information on heritage and community preservation projects and provide access to its collections and research.

The ACM collects artifacts, works of art, photographs, documents, audiovisual media, and other materials which promote the understanding of how communities work. Collections development efforts focus on materials which document the history and research of community life in the metropolitan area. The Museum's collections support the examination of specific issues and themes that shape contemporary urban communities.

RESEARCH

For the past seven years, the Smithsonian's ACM has led the **Urban Waterways Project**, a collaborative research and educational initiative established with the support of the Grand Challenges Consortia. The project was formed within the larger context of debates and discussions surrounding the restoration and development of the Anacostia River, and seeks to explore the many ways urban residents engage with and advocate for the health of their waterways and communities. While the primary focus of the project is the Anacostia River and the communities which line its banks, the project is rooted in the understanding that local experiences are often reflections of regional, national, and international realities. The Urban Waterways current network (including Pittsburgh, Baltimore, Spartanburg, Biloxi, Gulfport, Los Angeles, Honolulu, and London) consists of communities with histories similar to Anacostia and other East of River (EOR) communities.

These communities, which have traditionally been a place of the "Other," have played an integral role in the economic development of their larger metropolises, regions, and nations. As a result, they suffer from the effects of pollution. Communities which have historically lacked resources but are on the frontlines of the mismanagement of natural resources and face the threat of inequitable development are rediscovering the value of urban waterways. The establishment of a network allows for the exchange of best practices, enabling communities to be instructive and serve as examples and guides to other communities facing similar issues. The ACM's role in providing multiple entry points into the engagement with urban waterways speaks to larger global concerns regarding the scarcity of water and other natural resources. This initiative, in turn, leads to larger discussions about humanity's shared responsibility for the exploitation of these resources, the subsequent impacts of such exploitation, and efforts to take corrective measures to repair the damage done.

The **Urban Ecology Engagement Initiative** exemplifies the philosophy that museums should be reflections of the community, spaces in which local residents see themselves and where daily experiences should be represented on the walls and in the programming of the cultural institution that serves them. As this initiative applies to the ACM, after seeing themselves reflected, visitors will be given the opportunity, the space, and the tools necessary to envision their possible futures. The next phase of this project is aimed at fostering student engagement that will provide an immersive hands-on approach to the various issues affecting their urban watersheds, rivers and communities. Accordingly, the **Citizen-Science**

Youth Mentorship Program will produce informed and empowered citizens who understand the importance of advocating for the health of their watershed and fellow residents.

TEEN INITIATIVE

The ACM has started a new teen initiative geared toward encouraging civic engagement, providing access and/educational opportunities, and promoting creativity among young people. Under this initiative, the Museum intends to present several programmatic offerings, the first of which will be a series of teen summits. Each quarter, the ACM will convene a diverse group of teenagers to discuss a topic of concern or interest, and provide a safe space for the youth to express their thoughts on the subject. The goal of this program is to give teenagers a more holistic view of the world around them, shatter their preconceptions, and break down barriers which have kept them from achieving their potential.

COLLECTIONS

The ACM is committed to increasing public access to collections items and ensuring high-quality collections care. In FY 2018, the ACM will digitize and create access to 50 years of exhibitions developed by the Museum on topics such as contemporary urban issues, family and community history, and African American artistry. In order to better serve our local, regional and global audience, the ACM will plan and design an online portal to expand access to our collection and archives through curated tours and digital interactives. In addition, the Museum will upgrade its collections-related physical infrastructure by creating a new high-density object-storage system and developing a centralized climate-monitoring system for collections space.

EXHIBITIONS

The Museum will mount the following two on-site exhibitions in FY 2018:

- **50th Anniversary Project: The ACM Celebrates 50 Years:** The 50th anniversary exhibition will focus on ideas, questions, and issues which have been examined through the unique collaboration of the Museum and the community. Narrated by community participants and presented through a selection of objects from the permanent collection, the exhibition will highlight key projects that celebrate local stories and explore challenges related to urban communities nationally.
- **A Right to the City:** After a half-century of population decline and disinvestment, Washington, DC and similar urban centers around the country have been witnessing a “return to the city” — with rapidly growing populations, rising rents and home prices, but also deepening inequality. *A Right to the City* explores the history of neighborhood change in the nation’s capital, but also its rich history of neighborhood organizing and

civic engagement that transformed the city in the face of tremendous odds. With a focus on a diverse range of neighborhoods across the city, the exhibition tells the story of how ordinary Washingtonians have helped shape and reshape their neighborhoods in extraordinary ways — through the fight for quality public education, for healthy and green communities, for equitable transit and development, and for a genuinely democratic approach to city planning. This exhibit will link the past to the present so visitors can see how this story is still ongoing.

NONAPPROPRIATED RESOURCES — FY 2018 general trust and other nondesignated trust funds support the salaries and benefits of the advancement department, philanthropic support for the operation of the Museum, and the funding of educational and public programs, exhibitions, collections, and research. These trust funds also support the ACM's donor cultivation and fundraising activities as they pertain to the Smithsonian's overall fundraising goals.

ARCHIVES OF AMERICAN ART

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2016 ENACTED	17	1,880	3	658	14	1,935	0	0
FY 2017 ESTIMATE	17	1,876	2	623	16	2,124	0	0
FY 2018 REQUEST	17	1,916	3	709	16	2,106	0	0

STRATEGIC GOALS: BROADENING ACCESS; STRENGTHENING COLLECTIONS; AND MISSION ENABLING

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2017		FY 2018		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Broadening Access						
<i>Digitization and Web Support</i>						
Provide improved digitization and Web support	4	390	4	341	0	-49
<i>Public Programs</i>						
Provide reference services and information	2	113	2	174	0	61
<i>Exhibitions</i>						
Offer compelling, first-class exhibitions	1	76	1	85	0	9
Strengthening Collections						
<i>Collections</i>						
Improve the stewardship of the national collections	8	953	8	978	0	25
Mission Enabling						
<i>Management Operations</i>						
Strengthen an institutional culture that is customer centered and results oriented	2	344	2	338	0	-6
Total	17	1,876	17	1,916	0	40

BACKGROUND AND CONTEXT

Founded in 1954, the Smithsonian's Archives of American Art (AAA) is the world's pre-eminent and most widely used resource for original papers and other primary records documenting the visual arts in the United States. By collecting, preserving and making available more than 20 million unique letters, diaries, photographs, financial records, sketchbooks, scrapbooks, and the like, AAA shares and exemplifies the Smithsonian's mission for "the increase and diffusion of knowledge."

To achieve the Institution's strategic goal of Broadening Access, AAA continues its ambitious digitization program, begun in 2005, to provide online access to a significant portion of its extensive holdings. AAA's website will continue to improve delivery of unprecedented numbers of new digital files, the core of which represents AAA's innovative work to digitize entire archival collections, representing hundreds of linear feet of materials, along with descriptive information, and provide engaging content, online exhibitions, and robust search and reference services. AAA's Lawrence A. Fleischman Gallery in the Donald W. Reynolds Center (DWRC) continues to reach new and diverse audiences.

The strategic goal of Strengthening Collections will be achieved by continuing to implement preservation actions based upon results derived from comprehensive and systematic collection assessment surveys. AAA will continue to focus on decreasing the backlog of unprocessed collections and audiovisual and born-digital holdings.

AAA will accomplish the strategic goal of Mission Enabling through organizational excellence by continually assessing and enhancing staff development and maintaining conscientious oversight of internal controls.

This FY 2018 budget request includes an increase of \$40,000 for necessary pay and other related salary costs for existing staff.

MEANS AND STRATEGY

AAA will achieve the Institution's goal of Broadening Access by continuing to direct resources to optimize its presence in the DWRC and specifically by presenting compelling exhibitions in its Lawrence A. Fleischman Gallery. The exhibitions planned for FY 2018 include an exhibition to underscore the Archives' national scope, tentatively titled, *Off the Beaten Track: A Road Trip through the Archives of American Art*, featuring 50 items from 50 states; followed by *Bloom: Flowers from the Archives of American Art*, an exhibition presented in collaboration with the Smithsonian Gardens; and another exhibition being developed in conjunction with the Freer and Sackler Galleries.

In addition, through public programs, professional presentations, online exhibitions, and loans to other museums and institutions worldwide, AAA will continue to widen its audience and provide the public with a greater knowledge of the history of visual arts in the United States.

In FY 2018, the Archives will continue to refine the new design of its website. The website will be enhanced to promote public access and engagement. The staff, working with public focus groups, will refine the collections' search and browse interface and social media, incorporating emerging trends and technologies as well as responsive design. AAA will continue to encourage public visits to its website by adding finding aids for processed collections; tens of

thousands of images of digitized documents; transcripts and audio excerpts of interviews conducted for the Archives' Oral History Program; audio and video recordings; and online exhibitions.

Also, in FY 2018, AAA will continue to develop the Terra Foundation Center for Digital Collections with ongoing support from the Terra Foundation for American Art, the Walton Family Foundation, and other funding streams in the private sector. This effort, in combination with digitization completed for reference requests, exhibitions, loans, and special projects, will add an estimated 150,000 digital image files and continue to bring increased public Web access to AAA collections. In addition, AAA will continue developing its internal digitization and Collections Information System (CIS) application to ensure proper collections documentation and support increasingly complex workflows, including digitization on demand and use of the Aeon patron request management software launched in FY 2014 and FY 2015, as well as to provide proper logging and accessioning of materials in born-digital formats. These efforts will enable AAA to track the life cycle of all collections and oral histories from pre-acquisition to storage and access. AAA will leverage its investment in the digitization of its collections by fully participating in the Smithsonian's Enterprise Digital Asset Network (EDAN) architecture, the Digital Asset Management System (DAMS), the Smithsonian Transcription Center, and other Smithsonian digitization program initiatives.

In FY 2018, AAA will continue to take a leadership role in developments and enhancements of SOVA (Smithsonian Online Virtual Archives), a transformative online portal to thousands of archival finding aids and associated digital content contributed by archival units across the Smithsonian and maintained centrally by the Office of the Chief Information Officer. In support of SOVA, the AAA will participate in the implementation of ArchivesSpace — a new shared software and database collections information and management system that will be adopted by all Smithsonian archival units.

In addition, in FY 2018, the Archives' goal will be to process at least 10 percent of our backlog, or about 800 to 900 linear feet of archival collections, resulting in new, fully searchable finding aids on AAA's website. Finding aids resulting from processing work will provide online access to numerous previously hidden collections in the backlog, including audiovisual collections, as well as support online digitization on demand requests and the online navigation of fully digitized collections. Processing workflows will continue to integrate accelerated processing and preservation strategies aimed at diminishing the current backlog and preventing new backlog.

Furthermore, in FY 2018, the Archives will continue focused efforts to develop holistic strategies, workflows, and internal policies and guidelines which effectively address collecting, preserving, describing, and making available collections materials created in born-digital formats.

AAA will continue to strengthen its collections stewardship through its ongoing, comprehensive collections assessment surveys, begun in 2004 for manuscript collections, and subsequently expanded to include at-risk audiovisual and born-digital holdings. Reports generated from this data provide valuable information about AAA's backlog and holdings, so the Archives' staff can make informed decisions about the best way to prioritize and allocate limited resources. AAA will continue to take a leadership role in working with the larger Smithsonian archival community to initiate and implement Institution-wide comprehensive collections assessment strategies and systems, similar to the recently completed pan-Institutional assessment of archival audiovisual materials and born-digital holdings. AAA will continue to initiate and support Institution-wide archival backlog processing projects to develop an online shared toolkit of documented methodologies, tactics, and efficiencies.

In addition, AAA will continue to support researchers with access to its collections and microfilm in its Washington, DC and New York City research centers, as well as other affiliated U.S. research centers, by providing remote reference services through its Web-based "Ask Us" form and interlibrary loan program.

The goal of Mission Enabling through organizational excellence will be addressed by continuing to implement the strategic goals of the Smithsonian, and by adopting national best practices and standards to safeguard and make the most cost-effective use of Smithsonian resources.

NONAPPROPRIATED RESOURCES — General trust funds support AAA's development office, including salaries and benefits. Donor-designated funds support specific programs and projects, including exhibitions, internships, production of oral history interviews, collections and media processing, and publication of the *Archives of American Art Journal*. In FY 2018, the Archives will work closely with its advisory board to position this publication as the leading scholarly journal in the field of American art history. In the past two years, AAA has significantly increased the number of outstanding submissions, raised the visibility of the journal, strengthened the Archives' relationship with the University of Chicago Press, and established more cost-effective, multi-year contracts for design and printing.

Also in FY 2018, the Archives will continue to develop strategies for sustaining its digitization program by building an endowment to support critical staff and implementing improved rapid-capture technologies and techniques. Funding from the Terra Foundation for American Art and the Walton Family Foundation supports AAA's digitization program. AAA will continue to participate in the Smithsonian Institution's National Campaign to raise money for digitization, oral history projects, collections management, and general operating expenses.

NATIONAL MUSEUM OF AFRICAN AMERICAN HISTORY AND CULTURE

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2016 ENACTED	165	41,347	1	615	11	15,386	0	0
FY 2017 ESTIMATE	165	41,268	1	672	12	8,690	0	0
FY 2018 REQUEST	145	32,987	1	650	45	17,300	0	0

STRATEGIC GOALS: EXCELLENT RESEARCH; BROADENING ACCESS; REVITALIZING EDUCATION; STRENGTHENING COLLECTIONS; AND MISSION ENABLING

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2017		FY 2018		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
<i>Research</i>						
Ensure the advancement of knowledge in the humanities	30	4,686	30	5,364	0	678
Broadening Access						
<i>Digitization and Web Support</i>						
Provide improved digitization and Web support	9	1,670	9	2,003	0	333
<i>Public Programs</i>						
Provide reference services and information	21	5,056	22	5,147	1	91
<i>Exhibitions</i>						
Offer compelling, first-class exhibitions	16	3,229	16	3,811	0	582
Revitalizing Education						
<i>Education</i>						
Engage and inspire diverse audiences	10	1,175	10	1,432	0	257
Strengthening Collections						
<i>Collections</i>						
Improve the stewardship of the national collections	13	2,561	11	2,614	-2	53
Mission Enabling						
<i>Facilities</i>						
Improve the overall cleanliness and efficient operation of Smithsonian facilities	2	5,302	2	1,561	0	-3,741
<i>Security and Safety</i>						
Provide a safe and healthy environment	1	126	1	141	0	15
<i>Information Technology</i>						
Modernize the Institution's information technology systems and infrastructure	11	6,849	10	4,721	-1	-2,128

Performance Objective/ Program Category	FY 2017		FY 2018		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
<i>Management Operations</i>						
Strengthen an institutional culture that is customer centered and results oriented	8	1,206	10	1,893	2	687
Ensure that the Smithsonian workforce is efficient, collaborative, committed, innovative, and diverse	4	683	4	520	0	-163
Modernize the Institution's financial management and accounting operations	16	2,166	16	2,230	0	64
Enhance the reputation of the Smithsonian by maintaining good relations with the news media and with federal, state, and local governments	4	1,593	4	1,550	0	-43
<i>Ensuring Financial Strength</i>						
Secure the financial resources required to carry out the Institution's mission	20	4,966	0	0	-20	-4,966
Total	165	41,268	145	32,987	-20	-8,281

BACKGROUND AND CONTEXT

The National Museum of African American History and Culture (NMAAHC) was established by Congress to document, collect, conserve, interpret, and display the historical and cultural experiences and achievements of Americans of African descent. In late 2016, the NMAAHC, the first environmentally sustainable, "green" museum on the Mall, opened to the public, providing a national meeting place for all people to learn about the history and culture of African Americans and their contributions to every aspect of American life. This Museum seeks to help all Americans remember these contributions, and in so doing, stimulate a dialogue about race and help to foster a spirit of reconciliation and healing. As the only national museum devoted exclusively to documenting and exploring African American history and culture, the NMAAHC bridges a major gap in our national memory by creating exhibitions and programs focusing on a wide arc of history and looking deeply into slavery, Reconstruction, the Harlem Renaissance, the great migrations of the World Wars, the civil rights movement and other issues of the 21st century. The Museum also celebrates African American creativity and cultural expressions through art, dance, theater and literature.

FY 2017 is the NMAAHC's first year of operations as a fully functioning museum. The NMAAHC opened to unprecedentedly large crowds, which have grown instead of diminishing with time. The building, exhibitions, information technology (IT), and the Sweet Home Cafe restaurant have all been award-winning entities, creating even more excitement, and the shops have enjoyed unexpectedly large crowds. FY 2018 will mark the continuation and expansion of major initiatives which fulfill the mission of looking at American history through the lens of African American history and culture. The NMAAHC will further disseminate information through four major initiatives: the establishment of a robust visitor services program; the building of a national collection; continued development of IT and digitization programs; and the development and implementation of a robust research and education program centered on specific subject matter such as the study of the African Diaspora.

The FY 2018 budget request includes a net decrease of -\$8,281,000. This includes an increase of \$426,000 for necessary pay and other related salary costs for existing staff. The budget request also includes a transfer of -\$3,741,000 from unit rent to central rent and a decrease of -\$4,966,000 and -20 FTEs for planning and development strategies, to include fund raising to support Museum programs. FY 2017 is the final year the Museum will use federal funds for these programs and, in FY 2018, these activities will be supported with non-federal funds.

MEANS AND STRATEGY

In FY 2018, the NMAAHC's top priority will be to enhance the Visitor Services unit to accommodate the large visitorship the Museum is experiencing. The Museum provides a unique visitor experience, and impacts each individual personally no matter one's national, racial or ethnic identity. Visitor Services works closely with the Office of Protection Services (OPS) inside and outside the Museum, addressing the need for vigilant safety and security and crowd and line management. Other services include providing access to underserved and special needs constituents, and information, wayfinding and other essential services such as digital engagement. Visitors typically exceed the average stay in the Museum (1.5 to 2 hours) by three times, remaining up to six hours. Visitors to the Museum are highly diverse demographically and come from many different parts of the country and from around the world. A significant number of them are of older age, often requiring wheelchairs and emergency assistance. These realities require additional planning, training, and effective execution, as well as increased security and additional facilities maintenance, to provide the most robust visitor experience.

The Museum's second priority is the implementation of the second phase of its IT and digitization programs that have made the Museum the first fully digital museum on the Mall. The NMAAHC IT program will broaden the Museum's reach and impact by adopting a digital-first strategy that includes providing tools, technology and platforms to enhance education programs, facilitate research and collaboration, and enable external partnerships. The Museum will use technology to extend and enhance the visitor experience, promote engagement with visitors before, during and after a visit, and provide meaningful interactions that engage a global audience.

The NMAAHC will expand its initial phase of interactive, online, and mobile offerings to include innovative and engaging content that connects visitors to collection objects and topics of interest. The Museum-Wide Mobile platform will further extend the Museum's digital presence with applications which enhance the gallery experience and allow visitors to engage with the Museum's content and themes anywhere, using a variety of devices. Digital content management systems and interfaces are being developed in cooperation with the Office of the Chief Information Officer (OCIO) as models for the rest of the Smithsonian Institution (SI) to use in other museums. FY 2018 will be the first year that the new Media Asset Delivery System (MADS) platform, which was designed by the NMAAHC and OCIO to deliver film and video, will be fully implemented in the Museum and online.

The third priority for the NMAAHC is to continue to fulfill its mission of collecting and documenting African American history and culture, with a new, special emphasis on programs about the African Diaspora, African American innovation and entrepreneurship, and faith.

The Museum's fourth priority will be to engage in long-term planning for the enhancement of its research and education programs. This includes the following activities: growing domestic and international partnerships to further generate support for the Museum; designing and developing traveling exhibitions for display throughout the United States; expanding scholarly research in all areas of African American history and culture; and developing robust education programs for the public, educators, and students.

To achieve the goal of **Excellent Research**, the Museum will use its resources to build on ongoing areas of research.

In FY 2018, curatorial research will continue to conduct in-depth studies of the Museum's historical artifacts, fine art, archival materials, photographs, film, and other media collection areas. The NMAAHC will share this research with scholars and the public through Web-based platforms, public and educational programs, and publications. Key initiatives and programs in FY 2018 include the following:

- The Museum will advance the work of the Center for the Study of Global Slavery (founded in 2017) in three ways. The Center's Slave Wrecks Project network will continue research, preservation, capacity building, and community engagement (including exhibition development, education and public programming) efforts in South Africa, Senegal, Mozambique, St. Croix, Cuba and North America. The Center's participation in the Global Curatorial Project will advance into the exhibition-concept phase and the Center will inaugurate a Community Collections Program, fostering connections to communities affected by slavery and its consequences.
- The NMAAHC will expand its research base by creating two new scholarly centers. In addition to the established centers for African American Religious Life, the Study of Global Slavery, and the Center for African American Media Arts (CAAMA), the new centers will cover U.S. Racial History and Equity, and African American Innovation and Entrepreneurship.
- A guest-programmer film series — Six programs curated by film makers, programmers, scholars, and artists, which include Early Black Cinema, Cult Classics, Sports Documentaries, experimental film makers, and other genres of film.
- The NMAAHC Film Festival — A national exhibition of new, emerging, and historical cinema and moving-image works that explores African American history and culture to strengthen relationships between film makers, the motion-picture industry, audiences, and scholars.

- Collaboration with the National Archives and Records Administration and Family Search — Digitizing, indexing, and disseminating thousands of documents and a searchable genealogical database related to the 19th century Freedmen’s Bureau. In FY 2017, the Museum and Family Search completed the genealogical indexing of millions of digital images of the original records of the Freedmen’s Bureau. The Museum will provide both on-site and online access to one of the largest searchable databases of the names of former slaves. In FY 2018, the Museum will expand access to the Freedmen’s Bureau records by continuing a multi-year effort with the SI Transcription Center to provide word-searchable, full-text transcriptions of the records and link them to the existing genealogical index.
- On-site and off-site internships from Stanford University, which are supported by the Robert Frederick Smith Fund for the Digitization and Curation of African American History.

To achieve the goal of **Broadening Access**, the NMAAHC will direct its resources as follows:

Digitization and Web Support

- The NMAAHC will continue to create searchable and accessible digital records for collection objects and high-quality digital surrogates, especially for recent acquisitions. In FY 2018, the NMAAHC plans to make thousands more high-quality images with contextual records available to the public via the Smithsonian’s Collection Search Center (<http://collections.si.edu/search/>) and the Museum’s revamped website (<http://nmaahc.si.edu/>), and offer curated and user-generated selections of collections via digital portals in the Museum, on the Museum’s website, and through partnerships on the World Wide Web such as with Google Arts and Culture.
- The NMAAHC will continue to ensure that digital content, both collections- and research-based, is properly formatted and tagged for use across all digital delivery platforms. The Museum-Wide Mobile (MWM) platform and the Web presence will increase access to scholarship and information about the Museum’s objects and help translate the inaugural and temporary exhibition content into engaging, personal experiences.
- With support from the Robert Frederick Smith Fund for the Digitization and Curation of African American History, the Museum will launch a Professional Curation Program to license, digitize, and share historically important collections belonging to other institutions, and a Community Curation Program to encourage individuals and community groups to contribute to a shared digital repository of digitized artifacts and stories related to African American history. Collections from both programs will be accessible via online portals managed by the Museum.

Visitor Services

- In FY 2018, Visitor Services continues initiatives to engage a broad audience by increasing accessible offerings. This includes creating new tactile experiences, foreign language materials, and alternative formats to experience museum content. Visitor Services will continue to offer tools that provide “free-choice” learning options. The NMAAHC will offer the “Sighted Guide Technique,” which “refers to a method by which a visually impaired person and a sighted person can walk together safely and comfortably.” Visitor Services has basic knowledge of American Sign Language (ASL), and offers the *Smithsonian National Museum of African American History & Culture Tactile Guide*, a spiral-bound set of Braille floor maps that visitors with low vision or who are blind may use to experience the exhibitions.
- In FY 2017, NMAAHC Visitor Services prioritized customer services in exterior and interior queue management, timed-pass processing, and facilitating group and individual entry to the Museum due to unexpectedly large crowds. To ensure quality visits so that visitors engage with the exhibitions and programs, NMAAHC queue management required Visitor Services inside and outside of the building to monitor crowding, keep visitors informed, and facilitate timed entry. To ensure visitor safety once inside the building, Visitor Services monitors the capacity of public elevators and orients visitors on each floor in the Museum. In FY 2018, the Visitor Services Department, including staffing, will be finalized and enhanced, and security and maintenance services will be coordinated so that NMAAHC visitors leave with a better understanding of African American history.

Exhibitions

In FY 2017, the NMAAHC has been maintaining the permanent exhibitions, including producing new graphics, labels and mounts to accommodate object rotations due to the acquisition of new artifacts. The NMAAHC Design and Production Department will produce all of this new material, as well as maintain all other signage in the building, the 152 media programs in the permanent exhibitions, and the low- and high-tech interactive components of exhibits. The department will also create and produce a series of smaller changing exhibitions within the building, including those in the CAAMA, the new acquisition case on the main building concourse, the changing exhibition space in the *Visual Art and the American Experience Gallery*, and several small exhibition cases on the second floor. New exhibitions for FY 2018 include:

- *Everyday Beauty* (at the CAAMA, opens July of 2017). Also, in March of 2018, a new exhibition featuring photography and media from the collections will open.
- *The Poor People’s Campaign* (National Museum of American History Gallery, opens December of 2017). The exhibit will commemorate the half-century anniversary of the 1968 campaign, led by Dr. Martin Luther King, Jr., and the Southern Christian Leadership Conference, to gain economic justice for poor people in the United States.

- *Watching Oprah: The Oprah Winfrey Show and American Culture* (Special Exhibitions Gallery, opens FY 2018). This exhibition will explore the life and legacy of Oprah Winfrey and the cultural significance and impact of *The Oprah Winfrey Show* (1986–2011).
- The NMAAHC will unveil the results of a joint collaboration with Google to provide an interactive experience that brings 3D scans of objects from the Museum’s collection to life. It will be located on the second floor, in the *Explore More* Gallery. In addition, planning has begun for an exhibition commemorating the 100-year anniversary of African American soldiers who fought in France during World War I. This exhibition, a joint collaboration with the City of Paris, will open to the public in Paris, France in 2018, and come to the NMAAHC in 2019.

In FY 2018, the NMAAHC is leveraging its role as a national model for collaboration that strengthens institutional capacity and sustainability among African American and African Diaspora museums and cultural heritage organizations. Charter initiatives involve local, domestic, and international stakeholders and constituents. Internationally, the NMAAHC has formed the following partnerships worldwide:

- In 2017, the Museum founded the Center for the Study of Global Slavery (CSGS), an outward-facing Center that fosters collaborative and international projects through three components: The Slave Wrecks Project (SWP), The Community Collections Project, and Special Initiatives and Programs. Through the CSGS, the Museum hosts the Slave Wrecks Project, an international network of institutions and researchers focused on the history and enduring legacies of the transatlantic slave trade. U.S. partners include the National Park Service and George Washington University. Internationally, the SWP partners with individuals, NGOs, governmental institutions, and institutions in South Africa, Mozambique, Senegal, Cuba, St. Croix, and Brazil. Funding for scoping missions to Benin and Antigua is requested in FY 2018, and an expansion of work in Mozambique, Brazil, Senegal, and Cuba is anticipated.
- The CSGS also sponsors the Museum’s participation in a second key international collaboration related to slavery. The Global Curatorial Project includes: Brown University; IFAN Museum in Senegal; the National Museum of World Cultures in Amsterdam; the International Slavery Museum in Liverpool; Iziko Museums of South Africa; Shackles of Memory in Nantes, France; The Royal Museum for Central Africa in Belgium; The Legacies of British Slave Ownership; and University College London. The CSGS fosters intersections between these two large international collaborations and will develop that in 2018.
- In FY 2018, the Museum will again be a lead sponsor and presenter for the *Reinventing our Museums* conference, along with the arts organization Fundacion TyPA. The NMAAHC continues established work on strategic partnership and network development efforts with our Caribbean, Central and

South American sister organizations, by focusing on strategic African Diaspora communities. This includes *Beyond Boundaries: Transcending Geographies, Disciplines and Identities*, which is part of the NMAAHC diasporic collaboration with the Association of African American Museums and the Museums Association of the Caribbean.

To achieve the goal of **Revitalizing Education**, the NMAAHC will supplement ongoing educational initiatives offered off site for students, educators, and the general public, and begin offering programs on site at the new Museum. The NMAAHC will:

- continue to carry out educational initiatives offered on and off site for all audiences. The NMAAHC will continue to serve early learners, K–12 students, teenagers, families, educators, volunteers and the general public. The NMAAHC will also continue to produce signature educational public programs in a variety of formats (e.g., musical performances, literary works, staged readings, dance programs, films, fashion shows, family days, poetry readings, food-ways, craft workshops, etc.). The Museum will also launch pilot projects in new formats, such as the “A Seat at the Table” program, which features a formal panel of experts, followed by a meal and guided discussions on a specific topic.
- continue to send Museum teachers to classrooms in Washington, DC, Maryland, and Virginia to conduct the “Everyone Makes a Difference” Program. The NMAAHC has launched and will continue to conduct early childhood education programs such as the “Pop-Up Storytime” and “Pop-Up Reading Room” in the Museum’s second-floor classrooms. These programs feature reading age-appropriate books and connections to the collections and exhibitions.
- present on-site and traveling versions of the popular *Save Our African American Treasures* program to enable the Museum to continue engaging the American public in discovering, collecting, preserving, and sharing the material culture of African American heritage.
- launch a STEM educator workshop program and early childhood education programs which will focus on identity formation and literacy.
- offer unique youth programming on site and via videoconferencing that will allow intimate access to the compelling stories highlighted in the exhibitions and which will challenge young people to be active and productive citizens. The Museum will also continue to provide teen school-to-work programs and college on-site and virtual internships.
- work with the staff of the Center for Teaching and Learning to build signature programming to support educators nationwide. The NMAAHC will also build upon successful educator programs to include the Learning Together series.

- create opportunities for visitors to engage with the Museum and its content through visitor services staff and visitor information advocate volunteers. Volunteers will be stationed at the Information Desk and strategically throughout the Museum. In addition, Smithsonian support staff will distribute mobile tour devices, facilitate large crowds, and conduct audience evaluations.
- launch special programming on race and reconciliation, supported by a generous grant from the Atlantic Philanthropies, to educate the public on issues of racial equity, in consultation with key actors in the field. A gift from Verizon Corporate Resources Group will enable the NMAAHC to continue its educational public programs in support of its mission and exhibitions, helping visitors connect and engage with African American history and culture.

To achieve the goal of **Strengthening Collections**, the NMAAHC will use its resources to:

- continue to identify, acquire, and process collections to develop and refine its permanent collections. The NMAAHC has collected 36,000 objects. Collection management activities will continue to focus on caring for objects on display, preparing collections planned for display in both inaugural exhibitions and for temporary exhibitions, and processing general collections. In FY 2018, the Museum continues targeted growth of the collections and archives.
- continue to develop its collections strategy to replace loaned objects in permanent inaugural exhibitions. In FY 2018, the NMAAHC will implement a strategy to acquire collections objects to replace loaned objects in permanent inaugural exhibitions.
- expand its oral history program to capture both immediate and in-depth recordings from individuals whose stories and reminiscences will enhance the NMAAHC's collections and research. A selection of these recordings will be processed and made available via the NMAAHC website and the Smithsonian's online Collection Search Center. The Museum will continue to collect interviews for the Collection Donor Oral History Project, which documents stories of individuals who have donated to our collection, such as NASA Administrator Charles F. Bolden, Jr., and civil rights activist Joan Mulholland. Other interviews will be directly associated with exhibitions like the recordings of the Meggett family who were the last occupants of the Edisto Slave Cabin that is featured in the *Slavery and Freedom* inaugural exhibition.
- seek funding to complete the fit-out of the collections space per Smithsonian Directive 600, Collections Management, policy on compliance for storage of museum holdings. The Museum has collected more than 36,000 items and nearly 500 cubic feet of archival collections. Approximately 3,000 collections items are featured in the Museum's exhibition galleries, a selection of archival collections are accessible at the Museum, and the balance of collection items

and archival collections are housed in the Pennsy Drive facility in Maryland. The facility accommodates a 7,800-square-foot, multi-purpose conservation lab, a mount-making shop, cold-storage capacity, and a photography and digital imaging studio. Initial installation of compact storage equipment improves the management of collections.

To achieve the goal of **Mission Enabling**, the NMAAHC will use its resources to continue developing its operating organizational structure and make organizational and staffing revisions as necessary to accomplish program goals. This includes:

Information Technology

The Museum will continue to develop its award-winning interactive experience program, including expanded mobile tours with in-Museum mapping for on-site visitors and increased accessibility functions for visually and hearing-impaired visitors. The Museum will also launch new virtual reality and augmented reality immersive experiences as follows:

- The NMAAHC website will continue to grow as a digital portal to the Museum's stories, collections, online exhibitions, and research databases as we add new user-centered features and functions. The Museum Interactive Support System (MISS), built in collaboration with OCIO, is a robust system of application programming interfaces and content delivery mechanisms that allows sharing of content through the website, interactive exhibitions, mobile tours and other digital channels. In FY 2018, the MISS will expand to include connections to new interactive experiences, and ensure that the content is secure, scalable and accessible.
- IT initiatives also will be expanded and continue to grow via a multi-year phased program. The implementation of the first phase of the digital program occurred in late 2016 as part of the grand opening. During FY 2017, the next phases of the digital program will occur, along with the implementation of new IT programs to continue broadening public access to NMAAHC resources.
- The NMAAHC will empower Museum staff with technology to improve communication and collaboration, including with external partners, and to gain efficiencies in business processes through streamlined workflows and updated technology. Changes include upgrades to Sankofa, the Museum's intranet site, for improved information sharing and business process automation. Additionally, we will improve IT operations and efficiency by formalizing IT planning, project management and reporting processes, and by implementing plans for disaster recovery and continuation of operations.
- IT will improve the management and presentation of datasets for collections, exhibitions, research, and content management across digital platforms. A focus of this effort is continued transcription and improved search functions for the

Freedman's Bureau papers.

- Many Lenses is an online collaborative initiative with the National Museum of the American Indian and the National Museum of American History that highlights the myriad ways a museum object can be seen and understood. In FY 2018, the Museum will continue to develop and expand Many Lenses with additional stories.

Management Operations

- **Public Affairs**

The NMAAHC, through its Public Affairs Department, will continue to promote its exhibitions, collections, educational initiatives, centers and public programs. The Museum will develop communications plans and publicity campaigns for events, exhibition openings, fund raising, special events and membership activities — and produce informational materials, reports and collateral documents.

- Media Cultivation and Outreach: The NMAAHC will continue to direct its resources to expand its local, national and international visibility. The Museum will develop strategic partnerships with media organizations to offset advertising costs and build an ongoing cycle of news stories about the Museum. In 2018, the NMAAHC will capitalize on its visibility campaign to increase advancement, membership, visitation and overall support.
- Marketing: The NMAAHC will develop a marketing arm within Public Affairs to:
 - work closely across all NMAAHC departments on communications to visitors and the Museum's stakeholders;
 - refine the Museum's brand guidelines and style guide;
 - maintain a positive brand for the Museum;
 - refine communications across all channels; and
 - unify, streamline, and economize the Museum's marketing and branding efforts to reduce outsourcing costs to the Museum.
- Communications: The NMAAHC will refine its emergency communications, crisis communications and rapid response systems.
- Social Media: The NMAAHC will continue to connect with and educate the public about African American history and culture through online conversations, programming, interactive stories, and daily educational content.
- Partnerships: The Museum will develop partnerships to expand its ability to engage with new audiences.
- Audience Engagement: The Museum will expand its engagement through weekend and evening storytelling. The Museum will also continue building its

blog to provide a first-rate online community about African American history and culture.

- Internships and Fellowships: The NMAAHC will launch a Fellowship and internship program to increase the representation of minorities in the digital media field.

- **Facilities Planning and Business Operations**

- In FY 2018, the NMAAHC will continue its multi-year phased build out of building efficiencies missed in design and construction, as well as implement corrective measures for design deficiencies, particularly where security and safety are concerned. Security and safety for the public and staff are priorities and will be finalized.
- The NMAAHC will complete guidelines and implement procedures and policies for the Museum's maintenance, operations, security, crowd control, mail services, and cleaning programs.
- The Museum will continue to develop a streamlined operations program to ensure maximum financial and budget efficiencies.

NONAPPROPRIATED RESOURCES — General trust funds support salary and benefit costs of the Museum director. Donor/sponsor-designated funds support staff, special events for exhibition openings, and costs related to specific programs and projects, including educational programs, donor-related special events, and outreach activities.

**NATIONAL MUSEUM OF AMERICAN HISTORY
KENNETH E. BEHRING CENTER**

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2016 ENACTED	163	22,697	24	4,233	67	10,578	1	91
FY 2017 ESTIMATE	163	22,654	30	4,300	65	10,000	0	100
FY 2018 REQUEST	164	23,776	30	4,500	60	11,000	0	75

**STRATEGIC GOALS: EXCELLENT RESEARCH; BROADENING ACCESS;
REVITALIZING EDUCATION; STRENGTHENING COLLECTIONS; AND
MISSION ENABLING**

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2017		FY 2018		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
<i>Research</i>						
Ensure the advancement of knowledge in the humanities	22	3,200	22	3,350	0	150
Broadening Access						
<i>Digitization and Web Support</i>						
Provide improved digitization and Web support	12	1,545	12	1,650	0	105
<i>Public Programs</i>						
Provide reference services and information	14	2,245	14	2,330	0	85
<i>Exhibitions</i>						
Offer compelling, first-class exhibitions	43	6,220	43	6,400	0	180
Revitalizing Education						
<i>Education</i>						
Engage and inspire diverse audiences	6	760	6	830	0	70
Strengthening Collections						
<i>Collections</i>						
Improve the stewardship of the national collections	46	5,850	47	6,291	1	441
Mission Enabling						
<i>Facilities</i>						
Improve the overall cleanliness and efficient operation of Smithsonian facilities	1	185	1	195	0	10
Execute an aggressive, long-range revitalization program and limited construction of new facilities	1	238	1	245	0	7

Performance Objective/ Program Category	FY 2017		FY 2018		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
<i>Security and Safety</i>						
Provide a safe and healthy environment	1	133	1	140	0	7
<i>Information Technology</i>						
Modernize the Institution's information technology systems and infrastructure	4	800	4	815	0	15
<i>Management Operations</i>						
Strengthen an institutional culture that is customer centered and results oriented	2	365	2	380	0	15
Ensure that the Smithsonian workforce is efficient, collaborative, committed, innovative, and diverse	3	337	3	350	0	13
Modernize the Institution's financial management and accounting operations	8	776	8	800	0	24
Total	163	22,654	164	23,776	1	1,122

BACKGROUND AND CONTEXT

The National Museum of American History (NMAH), Kenneth E. Behring Center, inspires a broader understanding of our nation's history and its people through research, exhibitions, collections activity, education, and public programs. The Museum's primary goal is to tell an overarching American story that is inclusive of and respectful and compassionate to all the peoples in America who were here, who came here, and who were brought here. Through incomparable collections, rigorous research, and dynamic public outreach, the Museum explores the infinite richness and complexity of American history. NMAH helps people understand the past to make sense of the present and shape a more humane future.

More than four million people visit the Museum every year, in addition to more than seven million people who visit the Museum online annually, making NMAH the most visited history museum in the world. We present our history as substantial and challenging, inviting and accessible, inspiring and wonderfully human. Together with the American people, we wrestle with the hardest issues that we have faced, and do so in an inspirational manner, aiming to influence public conversations and to make a difference in the current life of the nation.

The Museum continues to enrich its presentation of the American Experience with new exhibits in the West Wing, which is part of an ongoing revitalization of the entire Museum. Each of the three exhibit floors in the West Wing is focused on an overarching and inclusive theme representing the ideals and ideas of the American Experience. The first floor opened in 2015 and focused on American enterprise, innovation and invention. The second floor opened in 2017 and tells two essential American stories — the origins of the American people and the evolution of their democracy. In 2018, we plan a phased reopening for the third floor, which will focus on American entertainment history — music, sports, movies, broadcasting and theater — and how our culture expresses what it means to be an American.

Through 2018, the Museum will be actively fund raising for the third floor West Wing exhibits and programs, which will captivate visitors with compelling stories, invaluable objects, state-of-the-art media, public spaces, and new exhibitions to make American history vital, fascinating, and central to understanding and embracing the American Experience. The Museum's private fundraising goal of \$90 million to \$150 million for the West Wing exhibits, programs, and endowed curatorial positions will leverage the federal investment in the building's renovation.

The FY 2018 budget request includes an increase of \$1,122,000 and 1 FTE. The request includes an increase of \$722,000 for necessary pay and other related salary costs for existing staff, \$250,000 for rent, and \$150,000 and 1 FTE for a program increase for collections scholarship to continue to strengthen the Museum's scholarly foundation and collections stewardship.

MEANS AND STRATEGY

The NMAH is most closely aligned with the Smithsonian's Grand Challenge of Understanding the American Experience. Through its research, scholarship, educational programs, exhibitions, and collaboration, the Museum shares with the public scholarly insights and historical views that illustrate the richness and depth of the American Experience. The Museum engages people in the telling of America's story — interweaving multiple stories of perseverance, triumph, and optimism with those of challenge and struggle.

The Museum's strategic plan, which establishes a vision and strategic direction through 2018, sets four key goals for the NMAH:

1. Lead the nation in Understanding the American Experience
2. Expand, strengthen, and share our collections
3. Engage diverse national and international audiences
4. Strengthen our staff and Board of Directors, and revitalize our facilities

Goal: Lead the Nation in Understanding the American Experience

The NMAH places a priority on engaging the public through scholarship and quality research in American history. Research is the foundation for our exhibits and all of our programs, which portray significant eras and events from American history in the context of social, cultural, economic, political, scientific, and technological themes. The Museum experiments with innovative ways to think about and present American history as an encompassing, multi-faceted story, drawing on many strands, and illuminating many people, ideas, and experiences.

For example, in 2017 the Museum focused on the theme of "The Nation We Build Together," encompassing citizens' desires to shape their world through giving, voting, and volunteering. To celebrate this theme, the Museum opened exhibits on the power of philanthropy and volunteer firefighting, in addition to the major

accomplishment of opening the second floor of the West Wing, with extensive and exciting new exhibits on the nation's shared belief in the sovereignty of the people and our nation's rich cultural diversity. The exhibitions include *American Democracy: A Great Leap of Faith*, exploring how a nation committed to the principles of popular sovereignty debated how to make this idealistic vision work, and what living in a democracy really means; *Many Voices, One Nation*, focusing on the theme of our nation's great search for balance between unity and pluralism by presenting the 500-year journey of how many distinct peoples and cultures met, mingled, and created the culture of the United States; and *Religion in Early America*, the inaugural exhibit in **The Nicholas and Eugenia Taubman Gallery**, which traces the distinctive way that religion developed in the early American republic. *Religion in Early America* highlights three themes: the diversity of religious traditions in early America; the principle of freedom of religion that was incorporated in the U.S. Constitution's Bill of Rights and became a guiding American ideal; and the growth of different religions in the new American republic after the nation was formed. In addition to these new exhibitions, a public space for civic engagement, **Unity Square**, opened to host programs that encourage visitors to actively engage in American civic life.

In 2017, the Museum also opened exhibits to recognize several major anniversaries, including *Righting a Wrong: Japanese Americans and WW II*, marking the 75th anniversary of Executive Order 9066, a document that President Franklin D. Roosevelt signed in 1942, two months after Japan's attack on Pearl Harbor. The order resulted in the imprisonment of 75,000 Americans of Japanese ancestry and 45,000 Japanese immigrants. Other displays were *Advertising War: Selling Americans on WW I*; *Modern Medicine and the Great War*; *John J. Pershing and WW I*; and *Uniformed Women in the Great War*, commemorating the centennial anniversary of the United States' involvement in World War I. These temporary displays and public programs explore the influential role of the war on American society, soldiers' experiences on the war front, women's rights, and medical advancement. Finally, *Ella Fitzgerald at 100* explores the singer's impact on American jazz culture through a collection of objects, sheet music and photographs.

In 2018, the Museum will launch the first phase of reopening the third floor of the West Wing with the opening of several new installations to introduce our visitors to our American entertainment history exhibitions. The first phase involves opening two introductory exhibitions on *The Art of Sound* and installing the iconic stained glass image of *Nipper, My Master's Voice*, and a rotating display of musical instruments from our vast collection, including rare Stradivarius violins, in our specially built cases in the **Hall of Music**. Our larger exhibitions on *Entertaining America* and a temporary exhibition on *Rock and Roll: The Backbeat of America* will open in 2020 and address the question, what does the nation's entertainment history tell us about being American? All of these installations will explore how the entertainment history of the United States reflects American ideals and ideas. The exhibitions will examine how entertainment addresses our national values and identity, in addition to challenges related to race, gender, class, family, innovation and opportunity. The Museum will choose from iconic objects in its large

entertainment and culture collection, ranging from Archie Bunker's chair from *All in the Family*, the technicolor camera used to film *The Wizard of Oz*, the ruby red slippers Dorothy wore in the classic movie, Fonzie's jacket from *Happy Days*, Muhammad Ali's boxing robe, and Babe Ruth's baseball.

Finally, in 2018, the Museum will open the second exhibit in the new changing gallery on the second floor of the West Wing. This exhibition, *The American Revolution: A World War* will focus on the American Revolution as not only a national occurrence but as an international event, which impacted Great Britain, its colonies, and the world as we know it.

In addition, the NMAH also contributes to the discussion of the American Experience through its ongoing scholarship and research. Recently, the Museum learned that two publications were selected for major awards. Mireya Loza's work, *Defiant Braceros*, was named the 2016 winner of the **Theodore Saloutos Book Award**, bestowed by the Immigration and Ethnic History Society, and John Troutman's work, *Kīkā Kīla*, received the Organization of American Historians' **Lawrence W. Levine Award** for the author of the best book in American cultural history.

In FY 2017, Museum scholars produced more than 12 new publications, including books, articles, and musical recordings. Listed below are several examples:

- Margaret Salazar-Porzio and Joan Fragaszy Troyano, editors. *Many Voices, One Nation: A Material History of the Peopling of America*. Washington: Smithsonian Institution Scholarly Press.
- William L. Bird, Jr., Lisa Kathleen Graddy, Harry R. Rubenstein, and Barbara Clark Smith. *American Democracy: A Great Leap of Faith*. Washington: Smithsonian Books.
- Peter Manseau. *Objects of Devotion*. Washington: Smithsonian Books.
- Frank Blazich, editor. *Bataan Survivor: A POW's Account of Japanese Captivity in World War II*. Columbia: University of Missouri Press.
- Jon Grinspan. *The Virgin Vote: How Young Americans Made Democracy Social, Politics Personal, and Voting Popular in the Nineteenth Century*. Chapel Hill: University of North Carolina Press.
- Mireya Loza. *Defiant Braceros: How Migrant Workers Fought for Racial, Sexual, and Political Freedom*. David J. Weber Series in New Borderlands History. Chapel Hill: University of North Carolina Press.

- John Troutman. *Kīkā Kīkā: How the Hawaiian Steel Guitar Changed the Sound of Modern Music*. Chapel Hill: University of North Carolina Press.
- Amanda B. Moniz. *The Empire to Humanity: The American Revolution & the Origins of Humanitarianism*. New York: Oxford University Press.
- W. John Kress and Jeffrey K. Stine, editors. *Living in the Anthropocene: Earth in the Age of Humans*. Washington: Smithsonian Books.

In FY 2018, highlights of scholarly publications will include:

- Mireya Loza co-edited anthology with Gilberto Rosas. *The Border Reader*. Durham: Duke University Press.
- Margaret Salazar-Porzio. *The Edges of Empire: Public Memory in San Diego*. Nevada: University of Nevada Press, Urban West Series.
- Carlene Stephens. *The Volta Laboratory and the Smithsonian*. Washington: Smithsonian Institution Scholarly Press.
- Carlene Stephens. *Reinventing the Wrist Watch*. Cambridge: MIT Trade Press.
- Friends of Music CD #36-901: Stravinsky Dumbarton Oaks Concerto; Copland Appalachian Spring suite. Smithsonian Chamber Orchestra, Kenneth Slowik, conductor.
- Friends of Music CD#36-902: Béla Bartók Divertimento and Music for Strings, Percussion, and Celeste. Smithsonian Chamber Orchestra, Kenneth Slowik, conductor.

Goal: Expand, Strengthen, and Share Our Collections

The NMAH is committed to sound collections stewardship through preservation, accountability, and increased digital access. While support for Public Space Renewal Project (PSRP) IV for the Museum's East Wing's renovation is a primary goal, the Museum will focus, through FY 2018 and beyond, on enhancing the potential and value of its collections through intensive digitization efforts, increased access online, collaboration, and innovative uses of technology.

In FY 2017, the Museum continued its inventory projects, completing its work on the 14,400 objects in the Ceramics and Glass collection and beginning with its Medicine and Science collection. In order to address the challenge of managing collections at scale, with approximately 1.8 million objects in total, the Museum began to develop and test an accelerated, two-phased approach to its inventory efforts, with the first pass establishing physical and legal control and the second

enabling more enhanced intellectual control. This will serve as the foundation for the inventories required for the PSRP IV project; planning for these steps has begun and the actual inventorying will commence in late FY 2017 and continue through FY 2018 and beyond.

The decontamination and re-housing project of some 3,600 objects in Garber Building 15 was largely completed in FY 2017. The decontamination and inventory of objects in Garber Building 18 will start in FY 2017, with completion expected in FY 2018. This will encompass the renovation of the now vacant Building 15 to accommodate those collections prior to completing construction of Museum Support Center (MSC) Pod 6. All of these efforts are planned in the context of looking forward to the development of Pod 6 at the MSC and the implementation of the Smithsonian's master storage plans.

Further digitization and transcription projects in FY 2017 included the Phyllis Diller joke file and Apollo Theater business cards, both transcribed in record time by Transcription Center volunteers from across the globe. This work will serve as the model for an inventory of collections to identify potential cross-divisional digitization projects, which will be completed in FY 2018. As a test, in partnership with the Smithsonian's Digitization Program Office (DPO) and Google's Cultural Institute, the Museum will digitize approximately 11,000 items in its Princeton Poster collection. It will also explore opportunities to treat digital content from such projects as data, with conversations and possible collaborations planned with the Library of Congress, the University of Maryland, and the National Science Foundation.

In FY 2018, new protocols for review and inclusion will make it possible to add 150,000 more collection records to the Smithsonian Collections Search Center and the Enterprise Digital Asset Network (EDAN). During FY 2017, the Museum added nearly 30,000 new records to its collections information system, Mimsy XG, and exported 19,400 records to the EDAN. The NMAH will continue exporting the remaining 49,000 of 60,000 Numismatics rapid-capture records for transcription.

Finally, recommendations from the Museum's Collections Review Committee report will continue to be implemented, focusing on systematic assessment of accessioning and cataloguing procedures, as well as achieving efficiencies in the review of accession-based object information. Based on information from the acquisitions digitization pilot project, the Museum will develop a plan to fund full-scale, mass digitization of the Museum's acquisition files, in collaboration with other Smithsonian units. NMAH staff will work with the DPO to disambiguate the embedded data and plan for computer-assisted review and linking of data. Additionally, in FY 2017 the Museum successfully designed and implemented inventories for its national treasures and for collections containing hazardous materials. These will now be executed on an annual basis.

Goal: Engage Diverse National and International Audiences

The NMAH engages people of all ages on site and online, encouraging them to explore history through objects as well as programs, ideas, facts, and stories.

In December 2015, the Museum opened *Wegmans' Wonderplace*, an early learning gallery. The gallery combines age-appropriate activities with Museum collections and touchable objects to provide a gateway to history and a place for children six and under to exercise their curiosity. *Wonderplace* is the first exhibition on the National Mall designed for children aged six and under. This 1,700-square-foot space provides the youngest historians with age-appropriate activities and experiences. Since opening, *Wonderplace* has served nearly 200,000 visitors and has hosted special morning programming for children on the autism spectrum as well as families from the Homeless Children's Playtime Project. It has been very well received and operates at capacity.

In 2017, the Museum opened the **Wallace H. Coulter Unity Square**, a program and events space that will encourage visitors to explore "The Nation We Build Together" through compelling displays and unique hands-on activities. The heart of Unity Square will be a reinstallation of the *Greensboro Lunch Counter*, an object that reflects the tremendous power of the actions of everyday people. This iconic civil rights object is brought to life by a "magic mirror" that connects the actions of the four young men who sat down at the lunch counter to the larger history of participation, protest, and change in America. Unity Square is also home to *American Experiments*, a suite of five interactive, hands-on activities which will inspire visitors to talk to each other about the ideas and ideals that have shaped the country. Developed in partnership with San Francisco's Exploratorium, *American Experiments* includes a March-Madness-basketball-style bracket where visitors will debate what food is most American or who changed America more; a card game where players match images to deeply American concepts; and an activity about what citizenship means that encourages visitors to take a photo of themselves and tag it #myfellowcitizens. Unity Square features a rich schedule of public programs, including the new interactive theater program *The Nation We Build Together*, curator talks, objects out of storage, and special tours. Together, the exhibits, activities, and programs of Unity Square will inspire our visitors to think about their own role in creating the nation of tomorrow.

Each year the NMAH trains thousands of K–12 teachers to bring American history to life by using active teaching methods infused with the Museum's rich collections. Outside evaluation has shown that the Museum's workshops have had a positive, re-energizing effect on history education across the United States. The Museum continues to add to its library of thousands of free K–12 interactive resources available via *History Explorer*, the Museum's acclaimed website for teachers. In 2018, the Museum will conduct its seventh annual National Youth Summit (NYS). The NYS is a webcast event that brings middle and high school students together with scholars, teachers, policy experts, and activists in a national

conversation about important events in America's past which remain relevant to the nation's present and future.

To encourage conversation and respectful dialogue about the past, the Museum expands its activities beyond exhibitions and education through public programming and outreach.

In FY 2018, the NMAH will continue to explore the themes of diversity, democracy, and the building of the nation through programs at the Museum and around the nation focused on the research and content of its West Wing exhibitions. The signature event that kicked off the Museum's 2017 programmatic theme was the third annual *America Now* program, an evening of interactive and participatory programming for millennial audiences which highlighted the 100th anniversary of President John F. Kennedy's birth and his ongoing legacy. Programs throughout 2018 will focus around food, music, film, and civic discourse, and will continue to explore how Americans come together to strengthen our shared democracy. The ongoing *American History (After Hours)* series will connect millennial audiences with complex historical topics in the evenings, with food, drink, and dynamic conversations. The Museum's third annual Smithsonian Food History Weekend will explore the theme of "Many Flavors, One Nation" and discuss how food has been both a bridge and a barrier to cultural connection throughout American history. Cooking demonstrations and talks will engage visitors of all ages throughout the year at the Museum's demonstration kitchen in the West Wing. In addition, NMAH's music program will explore the impact of immigration and migration on American democracy, particularly through its extensive jazz and chamber music programs and the ongoing *Sounds of Faith* religious music series. The Museum's theater programming will feature the third annual History Film Forum in the spring of 2018, and continue to be the nation's premier forum for exploring film as public history and asking big questions about what we learn from the movies.

In 2018, Museum programming will continue to convene conversations that inspire audiences to examine the role of the humanities in civic life. The Museum's signature programming will explore food history, history on film, jazz and chamber music, and innovation, and will bring history to life for audiences of all backgrounds and all ages.

The Museum makes special efforts to nurture lifelong learners online and via social media where people can contribute to and assess shared understandings of the past. In addition to a mobile-friendly website, the NMAH offers a popular blog and social media channels, with innovative and targeted content that encourages people to explore the American Experience by making history relevant, interesting, and thought-provoking. Through various forms of electronic and online outreach, the Museum expects to continue sharing its resources with more than seven million people a year.

Goal: Strengthen Our Staff, Board of Directors, and Facilities

The NMAH values every resource it has and is committed to making every expenditure and investment as productive as possible. The Museum is pursuing this goal with an eye to the future through careful administrative reviews of expenditures and staffing, and by fostering a culture that rewards collaboration, inclusion, and creative partnerships.

In 2016, the Museum initiated a multi-phased strategy to rebuild the curatorial staff and scholarly foundation after two decades of staff losses that dramatically reduced the scholarly talent and capability necessary to research and explain the broad sweep, chronological and intellectual, of American history to our nation. This strategy successfully sought to establish endowed positions with funding from generous donors combined with new federal funds targeted for the highest priority topical areas. In FY 2017, the Museum hired five new curators with federal funds, and is proposing to hire one more in FY 2018 to focus on women's history. Since 2013, the Museum has also hired four new curators, who are supported by donated funds, in the fields of Business History, Philanthropy, Religion, and Early American Culture. In addition, the Museum has built relationships with other Smithsonian units, and partnerships with outside organizations, to increase available resources and leverage talents. Furthermore, the NMAH has extremely active internship and Fellowship programs, hosting more than 175 interns and 29 Fellows in FY 2016.

EXPLANATION OF CHANGE

The FY 2018 budget request includes an increase of \$1,122,000 and 1 FTE. The request includes an increase of \$722,000 for necessary pay and other related salary costs for existing staff, \$250,000 for rent, and \$150,000 and 1 FTE for collections scholarship to continue to strengthen our scholarly foundation.

Rent for Collections Storage (+\$250,000)

The budget request includes an increase of \$250,000 for up to 5,000 square feet of leased collections storage space for large industrial artifacts that the National Museum of Industrial History (NMIH) in Bethlehem, Pennsylvania, a Smithsonian Affiliate, is returning to the Smithsonian. The NMAH does not have space to store the artifacts and, therefore, sufficient and appropriate space must be leased to accommodate them and the specialized equipment necessary to move and provide access to them. The Smithsonian's collections standards require that collection storage space provide heating, ventilating, and air-conditioning and humidity controls, as well as security and life-safety controls.

Collections Scholarship (+\$150,000, +1 FTE)

The budget request includes an increase of \$150,000 and 1 FTE for a curator, so the Smithsonian can use federal funding to build on the initial phase of this effort started in FY 2016. The Museum's curatorial staff has significant gaps in their ability to research, interpret, exhibit, and care for the national collections. These gaps include critical subject areas, chronological periods, and program execution. Over time, the Museum has lost more than half of its curatorial staff, which has seriously depleted the Institution's scholarly foundation. The Museum must rebuild its curatorial strength to support excellent research, exhibitions, and digitization of the nation's vast collection of artifacts. Building on the initial highly successful hires of five new curators, with federal funding provided in FY 2016, this new position will focus on women's history. With the funds requested, the NMAH would conduct a national search for a curator in Women's History. This is an area where the Museum needs expertise to manage major national collections, conduct research, and develop exhibitions and publications. This investment in rebuilding the Museum's collections scholarship has been successful as a federal-private partnership. The Museum continues to seek privately funded endowed positions, supported by private donors, to match the federal investment, and has been successful in obtaining four positions as part of this strategy to leverage public and private funding.

NONAPPROPRIATED RESOURCES — General trust funds support salaries and benefits for 42 percent of NMAH staff — administrative, development, special events, program managers, et al — and other program-related costs. In addition to restricted gifts, grants, and endowments, trust revenue sources include donations from special events, revenue sharing from business operations, honoraria for speaking engagements, and tuition reimbursements. Donor/sponsor-designated funds are used to develop, install and promote new exhibitions, fund public programs and educational initiatives, and support research, travel, and collection acquisitions. Donor-designated funds are vital to continuing the renovation of the public spaces in the Museum, including the design and fabrication of new exhibits on all three floors of the Museum's West Wing.

NATIONAL MUSEUM OF THE AMERICAN INDIAN

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2016 ENACTED	216	31,726	2	1,510	21	3,837	0	136
FY 2017 ESTIMATE	216	31,666	3	2,031	27	6,285	0	164
FY 2018 REQUEST	216	32,235	3	1,601	31	5,189	0	0

STRATEGIC GOALS: EXCELLENT RESEARCH; BROADENING ACCESS; REVITALIZING EDUCATION; STRENGTHENING COLLECTIONS; AND MISSION ENABLING

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2017		FY 2018		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
<i>Research</i>						
Ensure the advancement of knowledge in the humanities	17	2,763	17	2,824	0	61
Broadening Access						
<i>Digitization and Web Support</i>						
Provide improved digitization and Web support	6	1,072	6	1,089	0	17
<i>Public Programs</i>						
Provide reference services and information	19	2,567	19	2,615	0	48
<i>Exhibitions</i>						
Offer compelling, first-class exhibitions	27	5,531	27	5,610	0	79
Revitalizing Education						
<i>Education</i>						
Engage and inspire diverse audiences	45	5,411	45	5,517	0	106
Strengthening Collections						
<i>Collections</i>						
Improve the stewardship of the national collections	31	4,341	31	4,422	0	81
Mission Enabling						
<i>Facilities</i>						
Improve the overall cleanliness and efficient operation of Smithsonian facilities	14	1,548	14	1,568	0	20
<i>Security and Safety</i>						
Provide world-class protection for Smithsonian facilities, collections, staff, visitors, and volunteers	1	132	1	134	0	2

Performance Objective/ Program Category	FY 2017		FY 2018		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
<i>Information Technology</i>						
Modernize the Institution's information technology systems and infrastructure	15	2,975	15	3,022	0	47
<i>Management Operations</i>						
Strengthen an institutional culture that is customer centered and results oriented	20	2,857	20	2,911	0	54
Ensure that the Smithsonian workforce is efficient, collaborative, committed, innovative, and diverse	2	213	2	218	0	5
Modernize the Institution's financial management and accounting operations	6	971	6	992	0	21
Enhance the reputation of the Smithsonian by maintaining good relations with the news media and with federal, state, and local governments	2	321	2	327	0	6
Modernize and streamline the Institution's acquisitions management operations	11	964	11	986	0	22
Total	216	31,666	216	32,235	0	569

BACKGROUND AND CONTEXT

The National Museum of the American Indian (NMAI) is committed to advancing knowledge and understanding of the Native cultures of the Western hemisphere — past, present, and future — through partnerships with Native peoples and others.

The NMAI administers one Museum in three locations: NMAI-DC on the National Mall, NMAI-NY in lower Manhattan, and the Cultural Resources Center in Suitland, Maryland. The NMAI will focus its resources to support research and exhibits concerning the cultures and histories of Native communities and to present contemporary works of art to the public. These exhibits, along with educational and cultural arts programming, attract nearly two million visitors annually. The offering of diverse exhibitions, cultural demonstrations, tribal festivals, educational presentations, and scholarly symposia ensures a meaningful visitor experience. Web content based on these programs will continue to reach distant “virtual visitors” to the Museum, who may not be able to come to the East Coast but who can still avail themselves of content developed at NMAI. Through its exhibitions and public programming, the Museum continues to present the contemporary voices of Native peoples to educate and inform the public while countering widespread stereotypes.

The NMAI also focuses on the stewardship of more than a million collection items entrusted to the Museum's care — honoring the histories and promoting the cultural legacies of hundreds of Native nations throughout the Western hemisphere.

The FY 2018 budget request includes an increase of \$569,000 for necessary pay and other related salary costs for existing staff.

MEANS AND STRATEGY

To achieve the strategic goal of Broadening Access, the NMAI is directing its resources to: 1) activities that will result in increased visitation; 2) public programming and exhibits that will encompass information about the indigenous peoples of the Western hemisphere and Hawaii (as mandated in the NMAI enabling legislation) and that will demonstrate the presence and cultural contributions of contemporary Native peoples today; 3) outreach to Native communities, tribes, and organizations through programming methodologies that include consultations, Web-based technologies, video conferences, internships, seminars, publications and symposia; and 4) expanding access to the NMAI collections online. Major exhibitions opening in FY 2018 include:

- *Americans* — Featuring nearly 350 objects and images, from a Tomahawk missile to baking powder cans, the *Americans* exhibition will examine the staying power of four stories — Thanksgiving, Pocahontas, the Trail of Tears, and the Battle of Little Bighorn — which are woven into the fabric of both American history and contemporary life.
- *Native New York: Where Nations Rise* — This exhibition will educate visitors about how the Haudenosaunee and Algonquian peoples have dynamically built their own nations and have contributed to the building of the United States as a nation over time.
- *Transformer: Native Art in Light and Sound* — This exhibition will present the work of 10 artists who use light, digital projection, and experimental media to reflect on their place in and between traditional and dominant cultures. Through video projections, innovative sound art, interactive digital media, performance, and installation, the exhibition demonstrates the continuity of indigenous cultures and creativity in the digital age.

Public engagement efforts will continue to bring the Museum and its resources to audiences through both traditional and Web media and via innovative outreach and training programs. These contacts will link external communities to public audiences through technology and involvement in planning and programming.

To achieve the strategic goal of Revitalizing Education, the Museum will continue to provide daily exhibit and educational programming about Native peoples of the Western hemisphere and Hawaii, thereby providing opportunities to correct stereotyping and expand public knowledge. The seven-day-a-week operation will include interpretive activities, film and video presentations, cultural arts performances, demonstrations, and resource materials about Native American history and cultural heritage. The NMAI will continue working with Native educators and cultural experts on the Museum's National Education Initiative, "Native Knowledge 360°," to create exemplary materials that reflect indigenous knowledge, and to develop model materials that schools across America can expand upon for their own purposes. To

promote learning across generations, the imagiNATIONS Activity Center will introduce indigenous knowledge about Native peoples' understanding of the natural world and about American Indian civics to a growing audience of school children and Museum visitors. In the spring of 2018, the Museum will open a new imagiNATIONS Activity Center at NMAI in New York City. In addition, various tribal educational resources, including curricula enhancement materials, will be made available to teachers.

As part of the Excellent Research strategic goal to advance knowledge in the humanities, the NMAI will continue to hire and retain the highest quality research staff and collaborate with leading institutions of learning and community-based scholars. NMAI staff will make research for film, video, audio, and photographic content developed for exhibitions available at the Museum and to Native American communities and public audiences through the Web, printed materials, and collaborative activities with other groups and organizations.

NMAI staff will continue to oversee group and school tour programs, and volunteers, and will also direct presentations in galleries and all public spaces and program areas to ensure maximum use of all the educational resources available to enhance the visitor experience.

Through its ongoing dialogue with Native communities and cultural experts, NMAI's collection stewards and scholars will also continue to advance the strategic goal of Strengthening Collections through judicious acquisition, documentation, digitization, inventory, preservation, research, security, storage renewal and enhancements, as well as increased Web access.

The strategic goal of Mission Enabling will be addressed by efficiently and economically designating resources to meet the mission of the Museum, implementing the goals of the Smithsonian Institution, and enhancing the collections by acquiring works that document Native experiences and expressive cultures, including the representation of modern and contemporary arts.

NONAPPROPRIATED RESOURCES — General trust funds support salary and benefit costs for the Museum director and other program-related costs. Donor/ sponsor-designated funds support salaries and benefits for development staff; costs associated with reaching NMAI's National Campaign fundraising goals; publications and special events for exhibition openings; costs related to specific programs and projects, including the Native American Veterans' Memorial Project, educational programs, advertising, production of fundraising proposals, and member- and donor-related special events; as well as outreach activities.

NATIONAL PORTRAIT GALLERY

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2016 ENACTED	56	6,200	6	1,952	13	2,975	0	0
FY 2017 ESTIMATE	56	6,188	11	1,940	9	4,122	0	0
FY 2018 REQUEST	56	6,382	11	1,980	9	1,691	0	0

STRATEGIC GOALS: EXCELLENT RESEARCH; BROADENING ACCESS; REVITALIZING EDUCATION; STRENGTHENING COLLECTIONS; AND MISSION ENABLING

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2017		FY 2018		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
<i>Research</i>						
Ensure the advancement of knowledge in the humanities	3	362	3	372	0	10
Broadening Access						
<i>Digitization and Web Support</i>						
Provide improved digitization and Web support	2	279	2	286	0	7
<i>Public Programs</i>						
Provide reference services and information	3	489	3	502	0	13
<i>Exhibitions</i>						
Offer compelling, first-class exhibitions	18	1,803	18	1,862	0	59
Revitalizing Education						
<i>Education</i>						
Engage and inspire diverse audiences	8	756	8	776	0	20
Strengthening Collections						
<i>Collections</i>						
Improve the stewardship of the national collections	15	1,810	15	1,859	0	49
Mission Enabling						
<i>Facilities</i>						
Improve the overall cleanliness and efficient operation of Smithsonian facilities	0	0	0	18	0	18
<i>Information Technology</i>						
Modernize the Institution's information technology systems and infrastructure	1	158	1	162	0	4

Performance Objective/ Program Category	FY 2017		FY 2018		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
<i>Management Operations</i>						
Strengthen an institutional culture that is customer centered and results oriented	1	90	1	92	0	2
Ensure that the Smithsonian workforce is efficient, collaborative, committed, innovative, and diverse	1	129	1	132	0	3
Modernize the Institution's financial management and accounting operations	2	170	2	175	0	5
Modernize and streamline the Institution's acquisitions management operations	2	142	2	146	0	4
Total	56	6,188	56	6,382	0	194

BACKGROUND AND CONTEXT

The Smithsonian National Portrait Gallery (NPG) inspires visitors from around the world by illuminating the American experience through powerful images that connect people and their stories.

The NPG strives to bring visitors face to face, literally and figuratively, with exceptional Americans and their remarkable stories across time, place, and circumstance. The NPG uses diverse approaches in visual biography to focus on changing notions of American identity, and to track evolving ideas about who is significant and has an impact on American culture. The NPG aspires to be widely known as the place that sparks thought and conversation, and includes diverse audiences as active participants in defining American identity through portraiture and biography.

The NPG devotes a major portion of its resources to the strategic goal of Broadening Access, thereby increasing the availability and accessibility of the NPG's collections through exhibitions, public programs, and publications. The exhibitions explore themes in history, biography, and art in a way that brings out new meaning and understanding of the American experience. Highlights of special exhibitions planned for the remainder of FY 2017 include:

- *The Outwin 2016: American Portraiture Today* —This fourth exhibition resulting from the triennial, juried *Outwin Boochever Portrait Competition 2016* includes 43 finalists from the more than 2,500 entrants from every state. The dazzling variety of media and diverse approaches to the exploration of “self” and “other” reveal that the art of portraiture is not only universal, it is thriving and evolving. Following its installation in Washington, DC, the exhibition will tour nationally to Tacoma, Corpus Christi, and Kansas City.
- *Hollywood and TIME: Celebrity Covers* — From its beginning in the 1920s, *Time* magazine responded to the public's embrace of movie stars on and off the screen, and its fascination with the glitter of Tinseltown. The exhibition

features more than 30 Hollywood moguls and celebrities whose vision and talents carried us to different eras and exotic places, including studio greats Cecil B. de Mille and Howard Hughes, directors Steven Spielberg and Woody Allen, and acting luminaries Elizabeth Taylor, Lauren Bacall, Marlon Brando, Paul Newman, Meryl Streep, and Dustin Hoffman.

- *Double Take: Daguerreian Portrait Pairs* — This themed installation highlights the depth of the NPG's early photography collection by presenting seven pairs of images for Frederick Douglass, Jenny Lind, Zachary Taylor, and others. By showcasing two daguerreotypes of each sitter, visitors will consider the ways artists approached the same subject, and how different the resulting portraits could be.
- *One Life: Babe Ruth* — An American legend whose name is synonymous with baseball itself, this exhibition will explore Babe Ruth the man, the legend, and the marketing frenzy his name and image fueled long before the commercialization of sports superstars became routine. The exhibition includes drawings, prints, and photographs of Ruth, a signed ball and bat, and advertising memorabilia endorsed by Ruth. It concludes with a look at the baseball greats who chased and broke Ruth's longstanding records.
- *In the Groove: Jazz Portraits by Herman Leonard* — Herman Leonard's (1923–2010) photographs of jazz musicians are widely regarded as the definitive portraits of many of the 20th century's greatest artists. His infatuation with jazz led him to capture stunning images that soon made their way to album covers and the pages of *DownBeat* and *Metronome* magazines. This exhibition features iconic images of Louis Armstrong, Chet Baker, Ella Fitzgerald, and Billie Holiday, among many others.
- *Bill Viola and the Moving Portrait* (working title) — An artist of international renown and one of the pioneers of video art, Bill Viola focuses on the human body to create searing works about universal themes and emotional experiences. The NPG's exhibition will offer a new perspective of Viola by redefining certain aspects of his body of work, as well as our understanding of contemporary portraiture. This will be the first NPG exhibition devoted solely to time-based media in newly renovated galleries designed for the installation of time-based artworks.

In addition, the NPG is promoting two traveling exhibitions from its permanent collection: *Yousuf Karsh: American Portraits*, and *In Vibrant Color: Vintage Celebrity Portraits from the Harry Warnecke Studio*. Both are proposed to begin traveling in 2018.

The NPG uses the Web as well as social media to build its virtual audience around the globe. NPG websites receive about 1.8 million page views each year, with new content added regularly. The NPG's *Face to Face* blog has been viewed

by 530,000 readers since its launch in 2007, and has an annual readership of about 80,000. NPG continues its presence on a variety of social media platforms, including Facebook, YouTube, Twitter, and Instagram. Combined, these outlets reach nearly 235,000 followers, a 64-percent increase over 2015. Currently, the NPG has more than 226 videos available on the Gallery's YouTube channel and is adding an average of 25 new videos annually. The videos, as well as audio applications, are also available on iTunes, iTunes U, and ArtBabble, and have been accessed by about 3.5 million viewers. The Google Art Project continues to bring highlights of the NPG's collection to a vast worldwide audience.

The NPG continues its collaboration with the Oxford University Press and the online edition of the *American National Biography*, where the biographical entries are supplemented by a wide array of NPG collection images. In 2017, the NPG plans to have an enhanced presence in the publication by allowing a greater number of its collections to be featured under the terms of fair use. In February of 2016, the NPG launched a redesigned website that is fully scalable and available across all platforms and browsers. The new, enhanced website has democratized access to the NPG's collections and scholarship with a more accessible and user-friendly collections search engine. The Search will be greatly expanded in 2017 allowing visitors to search and retrieve not only Smithsonian collections, but all the Institution's archives, articles, video and audio content, blogs and scholarly content. Currently, the website is available in both English and Spanish and complies with ADA requirements for accessibility. An image-recognition application will also be implemented in 2017 for use in the *America's Presidents* galleries. This sophisticated technology will incorporate images, text, and an audio guide of the exhibition space in both English and Spanish.

Also in 2017, the NPG will launch a website dedicated to the permanent installation of *America's Presidents*. This will not only offer an overview of the exhibition but will include information and images for all of the Gallery's holdings of presidential portraiture.

The NPG supports the strategic goal of Revitalizing Education by involving learners and educators in collaborative programs. Having doubled its size in the last year, the Teen Museum Council will continue to grow as it guides teenage students to craft education and outreach programs to better connect the NPG with their age group's learning interests and means of investigating American history, art, and culture. "For teens, by teens" is the mission of this program. The NPG's teacher workshops, structured around themes drawn from the NPG's exhibitions, let educators from many different regional schools take advantage of NPG collections to develop activities which help their students learn American history. Now in its third year, the NPG's Teacher Advisory Board furthers outreach to educators around the nation. The board members contribute their professional perspective on new methods and students' interests to enable the NPG to extend its virtual reach across the country. The NPG will further integrate

into its exhibitions and programs English and Spanish languages and also accommodate the needs of visitors with accessibility requirements.

Strengthening Collections is also central to the purpose of the NPG as it gathers and preserves the nation's collection of portraiture of a wide range of individuals and in many forms. The overall value of the collection to scholars and the public is increased each year by the further creation and distribution of digital images of the artworks. The NPG has approximately 11,000 high-resolution images of collection objects on the Smithsonian Digital Asset Management System (DAMS), a 15 percent increase from the previous year, and the NPG is a leader for fully leveraging the capabilities of the DAMS. To increase the breadth and depth of digitized collection information, object condition reports and images are also being uploaded to make this information more accessible to the Smithsonian research community. NPG staff will also pursue a project to digitize more than 1,000 prints and photographs in collaboration with the Smithsonian's Digitization Program Office, using new rapid-capture technologies.

The FY 2018 budget estimate includes an increase of \$194,000. The increase includes \$176,000 for necessary pay and other related salary costs for existing staff funded under this line item, and \$18,000 for the escalation in costs for rental space.

MEANS AND STRATEGY

In FY 2018, the NPG will continue to concentrate its efforts and resources on exhibitions, developing and maintaining its collection, expanding public education offerings, and pursuing new research directions.

The NPG will pursue the strategic goal of Broadening Access by making its exhibitions more inclusive in subject and content, more accessible through translated texts, and more broadly available through development of traveling exhibitions. The NPG's exhibition schedule in FY 2017 will feature the following:

- *The Face of Battle: Americans at War, 9/11 to Now* — Since September 11, 2001, the United States has been engaged in multiple wars, and this warfare has become normalized into part of the social and cultural landscape; it is ongoing yet somehow out of sight, invisible. *The Face of Battle* will explore the first attempts by artists to put a “face” on recent wars by depicting the experience of common soldiers. The exhibition will not deal with the wider politics, tactics, and controversies associated with post 9/11 political situations; it will return the focus to the grassroots level of the ordinary soldiers who fought and continue to fight for our nation. A tour of the exhibition is being developed.
- *One Life: Sylvia Plath* — This exhibition presents a visual biography of Sylvia Plath (1932–1963), from childhood to her early death, with photographs, recently discovered illustrated family letters Plath wrote as a child, schoolbook sketches,

self-portraits from her art courses at Smith College, and some of her personal belongings, including the wooden desk she shared with husband Ted Hughes. It will be the first art museum exhibition to present her life, as well as her artwork, in tandem with her manuscripts, letters, and images.

- *The Sweat of Their Face: Portraying American Workers* — Work has always been central to the self-definition of Americans, and continues to be how Americans measure their lives and assess their contributions to the wider society. This comprehensive, multi-media exhibition will chart the course of American labor through more than two centuries of portraiture, exploring how artists have illustrated and defined the laboring body. Combining art and social history, *The Sweat of Their Face* addresses the intersection of high and popular culture in American history and will portray the diversity of America against the backdrop of its economic development and expansion, making an influential contribution to the histories of work, working people, and portraiture.

In addition to the special exhibitions, the NPG will conduct a reinstallation of the *America's Presidents* permanent installation in 2017. The artworks will temporarily be installed in our major exhibition space while the permanent galleries are refreshed and retrofitted for interactive media elements. The renewed gallery will open to the public in the fall of 2017 with updated texts, new media and interactive components and an illustrated brochure. The NPG will also continue to develop exhibition catalogues and organize shows into FY 2018 and beyond, with a focus on the NPG's 50th anniversary in the fall of 2018.

The combined departments of Communications and New Media have devised a digital strategy to define overarching goals and measures to determine success. One of the primary goals includes raising NPG's national visibility, especially in five key regions: the San Francisco Bay area; Chicago; New York/New Jersey; Kansas City; and Dallas/Fort Worth. Other goals include showcasing the diversity of the collection to diverse audiences and increasing local visitorship and engagement. These goals can be met through targeted outreach, Web and social media campaigns.

While the Portrait Gallery is engaged in making its exhibitions and all printed and digital assets available in both English and Spanish, there will be an even greater push (at least in the digital sphere) to make content available in Mandarin, Russian, French and Arabic. Through this initiative, NPG will bring collections and scholarship to a worldwide audience.

The NPG's publication projects in FY 2018 will include catalogues accompanying the exhibitions *The Sweat of Their Face* and *Black Out: Silhouettes Then and Now*, an updated book on our reinstalled *America's Presidents* exhibition, as well as continued work to make the NPG's permanent collection label texts fully bilingual.

In addition, the NPG will continue Strengthening Collections, further deepening its holdings of pre-1825 portraits of individuals, portraits of under-represented minorities, likenesses of significant contemporary figures, and portraiture made in the newest digital formats. The NPG will make further progress conserving its permanent collection of works on paper, photographs, and paintings, and hopes to apply for funding to upgrade and increase its storage capacity for works on paper.

NPG will continue a full-scale, rapid-capture digitization initiative for all collection objects, beginning with two-dimensional works. Meanwhile, the NPG Catalog of American Portraits will be expanded by adding 1,500 portrait records to its research database

NPG efforts in Revitalizing Education in FY 2018 include more sophisticated analysis of different audiences and the identification of and outreach to underserved audiences. The consideration of the latter will include non-native English speakers, and visitors with physical or learning challenges. NPG's Education Department specialists will establish stronger relationships with visitors from all backgrounds and interests in museum programs to develop education and events that are highly tailored to specific audiences. The NPG will continue to partner with its innovative learning groups, The Teen Council and the Teacher Advisory Board, and use the perspectives and knowledge of these key individuals to extend the educational value of the NPG's collection both programmatically and digitally. NPG will also initiate an Accessibility Task Force to bring NPG staff up to par with accessibility issues and demands. Other popular programs, including Pop Quiz, films in the courtyard, and Family Days events, will continue to anchor the NPG's educational offerings. In FY 2018, the NPG docent corps will be a vibrant and diverse group well versed in the collection and trained in inquiry techniques to engage audiences. The NPG Education Department will have tested an 18-month to eight-year-old space designed to help young people explore portraiture as art and history.

The NPG will continue work on the Mission Enabling strategic goal by ensuring outreach to communities in different forms, both in print and online, to access diverse applicant pools for emerging recruitment needs. The NPG will also continue to streamline its internal project development process to incorporate innovative thinking in programming while also doing a better job of planning for budgetary requirements.

NONAPPROPRIATED RESOURCES — General trust funds support critical positions and help defray costs of special events for exhibition openings, loan exhibition development, outreach, fund raising, management, and research. The NPG must support exhibitions, publications, public lectures and gallery programs, symposia, and some collection acquisitions with donor/sponsor-designated funds. Private donations are thus critical to the NPG's planning, programming, and ability to deliver on its public mission. It is through a public-private partnership that the National Portrait Gallery achieves its goals and serves the Smithsonian's mission.

NATIONAL POSTAL MUSEUM

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2016 ENACTED	6	1,109	3	510	1	369	19	2,878
FY 2017 ESTIMATE	6	1,107	3	550	2	425	18	3,067
FY 2018 REQUEST	6	1,126	3	550	3	500	20	3,110

STRATEGIC GOALS: BROADENING ACCESS; STRENGTHENING COLLECTIONS; AND MISSION ENABLING

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2017		FY 2018		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Broadening Access						
<i>Digitization and Web Support</i>						
Provide improved digitization and Web support	1	90	1	92	0	2
<i>Exhibitions</i>						
Offer compelling, first-class exhibitions	1	158	1	160	0	2
Strengthening Collections						
<i>Collections</i>						
Improve the stewardship of the national collections	4	516	4	531	0	15
Mission Enabling						
<i>Facilities</i>						
Execute an aggressive, long-range revitalization program and limited construction of new facilities	0	343	0	343	0	0
Total	6	1,107	6	1,126	0	19

BACKGROUND AND CONTEXT

The National Postal Museum (NPM), with the world's largest museum collection of stamps and postal artifacts, is dedicated to creating visitor experiences that educate, excite, entertain and inspire. With more than six million objects, the Museum is responsible for the Smithsonian's second-largest collection. The Museum dedicates its resources to developing new and innovative ways to explore the vital role of the postal system in American life, and to make its vast philatelic and postal collections available to all visitors — both in person and online. The NPM uses its collections in exhibits and public programs which educate visitors on the history of America, transportation, communication, economics, and commerce.

In addition to the many activities and programs completed throughout the year, the NPM is focused on several major initiatives aimed at increasing visitation to both the Museum and its website. These initiatives include the design and fabrication of new exhibitions; continued enhancements to the increasingly popular, Web-based, collection information system; and new rotating exhibitions in the *William H. Gross Stamp Gallery*.

The FY 2018 budget request includes an increase of \$18,000 for necessary pay for existing staff and \$1,000 for rent escalation.

MEANS AND STRATEGY

The National Postal Museum's primary activities are aimed at meeting the Smithsonian's Grand Challenges of Valuing World Cultures and Understanding the American Experience through the prism of postal communications and philately. These challenges will be met by Broadening Access to the Museum's collections, programs, and exhibitions; Revitalizing Education through the creation of new models and methods of presenting innovative educational programs; Strengthening Collections through improved preservation, storage, and enhanced digital imaging; and Mission Enabling by working with other Smithsonian units and external partners to improve Museum operations.

In FY 2018, the Museum's Education Department will expand K–12 school programs and create new learning opportunities in the Education Center of the *William H. Gross Stamp Gallery*. The Education Center provides enhanced learning opportunities which incorporate the newest media tools. The Center is also used for Institution-wide Smithsonian meetings and provides other Smithsonian units with the opportunity and new technology to test new ideas for visitor participation. A second educational space supports the Museum's on-site school tours, community engagement activities, and family programming such as NPM's traditional programs, including Stamp Stampede and the Mail Art Workshops. The Museum is also planning to retrofit five exhibition galleries to incorporate educational hubs which will provide new learning opportunities for children and their families. The educational hubs will support the Museum's effort to make its exhibitions and educational offerings more accessible to a younger audience and provide new hands-on learning opportunities to discover more about NPM's collections and the history of philately in America.

In FY 2018, the Museum will open an exhibition celebrating the centennial anniversary of airmail service in the United States. Airmail service began on May 15, 1918 with the inauguration of the Washington-Philadelphia-New York route. Two days earlier, the Post Office Department issued its first airmail stamps. A single sheet of the new 24-cent stamp was printed with the Curtiss JN-4 airplane upside down, creating one of the most prized errors in the history of philately — the inverted Jenny. Airmail Service expanded throughout the country and by 1925 the Post Office

Department contracted the airmail service to private companies, which had a great impact on the development of commercial aviation in the United States.

The Museum will also open a new exhibit featuring original art commissioned by the Postal Service for new stamp designs. The exhibit, *In the Garden*, will feature more than two dozen garden-themed original works of art created during a 50-year span. The exhibit highlights the ever-increasing popularity of garden-themed postage stamps.

The NPM's federal resources are primarily dedicated to improving the stewardship of the national collections for present and future generations. In FY 2018, the Museum will continue to process new acquisitions, which includes digitizing and cataloguing collection items using the automated collections information system (CIS). Enhanced cataloguing and digital records created for the Centennial Airmail exhibit will be posted online for broader access by the public.

A major initiative to improve accessibility to off-site collections will remain a Museum priority. In FY 2018, the Museum will continue to coordinate with the staff of the National Museum of American History (NMAH) on the decontamination of NPM collection objects stored in Garber building number 15 in Suitland, Maryland. This project will remove hazardous lead from NPM collections that have been stored for many years in a building that also houses lead-based printing equipment from the NMAH collection. The project will eliminate a potential safety hazard for staff and make previously inaccessible collection items available for cataloguing and imaging. These collection items will then be made available to the public in exhibitions and online through the Museum's collections website.

Also in FY 2018, the Museum will continue to catalogue, image, and conserve the Postmaster General's (PMG) collection of original stamp art. The Postmaster General's collection, transferred to the Museum from the United States Postal Service in FY 2012, represents one of the most important philatelic collections in the world. It includes the original artwork, as well as rejected designs and preliminary sketches, commissioned for more than 3,000 U.S. postage stamps between 1942 and the present. The NPM will also continue to permanently re-house the Postmaster General's collection of original stamp art as well as implement a comprehensive conservation treatment plan. In addition, the Museum will continue to process new archival collections related to the PMG art collection.

In FY 2018, the Museum will continue work on a temporary philatelic exhibition tentatively titled *American Pastime: Baseball as Seen through Stamps*. The exhibit will open in FY 2019 in conjunction with baseball's 150th anniversary.

Finally, the Museum will continue to refine the national philatelic collection. Collections frequently requested by researchers will continue to be reorganized and re-housed to improve public access and long-term preservation. Collections items previously deaccessioned from the national philatelic collection will be donated to

other museums or sold for the benefit of the national collection. Deaccessioned collections items include duplicate revenue stamps and various postal items, which either fall outside the scope of the collection or have deteriorated beyond use.

NONAPPROPRIATED RESOURCES — The United States Postal Service provides the NPM with an annual grant, which supports nearly 75 percent of the Museum's core functions and operational costs. These costs include salaries and benefits, utilities, facility maintenance, exhibitions, education, and collection management programs. Fundraising initiatives continue to generate increased support from the private sector to develop and support new exhibitions, research opportunities, educational initiatives, and special events.

SMITHSONIAN AMERICAN ART MUSEUM

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2016 ENACTED	89	9,723	9	1,548	39	10,619	1	114
FY 2017 ESTIMATE	89	9,705	10	1,252	41	9,626	1	125
FY 2018 REQUEST	89	9,958	11	1,273	43	9,502	1	125

STRATEGIC GOALS: EXCELLENT RESEARCH; BROADENING ACCESS; REVITALIZING EDUCATION; STRENGTHENING COLLECTIONS; AND MISSION ENABLING

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2017		FY 2018		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
<i>Research</i>						
Ensure the advancement of knowledge in the humanities	6	573	6	588	0	15
Broadening Access						
<i>Digitization and Web Support</i>						
Provide improved digitization and Web support	7	861	7	883	0	22
<i>Public Programs</i>						
Provide reference services and information	14	1,663	14	1,706	0	43
<i>Exhibitions</i>						
Offer compelling, first-class exhibitions	23	2,590	23	2,658	0	68
Revitalizing Education						
<i>Education</i>						
Engage and inspire diverse audiences	3	287	3	294	0	7
Strengthening Collections						
<i>Collections</i>						
Improve the stewardship of the national collections	20	2,152	20	2,208	0	56
Mission Enabling						
<i>Security and Safety</i>						
Provide a safe and healthy environment	1	97	1	100	0	3
<i>Information Technology</i>						
Modernize the Institution's information technology systems and infrastructure	2	188	2	193	0	5

Performance Objective/ Program Category	FY 2017		FY 2018		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Management Operations						
Strengthen an institutional culture that is customer centered and results oriented	13	1,294	13	1,328	0	34
Total	89	9,705	89	9,958	0	253

BACKGROUND AND CONTEXT

The Smithsonian American Art Museum (SAAM) is the nation’s Museum dedicated to the art and artists of the United States from colonial times to the present. It is the home of the largest and most inclusive collection of American art in the world, and its holdings of more than 43,000 works, spanning three centuries of the nation’s cultural development, tell the story of America through the visual arts. The Museum’s programs make the collection available to national audiences and beyond, as well as to those who visit its two historic landmark buildings in Washington, DC: the Donald W. Reynolds Center (DWRC) for American Art and Portraiture (shared by SAAM and the National Portrait Gallery) and the Renwick Gallery, dedicated to American crafts and decorative arts.

To achieve the strategic goal of Excellent Research, SAAM curators and research Fellows-in-residence use the collection and other resources to develop new insights into America’s cultural and artistic legacy as well as current themes and explorations. The resulting knowledge informs collections development and serves as the basis for exhibitions, associated award-winning catalogues and scholarly publications, and material for online content and educational programs. The Museum’s peer-reviewed journal, *American Art*, serves as an additional venue for scholarship in the field. The Museum also hosts international symposia on topics of relevance in the field of American art.

Broadening Access is achieved through a constellation of activities. The Museum takes full advantage of the latest technologies (e.g., audio, multi-media, podcast tours, tablets, smart phones, virtual reality, and apps) as well as social media to engage audiences both online and in person. Three videoconference centers deliver the Museum’s programs around the world. Digitization of SAAM’s collections continues apace, allowing the Museum to add new content and features to its online resources.

An ambitious schedule of exhibitions developed in-house and complemented by shows obtained from other organizations attracts new visitors and encourages repeat visits. At the DWRC, large exhibition spaces, shops, and a restaurant greet visitors with a broad range of activities to maintain their interest. The Lunder Conservation Center provides a window on preservation of the nation’s collections, and the Luce Foundation Center for American Art displays 3,500 collection objects in an inviting visible storage center. The Renwick Gallery has additional space for exhibitions, public programs, and rotating displays of its permanent collection of American crafts. Multiple traveling exhibitions organized by the Museum are shared with museums throughout the United

States, enriching people's lives by giving them direct access to their nation's artistic and cultural heritage.

Public programs complement Museum exhibitions and collections through activities such as courtyard concerts, family days, heritage month programs, tours and gallery talks, scavenger hunts, and craft and sketching workshops.

Diverse activities advance the strategic goal of Revitalizing Education. National education programs directly reach K–12 teachers and students. These include adoption of the latest technologies where most effective, as well as incorporation of art into core subjects like social studies, history, and language arts. Resident teacher institutes are supplemented by online/on-demand courses for the K–12 community. The Museum regularly collaborates with private and public organizations to provide teachers with new tools and resources. Students are brought into the Museum as often as possible to provide that unique, direct experience with great art. The MacMillan Education Center, located in the galleries, benefits students in classrooms across the nation and U.S. military bases worldwide, as well as school groups touring the Museum, conservators, research Fellows, and educators.

The strategic goal of Strengthening Collections is achieved through multiple activities. Scholarship and research help set acquisition objectives. Gifts of art and private funds raised through development activities pay for additions to the national collection. Conservators obtain new tools and training to preserve the artwork. The Lunder Conservation Center is an important locus for conservation training and colloquia of interest to the conservation community and the public. Conservation Fellowships ensure that experience and knowledge are shared within the larger community of conservation practitioners.

Mission Enabling encompasses many activities. A proactive safety program ensures a safe and healthy environment for Museum staff and visitors. Information technology staff implement and maintain the information framework on which so many other efforts depend. This includes exhibition space screens and kiosks that provide access to information available anywhere, on any device. Managers carefully plan, promote, protect, and conserve the Museum's resources.

The FY 2018 budget estimate includes an increase of \$253,000 for necessary pay and other related salary costs for existing staff.

MEANS AND STRATEGY

Research on the collections and related topics by curatorial staff continues in support of exhibitions and the permanent collection, including four new exhibition catalogues scheduled for publication in FY 2018. Endowments and multi-year private support have allowed the Museum to hire curators with specialties in sculpture, photography, and contemporary crafts. The Museum's award-winning, peer-reviewed journal, *American Art*, will publish three issues of new scholarship. The Museum hosts approximately 20 research Fellows every year from throughout

the country and internationally, thereby increasing the number of scholars using the collections. The resulting discoveries and interpretations by staff and Fellows help Americans understand and appreciate their rich cultural heritage as well as advance scholarship in American art. Research also will feed into educational programs as well as the Web and new media.

The Museum supports digital research and scholarship by making artwork images and related data freely available online to the general public. Ninety percent of SAAM's collection now is online. The Museum hosts dynamic websites for visitors, researchers, and educators, most notably through a popular website at AmericanArt.si.edu. SAAM participates in collaborative digital initiatives with other organizations, exploring cutting-edge topics such as Linked Open Data (LOD) and Virtual Reality (VR). The Museum maintains an active social media presence across numerous platforms — including Facebook, Twitter, Instagram, and blogs — which focuses on engaging the public in conversations about art-related topics. The Museum produces dozens of educational videos and live streams each year, which are added to its non-profit YouTube channel. These assets are fully accessible and responsive, regardless of the type of device used. Custom-built interactive exhibition components, apps, and videos are used whenever appropriate to provide a richer and more varied learning experience.

Ten exhibitions are planned for FY 2018 at SAAM. Major exhibitions at the DWRC include: *Tamayo: The New York Years*; *Lumia: Thomas Wilfred and the Art of Light*; *Kara Walker: Harper's Pictorial History of the Civil War*; *Trevor Paglen: Sites Unseen*; *Do Ho Suh: Almost Home*; *Diane Arbus: The Box of Ten*; and *Between Worlds: The Art of Bill Traylor*. The Renwick Gallery hosts *Murder Is Her Hobby: Frances Glessner Lee and The Nutshell Studies of Unexplained Death*; *Rick Araluce: The Final Stop*; and *No Spectators: The Art of Burning Man*.

As part of its ongoing efforts to make as much material as possible accessible to the public, the Museum regularly rotates artworks in the permanent collection galleries to show the many facets of American art and culture, as well as to encourage return visits. The Luce Foundation Center for American Art displays an additional 3,500 collection objects in densely installed glass cases. The newly refurbished drawer system brings items from the miniatures and medals collection back on view.

National outreach includes touring exhibitions with *Irving Penn: Beyond Beauty*, which ends its multi-year run. *Pop Art Prints* continues to tour. The Museum is offering *The Art of Romaine Brooks*; *Down these Mean Streets: Community and Place in Urban Photography*; and *Harlem Heroes: Photographs by Carl Van Vechten*. Interactive exhibition components continue evolving to keep pace with proliferating information streams. In addition, whenever possible, SAAM honors requests by other museums for loans from the national collection.

SAAM engages diverse audiences through a range of public programs and online resources. The Museum will continue its popular tours, gallery talks,

demonstrations and workshops, and now offers signed tours for the hearing impaired as well as *America InSight* for visually impaired visitors. In addition, individuals bring in objects and talk with conservators about the proper care and handling of family heirlooms. Family Days and heritage month programs continue to create and sustain new relationships between the public and their cultural history. The Chinese New Year celebration, held in conjunction with the Chinese Embassy, has become a visitor favorite. Public programs in the galleries, McEvoy Auditorium, and Kogod Courtyard are supplemented by new Web content, as well as by making all content accessible regardless of the device being used.

Education initiatives expand as the Museum takes advantage of new online tools and assets. SAAM continues to develop its highly successful distance-learning program that reaches classrooms worldwide. Three videoconference centers, including the MacMillan Education Center, enable the Museum to serve more students than ever before. Contracts and partnerships with Government agencies such as the Department of Defense, National Park Service, National Archives and Records Administration, and the U.S. Patent Office expand the Museum's reach to more diverse audiences. The intern program, hosting 31 students this past year (from 16 states, Washington, DC, Canada and the Netherlands), helps to prepare the next generation of museum professionals. The Museum again will host two teacher institutes, each lasting a week; in FY 2016, 59 teachers from 22 states and Washington, DC attended. Another 22 returning teachers from 15 states participated in the advanced institute for alumni.

The safe storage and display of collection objects remain a top priority. SAAM continues to develop public interest in and awareness of preservation issues through the Luce Foundation Center and the Lunder Conservation Center and their many public programs. The acquisition of new tools and instrumentation will allow more complete monitoring of the collection and application of leading-edge conservation techniques to preserve the collection. Leased cool-storage space ensures that photographic material is preserved in ideal conditions. Artworks will be acquired to fill gaps in the collection identified through the Museum's collections plan. Time-based media (i.e., works which exhibit a changing observable state, such as film, videos or light-emitting diodes, or LEDs) will continue to receive special attention in our Time-based Media Lab.

The Museum has been a lead partner, with the Department of Energy, in developing LED technology for use by museums, which saves the Institution thousands of dollars in energy costs. The Renwick Gallery continues to yield important data on the use of LEDs. Information technology and administrative procedures are strengthened through close monitoring of resources and processes, especially as lean budgets continue. Strong partnerships with Smithsonian central offices enable SAAM to provide an end-user perspective on policy changes. Use of the Museum's intranet site keeps staff current on the ever-changing procedural and regulatory environment. Continual reviews of work processes and conditions are followed by implementation and use of safer techniques and materials for both staff and the environment.

NONAPPROPRIATED RESOURCES — Nearly all of SAAM’s non-personnel costs, including those for exhibitions, educational and public programs, and purchases for the national collection, are paid with funds provided by individuals, foundations, and corporations. Donor/sponsor-designated funds support specific programs and projects. Additionally, trust funds support salaries and benefits for one-third of staff, as well as all fundraising activities and related costs.

Introduction, *Mission Enabling*

The backbone of the Smithsonian must remain a dedicated workforce of employees and volunteers with 21st century skills and perspectives. Strong, responsive support services — such as collections stewardship, facilities management, Web and new media, audience research, marketing, and financial management — are essential to accomplish the Smithsonian's mission. Finally, we need to generate revenue in new ways to ensure that we can fund our vision for the future.

UNITS primarily associated with Mission Enabling:

- **Outreach**
- **Communications**
- **Institution-wide Programs**
- **Smithsonian Exhibits**
- **Museum Support Center**
- **Museum Conservation Institute**
- **Smithsonian Institution Archives**
- **Smithsonian Libraries**
- **Office of the Chief Information Officer**
- **Administration**
- **Office of the Inspector General**
- **Facilities Maintenance**
- **Facilities Operations, Security, and Support**

OUTREACH

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2016 ENACTED	64	9,045	40	6,118	5	3,626	0	246
FY 2017 ESTIMATE	64	9,028	41	7,003	7	5,514	0	584
FY 2018 REQUEST	64	9,284	42	7,224	9	4,558	1	341

STRATEGIC GOALS: EXCELLENT RESEARCH; BROADENING ACCESS; REVITALIZING EDUCATION; AND MISSION ENABLING

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2017		FY 2018		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
<i>Research</i>						
Engage in research and discovery	3	1,325	3	1,330	0	5
Ensure the advancement of knowledge in the humanities	1	878	1	896	0	18
Broadening Access						
<i>Digitization and Web Support</i>						
Provide improved digitization and Web support	4	392	4	403	0	11
<i>Public Programs</i>						
Provide reference services and information	1	101	1	103	0	2
<i>Exhibitions</i>						
Offer compelling, first-class exhibitions	39	4,546	39	4,633	0	87
Revitalizing Education						
<i>Education</i>						
Engage and inspire diverse audiences	11	1,344	11	1,477	0	133
Mission Enabling						
<i>Management Operations</i>						
Strengthen an institutional culture that is customer centered and results oriented	5	442	5	442	0	0
Total	64	9,028	64	9,284	0	256

BACKGROUND AND CONTEXT

Broadening Access is a key component of the Smithsonian's Strategic Plan. All of the Institution's outreach activities link the Smithsonian's national collections,

research, and educational resources with Americans from coast to coast. Its aims are to: 1) broaden the audiences who share in the nation's rich cultural heritage; 2) enhance widespread research-based knowledge of science, history, and art; and 3) provide opportunities for educators and scholars to further increase and diffuse knowledge.

Smithsonian outreach programs serve millions of Americans, thousands of communities, and hundreds of institutions in all 50 states, through loans of objects, traveling exhibitions, and sharing of educational resources via publications, lectures and presentations, training programs, and websites. Smithsonian outreach programs work in close cooperation with Smithsonian museums and research centers, as well as with 216 affiliated institutions and others across the nation.

This line item includes the programs which provide the critical mass of Smithsonian Across America outreach activity: the Smithsonian Institution Traveling Exhibition Service (SITES); Smithsonian Affiliations; the Smithsonian Center for Learning and Digital Access (SCLDA); the Office of Fellowships and Internships (OFI); and the Smithsonian Institution Scholarly Press (SISP). Smithsonian Associates and the Smithsonian Science Education Center (SSEC), which receive no direct federal funding, are also part of this national outreach effort.

The FY 2018 budget request includes an increase of \$256,000 for necessary pay and other related salary costs for existing staff funded under this line item.

MEANS AND STRATEGY

Smithsonian Institution Traveling Exhibition Service (SITES) (39 FTEs and \$4,633,000) — SITES has been sharing Smithsonian exhibitions and educational resources with people and places all across the country for more than 66 years. More than 500 communities in all 50 states host SITES shows in formats ranging from large-scale interactive exhibits for mainstream art, history, and natural history museums to exhibitions for mid-size museums and cultural centers, and from small exhibitions for rural America to poster exhibitions tailored to school classrooms. Encompassing subjects that parlay the Smithsonian's vast collection and research pursuits, SITES' FY 2018 offerings will address such topics as artistic creativity, scientific exploration, and the mosaic of diverse cultures that have made America the great nation it is today.

SITES is a national leader in exhibitions that honor and celebrate the cultural heritages of African Americans, Latinos, Asian Pacific Americans, Native Americans, and the many other peoples who give our nation its unique vitality. FY 2018 resources will continue to be dedicated to this focus, in addition to generating public engagement through exhibition topics related to the American experience, space exploration, world cultures, our biodiverse planet, and the transformative power of the visual arts.

SITES' landmark Museum on Main Street (MoMS) initiative will continue to enrich the underserved populations of rural America, whose access to national cultural programs is often limited. SITES' current MoMS exhibits examine the relationships between people and water from cultural and scientific perspectives.

During each SITES exhibition, Smithsonian partners at host venues develop extensive opportunities to engage and inspire people in their communities to learn about the subject of the exhibition. Exhibitions are tailored to provide opportunities to share community stories and harness the creativity, innovation and expertise of community members — whether through school field trips, family festivals, lectures involving academics from local colleges and universities, or programs targeted for underserved youth and adults.

While Americans may know the Smithsonian from one-time school trips or family visits, the presence of the Institution's resources in their hometowns has a deeper resonance. SITES exhibitions represent the valuable public impact of the federal dollar. They are a source of immense local pride, bringing together people from diverse ethnic, age, and socio-economic groups to celebrate a shared national heritage at the local level.

Smithsonian Affiliations (2 FTEs and \$378,000) — Now in its 21st year, Smithsonian Affiliations continues to build a strong, national network of affiliated museums, educational, and cultural organizations that facilitate the display of Smithsonian artifacts and the dissemination of the Institution's curatorial expertise in communities across America. By working with both emerging and well-established museums of varying sizes, subject areas, diverse audiences, and scholarly disciplines, Smithsonian Affiliations creates the framework through which visitors unable to visit the Institution's facilities can still experience the Smithsonian in their own communities. In addition, the Smithsonian continues to work closely with affiliated organizations to increase their audiences, expand their professional capabilities, and gain greater recognition in their local communities. There are currently 216 affiliate organizations in 46 states, Puerto Rico, and Panama.

These strategies have resulted in the display of more than 9,000 Smithsonian artifacts in Affiliate locations, including such historic and topical items as U.S. spacecraft, First Ladies' gowns, Civil War arms and uniforms, outdoor sculptures, scientifically significant collections, and many more. Smithsonian scholars have participated in science literacy, American history, cultural diversity, and art education programs at Affiliate locations nationwide. Professional development workshops, internships, and visiting professional residencies have given Affiliate staff the opportunity to increase their knowledge and skills in areas such as collections management, exhibition planning, and museum administration. In addition, the Smithsonian Affiliations' annual conference creates a forum for networking, information sharing, and future planning. New videoconferencing capabilities have also extended the reach of Smithsonian Affiliations. Current Affiliate projects build on and amplify the "Grand Challenges" and core objectives outlined in the Smithsonian's Strategic Plan.

Smithsonian Center for Learning and Digital Access (SCLDA) (13 FTEs and \$1,512,000) — Smithsonian educators work with Smithsonian content experts to develop products and services that strengthen American education and enhance our ability to compete globally. SCLDA focuses on digital products and services that are based on learning research, testing, and evaluation. Its Smithsonian Learning Lab brings together an ever-growing number of digital resources from all of the Institution's museums to provide unlimited learning opportunities to anyone who has internet access. The free online Lab enables everyone to find and customize resources for educational use and share them with a Smithsonian learning community. Many site features, such as the tools to create lessons and activities, specifically address the needs of teachers and students in K–12 classrooms and higher education. To demonstrate the benefits to teachers and learners, and to measure its impact, SCLDA is partnering with major universities to study the use of digital museum content in education.

Office of Fellowships and Internships (OFI) (6 FTEs and \$1,968,000) — The OFI has the central management and administrative responsibility for the Institution's programs of research, Fellowships, and other scholarly appointments. One of its primary objectives is to facilitate the Smithsonian's academic interactions with students and scholars at universities, museums, and other research institutions around the world. The Office administers Institution-wide research support programs, and encourages and assists other Smithsonian museums, research centers, and offices to diversify and develop additional Fellowships and visiting appointments.

The Smithsonian Institution offers Fellowships to provide opportunities for graduate students, pre-doctoral students, and postdoctoral and senior investigators to conduct independent research in association with members of the Smithsonian professional research staff, and to more effectively use the resources of the Institution.

To achieve the strategic goal of Excellent Research and maintain the Smithsonian's level of expertise in the research community, the Institution must continue attracting the best scholars. The OFI has increased Fellowship stipends to provide awards comparable to other prestigious programs so the Smithsonian can maintain a competitive edge. Since funding for stipends has remained flat, the Smithsonian has increased the value of each award, but has decreased the number of Fellowships awarded. The Smithsonian continues to try to raise private funding for the Institution's Fellowships and Scholarly Studies Program so that the Institution has the resources necessary to help today's young scientists become the next generation's top researchers. In addition, the OFI continues to provide current staff with the financial support needed to develop new research initiatives, collaborate with other scholars, and determine the scope and feasibility of projects.

Smithsonian Institution Scholarly Press (SISP) (4 FTEs and \$793,000) — Through the Smithsonian Contributions Series program, continually published since

1875, SISP publishes and disseminates research conducted by Smithsonian staff and collaborators. The federal funds support first-class research results in science, art, culture, and history, with widespread distribution to the public and to libraries, universities, and other education and research organizations. SISP publishes, in print and in digital formats, an open-access monograph series in core subject areas of anthropology, art, botany, history, marine sciences, museum conservation, paleobiology, and zoology. SISP also publishes edited collections in a broad range of disciplines, including interdisciplinary research and conference proceedings.

Furthermore, federal resources underwrite publication of scholarly books closely related to the national collections and support the Smithsonian's initiative to increase public access to peer-reviewed scholarly publications authored by Smithsonian staff. SISP's publications and ongoing efforts to increase public access to Smithsonian research advance two strategic goals: Excellent Research and Broadening Access.

NONAPPROPRIATED RESOURCES — General trust funds defray the costs of staff salaries and benefits, fund raising, exhibition design and production, publications, materials, outside specialists, and contractual services. Donor/sponsor-designated funds cover costs related to specific projects and programs.

COMMUNICATIONS

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2016 ENACTED	22	2,594	29	4,114	0	236	0	0
FY 2017 ESTIMATE	22	2,589	32	4,068	0	122	0	0
FY 2018 REQUEST	22	2,644	32	4,068	0	35	0	0

STRATEGIC GOALS: BROADENING ACCESS AND MISSION ENABLING

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2017		FY 2018		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Broadening Access						
<i>Public Programs</i>						
Provide reference services and information	7	627	7	641	0	14
Mission Enabling						
<i>Management Operations</i>						
Strengthen an institutional culture that is customer centered and results oriented	1	126	1	129	0	3
Enhance the reputation of the Smithsonian by maintaining good relations with the news media and with federal, state, and local governments	4	523	4	531	0	8
Ensure that the Smithsonian workforce is efficient, collaborative, committed, innovative, and diverse	10	1,313	10	1,343	0	30
Total	22	2,589	22	2,644	0	55

BACKGROUND AND CONTEXT

The Office of Communications and External Affairs (OCEA) consists of four departments: the Office of Public Affairs (OPA), the Office of Government Relations (OGR), the Office of Visitor Services (OVS), and the Office of Special Events and Protocol (OSEP).

OCEA manages the Smithsonian brand strategy, coordinates brand marketing and oversees internal communications. Office resources support the Strategic Plan by training staff about the Institution's priorities and objectives, and informing them about important initiatives, thereby enabling the Institution to better execute its mission. Accordingly, OCEA is responsible for implementing

the Smithsonian brand strategy, both internally and externally, so that the Smithsonian reaches and engages more people with its mission. By improving internal communications to more effectively and efficiently inform staff of Institution-wide policies, initiatives, and events, OCEA encourages cross-unit collaboration.

The OPA coordinates public relations and communications with museums, research centers, and offices to present a consistent and positive image of the Institution. The Office supports the Strategic Plan by advancing the Institution's objectives, connecting people with Smithsonian experts, research, exhibitions, and public programs, and by working with conventional media outlets and social media. The OPA connects to online audiences by overseeing content such as Visitor Information, Events, Exhibits, and *Encyclopedia Smithsonian* on the Institution's central website. The Office also administers content on Newsdesk, the Smithsonian's online newsroom, and on central Smithsonian social media accounts. In addition, the OPA works with units throughout the Institution to establish and maintain professional communications guidelines and standards.

The OGR is the liaison between the Smithsonian Institution and the federal Government. This includes members and staff of the U.S. House of Representatives and Senate appropriations and oversight committees and other congressional offices, the White House, the Office of Management and Budget, and various federal agencies. The Office supports the Institution's overall Strategic Plan by explaining the accomplishments, relevance, and wealth of the Smithsonian's offerings to the Congress and the Administration. The OGR also works with other Smithsonian offices, informing them of federal-sector activities, tracking legislation pertinent to them, showcasing their exhibits, programs and discoveries for interested congressional offices, and managing their requests for high-ranking Government officials to participate in official Institution events.

The OVS is the principal Office dedicated to designing, orchestrating, and improving visitors' experiences with the Smithsonian. The Office enables the Smithsonian's mission through its activities as the primary point of contact for Smithsonian visitors and volunteers. Office resources support the Strategic Plan by administering products and services that broaden visitor access to Smithsonian public programs and services.

The OSEP participates in strategic decision making for advancing the Institution's goals by identifying event opportunities which will help the Smithsonian achieve its objectives, and also helps plan unusual events to extend the reach of the Institution and energize its representation.

This FY 2018 budget request includes an increase of \$55,000 for necessary pay and other related salary costs for existing staff.

MEANS AND STRATEGY

The OPA allocates resources for national and international media publicity and to expand minority relationships through targeted media outlets. As the Smithsonian Office with primary responsibility for extending the Institution's communications message to online audiences, the OPA manages content on the central website, Newsdesk, and on the central Smithsonian social media accounts. The OPA works with units throughout the Institution to establish and maintain professional communications guidelines and standards. The OPA also produces *Smithsonian Science*, an online blog devoted to scientific research.

In addition, the OPA initiates and responds to all media inquiries in a timely manner with accurate, concise information, and generates story ideas for the media, featuring Smithsonian experts, exhibitions, research, and programs. In terms of new initiatives, the OPA also has a leading role in coordinating the rollout of the Institution's *One Smithsonian: Greater Reach, Greater Relevance, Profound Impact* Strategic Plan and many programs, as well as appeals for private support.

The OVS designs and administers systems that visitors use regularly to plan and enjoy their visits, as well as systems that enable Smithsonian staff to better aid on-site visitors. The OVS administers the Smithsonian Information Center, the outdoor visitor information kiosks adjacent to all museums and galleries, Web applications, and selected publications. In addition, the OVS oversees a comprehensive visitor feedback system that includes the general Smithsonian email address, a telephone call center, comment cards, and surveys.

The OVS also works with relevant units to deliver products and services which help their staff understand and meet the needs of their specific audiences. The OVS systematically analyzes visitor behavior, trends and insights, and delivers pertinent findings to museum and research center teams whose projects will affect how visitors experience the Smithsonian. The OVS recruits and trains highly qualified, motivated and diverse volunteers to engage with visitors and help Smithsonian staff conduct research projects. The OVS also increases retention of volunteers by offering personal enrichment, award and recognition opportunities.

NONAPPROPRIATED RESOURCES — General trust funds support salaries and benefits of personnel and other related costs. In addition, these funds support information dissemination, outreach, publications, and general operations.

INSTITUTION-WIDE PROGRAMS

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2016 ENACTED	0	13,284	0	0	0	0	0	0
FY 2017 ESTIMATE	0	13,259	0	0	0	0	0	0
FY 2018 REQUEST	0	13,284	0	0	0	0	0	0

STRATEGIC GOALS: EXCELLENT RESEARCH; BROADENING ACCESS; STRENGTHENING COLLECTIONS; AND MISSION ENABLING

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2017		FY 2018		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
<i>Research</i>						
Engage in research and discovery	0	1,198	0	1,200	0	2
Broadening Access						
<i>Public Programs</i>						
Provide reference services and information	0	2,395	0	2,400	0	5
Strengthening Collections						
<i>Collections</i>						
Improve the stewardship of the national collections	0	6,684	0	6,697	0	13
Mission Enabling						
<i>Information Technology</i>						
Modernize the Institution's information technology systems and infrastructure	0	2,982	0	2,987	0	5
Total	0	13,259	0	13,284	0	25

BACKGROUND AND CONTEXT

Beginning in 1993, Congress has approved the creation of the following Institution-wide funding programs:

- Research Equipment Pool
- Latino Initiatives Pool
- Asian Pacific American Initiatives Pool
- Collections Care and Preservation Fund
- Information Resources Management Pool

In 1993, Congress approved the Smithsonian's reallocation of funds to create two Institution-wide funding programs: the Research Equipment Pool (REP) to support the units' needs for state-of-the-art research equipment, and the Information Resources Management (IRM) Pool to systematically address information technology needs throughout the Institution. The Institution first received funds in FY 1995 to support the development of a third Institution-wide program, this one for Latino initiatives, including research, exhibitions, and educational programming. In FY 1998, Congress approved a \$960,000 increase to the IRM Pool specifically dedicated to collections information systems' needs. The FY 2006 appropriation included an increase of \$1 million to establish the Collections Care and Preservation Fund (CCPF). The CCPF provides resources for the highest priority collections management needs throughout the Institution to improve the overall stewardship of Smithsonian collections. The FY 2016 appropriation included an increase of \$879,000 for the Latino Initiatives Pool (LIP) and \$400,000 to establish the Asian Pacific American Initiatives Pool to explore and share the contributions of Asian Pacific Americans to the American Experience.

This FY 2018 budget request includes an increase of \$25,000 to cover the inflationary increases in the Institution-wide pool funds included in the Fixed Costs section of this budget submission.

ADDITIONAL BACKGROUND AND CONTEXT — COLLECTIONS CARE

Collections stewardship is a key component and core priority of the Smithsonian's Strategic Plan. Assembled over 171 years, Smithsonian collections are fundamental to carrying out the Institution's mission and Grand Challenges, serving as the intellectual base for scholarship, discovery, exhibition, and education. As recognized by the America COMPETES Act reauthorization, the proper management, documentation, preservation, and accessibility of collections are important to the nation's research and education infrastructure. Smithsonian collections have a unique and important role in addressing scientific and societal issues of the 21st century, enabling researchers to address such significant challenges as the effects of global change, the spread of invasive species, and the loss of biological and cultural diversity and its impact on global ecosystems and cultures.

As a result, the Institution must substantially improve collections care to ensure that Smithsonian collections are properly preserved and made accessible for current and future generations to study and enjoy. The volume, characteristics, complexity, and age of Smithsonian collections, as well as the variety of discipline-specific standards that apply to their care, make their management, preservation, and digitization as unprecedented, challenging, and complex as the collections themselves.

Currently, Smithsonian collections total 156 million objects and specimens; 156,000 cubic feet of archives; and two million library volumes that include irreplaceable national icons, examples of everyday life, and scientific material vital to the study of the world's natural and cultural heritage, covering subjects from aeronautics to zoology. Through its collections, the Smithsonian presents the astonishing record of American and

international artistic, historical, cultural, and scientific achievement, with a scope and depth that no other institution in the world can match. As the steward of the national collections, the Smithsonian has the unique responsibility and historic tradition of preserving and making accessible its collections that are held in trust for the public.

Collections stewardship — the systematic development, documentation, management, preservation, and use of collections — is not a single process or procedure, but a series of components which are interwoven, interdependent, and ongoing. The condition of facilities housing collections, the quality of storage equipment and preservation tools, and the ability to document collections in manual and digital formats directly affect the Smithsonian's ability to make collections available to scholars and the general public worldwide. Collections care, storage, and digitization represent a continuum of activities which support the Smithsonian's strategic goals to strengthen collections, broaden access, and revitalize education. Because collections stewardship is fundamental to the Smithsonian's mission, there is a critical need for additional resources to accomplish basic collections management activities for accountability, preservation, storage, digitization, and accessibility of the collections.

MEANS AND STRATEGY — RESEARCH EQUIPMENT POOL

The Smithsonian's ambitious research agenda requires appropriate equipment to achieve its goal of Excellent Research. This basic equipment infrastructure requires regular maintenance, upgrades, and routine replacement. With the current allocation, the Institution will continue striving to prioritize and address the many research needs throughout the Smithsonian community. Research Equipment Pool funds have enabled Smithsonian museums and research centers to undertake groundbreaking research in numerous areas. For example, genomics is offering new opportunities for exploring biodiversity. To be successful, biodiversity genomics requires a set of cutting-edge genetic technologies such as next-generation sequencing. Similarly, the Institution's efforts in materials conservation have been greatly enhanced by using highly specialized equipment that has enabled conservators to better identify the age and provenance of artifacts as well as improve the preservation of fragile materials. Investing in equipment and maintenance contracts will allow the Smithsonian to leverage its collections and expertise in these important areas of research.

MEANS AND STRATEGY — LATINO INITIATIVES POOL

To achieve the goal of Broadening Access to Smithsonian research and programs, the LIP provides funding for projects that support Latino programs and focus on U.S. Latino contributions to science, history, and culture. Pool funds have been used to support exhibition and collections development, public and educational programs, research and publications, digital content, and Fellowships and internships.

Projects are selected on a competitive basis as recommended by a peer review panel from proposals that demonstrate cost-effective deployment of pool funds, as well as coordination with other Smithsonian resources and external funding. Since its creation

in 1995, the Latino Initiatives Pool has provided more than \$23.5 million in funding to more than 480 Smithsonian programs and projects.

In addition to a Latino Curatorial Initiative, launched in 2010 and designed to increase Latino representation and scholarship at the Smithsonian, the expanded funding of the LIP has broadened the Smithsonian's outreach efforts throughout the country. This includes an increased number of traveling exhibitions, public and educational programs, and institutional partnerships. These funds ensure that Smithsonian content is available to more visitors throughout the country and the world, including audiences using digital platforms.

The LIP funding will continue to be directed to Smithsonian leadership and professional development programs as well. An example of this is the Smithsonian Latino Center's Latino Museum Studies Program (LMSP), which now boasts a national alumni network of more than 290 professionals and scholars, some of whom are currently employed at the Smithsonian. Programs such as LMSP play a critical role in creating an extensive pool of qualified museum professionals and cultural specialists who are represented in universities, museums, and cultural centers which also collaborate with the Smithsonian.

MEANS AND STRATEGY — ASIAN PACIFIC AMERICAN INITIATIVES POOL

To achieve the Institution's strategic goal of Broadening Access to its mission, and promoting the understanding of the full spectrum of the American Experience, the Asian Pacific American Initiatives Pool (APAIP) provides funding to support research, exhibitions, educational programs, collections, digital and media projects, and partnerships with local and regional cultural organizations.

Projects are selected on a competitive basis from proposals that demonstrate effective deployment of the pool funds, coordination with other Smithsonian resources, and successful external fund raising from the private sector. Since its inception in FY 2016, the APAIP has provided funding to 17 Smithsonian programs and projects, a promising start to increase the Asian Pacific American presence in the Smithsonian's presentation of and research into the American Experience.

MEANS AND STRATEGY — COLLECTIONS CARE AND PRESERVATION FUND

To achieve the strategic goals of Strengthening Collections and Broadening Access, the CCPF provides critical resources to make targeted improvements in the accountability, documentation, preservation, storage, and accessibility of the Smithsonian's vast and diverse collections. With this funding, the Smithsonian has raised the level of collections stewardship in a pragmatic, strategic, and integrated manner by prioritizing and systematically addressing collections care needs. The Institution has succeeded with an approach that is based on sound collections assessment data, innovative collections care methodologies, economies of scale, and project-driven activities, including collections moves and digitization. Holistic collections-

level management has enabled comprehensive improvements which benefit the greatest number of collection items and collecting units in an efficient, practical, and cost-effective way.

The Smithsonian's senior leadership acknowledges that an effective strategy for addressing collections challenges depends on a coordinated, Institution-wide approach. Therefore, the following initiatives inform our strategies, budget request, and allocation of resources throughout the Smithsonian community.

Collections Physical Assessment

In FY 2010, the Smithsonian conducted an Institution-wide collections physical condition assessment. As part of the assessment, Smithsonian collecting units grouped and evaluated their collections holdings based on their management and use, and characterized the quality of collections' physical condition, housing materials, storage equipment, physical accessibility, and collections space. In FY 2012, the National Collections Program (NCP) and the Digitization Program Office developed and implemented an Institution-wide assessment tool — the Collections and Digitization and Reporting System (CDRS) — to annually assess the state of collections' physical condition and their digitization, establish priorities, identify areas where improvements are needed, measure progress, and provide a practical framework for the allocation of resources. Based on the collections' physical assessment results, the Smithsonian has used the centralized CCPF to achieve targeted improvements in the preservation and accessibility of collections, ranging from national icons such as the Jefferson Bible to the preservation and management of biomaterials, in the most efficient and cost-effective manner possible.

The NCP has strategically directed central collections care resources to specific collections across the Institution to improve substandard aspects of collections care to an acceptable level and meet professional standards. In addition, these funds have enabled staff to correct specific collections management deficiencies identified in the Smithsonian's Inspector General audit recommendations; facilitate collections moves from substandard facilities; and address the Institution's highest priority collections management needs.

Collections Space Planning

In FY 2015, the Smithsonian completed a multi-year, Institution-wide collections space planning initiative, co-chaired by the NCP and Smithsonian Facilities, culminating in the Collections Space Framework Plan (CSFP). As part of this interdisciplinary planning initiative, the Smithsonian completed a first-of-its-kind survey of existing collections space conditions, representing more than 2.1 million square feet of space, or 18 percent of total Smithsonian building space. The survey provided a snapshot of collections space conditions and rated the quality of collections space construction, equipment, accessibility, environmental conditions, security, and fire safety. The CSFP includes recommendations and a 30-year implementation plan for addressing current

and projected pan-Institutional collections space requirements in a strategic, integrated, and collaborative manner. The plan now serves as a road map to guide short- and long-term facilities, real estate, and collections care project decisions, providing renovation and new construction strategies that address unacceptable collections space conditions, allow for decompression of overcrowded collections to make them more physically accessible, anticipate future collections growth, and reduce or eliminate reliance on leased space for collections storage.

To address near-term space requirements, the CSFP and the Smithsonian's Facilities Capital request support the planning and design of Pod 6 at the Museum Support Center (MSC); continued mitigation of collections currently stored in hazardous conditions at and their removal from failing facilities in Garber Buildings 15, 16, and 18; and various museum revitalization projects which will vastly improve collections storage, preservation, accessibility, and space efficiency. Construction of Pod 6 will complete the intent of the original 1994 MSC Master Plan and initiate the implementation of the CSFP for relocation of at-risk collections from the Garber Facility and several Mall museums. Completion of Pod 6 is also necessary to maintain the critical path for the National Museum of American History's (NMAH) East Wing public renewal project, which requires both temporary and permanent relocation of a significant volume of collections from the Mall building to accomplish the renovation.

In addition, near-term projects include the construction of two new storage modules adjacent to the Udvar-Hazy Center. The first of the modules will be critical because it will serve as temporary collections swing space during the upcoming National Air and Space Museum (NASM) Mall Building revitalization. Once completed, the space will receive at-risk collections from the Garber Facility, further reducing the amount of unacceptable collections space. The construction of the NASM storage module and Pod 6 will provide essential temporary swing space required during the NASM and NMAH building renovations, reducing lease costs and permanent storage expenses for the relocation of at-risk collections from unacceptable storage spaces at the Garber Facility and on the Mall, as well as enable the phased redevelopment of the Garber campus.

For the first time, the Smithsonian has robust Institution-wide data on the national collections, their physical condition, state of digitization, and current collections space conditions as a result of three important pan-Institutional initiatives. When combined, this information provides key tools and direction for improving the management, care, and accessibility of the national collections. In FY 2018, the Smithsonian will continue to build on these collections initiatives and establish action plans for strategically addressing the preservation and storage space needs of collections, based on the results of the Institution-wide collections physical assessment and collections space survey.

MEANS AND STRATEGY — INFORMATION RESOURCES MANAGEMENT POOL

Digitization funding directly supports the Smithsonian's ambition to serve a national and international audience online, offering access to important collections that are not currently on exhibit, and fulfilling the need to document collections for improved inventory control. Creating a portfolio of rapid-capture prototypes to address some of the Institution's most commonly held collection materials will help establish an infrastructure for standardized high-throughput digitization that brings the Smithsonian one step closer to sharing its vast collections with the world. Therefore, this funding supports the heart of the part of the Smithsonian's mission for the "diffusion of knowledge."

The Information Resources Management Pool supports network operations and server administration. Specifically, the requested funds are used for:

- upgrades and enhancements to the Smithsonian's information technology infrastructure;
- contractor support in the Network Operations Center;
- services of Active Directory and desktop migration technicians;
- network hardware/software maintenance; and
- public delivery of Smithsonian digital assets.

SMITHSONIAN EXHIBITS

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2016 ENACTED	28	3,009	15	-353	0	17	0	0
FY 2017 ESTIMATE	28	3,018	13	-25	0	0	0	0
FY 2018 REQUEST	28	3,143	15	-25	0	0	0	0

STRATEGIC GOALS: BROADENING ACCESS AND MISSION ENABLING

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2017		FY 2018		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Broadening Access						
<i>Exhibitions</i>						
Offer compelling, first-class exhibitions	24	2,457	24	2,553	0	96
Mission Enabling						
<i>Management Operations</i>						
Ensure that the Smithsonian workforce is efficient, collaborative, committed, innovative, and diverse	4	561	4	590	0	29
Total	28	3,018	28	3,143	0	125

BACKGROUND AND CONTEXT

The Smithsonian Exhibits (SIE) office is a full-service exhibit planning, design, and production shop supporting Smithsonian public exhibitions that connect the American people and international audiences with the richness of Smithsonian content and collections. SIE is the Smithsonian-wide exhibit resource available to all Smithsonian museums, centers and affiliates and, in partnership with colleagues throughout the Institution, delivers the highest quality exhibit design, interpretive writing, editing, project management, graphic production, fabrication, installation, and 3D services.

To achieve the strategic goal of Broadening Access, the SIE will continue to focus on its core mission of planning, designing, and producing exhibitions for the Institution. Clients with full, limited or no design or production capabilities can use the SIE for complete or partial exhibition services, including design, refurbishing, signage, acrylic casing, cabinetry, model making, crating, and artifact mounting.

The SIE fosters collaboration among units by providing expert consultation, especially in the early stages of exhibition planning. With a broad array of skills, the SIE exhibit specialists network across the Smithsonian, enabling the creation of more compelling exhibits that connect the American people to their history as well as their cultural and scientific heritages.

For clients who seek specialized exhibition-related services, the SIE will continue to develop and expand its expertise in computer-controlled production and automated modeling technologies such as 3D scanning and printing. In addition, the SIE will provide opportunities for Smithsonian colleagues to take advantage of its state-of-the-art facility, allowing trained staff to work with the specialized equipment.

In addition, the SIE's Object Storage Facility (OSF) offers secure, climate-controlled storage for artifacts during production. The SIE, in its work to advance the strategic goal of Broadening Access to the Smithsonian's expansive collections, will continue to support exhibitions in the S. Dillon Ripley Center concourse, as well as in the Commons, Schermer, and Great Hall galleries in the Smithsonian Castle.

The SIE also conducts forums for exhibit staff throughout the Smithsonian to inspire creativity, innovation, and collaborations which result in cutting-edge exhibitions and technological advances. The SIE is expanding its skills in interpretive master planning and exhibition development services to include prototyping and interactive development for diverse design projects.

The FY 2018 budget request includes an increase of \$125,000 for necessary pay and other related salary costs for existing staff funded under this line item.

MEANS AND STRATEGY

As the Institution's most comprehensive producer of exhibits, the SIE is dedicated to providing its Smithsonian clients with first-class exhibition design, editing, production, and installation services. Each year, the SIE designs and produces approximately 100 projects, large and small, for almost every office and museum in the Smithsonian.

In FY 2018, most SIE resources will stay focused on achieving the strategic goals of Broadening Access and Mission Enabling by:

- improving the quality of exhibition design, consultation, production, and installation services;
- increasing and maintaining staff knowledge and expertise in state-of-the-art technology, techniques, and advances in the exhibition field, and upgrading equipment to support emerging trends;
- cross-training staff within SIE to share their expertise and maximize efficiencies;
- demonstrating new exhibition design technologies to Smithsonian units; and

- promoting exhibition excellence, unit sharing of resources, and advancement of exhibitions as an interpretive medium throughout the Smithsonian Institution.

The SIE will accomplish these objectives by focusing exclusively on exhibit-related work, freeing up SIE staff with specialized experience to concentrate on the SIE's core mission: the planning, design, and production of exhibits. Building on well-established, collaborative relationships with other Smithsonian design and production staff, the SIE will continue to play a strong role in sharing its expertise with other Smithsonian units. These initiatives will result in a more informed and expert staff that can do more to make the Smithsonian a leader in the field of exhibition design and production.

NONAPPROPRIATED RESOURCES — General trust funds support SIE salaries and benefits for project management, design, and exhibit specialists, as well as general operational, equipment service, and maintenance requirements.

MUSEUM SUPPORT CENTER

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2016 ENACTED	18	1,866	0	0	0	0	0	0
FY 2017 ESTIMATE	18	1,862	0	0	0	0	0	0
FY 2018 REQUEST	18	1,891	0	0	0	0	0	0

STRATEGIC GOAL: STRENGTHENING COLLECTIONS

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2017		FY 2018		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Strengthening Collections						
<i>Collections</i>						
Improve the stewardship of the national collections	18	1,862	18	1,891	0	29
Total	18	1,862	18	1,891	0	29

BACKGROUND AND CONTEXT

The Museum Support Center (MSC) is the Smithsonian's principal off-site collections preservation and research facility. Located in Suitland, Maryland, the facility houses more than 77 million objects, or 55 percent of the Institution's irreplaceable national collections, primarily from the National Museum of Natural History (NMNH). Other Smithsonian museums using the facility include the National Museum of American History, the Hirshhorn Museum and Sculpture Garden, the Freer and Sackler Galleries, the National Museum of African Art, the National Postal Museum, the Smithsonian Environmental Research Center, and the National Zoological Park.

The collections at MSC are used to support scientific and cultural research for essential Government functions such as food and transportation safety, border security, criminal investigations, forensics, national defense, the evaluation of environmental disasters, cancer research, and much more.

The MSC accommodates collections with a variety of state-of-the-art equipment: collections in cabinets; mobile shelving for biological specimens preserved in alcohol; meteorites in nitrogen atmosphere; tissues and film in mechanical and nitrogen-vapor freezers; high-bay storage for very large objects such as totem poles, boats, and large mounted mammals; and large mobile racks for storing art works.

The facility also houses laboratories for Smithsonian scientists and other federal agencies, such as the Walter Reed Biological Unit (WRBU). These laboratories focus on molecular systematics, ancient DNA, conservation, and other specialized research. The MSC supports contracted maintenance services and required calibration for much of the specialty collections preservation and laboratory equipment, such as environmental chambers, freezers, nitrogen systems, reverse osmosis water systems, and oxygen-detection systems. The MSC staff provides project planning and construction coordination, collections care, safety and disaster response, access and logistical support, as well as administrative and shipping services.

The FY 2018 budget request includes an increase of \$29,000 for necessary pay and other related salary costs for existing staff.

MEANS AND STRATEGY

To support the Smithsonian strategic goal of Strengthening Collections, the FY 2018 funding will be used to further enhance pest management, improve storage of hazardous collection materials, and assist museum staff in improving storage of collections at MSC.

In FY 2018, MSC staff will continue to support maintenance of the national collections and the research equipment needed to protect staff and collections. In addition, the MSC will further prepare for the multi-phased master plan renovations at the Center, which will improve and update support systems and laboratory spaces at the facility. Staff will also assist in laying the groundwork to prepare for Pod 6, including making plans for the relocation of the Botany greenhouse, and will conduct a comprehensive review of the Suitland Collection Center master plan.

MUSEUM CONSERVATION INSTITUTE

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2016 ENACTED	22	3,277	0	-25	1	160	0	0
FY 2017 ESTIMATE	22	3,271	0	16	1	292	0	0
FY 2018 REQUEST	22	3,337	0	15	1	451	0	0

**STRATEGIC GOALS: EXCELLENT RESEARCH; BROADENING ACCESS;
REVITALIZING EDUCATION; STRENGTHENING COLLECTIONS; AND
MISSION ENABLING**

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2017		FY 2018		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
<i>Research</i>						
Engage in research and discovery	8	1,201	8	1,154	0	-47
Broadening Access						
<i>Digitization and Web Support</i>						
Provide improved digitization and Web support	1	98	1	110	0	12
<i>Public Programs</i>						
Provide reference services and information	1	137	1	144	0	7
Revitalizing Education						
<i>Education</i>						
Engage and inspire diverse audiences	1	100	1	107	0	7
Strengthening Collections						
<i>Collections</i>						
Improve the stewardship of the national collections	7	996	7	1,039	0	43
Mission Enabling						
<i>Management Operations</i>						
Strengthen an institutional culture that is customer centered and results oriented	4	739	4	783	0	44
Total	22	3,271	22	3,337	0	66

BACKGROUND AND CONTEXT

The Smithsonian's Museum Conservation Institute (MCI), located in Suitland, Maryland, is the center for specialized technical collections research and conservation for all Smithsonian museums and collections. The MCI combines knowledge of materials and the history of technology with state-of-the-art instrumentation and scientific techniques to provide technical research studies and interpretation of artistic, anthropological, biological, and historical objects. Through its Healthy Environments, Healthy Practices, Healthy Collections initiative and Protecting Cultural Heritage Program, and by participating in the Smithsonian's signature Preparedness and Response in Collections Emergencies (PRICE) program, the MCI responds to the threats facing cultural heritage in multiple and complex ways. This includes: analyzing and consulting on preservation environments; developing less invasive and damaging storage, display, and conservation techniques; and supporting U.S. agencies and the museum community in identifying illicitly trafficked cultural heritage artifacts and objects. For example, the MCI works with the U.S. Department of State on a highly successful training program at the Iraqi Institute for the Conservation of Antiquities and Heritage in Erbil, which supports the rescue and recovery of Iraqi and regional cultural heritage artifacts.

The MCI, as the only Smithsonian resource for technical studies and scientific analyses for most of the Smithsonian's collections, brings unique analytical capabilities to Smithsonian researchers, including a central mass spectrometry instrument core and advanced technological capabilities for analyzing biomolecules. These services are available to Smithsonian units at no charge. In addition to responding to requests for consultations from within the Smithsonian, the MCI handles requests from affiliates and outside organizations, such as the White House, U.S. Congress, U.S. Department of Homeland Security — Office of Immigration and Customs Enforcement, U.S. Department of State, U.S. Department of Health and Human Services, U.S. Department of Commerce, and many other federal, museum, and academic organizations.

The FY 2018 budget request includes an increase of \$66,000 for necessary pay and other related salary costs for existing staff.

MEANS AND STRATEGY

To achieve the strategic goal of Excellent Research, the MCI will provide increased technical and research assistance to the Smithsonian's museums and scientific research centers. The MCI will initiate, facilitate, and support collaborative research projects on biological isotopes and proteomics (i.e., the large-scale study of proteins; particularly, their structures and functions), nanoscale analysis of museum materials, modern museum and collection materials such as plastics, the mechanisms of degradation and biodeterioration, and historical and archaeological preservation and research technologies. The

MCI will also continue using its website, publications, hosted symposia, presentations, invitation-only seminars, and lectures to disseminate the results of its research programs.

The MCI's technology transfer initiatives (on digital and spectroscopic imaging, proteomics and mass spectrometry, modern materials, and biodeterioration) will cross all of the boundaries between Smithsonian units and support all of the Institution's Grand Challenges, signature programs, and Institution-wide stakeholders. The MCI's exploration of new technologies in spectroscopic imaging and proteomics and mass spectrometry will support the Grand Challenges of Unlocking the Mysteries of the Universe and Understanding and Sustaining a Biodiverse Planet through the signature programs ForestGEO (Global Earth Observatories), MarineGEO, and Conservation Commons as well as the Institution-wide work on genomics. In addition, MCI's exploration of materials science related to modern materials will support the Grand Challenge of Understanding the American Experience and the Institution's Living in the Anthropocene project. Biodeterioration research will use technology from Understanding and Sustaining a Biodiverse Planet to support the Grand Challenge of Valuing World Cultures. The MCI's investigations of historical and archaeological materials and technologies will also support the Grand Challenges of Valuing World Cultures and Magnifying the Transformative Power of Arts and Design, as well as its signature program, Cultural Rescue, and the Smithsonian Music program.

In 2018, the MCI will revitalize its proteomics and mass spectrometry capabilities as a part of the Smithsonian's central research infrastructure. Proteomics is an area of rapid growth in biological and medical research that is being driven by advances in molecular separation and mass spectrometry technology. Along with genomics, the field has a potential for rapid acquisition of data that allows the discovery and identification of organisms, the linking of genotypes and phenotypes, and the development of novel biomolecular markers. Proteomics, in tandem with genomics, is expanding our understanding of biological and ecological functions. These capabilities will allow MCI to gather more information from Smithsonian collections, cultural objects, and biological specimens, and to learn more about their materials, their origins, and the causes of their deterioration.

To achieve the strategic goal of Broadening Access, the MCI's technical information office will continue serving the museum and cultural heritage management communities, museum studies students, and the public. The technical information office answers direct inquiries and distributes general guidelines in printed and electronic formats, handling more than 800 information requests annually. The MCI also continues to enhance its website to increase the impact of the Institute's research and outreach programs. In addition, the MCI is contributing to the Smithsonian's initiative on digitization and new media by researching and developing new digital imaging capabilities appropriate for

Facebook, Twitter, YouTube, Flickr, blogs, mobile applications, and virtual reality in ways that use social media to broaden public access to collections, exhibitions, and outreach programs. As part of this goal, the MCI is continuing to develop the Mecklenburg Materials Archive to house the valuable wood, fabric, and paint samples, as well as equipment, correspondence, notes, books, and publications used to investigate the mechanical behavior and conservation of object and art materials under various light, temperature, and humidity conditions. This will allow the MCI to make research and materials samples readily available for future national and international research.

The MCI will achieve the strategic goal of Revitalizing Education by continuing to promote career development for Smithsonian conservators and other collections care providers through Grand Challenge participation, colloquia, symposia, and workshops, as well as distance-learning opportunities. The MCI, in collaboration with Smithsonian museums and affiliates, will offer public programs to present the results of MCI research, heighten awareness of the problems of preserving cultural heritage, and gain information about the nature and scope of problems that the Institute's clients encounter. The MCI will also collaborate with Smithsonian museums and affiliates to offer media events, printed and Internet materials, presentations, workshops, and demonstrations to reach new audiences, especially those that will be targeted by the Institution's newest museums.

The MCI will continue to offer internships and Fellowships for students pursuing careers in conservation and conservation science, as well as support diversity programs inside and outside of the Smithsonian, which are seeking to attract students from a wider variety of backgrounds to pursue conservation and conservation science careers. Through its partnership in Science and Engineering in Arts, Heritage, and Archaeology (SEAHA), housed at the University College, London, the University of Oxford, and the University of Brighton, the MCI is supporting advanced training for museum professionals who want to learn new methods of digital documentation for cultural heritage collections and obtain new tools for evaluating museum storage environments.

In keeping with the strategic goal of Revitalizing Education, the MCI is providing in-kind support and leading a partnership with the Iraqi Institute for the Conservation of Antiquities and Heritage program in Erbil to train Iraqis in the rescue and recovery of regional cultural heritage. The current crisis caused by ISIS has endangered irreplaceable world cultural heritage, and efforts to combat ISIS have diverted funding previously supplied by Iraqi and Kurdish regional governments, creating a desperate need for outside support until the situation stabilizes. Currently, an interagency agreement with the Department of State is supporting salvage and recovery at the important archaeological site of Nimrud. The Smithsonian is raising additional funds for operations and expanded programs at the Iraqi Institute. Given adequate support, the Institute can become

a regional center to educate the local population in the preservation of cultural heritage.

To achieve the strategic goal of Strengthening Collections, the MCI will support Smithsonian museums and research centers in their efforts to care for the national collections and disseminate that information to the larger museum community and the public. By participating in the PRICE team, MCI supports the development of best practices in collections care across the Institution. Through development of a new photograph and paper conservation lab, the MCI will support conservation and research for fragile and at-risk photographic collections across the Smithsonian. The MCI will continue its study of the assessment and remediation of collection hazards. In addition, the MCI will focus on using less invasive and damaging materials and procedures for collections conservation, reflecting the importance of incorporating energy-efficient and “green” materials and practices into the Institute’s work. The MCI will pursue collaborative conservation treatment projects with other Smithsonian units to provide conservation guidance and art history technical consultations to the art and history museums for their more challenging and unique objects.

Through continuing communication and interaction with museum conservators, the MCI will identify special training needs and research projects, and will develop research and symposia to address the most urgent collections preservation needs, such as museum environments (involving light, temperature, and humidity), museum hazards (such as pests and pesticides), and collections storage.

The MCI’s umbrella theme, Healthy Environments, Healthy Practices, Healthy Collections, directly supports the Smithsonian’s Strategic Plan priorities in all five Grand Challenges, although its primary impact will be in Understanding the American Experience and Valuing World Cultures.

To achieve the strategic goal of Mission Enabling, the MCI will use the Smithsonian’s Strategic Plan and its own strategic plan to properly allocate its budgetary and human resources, and to secure additional financial resources for its high-priority programs. Resource allocations will be tracked against performance metrics in each of the strategic areas, and against the needs and goals of the Smithsonian’s museums and research centers. The MCI will encourage staff to participate in budget-performance integration, succession management, and leadership development programs. In addition, the MCI will continue to implement and communicate efficient, rational, and creative operational and administrative practices which enable staff to advance the Smithsonian mission in a manner that reflects transparency and the Smithsonian’s status as a public trust.

Finally, the MCI will maintain an efficient, collaborative, committed, innovative, and accountable workforce through leadership development,

evaluation, and support of staff and the recruitment, selection, and development of diverse, highly skilled employees. The MCI will promote diversity in all aspects of working with the Institution's employees, Fellows, interns, volunteers, and vendors. In addition, the MCI will continue to improve communications with internal and external stakeholders in both the public and private sectors.

NONAPPROPRIATED RESOURCES — Annually, the MCI receives nonappropriated resources from gifts and endowments, grants and contracts, discretionary income, and business ventures. These sources provide funds for specific programs and projects in research, education, and outreach designated by the donor/sponsor, and for general activities at the discretion of the director of the MCI. The Andrew W. Mellon Foundation challenge grant provides a restricted endowment of \$5 million, with an annual payout of approximately \$250,000. The funds generated by the endowment will remain in the MCI budget to strengthen conservation science research.

SMITHSONIAN INSTITUTION ARCHIVES

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2016 ENACTED	20	2,253	5	454	0	3	0	0
FY 2017 ESTIMATE	20	2,264	5	565	0	5	0	0
FY 2018 REQUEST	20	2,406	5	600	0	2	0	0

STRATEGIC GOALS: EXCELLENT RESEARCH; BROADENING ACCESS; STRENGTHENING COLLECTIONS; AND MISSION ENABLING

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2017		FY 2018		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
<i>Research</i>						
Ensure the advancement of knowledge in the humanities	1	177	1	219	0	42
Broadening Access						
<i>Digitization and Web Support</i>						
Provide improved digitization and Web support	5	372	5	400	0	28
<i>Public Programs</i>						
Provide reference services and information	5	396	5	425	0	29
Strengthening Collections						
<i>Collections</i>						
Improve the stewardship of the national collections	6	920	7	977	1	57
Mission Enabling						
<i>Management Operations</i>						
Strengthen an institutional culture that is customer centered and results oriented	3	399	2	385	-1	-14
Total	20	2,264	20	2,406	0	142

BACKGROUND AND CONTEXT

The Smithsonian Institution Archives (SIA) serves as the institutional memory of a unique cultural organization. The history of the Smithsonian, in many ways, is the history of scientific enterprise in America, particularly in the 19th century. SIA supports the Smithsonian community, scholars, and the public by acquiring, evaluating, and preserving the records of the Institution and related documentary materials, as well as by making them accessible online and on site.

SIA manages the care, storage, packing, and retrieval services for most of the Institution's records. The permanent records are safeguarded and preserved in leased facilities in Washington, DC and Iron Mountain in Boyers, Pennsylvania. Electronic records are supported on SIA-owned computer servers and at the Institution's data center in Herndon, Virginia. In addition, SIA develops policies and provides guidance for managing and preserving the Institution's vast archival collections, offers a range of reference, research, and record-keeping services, and creates products that promote understanding of the Smithsonian and its history and mission.

The FY 2018 budget request includes an increase of \$142,000 for necessary pay and other related salary costs for existing staff.

MEANS AND STRATEGY

In FY 2018, SIA will continue to focus on capturing, preserving, and providing access to research materials on the Smithsonian's history. SIA will continue to support the needs of thousands of researchers seeking information from the Archives; provide online access to ever more information from or about the holdings via its robust website; collaborate fully with Smithsonian units serving broad external audiences (such as Smithsonian Associates and the Smithsonian Affiliations Program); set archival collections-management standards; and assist all Smithsonian units with the proper disposition of their records.

SIA's major challenge is to balance existing resources with the increased costs associated with archiving in a digital world. The costs of maintaining basic operations, such as acquiring up-to-date software, properly running servers, and renewing mass-Web-capture contracting services, have increased significantly in recent years. As the Institution's reach into this ever-expanding realm continues to grow, it is essential that the Archives be equipped with the necessary tools and technologies to continue capturing, preserving, and ensuring access to these digital materials, which are a vital part of the Institution's continuing history.

NONAPPROPRIATED RESOURCES — General trust funds support SIA's basic operational costs, such as office, archival, and conservation supplies; software licenses; and maintenance of high-end equipment. Trust funds also support the salaries and benefits of archivists and conservators, their work to manage and preserve the collections of the Institution, and their efforts to provide professional conservation expertise throughout the Smithsonian, to other institutions, and to the public. Additionally, general trust funds support SIA's Web and new media outreach program that seeks to expand the awareness, use, and accessibility of the SIA's collections and resources. Greater knowledge about these collections and other resources will illuminate the Smithsonian's catalytic role in preserving American history, world cultures, scientific research, and the arts.

SMITHSONIAN LIBRARIES

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2016 ENACTED	86	10,654	10	1,769	9	1,675	0	-1
FY 2017 ESTIMATE	86	10,634	10	1,934	9	1,713	0	0
FY 2018 REQUEST	87	11,150	10	1,960	9	1,798	0	0

STRATEGIC GOALS: EXCELLENT RESEARCH; BROADENING ACCESS; REVITALIZING EDUCATION; STRENGTHENING COLLECTIONS; AND MISSION ENABLING

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2017		FY 2018		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
<i>Research</i>						
Engage in research and discovery	19	2,838	19	3,056	0	218
Ensure the advancement of knowledge in the humanities	20	2,447	20	2,573	0	126
Broadening Access						
<i>Digitization and Web Support</i>						
Provide improved digitization and Web support	14	1,651	14	1,678	0	27
<i>Public Programs</i>						
Provide reference services and information	0	49	0	50	0	1
<i>Exhibitions</i>						
Offer compelling, first-class exhibitions	1	49	1	50	0	1
Revitalizing Education						
<i>Education</i>						
Engage and inspire diverse audiences	1	58	1	59	0	1
Strengthening Collections						
<i>Collections</i>						
Improve the stewardship of the national collections	22	2,251	22	2,287	0	36
Mission Enabling						
<i>Management Operations</i>						
Ensure that the Smithsonian workforce is efficient, collaborative, committed, innovative, and diverse	1	88	1	88	0	0
Strengthen an institutional culture that is customer centered and results oriented	8	1,203	8	1,309	0	106
Total	86	10,634	86	11,150	0	516

BACKGROUND AND CONTEXT

The Smithsonian Libraries (SIL) promotes new ideas through knowledge sharing and plays a dynamic role in advancing scientific and cultural understanding and preserving America's heritage. Its expert staff and extensive collections are a crucial resource for research and education communities at the Smithsonian, within the United States, and around the world.

The FY 2018 budget request includes an increase of \$216,000 for necessary pay and other related salary costs for existing staff. Also included is \$300,000 for inflationary increases in library subscriptions, which appears in the Fixed Costs section of this budget submission.

MEANS AND STRATEGY

The Smithsonian Libraries' strategic plan, *Focus on Service: Advancing Knowledge at Home and Around the World*, demonstrates the Libraries' dedication to providing information and creating innovative services and programs for the Institution and general public. SIL offers a variety of information resources, unique collections, research support services, and discovery tools to establish the Smithsonian as a national leader in each of the Grand Challenges. In FY 2018, SIL will continue to broaden interactive engagement with users — through continuing expansion of projects that include digital transcription of manuscripts and working with Web-based communities — thereby making SIL collections and other Web content available for use by scholars, students, teachers, researchers, and interested users worldwide. In addition, SIL will continue to expand its use of social media by making more information available on mobile and tablet devices and by using blogs, Facebook, Twitter, Tumblr, and other emerging social media tools to promote services and broaden access to its collections. SIL's collections will continue to be exposed to a wider educational audience through the educational I See Wonder program on various platforms, including the Smithsonian's Learning Lab.

SIL will achieve the strategic goal of Broadening Access by offering valuable collections information on networked resources, which now include SOVA (Smithsonian Online Virtual Archives). Initiatives include the use of Web-based and hosted management and access tools for electronic collections and resources, and the continuing expansion of collections information and data on the Smithsonian Institution Research and Information System (SIRIS). In addition, through the Smithsonian Collections Search Center, SIL provides access to research collections covering more than 465,000 pieces of trade literature and commercial catalogues, representing more than 35,000 manufacturers, corporations, and companies. SIL provides metadata guidance and incorporates, as appropriate, emerging national metadata standards on an Institution-wide basis for SIL and Smithsonian digital publications and products.

SIL collaborates with other Smithsonian units and external organizations in many ways. The Libraries creates and publishes digital research products to give scholars in all fields the documentation they need for their research. These products include republication of significant out-of-print books and articles, original diaries and manuscripts, collections of archival literature, illustrations, topical exhibitions, and bibliographic guides and databases. With private funding, SIL hosts the Secretariat for the Biodiversity Heritage Library, an international project to improve the research process by digitizing and making easily available the literature of biodiversity, involving partners in the United States, United Kingdom, China, Egypt, the European Union, Australia, Brazil, Singapore, sub-Saharan Africa, and Mexico. SIL supports these efforts by continuing to digitize its own biodiversity literature to contribute to this global digital library. In FY 2018, SIL will continue to increase digitization projects in history, arts, and culture as part of the Smithsonian Libraries initiative — the Cultural Heritage Library. Through these projects, the Libraries participates with similar institutions such as the Consortium for the History of Science, Technology, and Medicine. SIL's contribution of rare/special collections records to the Consortium's search hub led to wider visibility, and three new Fellows came to the Smithsonian Institution as a result. SIL plans to expand its research audience through similar projects in the fields of arts and history.

SIL partners with the Smithsonian Scholarly Press to produce the electronic *SI Contributions* series and other publications, including conference proceedings, and also assists the Scholarly Press in meeting the public access mandate for federally funded research. SIL constantly expands and maintains the Smithsonian Research Online (SRO) database (<http://research.si.edu/>), which is made up of the Smithsonian Digital Repository (SDR) and the Smithsonian Research Bibliography (SRB), to preserve and provide permanent access to the published results of the Institution's scholarly research. Data from SRO are used as Smithsonian key performance indicators; accordingly, SIL continues to develop additional tools which will provide metrics on the impact, both scholarly and social, of Smithsonian research. As part of its collaborative operations, SIL will continue working with the Institution's art and history museums to expand the content of the SRO system, with the goal of eventually providing a complete record of Smithsonian research productivity. Furthermore, to give Smithsonian authors, researchers, and scientists more visibility, SIL has launched an internal beta version of Smithsonian Profiles to link users to additional work related to Smithsonian scholarly output.

SIL continues to provide scholarly, often rare, material in both physical and digital forms. This involves acquiring, preserving, cataloguing, and managing the print and digital collections, with particular attention to Smithsonian research centers and areas of interdisciplinary research. The staff of SIL's Book Conservation Laboratory preserve and stabilize damaged volumes to ensure their availability for exhibition and future research. Through the Libraries' expert resource-sharing services, SIL also provides information and data directly to

individual researchers and members of the public in every state and many foreign countries.

As a resource for learners everywhere, SIL responds to staff and on-site visitor needs through reference services, by integrating librarians into the research cycle and redesigning facilities to retain tightly focused, local collections in collaborative, congenial spaces. At the same time, SIL relieves overcrowded libraries by providing environmentally sound off-site shelving and housing at the Pennsy Drive facility in suburban Maryland.

In FY 2018, planning will continue for the new Information Commons at the Smithsonian Environmental Research Center (SERC) and for the relocation of the National Air and Space Museum's Library to the Udvar-Hazy Center in Chantilly, Virginia.

By helping to advance the strategic goals of Excellent Research and Revitalizing Education, the SIL Resident Scholar Program builds collaborative partnerships worldwide with scholarly programs and individuals who find the Libraries' collections vital to their research. An active internship program amplifies work experiences for emerging library science professionals, as well as undergraduates in other fields of study, including computer science, and exposes them to the research library environment.

Also in FY 2018, SIL will open an exhibition focused on the ivory trade and the growing movement to protect species from extinction. In the SIL Gallery in the National Museum of American History, our 50th anniversary exhibition will feature treasures from the collections and stories of library donors and readers. All of the Libraries' exhibitions have an online component to reach a larger audience and allow staff to keep the exhibitions updated for future learning. Exhibitions will have new educational content created by SIL's education and outreach office, and will include a unique teen docent component.

NONAPPROPRIATED RESOURCES — General trust funds help defray the costs of providing information services to Smithsonian units, and support publications, public programs, and fundraising efforts. In FY 2018, SIL will continue its efforts to raise funds through its own advancement efforts anchored to the occasion of the Libraries' 50th anniversary. As a new fundraising priority, SIL will build upon its nascent education program, with special emphasis on creating content for K–12 learners. This will be added to established priorities: acquisitions, conservation, digitization, internships, Fellowships, and exhibitions.

OFFICE OF THE CHIEF INFORMATION OFFICER

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2016 ENACTED	95	50,462	17	3,291	0	131	0	0
FY 2017 ESTIMATE	95	50,408	18	3,644	0	56	0	0
FY 2018 REQUEST	95	52,546	18	3,644	1	232	0	0

STRATEGIC GOALS: BROADENING ACCESS AND MISSION ENABLING

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2017		FY 2018		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Broadening Access						
<i>Digitization and Web Support</i>						
Provide improved digitization and Web support	9	3,241	9	3,314	0	73
Mission Enabling						
<i>Information Technology</i>						
Modernize the Institution's information technology systems and infrastructure	86	47,167	86	49,232	0	2,065
Total	95	50,408	95	52,546	0	2,138

BACKGROUND AND CONTEXT

The Office of the Chief Information Officer (OCIO) provides vision, leadership, policy, applications, services, and oversight associated with managing and operating leading-edge information technology (IT) solutions for the Institution's strategic priorities, as well as for the Smithsonian's many museums and research centers.

The FY 2018 budget request includes an increase of \$2,138,000. The increase includes \$434,000 for necessary pay and other related salary costs for existing staff funded under this line item; \$1,354,000 for increased communication costs, which is further explained in the Fixed Costs section of this budget submission; and \$350,000 in programmatic increases for IT security infrastructure.

MEANS AND STRATEGY

The OCIO will use best practices in the management and operations of information technology to enhance the "increase and diffusion of knowledge" and

achieve the Institution's strategic goals of Broadening Access and Mission Enabling. The OCIO collaborates with industry partners, cultural organizations, academia, and the public to bring innovative solutions for research and digitization challenges, and to make the Institution's digital collections available to the world.

The following strategies are cross-cutting and central to the Smithsonian's mission of connecting Americans to their history and heritage, as well as to promote innovation, research, and discovery in science:

- Leverage commercially available and open-source technologies to provide platforms for the Institution to use to increase public access to digitized collections and research data;
- Use state-of-the-art, secure information systems to modernize financial, human resources, facilities management, collections, education, and research processes;
- Replace network equipment, servers, desktop computers, and scientific workstations on an industry best practice life cycle to increase reliability and improve the security of information systems and the data that they contain;
- Maintain and enhance the Institution's telecommunications infrastructure to provide reliable, secure, and cost-effective voice and data communications systems that support Smithsonian missions;
- Meet federal requirements for providing timely and accurate financial information; and
- Increase the use of data analytics to drive innovation in research in a cost-effective manner.

Digitization Assessment and Planning

The Smithsonian continues to implement a framework of digitization policies; conduct assessments to account for the state and progress of digitization; and clarify digitization priorities to guide resource allocation and planning. The FY 2016 Digital Assessment showed that the Smithsonian has prioritized 15 million museum objects/specimens for digitization and has successfully digitized 2.8 million objects/specimens (or 19 percent) to date. In accordance with Smithsonian Directive (SD) 610, Digitization and Digital Asset Management Policy, Smithsonian units have articulated their implementation of Institution-wide priorities in unit digitization plans (UDPs) and created foundational digital management plans (DMPs) to ensure that the Smithsonian can effectively manage the digital content created as part of digitization activities as well as for scientific studies.

In addition, the Smithsonian has strategically invested in creating a standard mass-digitization process that enables replicable, cost-effective, high throughput, and high-quality digitization for all Smithsonian priority collections. Digitization efforts to implement this process have resulted in digital images for more than 800,000 collection objects in 2016 alone, thereby doubling the rate of digitization at the Smithsonian. This budget request will accelerate the Institution's digitization progress by allowing us to complete the entire collections of three of our museums, and make continued progress

in the digitization of other sizable, important collections in our other museums. The continued addition of 3D models of our collection on our renowned Smithsonian 3D website continues to showcase the Smithsonian as an international leader in 3D digitization of museum collections. In 2016 we added the 3D model of the Apollo 11 lunar module, the most sophisticated 3D effort undertaken in any museum to date. Our 3D digitization effort provides compelling evidence that 3D data enhances the effectiveness of curators, educators, scientists, and conservators in fulfilling the Smithsonian's mission. As a result, the Smithsonian's initiative has captured the imagination of educators, learners, and policy makers around the nation by providing access to 3D printable data of priceless national collection objects.

EXPLANATION OF CHANGE

The FY 2018 budget request includes an increase of \$2,138,000. The increase includes \$434,000 for necessary pay and other related salary costs for existing staff funded under this line item; \$1,354,000 for increased communication costs, which is further explained in the Fixed Costs section of this budget submission; and \$350,000 in programmatic increases for IT security infrastructure. The requested programmatic budget increase of \$350,000 is described in greater detail below:

Information Technology Infrastructure (+\$350,000)

The budget request includes an increase of \$350,000 to support the upgrade and replacement of the aging enterprise IT security infrastructure and funding to address critical gaps in the resource needs of the Institution's IT security program. The request includes funds for completing the implementation of our information security monitoring plans; provides resources necessary to keep pace with growing incident response requirements; and addresses a backlog of systems requiring assessment and authorization. Key components of the enterprise IT security infrastructure requiring replacement include: firewalls that are reaching the end of their operational life span, and outdated and inadequate intrusion-detection systems. The requested funds will also enable the Smithsonian to replace obsolete network routers and switches that are critical to maintaining a secure and reliable network.

The requested increases are essential to maintain a secure infrastructure and a robust IT security program to respond to the ever-increasing threats posed by cyber criminals. Without these increases, the Institution will not be able to replace critical infrastructure components reaching the end of their operational life, and add the resources needed to complete the modernization of the Smithsonian's IT security program.

NONAPPROPRIATED RESOURCES — General trust funds support salaries and benefits costs of personnel and other related costs of the OCIO.

ADMINISTRATION

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2016 ENACTED	181	34,773	198	40,154	3	3,528	4	1,502
FY 2017 ESTIMATE	181	34,803	209	40,466	4	4,159	3	1,066
FY 2018 REQUEST	183	35,545	212	40,376	4	4,126	2	489

**STRATEGIC GOALS: EXCELLENT RESEARCH; BROADENING ACCESS;
REVITALIZING EDUCATION; STRENGTHENING COLLECTIONS; AND
MISSION ENABLING**

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2017		FY 2018		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
<i>Research</i>						
Ensure the advancement of knowledge in the humanities	1	170	1	174	0	4
Broadening Access						
<i>Digitization and Web Support</i>						
Provide improved digitization and Web support	1	158	1	160	0	2
<i>Public Programs</i>						
Provide reference services and information	1	245	1	250	0	5
Revitalizing Education						
<i>Education</i>						
Engage and inspire diverse audiences	0	30	0	30	0	0
Strengthening Collections						
<i>Collections</i>						
Improve the stewardship of the national collections	3	308	3	490	0	182
Mission Enabling						
<i>Security and Safety</i>						
Provide a safe and healthy environment	1	200	1	205	0	5
<i>Management Operations</i>						
Strengthen an institutional culture that is customer centered and results oriented	40	7,353	41	7,701	1	348
Ensure that the Smithsonian workforce is efficient, collaborative, committed, innovative, and diverse	58	11,209	59	11,087	1	-122

Performance Objective/ Program Category	FY 2017		FY 2018		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Modernize the Institution's financial management and accounting operations	44	9,138	44	9,350	0	212
Modernize and streamline the Institution's acquisitions management operations	32	5,992	32	6,098	0	106
Total	181	34,803	183	35,545	2	742

BACKGROUND AND CONTEXT

The Smithsonian Institution Administration program provides vision, leadership, policy, and oversight associated with managing and operating the Institution's museums and research centers. Administration includes executive leadership provided by the offices of the Secretary and Regents; the Under Secretary for Museums and Research/Provost; the Under Secretary for Finance and Administration/Chief Financial Officer; the Assistant Secretary for Education and Access; and the Deputy Under Secretary for Collections and Interdisciplinary Support. Administration also includes the central activities of human resources, diversity, financial and contract management, and legal services.

The FY 2018 budget request includes a net increase of \$742,000 and 2 FTEs. This request includes:

- +\$809,000 for necessary pay and other related salary costs for existing staff; +\$60,000 for audit fees; and -\$427,000 for Workers' Compensation, which are all justified in the Fixed Costs section of this budget submission;
- +\$150,000 and +1 FTE in program increases to meet the Institution's recruitment goals, including timely hiring actions, quality and time-sensitive advice and service to all units, and minimizing risk; and
- +\$150,000 and +1 FTE in program increases to expand current privacy efforts, including risk mitigation, internal compliance, and staff training efforts.

MEANS AND STRATEGY

The Smithsonian will continue to use best practices in management to enhance its mission for the "increase and diffusion of knowledge" and to achieve the Institution's goals while translating James Smithson's 19th century vision into a modern 21st century reality. The following strategies are cross-cutting and central to performing the Smithsonian's mission and also help promote innovation, research, and discovery:

- Ensure the financial strength of the Smithsonian and provide the Institution with effective and efficient financial, contracting, and management support services, including reliable financial evaluation, auditing, and reporting.

- Provide oversight of the Smithsonian budget process as it is developed and executed to support the operating and facilities capital programs of the Institution, establish and enforce budgetary policies and procedures, and ensure that sufficient resources enable the Institution to achieve its goals.
- Conduct a comprehensive enterprise risk-management program to identify, monitor, and mitigate risk at all levels.
- Provide leadership and guidance for Institution-wide collections initiatives, policies, and programs to ensure the proper stewardship of the national collections.
- Support the Institution's Board of Regents and its committees.
- Develop and implement necessary internal controls as recommended by the Board of Regents' Governance Committee, which involves strengthening non-collections property management and meeting increased demands for acquisition of goods and services.
- Provide legal counsel to the Institution on issues including museum administration, intellectual property, collections management, contracts, privacy and cyber security, employment, ethics, conflicts of interest, international agreements, and requests for information.
- Manage human resources, foster diversity, hire a skilled workforce in a timely manner, and align human capital with the Institution's goals and performance objectives. Conduct ongoing workforce and performance gap analyses, strengthen training and leadership policies and programs, develop succession planning, and evaluate and improve assessment tools for human resources performance.
- Provide leadership and oversight for all policies, programs, and activities of the Institution's museums and research centers by attracting, recruiting, and retaining leaders with superior talent.
- Provide leadership, support, and resources to enable educators across the Smithsonian to share the depth and breadth of the Smithsonian's collections and research; connect with diverse audiences; invite dialogue and exchange; and build on and contribute to best practices in teaching and learning.
- Increase the Latino Center's public and educational outreach in collaboration with Smithsonian units and affiliated institutions by developing exhibitions and programs on Latino history, art, culture, and scientific achievement; support Latino research, collections, exhibitions, publications, online content, and related projects; promote professional development opportunities for Latino youth leaders, emerging scholars, and museum professionals; continue innovation in new media, including the Latino Virtual Museum, social media, mobile applications, and educational games; and continue developing a Smithsonian Latino Gallery at the Arts and Industries Building.
- Support the Smithsonian's commitment to teaching Americans about their rich heritage by increasing the capacity and resources of the Asian Pacific American Center (APAC) to produce exhibitions and programs on Asian Pacific American history, art, and culture; continue innovative online initiatives that provide

educational, programmatic, and outreach materials nationwide; and form national partnerships with museums and research centers to enrich the Smithsonian's collections, research, and activities relating to Asian Pacific Americans.

- Establish and maintain partnerships with the various Administration agencies and initiatives related to under-represented groups, such as Asian Americans and Pacific Islanders, Hispanic Serving Institutions, Historically Black Colleges and Universities, the American Association of University Women, and Tribal Colleges and Universities, and perform the necessary public outreach to enhance the Smithsonian presence in these communities.
- Coordinate efforts among the Secretary's executive diversity committee, Office of Human Resources, and Office of Equal Employment and Minority Affairs to ensure compliance with federal Equal Employment Opportunity Commission mandates, promote the Smithsonian's Equal Employment Opportunity (EEO) and workforce diversity policies, and advocate for the use of small, disadvantaged, woman- and veteran-owned businesses throughout Smithsonian operations.

EXPLANATION OF CHANGE

The Administration budget request includes a net increase of 2 FTEs and \$742,000, which includes \$809,000 for necessary pay and other related salary costs for existing staff; \$60,000 for audit fees; and a decrease of -\$427,000 for Workers' Compensation costs. These amounts are justified in the Fixed Costs section of this budget submission.

The programmatic summary of an additional 2 FTEs and \$300,000 for the requested budget increase is described as follows:

Human Resources Recruitment (+\$150,000, +1 FTE)

This funding request provides for a recruitment specialist (+\$150,000 and +1 FTE) to meet the Smithsonian's hiring timeliness goals, provide quality and time-sensitive advice and service to all units, minimize risks, and improve the recruiting and hiring ratio and response time. The Office of Human Resources (OHR) has seen a steady increase in the number of applications being received per vacancy announcement, while the size of the OHR staff has been steadily shrinking. In addition, the new OHR recruitment specialist will enable the Institution to fully engage and collaborate with units to accomplish the goal of increasing diversity in the Smithsonian's workforce.

Privacy Specialist (+\$150,000, +1 FTE)

This funding request provides for a privacy specialist (+\$150,000 and +1 FTE) to support the Smithsonian community. In pursuit of its mission, the Smithsonian collects, uses, and disseminates personally identifiable information (PII), including credit card data and Social Security numbers, from employees, volunteers, interns, Fellows, research associates, contractors, patrons, donors, and physical and virtual visitors via hundreds of websites and at physical locations around the world. This privacy professional will: (1) mitigate the risk of unauthorized acquisition, use, or disclosure of PII; (2) facilitate Institution-wide compliance with Smithsonian Directives on privacy issues; and (3) develop and implement a privacy training and awareness program. As incidents of privacy breaches increase, this position will enable the Institution to investigate incidents as well as continue training to apply lessons learned and help prevent and respond to potential future breaches.

NONAPPROPRIATED RESOURCES — General trust funds support salaries and benefits of personnel and other related costs. General trust funds are also used to support administrative activities, information dissemination, outreach, publications, and fund raising. Donor/sponsor-designated funds support costs related to programs and projects such as scientific research, family days, and leadership development.

OFFICE OF THE INSPECTOR GENERAL

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2016 ENACTED	24	3,451	0	0	0	0	0	0
FY 2017 ESTIMATE	24	3,444	0	0	0	0	0	0
FY 2018 REQUEST	24	3,512	0	0	0	0	0	0

STRATEGIC GOAL: MISSION ENABLING

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2017		FY 2018		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Mission Enabling						
<i>Management Operations</i>						
Strengthen an institutional culture that is customer centered and results oriented	24	3,444	24	3,512	0	68
Total	24	3,444	24	3,512	0	68

BACKGROUND AND CONTEXT

The Inspector General Act of 1978, as amended, requires the Office of the Inspector General (OIG) to conduct and supervise audits and investigations relating to programs and operations of the Smithsonian Institution (SI) that are, in the judgment of the Inspector General, necessary or desirable.

The OIG fulfills its mandate by engaging in audits of SI operations and programs, and by conducting administrative and criminal investigations. The OIG's audits include annually required reports, such as the quality assurance review of the Smithsonian's annual financial statement audits and Federal Information Security Management Act (FISMA) reviews. The OIG also conducts audits and reviews as listed in its annual Audit Plan.

The FY 2018 budget estimate includes an increase of \$68,000 for necessary pay and other related salary costs for existing staff.

The Inspector General Act also requires that the budget request detail the amount of funds requested by the OIG for staff training and to support the Council of

the Inspectors General on Integrity and Efficiency (CIGIE). The OIG has requested \$40,000 for training and to support CIGIE, which is funded in the base resources.

MEANS AND STRATEGY

The resources requested will be used to fund salaries, benefits, and support costs for staff engaged in audits, investigations, and other activities necessary to accomplish the OIG's mission. To balance its oversight responsibility with available resources, the OIG selects mission-critical areas for evaluation that:

- figure prominently in the Smithsonian's Strategic Plan and annual performance plans and reports;
- are the focus of congressional and executive branch attention;
- have high public interest or large dollar outlays; and/or
- have known performance or accountability risks.

The OIG's annual Audit Plan includes three mandatory audits: (1) the annual audits of the Smithsonian's financial statements, which the OIG oversees; (2) the assessment of the Smithsonian's information security program under FISMA; and (3) an audit of the travel of the Regents, which is conducted at their request to fulfill a statutory requirement. In addition, the OIG audit staff conducts audits in areas such as: collections care; animal care and safety at the National Zoological Park; the deferred maintenance program; controls over purchase orders; employee background reviews; and grants management at the Smithsonian Astrophysical Observatory.

The investigative staff conducts administrative and criminal investigations, resolves complaints, and proactively engages the SI staff to detect, report, and prevent waste, fraud, and abuse.

NONAPPROPRIATED RESOURCES — The Office of the Inspector General does not receive any nonappropriated funds.

FACILITIES MAINTENANCE

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2016 ENACTED	395	73,877	0	0	0	0	0	0
FY 2017 ESTIMATE	395	73,737	0	0	0	0	0	0
FY 2018 REQUEST	401	76,568	0	0	0	0	0	0

STRATEGIC GOAL: MISSION ENABLING

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2017		FY 2018		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Mission Enabling						
Facilities						
Implement an aggressive and professional maintenance program	395	73,737	401	76,568	6	2,831
Total	395	73,737	401	76,568	6	2,831

BACKGROUND AND CONTEXT

The Facilities Maintenance program is responsible for the maintenance and repair of the infrastructure of more than 12 million square feet of owned and leased buildings and structures, and 43,000 acres. This includes 19 museums, nine research centers, and the National Zoological Park. The buildings and structures range from the well-known museums to supporting structures such as guard booths, animal shelters, and hay barns. Facilities Maintenance focuses on facility preservation activities and encompasses the upkeep of property and equipment. This work is necessary to realize the originally anticipated useful life of facility assets.

The Facilities Maintenance program maintains systems related to electronic security, screening equipment, radio systems, and perimeter barrier equipment. The program also maintains all building systems (including HVAC, elevators/escalators, electrical, plumbing, roofing, interiors, exteriors and the building structure), as well as the grounds maintenance associated with upkeep of Smithsonian sites. The mission of Smithsonian Facilities (SF) is to provide world-class services and stewardship by building, operating, maintaining, and

ensuring a safe, secure, and healthy environment to enhance the Smithsonian experience for all visitors. More than 29 million people visit the Smithsonian annually.

As new and renovated museum and research spaces open, maintenance requirements rise due to increased square footage, technological advances, and the growing number of infrastructure-supporting systems. For example, with the opening of the National Museum of African American History and Culture and the full renovation of the Renwick Gallery of Art, the total number of assets requiring periodic maintenance increased to more than 22,000. These new assets added new functionality, new technology, and a new, more complex level of maintenance requirements.

SF continues to take an ongoing number of initiatives to increase maintenance efficiencies, including auditing services. SF benchmarks its maintenance staffing levels with other museums and professional organizations to ensure that resources are being effectively deployed. These include meeting standards set by the Leadership in Educational Facilities (referred to as APPA), the International Association of Museum Facility Administrators, and the International Facility Management Association. The Smithsonian is a past recipient of the prestigious Award of Excellence from the APPA in recognition of the Institution's excellence in facilities management and its efforts to establish measurable maintenance performance standards and staffing levels. The well-documented goal is to maintain Smithsonian facilities at APPA's Level 1 standard for building maintenance, which is referred to as "Showpiece Facility."

To do this, the National Research Council (NRC) recommends an annual maintenance budget in the range of 2 to 4 percent of a physical plant's aggregate current replacement value (CRV) to avoid adding to a deferred maintenance backlog. The CRV for the Smithsonian at the end of FY 2016 was \$8.1 billion. This includes the new National Museum of African American History and Culture. The Smithsonian's maintenance requirements have been validated through the Facility Condition Assessment process and Reliability Centered Maintenance (RCM) analysis.

The FY 2018 budget request includes an increase of \$1,231,000 for necessary pay and other related salary costs for existing staff. Also included is a programmatic increase of 6 FTEs and \$1,600,000 to complete the funding for the maintenance program at the new National Museum of African American History and Culture.

MEANS AND STRATEGY

To support the Institution's goal of Mission Enabling, SF continues an aggressive, long-range facilities maintenance and minor repair program, using the RCM approach. The RCM approach is a widely accepted industry philosophy that incorporates a cost-effective mix of predictive, proactive, preventive, and reactive maintenance practices. With existing resources, the Smithsonian will operate at the lower end of APPA's maintenance Level 3 "Managed Care" service, which provides a minimal level of preventive maintenance and building system reliability to ensure that proper environmental conditions are maintained for collections and public expectations are met.

The Smithsonian's goal is to reduce its maintenance backlog, currently estimated at \$898 million, through the coordinated efforts of its maintenance and facilities capital programs. Proper maintenance funding prevents the accelerated degradation of building systems and components that would increase the number and cost of major repairs. Through proper preventive maintenance and by addressing deficiencies in a timely manner, the Institution can realize the originally anticipated useful life of facilities systems and avoid the accelerated degradation of its infrastructure, and the associated costs, mentioned above.

Smithsonian Facilities will continue to identify efficiencies in managing its existing resources to improve its current level of maintenance service in the most cost-effective manner possible. In addition, SF will continue to improve electronic security systems and physical security measures which protect the Institution's facilities, collections, staff, visitors, and volunteers.

EXPLANATION OF CHANGE

The FY 2018 budget request includes programmatic increases of 6 FTEs and \$1,600,000 to fund the maintenance program for the new National Museum of African American History and Culture (NMAAHC).

- **Facilities Maintenance (+\$1,600,000, +6 FTEs)** — For FY 2018, the Smithsonian requests an increase of \$1,600,000 and 6 FTEs to enable its maintenance program to continue the work of stabilizing and standardizing the overall condition of Institution facilities. The increase will complete the funding of facilities and security operations for the NMAAHC. This increase provides a minimal level of preventive maintenance and building system reliability for the popular new Museum to ensure that proper environmental conditions are maintained for collections and public expectations are met. The request includes \$813,000 and 6 FTEs to annualize positions included in the Smithsonian's FY 2016 enacted level, \$687,000 for contractual support, supplies, and equipment, and \$100,000 for security-related maintenance.

Establishing full-year maintenance funding for the NMAAHC is essential to keep its building and security systems functioning under the stress of the overwhelming public response to the Museum's opening. In its inaugural half-year, the Museum has already welcomed nearly 1.3 million visitors and continues to experience high demand. The requested funds will enable the Museum to keep meeting public expectations.

Through diligent maintenance of the Institution's facilities and systems, the Smithsonian can prolong the operational life of the equipment while maintaining reliable output to protect the national collections and the federal investment already made to support our infrastructure. Additionally, the proper maintenance of the equipment reduces the potential for unplanned equipment shutdowns which negatively affect the Institution's visitors, staff, and collections.

FACILITIES OPERATIONS, SECURITY, AND SUPPORT

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2016 ENACTED	1,325	205,190	23	2,562	5	663	0	0
FY 2017 ESTIMATE	1,325	204,785	20	2,500	4	400	0	0
FY 2018 REQUEST	1,361	224,050	20	2,600	4	450	0	0

STRATEGIC GOALS: BROADENING ACCESS AND MISSION ENABLING

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2017		FY 2018		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Broadening Access						
<i>Exhibitions</i>						
Offer compelling, first-class exhibitions	4	459	4	468	0	9
Mission Enabling						
<i>Facilities</i>						
Improve the overall cleanliness and efficient operation of Smithsonian facilities	581	131,698	595	142,868	14	11,170
<i>Security and Safety</i>						
Provide world-class protection for Smithsonian facilities, collections, staff, visitors, and volunteers	700	66,542	722	74,514	22	7,972
Provide a safe and healthy environment	40	6,086	40	6,200	0	114
Total	1,325	204,785	1,361	224,050	36	19,265

BACKGROUND AND CONTEXT

The mission of Smithsonian Facilities (SF) is to provide world-class services and stewardship by building, operating, maintaining, and ensuring a safe, secure, and healthy environment to enhance the Smithsonian experience for all visitors. The Smithsonian receives more than 29 million visits annually.

The Facilities Operations, Security, and Support (OSS) program operates, secures, and supports the Smithsonian's physical infrastructure in partnership with Smithsonian program staff. It provides operational security and support services for approximately 12 million square feet of owned and leased facilities, including 19 museums, nine research centers, and the National Zoological Park.

Resources within OSS support facilities operations, including activities such as custodial work; fire protection; building system operations; grounds care and landscaping; snow removal; pest control; refuse collection and disposal; fleet operations and maintenance; security services; and safety, environmental, and health services. Resources also support facilities planning, architectural and engineering design, as well as postage, utilities, and central rent costs.

The FY 2018 budget request includes an increase of \$2,601,000 for necessary pay and other related salary costs for existing staff, and \$8,564,000 for utilities, postage, and rent, all of which are justified in the Fixed Costs section of this budget. Also included are programmatic increases of 14 FTEs and \$1,560,000 for facilities operations and support requirements and 22 FTEs and \$6,540,000 for security requirements.

MEANS AND STRATEGY

SF will pursue the Institution's strategic goal of Broadening Access by continuing to develop exhibits and public programs for horticulture, architectural history, and historic preservation.

To support the Institution's strategic goal of Mission Enabling, OSS base resources will focus on meeting the growing operational requirements of the Institution's facilities. SF will continue to effectively and efficiently use resources to operate and secure facilities and grounds, and to provide safe, attractive, and appealing spaces to meet program needs and public expectations. In addition, SF will continue benchmarking the Institution's custodial staffing and service levels with other museums and professional organizations, including Leadership in Educational Facilities (referred to as APPA). As a past recipient of the prestigious APPA Award of Excellence, SF is committed to measuring performance and staffing levels to ensure that the highest affordable levels of appearance and cleanliness, as well as efficient operations, are maintained.

The Institution is committed to achieving APPA's appearance Level 2 (out of 5) cleaning standard, referred to as "Ordinary Tidiness." This level of appearance will provide an acceptable level of cleanliness that meets public expectations. With current resources, on average, SF achieves appearance Level 3, "Casual Inattention." This level of appearance ensures a generally clean and odorless environment.

In addition to providing the highest level of facilities care, the Smithsonian is equally committed to maintaining the highest levels of security. In support of that goal, the Institution is conducting an ongoing strategic security staffing analysis to identify the number of security and law-enforcement staff needed at each of the Smithsonian's major facilities. The analysis includes pay levels, training/skill requirements, armed versus unarmed coverage, and the appropriate mix of employed officers versus contract staff.

SF continues its commitment to ensure that Smithsonian employees have a safe and healthy workplace by creating a culture that embraces and promotes zero injuries; provides professional services promoting a culture of health and wellness; and ensures that all Smithsonian facilities comply with local building codes, environmental regulations, and best practices.

EXPLANATION OF CHANGE

The FY 2018 budget request includes programmatic increases of 36 FTEs and \$8,100,000 to address the highest priority operating, safety, and security requirements. The increase will fund high-priority needs, including resources to complete funding for the facilities and security operations at the National Museum of African American History and Culture (NMAAHC). The request will also support the Institution's security requirements, as detailed below:

- **Facilities Operations and Support (+\$1,560,000, +14 FTEs)** — The Smithsonian requests an increase of \$1,560,000 and 14 FTEs to address priority operating and safety requirements. The increase will fund needs to complete funding of the facilities operations for the NMAAHC. This request reflects the fact that the facilities operations budget has grown little in recent years, losing ground to inflationary pressures while, at the same time, the Smithsonian's operations and physical footprint have grown, creating additional requirements. Accordingly, this budget request includes funds to hire additional building service workers and supervisors for the NMAAHC.
- **Security (+\$6,540,000, +22 FTEs)** — As the physical footprint of the Smithsonian has increased and facilities are revitalized, the Institution's security and law-enforcement needs have also grown. Additionally, the Smithsonian wants to improve its ability to prepare and respond quickly to shooter attacks. The Smithsonian conducted a phased security staffing analysis for each of its major facilities to evaluate the effectiveness of existing security resources versus the current requirements. The facility analyses confirmed that the Smithsonian needs to fill its currently vacant security positions and add contract staff to provide a higher level of security around building perimeters, including visitor screening, as well as in interior public spaces such as galleries.

Consequently, the Institution requests \$6,540,000 and 22 FTEs for security positions and additional contract security guards, so the Smithsonian can continue full-time magnetometer screening and bag searches at public entrances, conduct exterior patrols, and provide additional security in galleries and other public spaces. These actions will address the essential needs at the Smithsonian's highest risk facilities, which are the National Museum of African American History and Culture, the National Museum of American History, the National

Museum of Natural History, the National Air and Space Museum, and the National Museum of the American Indian.

NONAPPROPRIATED RESOURCES — General trust funds support salaries and benefits, and other related costs. Donor/sponsor-designated funds cover costs related to Smithsonian programs, such as horticulture operations, architectural history and historic preservation projects.

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FACILITIES CAPITAL

FY 2016 Enacted	\$144,198,000
FY 2017 Continuing Resolution Level	\$143,924,000
FY 2018 Request	\$228,000,000

STRATEGIC GOAL: MISSION ENABLING

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2017		FY 2018		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Mission Enabling						
<i>Facilities</i>						
Execute an aggressive, long-range revitalization program and limited construction of new facilities	48	86,274	48	192,400	0	106,126
<i>Security and Safety</i>						
Provide world-class protection for Smithsonian facilities, collections, staff, visitors, and volunteers	0	9,850	0	17,800	0	7,950
Provide a safe and healthy environment	0	7,800	0	7,800	0	0
Subtotal	48	103,924	48	218,000	0	114,076
National Air and Space Museum — Udvar-Hazy Center Collections Storage Module	0	40,000	0	10,000	0	-30,000
Total	48	143,924	48	228,000	0	84,076

BACKGROUND AND CONTEXT

The Facilities Capital Program underpins the Smithsonian’s mission and represents an investment in the long-term interest of the nation. It is intended to help the Smithsonian provide modern facilities, often within our country’s national historic and culturally iconic buildings, which satisfy public programming needs, facilitate world-renowned research efforts, and house our priceless national collections.

In the Facilities Capital Program, revitalization involves making major repairs or replacing declining or failed infrastructure to address the problems of advanced deterioration. Once completed, these projects will enable the Smithsonian to avoid the failures in building systems that can create hazardous conditions for visitors and staff, harm animals, damage collections, and cause the loss of precious scientific data.

The Institution uses the National Research Council (NRC) Facility Condition Assessments (FCAs) to calculate a Facilities Condition Index (FCI) rating. The FCA is the industry standard for the analysis of the condition of a facility or group of facilities that may vary in terms of age, design, construction methods, and materials. The FCI is calculated by dividing the total assessment scores of the eight building systems (roofs, electrical, plumbing, HVAC, conveyance — elevators and escalators, interior, exterior, and structure) by the Current Replacement Value (CRV) of the facilities. The most recent (fiscal year 2015) overall FCI rating for Smithsonian facilities is 88.5 percent, a slight decline from the FY 2014 FCI. FCI values of less than 90 percent are considered “poor.” The NRC’s recommended goal is to have a rating of 95 percent or greater. Accordingly, to reverse an alarming downward trend in the FCI, reduce the growing backlog of deferred maintenance and capital repairs, and achieve an FCI equal to or greater than 95 percent, so that our national treasures and cultural properties are preserved and enhanced for generations to come, the Smithsonian requests \$228 million for its Facilities Capital Program in FY 2018.

Funding for facilities’ routine maintenance and minor repairs is included in the Institution’s Salaries and Expenses request. These resources are used to realize the intended design life and full economic value of Smithsonian facilities and to protect the Institution’s investment in revitalization.

EXPLANATION OF CHANGE

The Institution requests \$228,000,000 and 48 FTEs for the Facilities Capital Program in FY 2018. The requested funds will enable the Institution to start the major renovation project at the National Air and Space Museum (NASM) and to complete the construction of the Collections Storage Module at the Udvar-Hazy Center, which is essential for the NASM renovation project to go forward. Major revitalization efforts will continue at the National Zoological Park and other priority areas, including projects for the National Museum of Natural History, the National Museum of American History, and facilities at the Suitland Collections Center, including the Museum Support Center. This request also provides funding for stabilization of failing infrastructure and façade components of the Smithsonian Castle, as well as other priorities like security, mechanical upgrades, and lighting improvements at the National Museum of the American Indian in New York City and Washington, DC; continued repairs to the building envelope and systems at the Hirshhorn Museum and Sculpture Garden; renovating the Homestead House at the Smithsonian Environmental Research Center; infrastructure upgrades at the Smithsonian Tropical Research Institute; replacing the chillers and cooling system at the Cooper Hewitt, Smithsonian Design Museum; infrastructure and safety upgrades at the Smithsonian Astrophysical Observatory; and mitigation of safety and security hazards throughout the Institution.

The chart that follows summarizes the Institution's full request for the highest priority FY 2018 projects.

SMITHSONIAN INSTITUTION						
Federal Facilities Capital Program Summary						
FY 2016 – FY 2018						
CATEGORY	<i>\$Millions</i>	<i>Federal</i>	<i>Trust</i>	<i>Federal</i>	<i>Trust</i>	<i>Congress</i>
		<i>Received</i>	<i>Estimate</i>	<i>CR Level</i>	<i>Estimate</i>	<i>Request</i>
		FY 2016		FY 2017		FY 2018
REVITALIZATION						
<i>Major Projects</i>						
Anacostia Community Museum				1.2		
Cooper Hewitt, Smithsonian Design Museum		4.6		1.7		5.0
Freer Gallery of Art		4.0				
Hirshhorn Museum and Sculpture Garden		4.5		1.0		2.0
National Air and Space Museum (NASM)				7.0		90.0
NASM Steven F. Udvar-Hazy Center		1.8		1.1		50.0
National Museum of American History		10.5	11.3	4.0		2.0
National Museum of the American Indian		4.7	8.6	3.0		6.6
National Museum of Natural History		19.1	10.4	15.7		22.0
National Zoological Park		17.0	2.4	21.7	5.1	26.1
Smithsonian Astrophysical Observatory				1.4		2.2
Smithsonian Environmental Research Center		4.9		1.5		4.0
Smithsonian Institution Building (Castle)				2.0		2.6
Smithsonian Tropical Research Institute		1.7	0.8	2.6		4.0
Collections Space & Support Program (Multiple Locations)		1.7	0.5	4.3	0.5	1.9
Fire-Alarm Panel Replacement (Multiple Facilities)						1.0
Multiple Site Projects and General Capital Support		18.3		12.2		2.0
<i>Other Revitalization Projects</i>						
<i>Facilities Planning and Design</i>		51.4		23.5		27.0
SUBTOTAL		144.2	34.0	103.9	5.6	218.0
CONSTRUCTION						
NASM Udvar-Hazy Collections Storage Module				40.0		10.0
National Museum of African American History & Culture			11.7			
Collections Space & Support Program (Multiple Locations)			0.3			
National Zoological Park						70.0
SERC – Master Plan Facilities						1.5
SUBTOTAL		0.0	12.0	40.0	0.0	10.0
TOTAL PROGRAM		144.2		143.9		228.0

SUMMARY TABLES

REVITALIZATION

Investment in revitalization projects provides for the replacement of failing or failed major building systems and equipment, and for major renovation projects to sustain existing buildings and sites. The Revitalization Program addresses critical deficiencies in the exterior envelope, heating, ventilation, and air-conditioning (HVAC), electrical, and other utility systems at the Smithsonian’s older buildings. Projects also ensure compliance with life-safety regulations, the Americans with Disabilities Act (ADA) and other code-compliance requirements, restoration, preservation and repair of historic features, and modernization of the buildings to support current program needs and sustain the viability of the Institution’s physical plant. Items listed on the Multiple Locations line are projects that cover multiple facilities or where the total cost of the museum and/or research center projects is less than \$1.0 million. These projects usually involve capital repair or replacement of individual systems or components.

Facility	Project	\$000
National Air and Space Museum (NASM)	Revitalize Building Envelope and Infrastructure	90,000
National Museum of Natural History	Revitalize Public and Non-Public Spaces	22,000
National Zoological Park	Renew Bird House and Great Flight Cage	15,000
	Upgrade Life-Safety System & Infrastructure	11,050
Cooper Hewitt, Smithsonian Design Museum	Replace Mansion Chillers	5,000
National Museum of the American Indian	Replace Air-Handling Units (AHUs) 1–4	3,000
	Modernize Electronic Security	1,650
	Upgrade Lighting Automation Systems	2,000
Hirshhorn Museum and Sculpture Garden	Restore/Repair Building Envelope	2,000
Smithsonian Institution Building (Castle)	Complete Façade Assessment and Stabilization Implementation	2,000
	MEP Systems Repairs for Failure Risk Mitigation	600
Smithsonian Tropical Research Institute	Gamboa Renovation of Facilities	1,400
	Upgrade Perimeter Barriers and Fence, at Bocas del Toro	500
National Museum of American History	Repair of Roof Drains and Reinforce Lining	1,000
	Improve Objects Processing Facility	1,000
Smithsonian Environmental Research Center	Construct Site Infrastructure/Renovate Homestead House	4,000

Facility	Project	\$000
Smithsonian Astrophysical Observatory	Improve Mt. Hopkins Road (AZ)	850
	HVAC Upgrade at Summit (AZ)	600
	Install Hilo Base Building Generator (HI)	400
	Enhance Fire-Safety SMA Control Building (HI)	350
Suitland Collections Center	Replace Earthquake-Damaged Roofs and Pod 1, 2, and 4 Roofs (MSC)	4,250
	Upgrade Perimeter Security	4,000
	Upgrade Emergency Generator/Switchgear	1,350
	Repair Life-Safety & Architectural Features	500
Multiple Facilities	Fire-Alarm Panel Replacements	2,000
Multiple Locations	Building projects less than \$1,000,000	7,500
	Construction Supervision Administration	<u>7,000</u>
TOTAL, REVITALIZATION PROJECTS		\$191,000
FACILITIES PLANNING AND DESIGN		<u>\$27,000</u>
Construction		
National Air and Space Museum — Udvar-Hazy Center (UHC)	Construct Collections Storage Module	<u>10,000</u>
TOTAL CONSTRUCTION		<u>\$10,000</u>
FY 2018 TOTAL REQUEST		\$228,000

REVITALIZATION PROJECTS

PROJECT TITLE: Revitalize Building Envelope and Infrastructure
INSTALLATION: National Air and Space Museum (NASM) — National Mall Building
LOCATION: Washington, DC

<u>FY 2018 COST ESTIMATE (Thousands of Dollars):</u>	\$90,000*
<u>PRIOR-YEAR FUNDING:</u>	\$6,953
<u>FUTURE-YEAR FUNDING:</u>	<u>\$508,047*</u>
Total	\$605,000*

* Does not include funding in Facilities Planning and Design

BUILDING BACKGROUND:

NASM was built in 1976 to commemorate the national development of aviation and space flight. The 747,877-gross-square-foot building (including approximately 161,145 square feet of exhibit galleries) preserves and displays artifacts, aeronautical and space flight equipment, significant historical data, and related technologies. The exhibit galleries hold the largest collection of historic air and spacecraft in the world and, in recent years, the Museum has received an average of more than seven million visitors annually.

PROJECT JUSTIFICATION:

The exterior Tennessee Pink Marble façade of the NASM building is a feature of the original construction and forms the primary exterior weather seal for the envelope on all surfaces other than at the roofs, terraces, skylights, and window walls. The panels are porous, show signs of aging and, in some cases, damage in the form of visible cracks. The current marble primary weather seal does not provide a continuous vapor barrier across the entire façade and the insulation is not consistent with current sustainable best practices and energy conservation. There is no secondary weather seal on the marble walls. This has created additional condensation and energy conservation problems.

NASM’s mechanical systems are original to the 1976 building and their capacity was built on the assumption they needed to support two million visitors annually. Within six months of opening, five million visitors were recorded. Today, it is the most visited museum in the United States (and second in the world), with between seven and eight million visitors annually. As a result, decades of strain on these systems have led to frequent breakdowns and failures, increasing costs to repair. They have exceeded their useful lifespans. The mechanical systems are further burdened by the deteriorated condition of the exterior façade, which allows moisture into the building.

PROJECT DESCRIPTION:

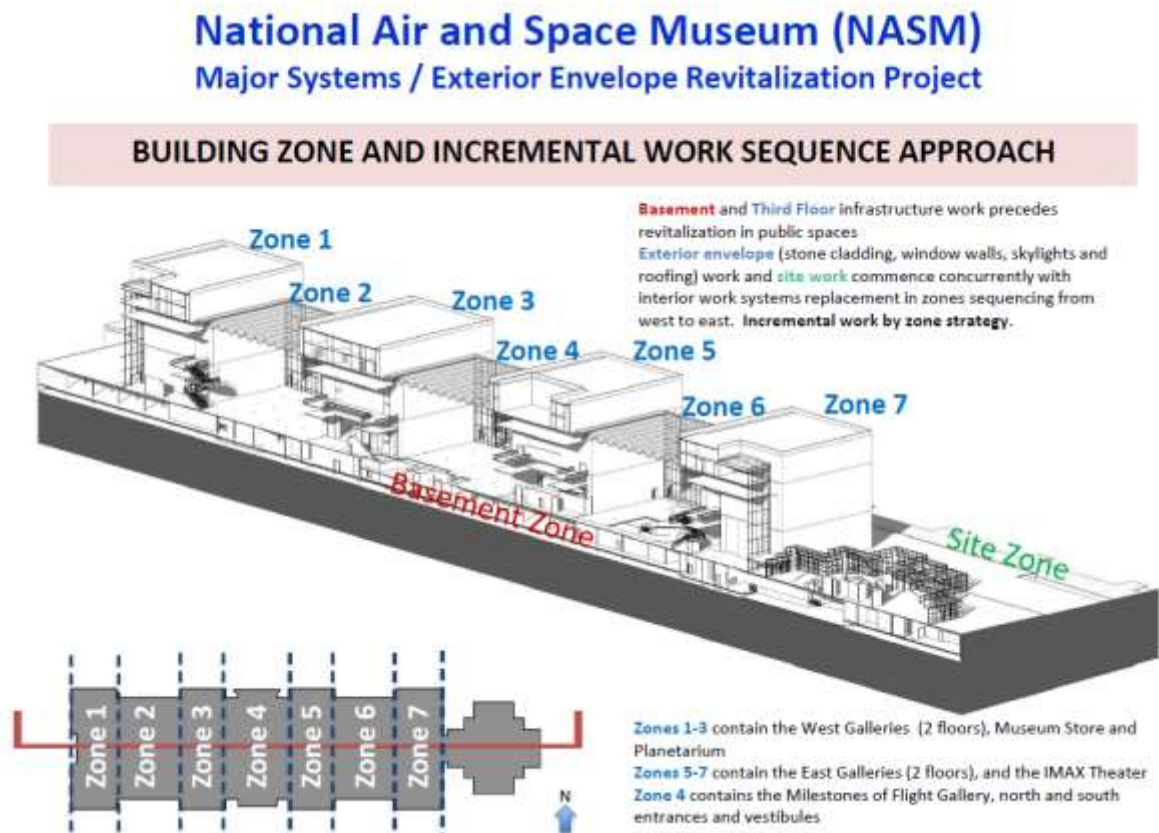
The multi-year, multi-phase building systems and envelope renovation project will replace the building’s marble façade, improve blast and earthquake resistance, upgrade the energy efficiency of the exterior envelope, replace the mechanical systems, and provide more secure access and egress. A primary goal for the planned HVAC replacement portion of the project is to provide the collections area and all occupied spaces with appropriate temperature and humidity controls. The Smithsonian requests \$90 million in FY 2018 to

fund construction activities and award contract(s) for continued design-assist work, constructability reviews, estimating, and for early procurement of long lead items, such as stone cladding, artifact protection, and preparation of swing space for staff.

PROGRESS TO DATE:

Design work began in June of 2014 with the award of the concept/schematic design contract. Schematic design was completed in May of 2015 and 35 percent design in April of 2016. The design contract has been awarded in full and the timeline to complete design is estimated to be late 2017. With the imminent award for preconstruction services, the budget, scope of work, and implementation schedule will be further refined as design work is completed. To protect against the possibility that the exterior stone panels may fail, the Smithsonian erected a temporary covered walkway around vulnerable portions of the building in January of 2015. The covered walkway will remain in place until the façade replacement is done.

The picture below provides a high-level view of the incremental sequence approach the Smithsonian will undertake throughout the renovation. It is our intent to keep 50 percent of NASM open during the project, working on the exterior and interior projects in parallel by zone as outlined below.



IMPACT OF DELAY:

If funding is delayed, NASM’s stone façade and building systems will continue to deteriorate, and the environmental conditions needed to safeguard the Museum’s collections and the visiting public cannot be maintained.

PROJECT TITLE: Revitalize Public and Non-Public Spaces
INSTALLATION: National Museum of Natural History (NMNH)
LOCATION: Washington, DC

FY 2018 COST ESTIMATE (Thousands of Dollars):

Continue HVAC/Utility System Replacement and Building Renovation	\$22,000
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<u>PRIOR-YEAR FUNDING:</u>	\$306,452
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FUTURE-YEAR FUNDING:

Ongoing HVAC Replacement and Code Improvements	<u>\$257,152*</u>
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Total	\$585,604
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* Does not include funding in Planning and Design account to complete future design of revitalization projects.

BUILDING BACKGROUND:

The NMNH building opened to the public in 1910. The East and West Wings were added in the early 1960s. Two infill buildings were constructed in the original building's East and West courtyards in the late 1990s. The gross interior square footage of the building is approximately 1.5 million square feet. The building includes 300,000 square feet of public museum space, with collections, laboratory, office, and building service spaces filling the remainder. The NMNH is one of the most visited museums in the world and hosted close to seven million visitors in FY 2016.

PROJECT JUSTIFICATION:

The building's mechanical and electrical systems were installed in the early 1960s. At more than 50 years of age, they need major replacement. Breakdowns of the mechanical systems are frequent, repair parts are often difficult to find, and the system does not provide good environmental air quality for visitors or collections. The reliability of the electrical system is compromised by the deteriorated condition of the electrical switchgears, and the antiquated distribution system poses a safety hazard. Windows in the original portion of the building have deteriorated and do not comply with current security standards. The main entrance to the building is not accessible to visitors with disabilities and the chemical storage space below the entrance steps has deteriorated to the point where it is no longer code compliant.

PROJECT DESCRIPTION:

Based on the master implementation plan completed in 1987, and revised in 2006, the Institution is slowly completing a comprehensive renovation program in the NMNH building, which will replace the HVAC equipment, ductwork, electrical equipment and wiring, piping systems, and windows of the main building. Asbestos and lead will be abated or encapsulated; the fire-protection, communications, alarm, and emergency power systems will be upgraded; and storm-water systems and a code-compliant hazardous waste storage facility will be installed.

The Institution requests \$22 million in FY 2018 to continue the building-wide renovation. Specific work will include continuing renovations to the South Entrance and Vault.

PROGRESS TO DATE:

Recent projects completed include the renovation of the southeast Main Building ground floor, which included a full upgrade of the primary utility substation, featuring new switchgears, transformers, and network protectors. The East and West Wing roof replacement was recently completed, with improved roof-top camera coverage and various connectivity features in preparation for the installation of solar panels under the Capital Solar Challenge. The major project at the Museum, the renovation of the Fossil Hall, Halls 2–6, is in progress, having recently reached the mid-point of the 27-month project. This project provides new systems and finishes to one of the most popular galleries in the Museum and several adjoining spaces. Additionally, a feasibility study for renovating the Baird Auditorium was completed and a project to replace the auditorium's air-handling unit (the oldest AHU in the building) is under way. Meanwhile, the design of the South Entrance renovation, which includes accessible walkways, will be finalized in the spring of 2017. Reviewing agencies approved the preliminary design for the updated entrance and walkways. An upgrade to the short-circuit analysis, a survey of the building's electrical systems, is complete and will be the basis for upcoming electrical renovations. The NMNH master plan and requests from the Museum staff provide the basis for prioritizing future infrastructure renovations.

IMPACT OF DELAY:

If funding is delayed, building systems will continue to deteriorate and environmental conditions required for the Museum's collections and the visiting public cannot be maintained. In addition, the Museum's exhibit re-installation program would not proceed according to the planned schedule, causing the continued closure of several important exhibition areas to the public and diminishing the Museum's ability to keep its promises to donors. Without accessible ramps at the Main Entrance, visitors in wheelchairs would continue to have to travel the equivalent of three city blocks to reach the accessible entrance on the far side of the building. If funding is delayed, hazardous waste will continue to be stored in a non-code-compliant space directly under the Museum's Mall entrance and programs at Baird Auditorium would be jeopardized by continuing to rely on a fragile, 50-year-old heating/cooling system.

**NATIONAL MUSEUM OF NATURAL HISTORY
CAPITAL INVESTMENT HISTORY AND FUTURE CAPITAL PLAN**



VIEW FROM SOUTH EAST

COMPLETED PROJECTS

CONSTRUCTION COMPLETED BY 2016; \$320M IN PAST FEDERAL CAPITAL FUNDS

- Main Building – Mammals Hall, Oceans Hall, NE and NW Ground Floor, Halls 11, 12, 26, 29 and 30, SE and SW 3rd floor, SE Ground Floor, and North Entrance
- East Wing – Ground, 4th, 5th, and 6th floors
- West Wing – Basement, Ground 1st, 2nd, and 6th floors
- East & West Wing Roofs

PROJECTS IN PROGRESS

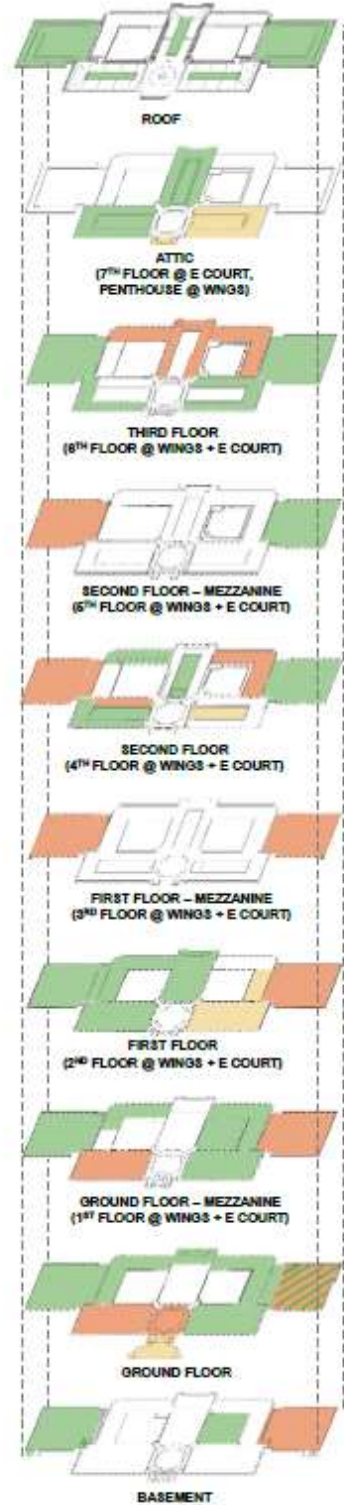
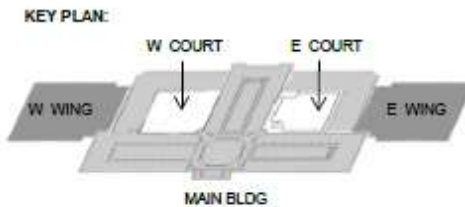
DESIGN AND CONSTRUCTION PROJECTS CURRENTLY IN PROGRESS;
\$68.2M IN FEDERAL CAPITAL FUNDS FY15-17

- In Construction: Halls 2-6
- In Design: South Entrance and Vault, Baird AHU Replacement, and Short Circuit Analysis

FUTURE PROJECTS

APPROXIMATELY \$260M IN FEDERAL CAPITAL FUNDS IN FY18-27

- Main Building – Halls 21, 22 and 26, NE and NW 3rd floor, South West Ground Floor, Baird Auditorium, Chillers, Stairs
- East Wing – Basement, 1st, 2nd and 3rd floors
- West Wing – 3rd, 4th, and 5th floors



PROJECT TITLE: Renew Bird House and Great Flight Cage
INSTALLATION: National Zoological Park (NZIP)
LOCATION: Washington, DC

<u>FY 2018 COST ESTIMATE (Thousands of Dollars):</u>	\$15,000
<u>PRIOR-YEAR FUNDING:</u>	\$4,000
<u>FUTURE-YEAR FUNDING:</u>	<u>\$37,300</u>
Total	\$56,300

BUILDING BACKGROUND:

The NZIP's Bird House was designed by architect Albert Harris and opened in 1928, with an addition completed in 1938. In 1965, Daniel, Mann, Johnson & Mendenhall renovated and modernized the Bird House by removing the roof, ornate entries and elaborate brick decorative details and replacing them with simple concrete and glass. The flight cage was added and connected to the building, using a sleek, modern concrete bridge, in sharp contrast to the Harris design. In the 1970s and beyond, the bird plateau site received multiple exterior animal exhibits, holding facilities, ponds, boardwalks, and asphalt sidewalks.

PROJECT JUSTIFICATION:

With the exception of relatively recent upgrades to fire-suppression systems, the infrastructure is well beyond its lifespan and most of the failed or failing equipment and systems date back to the 1970s. This project renews the Bird House and Great Flight Cage, with a new *Marvelous Migrations* exhibit that emphasizes the global importance of migration to species survival by using innovative conservation-based education. Using \$10 million in leveraged donor funds, along with federal appropriations, and following the approved master plan, facility improvements will include new site utilities, as well as total replacement of failed chillers, beyond-lifespan HVAC equipment, obsolete storm and wastewater management systems, and animal/human life-safety, life-support, electrical, plumbing, security and data systems. Additionally, the Bird House needs upgrades to its primary and secondary bird containment systems due to recent increases in animal escapes.

PROJECT DESCRIPTION:

The project will renew the deteriorating and failing building systems, equipment, and bird-holding and habitat spaces of the Bird House with a complete, phased, building renovation that includes total demolition of the non-historic fabric, a new roof, new life-support systems for the living collections, new HVAC, plumbing, electrical, lighting, life-safety and animal life-support systems, and significant improvements to the Great Flight Cage. During the first phase, interim outdoor and indoor bird-holding swing space will be erected, and highly pathogenic avian influenza (HPAI)-resistant netting is being provided over the Flamingo Exhibit Yard. Additionally, this project will renew the congressionally established Smithsonian Migratory Bird Center to educate the public and encourage visitors to help save wildlife and habitats worldwide. The Smithsonian requests \$15 million in FY 2018 to begin construction on this project.

PROGRESS TO DATE:

Design is 65 percent complete. A formal value engineering exercise was conducted in July of 2015, followed by a formal risk assessment and constructability exercise in August of 2015, and the final project definition rating index (PDRI) was completed in the summer of 2016. As of January, 2017, the first phase swing space enabler project is out to bid, with an anticipated spring 2017 award and completion expected in late fall of 2017.

IMPACT OF DELAY:

Delaying this project will result in continued increased costs of maintaining and operating the failed and failing systems, excessive energy consumption and costs for water and power, and increased risk to the living collection's captive habitat. Additionally, the National Zoo's leaders and scientific experts are concerned about the potential negative impact of the HPAI and new regulations and requirements being imposed by the Zoo's regulatory agency, the U.S. Department of Agriculture, and the Association of Zoos and Aquariums. Failure to revitalize this facility could jeopardize the National Zoo's mission of saving species. Also, failure to fund this project will delay the construction of the swing space required to safely house the living collections during the renovation.

PROJECT TITLE: Upgrade Life-Safety System and Infrastructure
INSTALLATION: National Zoological Park (NZIP), Rock Creek and Front Royal
LOCATION: Washington, DC and Front Royal, Virginia

<u>FY 2018 COST ESTIMATE (Thousands of Dollars):</u>	\$11,050
<u>FUTURE-YEAR FUNDING:</u>	<u>\$57,250</u>
Total	\$68,300

BUILDING BACKGROUND:

Multiple buildings at both the Rock Creek and Front Royal campuses have ongoing major capital systems renewal needs due to failing infrastructure and the facilities' requirements to comply with current building and life-safety codes. To date, all buildings and animal holding areas have received fire-sprinkler suppression systems, but many buildings still require upgraded fire-alarm detection systems because the current systems are being phased out by 2018 due to their age. In addition, smoke control and smoke-evacuation systems need to be provided in the Panda House, Bird House, Think Tank, Small Mammal House and Lion/Tiger House. With previous appropriations, the smoke control system at the Great Apes House will be completed in the summer of 2017. Additionally, infrastructure projects not already completed per the master plan include: storm-water management; upgrading living collections infrastructure at animal habitats and yards; continuing the refurbishment of the NZIP elevators; upgrades to building HVAC and site utilities such as sewer, power, data and water systems throughout both campuses; site security and safety systems replacement; failed and failing faux rock replacement throughout the Rock Creek campus; and perimeter gates and fencing at the Front Royal campus.

PROJECT JUSTIFICATION:

This project will provide funding for major capital renewal and replacement of failed and/or failing life-safety and infrastructure systems throughout both the Rock Creek Park and Front Royal campuses.

PROJECT DESCRIPTION:

The Smithsonian requests \$11.05 million in FY 2018 to continue the NZP's major capital renewal program, per the adopted comprehensive facilities master plan, to replace failed and failing life-safety and infrastructure systems at both the Rock Creek Park and Front Royal campuses.

PROGRESS TO DATE:

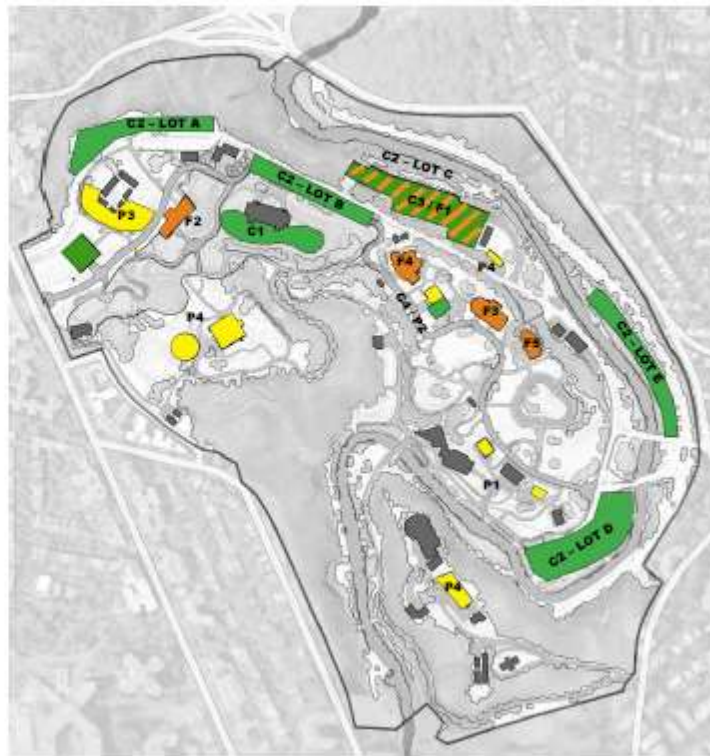
Failed steam lines at Rock Creek were recently replaced from the boiler plant to the Think Tank and from the Think Tank to the Police Station, Mane Café and Amazonia buildings. A new electrical substation was installed across from the bus lot on North Road, and another electrical substation replacement is under construction behind the Police Station, serving the Lower Zoo. The North Road retaining wall and structural/life-safety systems were provided at the adjacent General Services Building. Visitor safety and animal containment improvement projects have been completed at the Lion/Tiger and Great Apes Houses and are in construction at the Zebra/Cheetah site. Designs for visitor safety improvements at the Panda House are complete, as is the design for the smoke-evacuation system. More than 15 projects are in the planning and design stages for the current FY 2018–FY 2023 Five-Year Capital Plan, and designs for FY 2018 appropriations will be completed in FY 2017.

IMPACT OF DELAY:

Failure to upgrade critical NZP life-safety and infrastructure will result in operational emergency responses which are costly, disruptive and preventable. Delaying such system replacements and upgrades could result in serious harm to visitors and staff, as well as to the animals in our care, along with the loss of research that is critical to the survival of rare and endangered species.

**NZP - DC – ROCK CREEK, DC
CAPITAL PLAN SUMMARY**

- COMPLETED PROJECTS**
- C1. Elephant Community Center (LEED Gold)
 - C2. Parking Lot Improvements & Lot B Transformer
 - C3. General Services Building (GSB) Structural Stabilization, Fire Safety & North Road Retaining Wall
 - C4. Great Ape Visitor Safety & Gorilla Containment
- PROJECTS IN PROGRESS**
- P1. Renew Police Station / Restrooms / Retail / Health Unit
 - P2. Smoke Evacuation Great Ape House
 - P3. Cheetah Containment and Visitor Safety Improvements
 - P4. Renew Bird House & Great Flight Cage (Target LEED Gold)
 - Energy Savings Performance Contract entire campus
- FUTURE PROJECTS**
- F1. Construct Central Parking Facility at Lot C/GSB & Bridge across North Road
 - F2. Giant Panda Smoke Evacuation, Containment & Visitor Safety
 - F3. Reptile Discovery Center Renewal
 - F4. Small Mammal House Renewal
 - F5. Think Tank Renewal
 - Continued Renewal of Zoo Facilities Per Master Plan
 - Campus Wide MEP System Upgrades



NZP –DC ROCK CREEK CAMPUS – 163 ACRES

PROJECT TITLE: Replace Mansion Chillers and Cooling System
INSTALLATION: Cooper Hewitt, Smithsonian Design Museum (CHSDM)
LOCATION: New York, New York

FY 2018 COST ESTIMATE (Thousands of Dollars): \$5,000

BUILDING BACKGROUND:

The 64-room Carnegie Mansion, designed by the architectural firm of Babb, Cook & Willard, was built between 1899 and 1902. It was the first private residence in the United States to have a structural steel frame and one of the first in New York to have a residential Otis passenger elevator (now in the collection of the Smithsonian's National Museum of American History). The Mansion was transferred to the Smithsonian in 1972 and the Museum opened there in 1976.

PROJECT JUSTIFICATION:

The two primary chillers are currently more than 20 years old and approaching the end of their useful service lives, and the use of R22 refrigerants is being phased out. The rooftop cooling towers are also at the end of their life cycle and require frequent emergency maintenance. Since the Museum's 2014 reopening and expanded visitation, demands have increased on these critical environmental system components and this has accelerated the frequency of service calls and the rate of component deterioration.

PROJECT DESCRIPTION:

The Smithsonian requests \$5.0 million in FY 2018 to replace two primary chillers, two cooling towers, and associated pumps with new, energy-efficient equipment, and to upgrade the building automation system and eliminate pneumatic controls and operators.

PROGRESS TO DATE:

Design is approaching 100 percent and will be complete in September of 2017.

IMPACT OF DELAY:

A delay in completing this project will result in continued degradation of HVAC system efficiency and reliability, thereby degrading the collections environment, as well as increasing utility costs.

PROJECT TITLE: Replace Air-Handling Units (AHUs) 1–4
INSTALLATION: National Museum of the American Indian (NMAI-NY)
LOCATION: New York, New York

FY 2018 COST ESTIMATE (Thousands of Dollars): \$3,000

PROJECT DESCRIPTION:

Air-handling units (AHUs 1–4) installed in the initial construction of the George Gustav Heye Center (GGHC) in the 1990s have reached the end of their useful life and need replacement. A study was initiated in the fall of 2016 to research the condition of the existing AHUs and the requirements for the spaces they serve. The study will provide requirements for new AHUs to replace the existing ones, as well as the timing, sequence and logistics of installing replacements. Design funds are programmed in FY 2017 to develop the construction documents which will be completed in early FY 2018. The current estimate for the total construction project is set at \$8 million and phased implementation is proposed for FYs 2018–2020. The Smithsonian requests \$3 million in FY 2018 to implement the first phase of the project.

PROJECT TITLE: Modernize Electronic Security
INSTALLATION: National Museum of the American Indian (NMAI-NY)
LOCATION: New York, New York

FY 2018 COST ESTIMATE (Thousands of Dollars): \$1,650

PROJECT DESCRIPTION:

The collection storage areas, gallery infrastructure, and public/staff separation areas of the NMAI's GGHC facility do not comply with the Smithsonian's security design criteria. The result is a lack of adequate electronic and physical security to protect the staff within the facility and the collections housed in these storage areas. Security modernization will include access control, collections and library storage and processing security, and Museum perimeter protection. Design development is complete and final construction documents were received in February of 2017. Phase 1 is expected to start with \$1.0 million of FY 2017 funding. The Smithsonian requests \$1.65 million in FY 2018 to complete Phase 2.

PROJECT TITLE: Upgrade Lighting Automation Systems
INSTALLATION: National Museum of the American Indian (NMAI-DC)
LOCATION: Washington, DC

FY 2018 COST ESTIMATE (Thousands of Dollars): \$2,000

PROJECT DESCRIPTION:

Current Lutron lighting automation systems at the Museum operate on a Windows XP system, which is now obsolete and not supported by the Smithsonian or the broader information technology (IT) industry. The current system has already failed several times and replacement parts are no longer available. This project is both an infrastructure and programming priority for the Museum. Replacing controllers and introducing back-up capability will correct this deficiency and ensure that code-required minimum light levels are maintained at all times. A lighting study was commissioned and completed in FY 2016 that identified the scope of renovations required to meet industry standards. Design for the replacement of the Lutron system will be completed by the end of FY 2017 in preparation for a construction award in FY 2018. The Smithsonian requests \$2.0 million in FY 2018 to complete this project.

PROJECT TITLE: Restore/Repair Building Envelope, Systems, and Plaza
INSTALLATION: Hirshhorn Museum and Sculpture Garden (HMSG)
LOCATION: Washington, DC

<u>FY 2018 COST ESTIMATE (Thousands of Dollars):</u>	\$2,000
<u>PRIOR-YEAR FUNDING:</u>	\$2,000
<u>FUTURE-YEAR FUNDING:</u>	<u>\$20,450</u>
Total	\$24,450

BUILDING BACKGROUND:

The Hirshhorn Museum and Sculpture Garden, the Smithsonian's Museum of contemporary art, opened to the public in 1974. The building is a cylindrical shape raised 14 feet above the ground on four massive concrete piers. At the center is a large oval courtyard, containing a large, shallow, bronze fountain. The building has four aboveground stories and a basement that sits below the plaza surrounding the building.

PROJECT JUSTIFICATION:

The building shell performs poorly with respect to moisture infiltration and thermal performance, with the problems increasing as the building ages. A comprehensive analysis of the building envelope performed in FYs 2015 and 2016, and a mechanical study completed in FY 2016, identified major renewal needs that will require funding for several years. There is an immediate need to address active leaks and vulnerabilities, such as water intrusion into the galleries and collection storage areas. Some of the leaks are being addressed by construction projects in 2017. Building envelope deficiencies will continue to be addressed in FY 2018 and in future years.

PROJECT DESCRIPTION:

The Smithsonian requests \$2.0 million in FY 2018 to address repairs to the building envelope of the Museum. A pre-design and feasibility study in FY 2017 for major revitalization of the Hirshhorn will determine the most critical building envelope repairs to be accomplished with FY 2018 funding.

PROGRESS TO DATE:

The *Building Envelope Report*, completed in FY 2016, identified deficiencies in the building envelope, causes, and recommendations for repair. These deficiencies are causing the building leaks, building and plaza deterioration, and poor thermal performance. This report, as well as a mechanical commissioning study, which was also completed in FY 2016, provided the initial information to begin planning for major revitalization of the Hirshhorn during the next several years.

IMPACT OF DELAY:

Continuing leakage endangers the building fabric and the collections. Water intrusion during heavy rainstorms increasingly interferes with public access and the exhibit of art. Delaying these repairs will result in continued deterioration of the building, plaza, and walls, and make these essential repairs more costly.

PROJECT TITLE: Complete Façade Assessment and Stabilization Implementation
INSTALLATION: Smithsonian Institution Building (SIB)
LOCATION: Washington, DC

FY 2018 COST ESTIMATE (Thousands of Dollars): \$2,000

BUILDING BACKGROUND:

The Smithsonian Institution Building (SIB), commonly referred to as the Castle, was the first building of the Smithsonian, completed in 1855. The Castle initially housed all of the Smithsonian's operations, including research and administrative offices, lecture and exhibition halls, a library and reading room, chemical laboratories, storage areas for specimens, and living quarters for the first Secretary of the Institution, Joseph Henry, and his family. The Castle has historic architectural and institutional significance and is the public's doorway to, and the symbol of, the Smithsonian Institution, and is listed by the Secretary of the Interior as a National Historic Landmark. The building now serves as the Smithsonian Institution Visitor Center and houses executive administrative offices.

PROJECT DESCRIPTION:

The slow but steadily increasing deterioration of the sandstone façade of the Smithsonian Castle has progressed to the point that water intrusion is causing significant damage to the historic plaster finishes inside. The effects of weathering include the loss of mortar between stones, cracking and spalling of stone, and, in some areas, detachment of decorative carved elements. Localized failures of gutters, flashing, and downspouts expose more areas of the façade to soaking rains and resulting freeze-thaw damage. Deferred maintenance of wood windows, caulking, and sealants requires that temporary repairs be made to curtail damage until the windows can be replaced as part of a full building revitalization.

PROJECT TITLE: MEP Systems Repairs for Failure Risk Mitigation
INSTALLATION: Smithsonian Institution Building (Castle)
LOCATION: Washington, DC

FY 2018 COST ESTIMATE (Thousands of Dollars): \$600

PROJECT DESCRIPTION:

It has been more than 30 years since the last significant comprehensive upgrades were made to the mechanical, electrical, and plumbing (MEP) systems at the Smithsonian Castle, and localized failures are becoming increasingly common. Major piping breaks in recent years have resulted in flooding in public areas, temporary closures of office areas, and major damage to historic building elements and finishes. Until a full redesign and replacement of these systems is done, the possibility of catastrophic systems failure is increasingly likely. In order to reduce the risk of such failures and permit continued occupancy of the building prior to full building revitalization, a comprehensive assessment of equipment, piping, and cabling will identify interim measures that can be taken, including partial replacement and/or localized duplication of the system parts. This funding will be used to make the most urgent interim repairs.

PROJECT TITLE: Gamboa Renovation of Facilities
INSTALLATION: Smithsonian Tropical Research Institute (STRI)
LOCATION: Panama

FY 2018 COST ESTIMATE (Thousands of Dollars):

\$1,400

BUILDING BACKGROUND:

Located in Panama, the Gamboa Field Station's research facility has long been the center for STRI terrestrial research. Some years ago, STRI purchased properties in Gamboa, which were originally built by the United States' Panama Canal Company in the 1930s. Among them is the Santa Cruz's Schoolhouse Gymnasium and House 145, the former residence of the Panama Canal's dredging division director.

PROJECT JUSTIFICATION:

Two buildings at the Gamboa site have been identified to complement the opening of the new laboratory building, which opened in FY 2016. One of the buildings is House 145, which will be turned into 10 housing units for scientific visitors. The other building is the former Gymnasium that will be turned into an ambient laboratory space. The current ambient laboratory space is insufficient and lacks proper temperature and humidity conditions for research.

These projects are critical to STRI's strategic plan to support tropical research. STRI has already raised \$900,000 in trust funds to contribute to the overall project budget, which not only reduces the need for federal funding but also shows how important these buildings are to STRI and the Smithsonian mission.

PROJECT DESCRIPTION:

The renovation project will convert STRI's two existing facilities at Gamboa into housing and ambient laboratory spaces. House 145 will be renovated into a 10-apartment dormitory building for researchers, and the existing Gymnasium building will be converted into ambient lab space with the temperature and humidity conditions required to conduct research with plants, animals and insects under different lighting conditions.

In their current state, the buildings require some structural renovation, chiefly replacement of the roof and some wood elements, as well as new electrical and mechanical installations. The Smithsonian requests \$1.4 million in FY 2018 to complete the infrastructure upgrades for the renovation of these Gamboa facilities.

PROGRESS TO DATE:

A design contract was awarded in FY 2016. An architecture/engineering contractor is working on a 35 percent design submission.

IMPACT OF DELAY:

Failure to convert House 145 into a dormitory in a timely manner will adversely affect the housing spaces which are currently in high demand at STRI for researchers at Gamboa and surrounding areas. Considering the importance of Gamboa for terrestrial

science research, that housing demand is expected to increase in the coming years, so more spaces are critically needed. Since the building is a STRI-owned property and currently without a function, the project will provide this building with an adequate use. As with the housing project, the high demand from scientists to conduct research at the Gamboa site has generated the need for ambient-type spaces for experiments. Since the current areas are environmentally insufficient for these research programs, STRI urgently needs to make more suitable spaces available to continue expanding research programs in the area. Delaying this project will severely impact STRI's research possibilities and plans for the immediate future.

PROJECT TITLE: Upgrade Perimeter Barriers and Fence, Bocas del Toro
INSTALLATION: Smithsonian Tropical Research Institute (STRI)
LOCATION: Panama

FY 2018 COST ESTIMATE (Thousands of Dollars): \$500

PROJECT DESCRIPTION:

The physical and electronic security systems for Barro Colorado Island (BCI) and Bocas del Toro do not comply with Smithsonian security design criteria. The result is a lack of adequate electronic and physical security to protect the staff within these sites. The upgrade of the physical and electronic security will include access control, intrusion detection, closed-circuit television, and perimeter and other boundary protection.

PROJECT TITLE: Repair Roof Drains and Reinforce Lining
INSTALLATION: National Museum of American History (NMAH)
LOCATION: Washington, DC

<u>FY 2018 COST ESTIMATE (Thousands of Dollars):</u>	\$1,000
<u>PRIOR-YEAR FUNDING:</u>	\$8,200
<u>FUTURE-YEAR FUNDING:</u>	<u>\$900</u>
Total	\$10,100

BUILDING BACKGROUND:

Built in 1964, the National Museum of American History, *Kenneth E. Behring Center* (NMAH) is one of the Smithsonian's most visited museums. This modern, classical building (752,000 gross square feet) houses a variety of exhibitions that explore America's technological, scientific, cultural, and political history. The collections on display include the *Star-Spangled Banner* that inspired Francis Scott Key and is the focal point of the completed center core renovation. In the first three months after the center core renovation, the NMAH hosted more than one million visitors, and the Museum is attracting more than double the attendance it had prior to its closure. The revitalization of the Museum's public spaces continues with the renovation of the West Wing, begun in late 2012 and reaching the first stages of completion with the reopening of the innovation-themed first floor in July of 2015. The second and third floors of the West Wing, which will feature themes of democracy and American culture, will reopen to the public in 2017 and 2018.

PROJECT JUSTIFICATION:

In recent years, breaches in the building roof and terrace systems exposed valuable collections to water damage from leaks, and damaged stone terrace pavers created tripping hazards for staff. In addition, the roof and terrace levels lack adequate fall-protection for maintenance staff and contractors, posing a life-safety risk, and the existing lighting and security cameras do not provide adequate coverage, thereby creating a security risk.

PROJECT DESCRIPTION:

The NMAH building is rectangular in shape with a series of terraces and roofs over levels one, four, and five, and the mechanical equipment penthouse. The Smithsonian requests \$1.0 million in FY 2018 for Phase 2 of the project, for repairs and improvements at the NMAH Roof and Terrace levels, to remove debris from original cast-iron drain pipes and to reinforce them by lining them with epoxy.

PROGRESS TO DATE:

In 2014, a study was completed, documenting the results of a survey of the condition of roof, terrace, and drainage materials and systems, itemizing the cost of repairs and improvements needed for these systems, as well as including recommendations to provide fall-protection, lightning protection, additional security camera coverage, and electrical service infrastructure repairs. Design work for the

recommended repairs and improvements was completed in FY 2016, and the construction contract for Phase 1, which includes all of the recommended work except for cleaning and lining of clogged drains, was awarded in late FY 2016. The project will be complete in late FY 2018.

IMPACT OF DELAY:

Should repairs to the roof and drainage system be delayed, the building will continue to experience numerous and increasingly frequent leaks during major rain and snow events, exposing valuable artifacts in exhibits and collections storage areas to water damage.

PROJECT TITLE: Improve Objects Processing Facility (OPF) and Swing Space
INSTALLATION: National Museum of American History (NMAH)
LOCATION: Washington, DC

<u>FY 2018 COST ESTIMATE (Thousands of Dollars):</u>	\$1,000
<u>FUTURE-YEAR FUNDING:</u>	<u>\$4,000</u>
Total	\$5,000

BUILDING BACKGROUND:

The National Museum of American History, *Kenneth E. Behring Center* (NMAH) is one of the Smithsonian's most visited museums. This modern, classical building (752,000 gross square feet) houses a variety of exhibitions that explore America's technological, scientific, cultural, and political history. The revitalization of the Museum's public spaces continues with the renovation of the West Wing. The second and third floors of the West Wing, which will feature themes of democracy and American culture, will reopen to the public in 2017 and 2018.

PROJECT JUSTIFICATION:

The current Objects Processing Facility (OPF), located adjacent to the loading dock on the lower level of the building, where all artifacts entering and exiting the Museum are processed, does not meet Smithsonian collections care and security standards. Access doors are too small to accommodate large crates, making it necessary to open the crates in the loading dock area before bringing objects into the facility; the secure storage area is too small to accommodate large objects; shelving and storage cabinets are inadequate; office, receiving, and processing functions are not separated; the size, layout, and circulation are inadequate for optimal processing operations; the HVAC system does not maintain required temperature and humidity settings for objects; and a room with controlled lighting is not available for photographing objects. Since the OPF must remain operational, it will be necessary to renovate a nearby area to be used as swing space for temporary OPF operations. This project is also a critical predecessor to the future revitalization of the Museum's West Wing because it supports functions required for temporary and permanent relocation of artifacts.

PROJECT DESCRIPTION:

The Smithsonian requests \$1.0 million in FY 2018 for Phase 1 of the project to renovate a nearby former cold-storage room into swing space to house temporary OPF operations while the permanent OPF is under renovation. Funds will be requested in FY 2019 for the permanent OPF renovation, which will consist of improvements to the OPF to meet all Smithsonian collections care and security standards. These improvements will include widening and increasing the height of the doors from the loading dock to the receiving area to accommodate large crates; enlarging the secure storage room to accommodate large objects; providing new shelving and storage cabinets; separating the office, receiving, and processing functions with appropriately sized doors between the spaces; improving the size, layout, circulation and sequence for processing by infilling the lower elevation area to be contiguous with the main floor plate; improving the HVAC system to maintain appropriate temperature and humidity settings; and providing a photography room with controlled lighting to document objects.

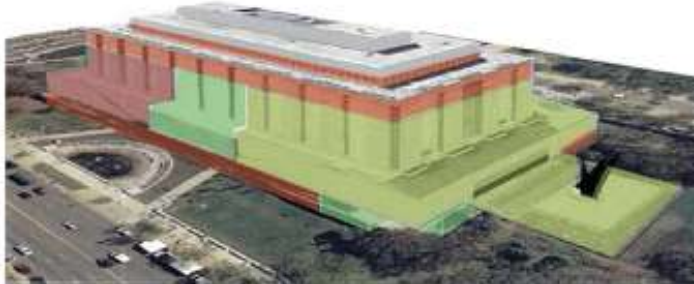
PROGRESS TO DATE:

Design work began in FY 2015 and was completed in early FY 2017.


IMPACT OF DELAY:


Delaying the renovation of the single centralized OPF for the entire Museum to bring this substandard space up to current Smithsonian collections care and security standards will continue to put all of the artifacts entering and exiting the building at great risk.


**NATIONAL MUSEUM OF AMERICAN HISTORY
CAPITAL INVESTMENT HISTORY AND FUTURE CAPITAL PLAN**





VIEW FROM NORTH WEST

- 
**PSRP * I & II (2006 – 2008)
COMPLETED PROJECTS**
 - \$87.1M (\$47.9M Federal, \$39.2M Trust)

- 
**GARAGE INFILL (2011 - 2012)
PREP FOR WEST WING REVITALIZATION
COMPLETED PROJECTS**
 - \$22.5M Federal

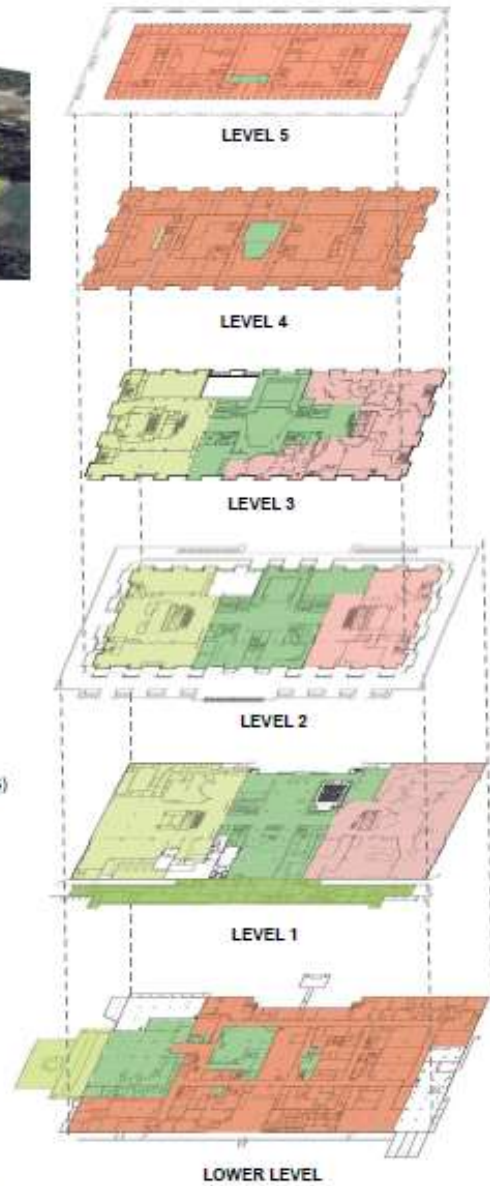
- 
**PSRP * III “WEST WING” AND CALDER POOL (2012-2015)
COMPLETED PROJECTS**
 - West Wing Exhibit Installations 2015-2018 (In Process)
 - \$135.22M (\$58.4M Federal + \$76.82M Trust) + \$30M Trust goal 2nd, 3rd floors)

- 
**PSRP * IV “EAST WING” (2021-2024)
FUTURE PROJECTS**
 - \$89.5M Federal estimated (Trust not estimated yet)

- 
**UPPER AND LOWER NON-PUBLIC FLOORS (2028-2035)
FUTURE PROJECTS**
 - \$140M Federal estimated

- FY16 PROJECTS:**
- Planning / Design: Master Plan update and east wing planning, collections processing design (lower level 7,848 SF)
 - Revitalization: Envelope repairs and upgrades (roof, 5th floor windows, entrance doors)
- FY17 PROJECTS:**
- Planning / Design : North Fountain Study
 - Revitalization : Public Entrance Vestibules Renovation

* Public Space Renewal Project



PROJECT TITLE: Site Infrastructure/Renovate Homestead House
INSTALLATION: Smithsonian Environmental Research Center (SERC)
LOCATION: Edgewater, Maryland

FY 2018 COST ESTIMATE (Thousands of Dollars): \$4,000

BUILDING BACKGROUND:

The Homestead House, dating back to the early 1700s, was the primary residence for the owners of the Contee Farm and its significance in colonial archaeological, local and cultural history is well established. As outlined in SERC's Comprehensive Facility Master Plan, SERC's 5,000-square-foot Homestead House will serve as the Center's "front door."

PROJECT DESCRIPTION:

Interior renovations will include new lighting, HVAC and plumbing, as well as refurbished period finishes and handicapped-accessible facilities for visitors. New exterior infrastructure elements will include a rebuilt driveway, well and septic system, and accessible parking.

PROJECT TITLE: Improve Mt. Hopkins Road, Fred L. Whipple Observatory (FLWO)
INSTALLATION: Smithsonian Astrophysical Observatory (SAO)
LOCATION: Tucson, Arizona

FY 2018 COST ESTIMATE (Thousands of Dollars): \$850

PRIOR-YEAR FUNDING: \$850

Total \$1,700

PROJECT BACKGROUND:

The only access to the 8,500-foot elevation Fred Lawrence Whipple Observatory is via a single-lane, 20-km-long combination dirt, crushed rock and occasionally paved roadbed with significant switchbacks, blind corners and extremely steep drop-offs to the canyon floor below. Much of this road, which is open to the public, lacks guardrails and requires routine regrading, pavement repair and replacement as well as storm-water management and culvert work. In addition, the existing direct-burial 13.4 kilovolt (KV) power line traverses above and below the existing metal culverts, which require frequent clean-out operations to maintain a proper road surface. The proximity of the power line to the conductive culverts requires that power to the mountain be shut off during these clean-out operations. Numerous accidents have occurred, with some vehicles sliding off the roadway.

PROJECT DESCRIPTION:

This multi-year project will install new guardrail sections, design and construct replacements for the remaining 70–75 metal culverts, with non-conductive material, repair drainage systems, including outfalls and gabion headwalls, and replace road pavement sections.

PROJECT TITLE: HVAC Upgrade at Summit
INSTALLATION: Smithsonian Astrophysical Observatory (SAO)
LOCATION: Tucson, Arizona

FY 2018 COST ESTIMATE (Thousands of Dollars): \$600

PROJECT DESCRIPTION:

The existing Multiple Mirror Telescope (MMT) HVAC system is operating at 100 percent capacity and has reached the end of its service life. A new chiller unit is on site but requires integration and installation into the MMT system. The goals of this project are to provide a complete survey of the existing MMT HVAC system to document the equipment, system output and efficiency conditions, and operational state of equipment; develop a preventive maintenance program to ensure reliability of the current HVAC system; provide a retrofit design package for upgrading the existing MMT HVAC system that will work within the operational limits of the MMT's scientific program; and provide a design for the installation of the new chiller unit.

PROJECT TITLE: Install Hilo Base Building Generator
INSTALLATION: Smithsonian Astrophysical Observatory (SAO)
LOCATION: Mauna Kea, Hawaii

FY 2018 COST ESTIMATE (Thousands of Dollars): \$400

PROJECT DESCRIPTION:

The SAO operations in Hawaii focus on the internationally renowned Submillimeter Array (SMA), an eight-element interferometer. The SMA antennas and their support facilities are located at SAO's Mauna Kea Summit Facility at the top of Mauna Kea (13,796 feet above sea level), and are subject to extreme climatic conditions that can prevent staff from accessing the facility. The SMA Hilo Base Facility can remotely operate the summit facility, but has no emergency or stand-by generator system to ensure this critical support.

The facility currently does not have emergency generator or stand-by capacity to protect the ongoing scientific mission. The goal of this project is to provide an emergency/standby generator with an option for a pre-engineered building to house the generator.

PROJECT TITLE: Enhance Fire Safety at SMA Control Building
INSTALLATION: Smithsonian Astrophysical Observatory (SAO)
LOCATION: Mauna Kea, Hawaii

FY 2018 COST ESTIMATE (Thousands of Dollars): \$350

PROJECT DESCRIPTION:

The SAO operations in Hawaii focus on the internationally renowned Submillimeter Array (SMA), an eight-element interferometer antenna system. These SMA antennas house expensive and mission-critical equipment that is endangered by the presence of flammable construction materials within the antenna cabins. A fire-suppression system would cause significant damage to this equipment. Therefore, an early-detection and electrical cut-off system has been installed. The final step in this risk-avoidance project is to replace the flammable materials with non-flammable materials.

PROJECT TITLE: Replace Earthquake-Damaged Roofs and Pod 1, 2, and 4 Roofs
INSTALLATION: Suitland Collections Center
LOCATION: Suitland, Maryland

FY 2018 COST ESTIMATE (Thousands of Dollars): \$4,250

BUILDING BACKGROUND:

The Suitland Collections Center is located on a 110-acre site in Prince Georges County, Maryland. The site was acquired by the Smithsonian in two phases. In the early 1950s, the Smithsonian developed the Paul E. Garber Facility to house its burgeoning collection of aviation and space artifacts. In the mid-1970s, the Smithsonian acquired the remaining site area from the General Services Administration (GSA) in order to build the Museum Support Center (MSC), which was completed in 1983. Subsequent additions have included the construction of the National Museum of the American Indian (NMAI) Cultural Resources Center (CRC) in 1998, and the construction of a greenhouse facility to house Smithsonian Gardens horticulture operations in 2010. Combined, these four facilities house approximately 40 percent of the collections storage space for the entire Institution.

PROJECT DESCRIPTION:

Various roofing systems, both original and replacement, have been installed on the MSC storage pods and labs over the years. Most of these systems are beyond their useful life, and have failed or are failing. The August 2011 earthquake caused structural damage to the MSC roof, further degrading the roofing systems. In addition, a major snowstorm in 2016 caused severe damage and degradation to the roof systems. Replacement of the roofs for Pods 1, 2, and 4 (approximately 130,000 square feet) with a reliable, easily maintainable roofing system is required.

PROJECT TITLE: Upgrade Perimeter Security at Suitland
INSTALLATION: Suitland Collections Center
LOCATION: Suitland, Maryland

FY 2018 COST ESTIMATE (Thousands of Dollars): \$4,000

PROJECT DESCRIPTION:

The perimeter fencing and security systems at the Suitland Collections Center were constructed at various times during the past 70 years in a piecemeal fashion that was not completely integrated. Penetrations of the perimeter fence over the past two years have highlighted the weaknesses of the fencing, lighting, and technical security systems, and the need to upgrade and secure the perimeter. This project will replace failed/failing fence sections, upgrade perimeter lighting, increase and upgrade the closed-circuit television (CCTV) coverage, and improve security systems at campus entrances and exits.

PROJECT TITLE: Upgrade Emergency Generator and Switchgear
INSTALLATION: Suitland Collections Center (NMAI-CRC)
LOCATION: Suitland, Maryland

FY 2018 COST ESTIMATE (Thousands of Dollars): \$1,350

PROJECT DESCRIPTION:

The National Museum of American Indian's (NMAI) Cultural Resources Center (CRC) in Suitland, Maryland is susceptible to loss of power from storm events and an unreliable power source. When the power is lost, the temperature and humidity levels cannot be maintained, putting the collections at risk. Additionally, the facility switchgear is outdated and poses a challenge to maintain and is a safety risk. This project adds emergency power to the entire HVAC system, including chillers, the cooling tower, the dehumidification unit, and air-handling units. Emergency power for security and communications is also included. To add these critical systems to emergency power, an additional back-up generator, with automatic transfer switching, needs to be added to the site. The original switchgear, emergency gear and distribution panels will also be replaced to address safety and maintenance issues. Design is currently in progress and is expected to be complete by June of 2017.

PROJECT TITLE: Repair Life-Safety and Architectural Features
INSTALLATION: Suitland Collections Center (NMAI-CRC)
LOCATION: Suitland, Maryland

FY 2018 COST ESTIMATE (Thousands of Dollars): \$500

PROJECT DESCRIPTION:

This project will repair life-safety and architectural features. Once complete, the project will prevent tripping hazards, address structural deficiencies, and bring the site into compliance with the Americans with Disabilities Act (ADA) provisions and local building codes. Projects include: replacement and repair of existing sidewalks in the parking area that do not meet accessibility standards; replacement of the large egress stair-railing system and refinishing of the stair structure to bring it into code compliance; replacement of the existing bridge-railing system; site grading and storm-water management remediation; and repairing the main entrance canopy columns. Design is currently in progress and was completed in March of FY 2017. The Smithsonian requests \$0.50 million in FY 2018 to begin construction.

PROJECT TITLE: Fire-Alarm Panel Replacements
INSTALLATION: Multiple Facilities
LOCATION: Multiple Locations

FY 2018 COST ESTIMATE (Thousands of Dollars) \$2,000

PROJECT DESCRIPTION:

Current MXL fire-alarm panels will need to be upgraded to the new XLS panels at various buildings across the Smithsonian. The old MXL fire-alarm panels will be discontinued in September of 2018 and the parts will cease to be available once supplies run out. The old MXL panels will be salvaged and used for parts until all panels are upgraded to XLS. As many as 75 panels at various facilities throughout the Smithsonian require eventual replacement. The Smithsonian requests \$2.0 million in FY 2018 to begin a phased implementation, beginning with the Smithsonian Environmental Research Center, the National Zoological Park, and the Hirshhorn Museum and Sculpture Garden. Future funding will be requested for other Smithsonian buildings, including the National Museum of Natural History, the Donald W. Reynolds Center, and the National Museum of American History.

PROJECT TITLE: Building Projects less than \$1,000,000
INSTALLATION: Multiple Locations
LOCATION: Institution-wide

FY 2018 COST ESTIMATE (Thousands of Dollars): \$7,500

PROJECT DESCRIPTION:

This request includes smaller individual projects of less than \$1 million each, which usually involve capital repair or replacement of individual systems or components. Projects include work at the Freer Gallery of Art (FGA). In addition, this supports other Smithsonian operations, such as reprographic and library services, security guard services, collections upgrades, conservation studies, and unplanned emergency repairs.

PROJECT TITLE: Construction Supervision and Administration
INSTALLATION: Multiple Locations
LOCATION: Institution-wide

FY 2018 COST ESTIMATE (Thousands of Dollars): \$7,000

PRIOR-YEAR FUNDING: \$6,750

PROJECT DESCRIPTION:

This request includes costs for permanent cost-estimating staff, the construction management staff required to supervise and administer construction contracts, as well as term and temporary staff required to perform specialized work associated with revitalization projects. A total of 48 FTEs will be funded from the \$7.0 million. The construction managers directly supervise construction contractors to ensure quality work is performed safely. In

addition, they resolve issues that arise during construction, negotiate change orders, approve payments, and perform other administrative functions as contracting officers' technical representatives (COTRs). These necessary "owner functions" are essential to ensure quality work is completed safely, on time, and within budget.

This request also funds five contract specialists who support the procurement process for acquiring the necessary contract services to execute the Facilities Capital Program. These five positions provide essential expertise to ensure the timely award of planning, design, and construction contracts for the Facilities Capital Program.

FACILITIES PLANNING AND DESIGN

Feasibility studies, needs assessments, and design for capital projects are required before site work can take place. This category includes all costs for contract facility master planning, preliminary and final design for all revitalization and construction projects, special studies, and a small amount for facility engineering, capital leveraging, and research activities, similar to operations at the Department of Defense and the National Aeronautics and Space Administration (NASA). The funding will enable development of project baselines, including costs, scope, and schedules, prior to receiving funds to perform the work.

In order to plan and design ahead of Capital Program execution, funding of 10 to 15 percent of the following year's program is required each year. The funding requested for FY 2018 will provide necessary planning and design to the 35 percent stage for most projects included in the planned FY 2019 program, and will complete design for projects planned for FY 2018. This will move the Institution closer to meeting the National Academy of Public Administration's (NAPA) recommendation that firm baselines be established before funding requests to provide more accurate cost estimates and to enable timely award of construction contracts upon receipt of future-year funding.

The Institution requests a total of **\$27,000,000** for planning and design in FY 2018. These funds will be used to design several major revitalization projects at the Smithsonian Institution Building (SIB) (\$5.0 million); National Museum of Natural History (\$2.5 million); National Zoological Park (\$3.0 million); Hirshhorn Museum and Sculpture Garden (\$3.0 million); and the National Museum of American History (\$3.9 million). The request also includes funding to prepare designs for numerous smaller revitalization projects, including security upgrades and master planning (\$9.6 million). This budget request will also enable the Smithsonian to prepare comprehensive master planning studies to guide future facilities decisions, and other studies to ensure more effective use of existing space.

CONSTRUCTION PROJECTS

PROJECT TITLE: Construct Collections Storage Module
INSTALLATION: National Air and Space Museum (NASM) — Udvar-Hazy Center (UHC)
LOCATION: Chantilly, Virginia

<u>FY 2018 COST ESTIMATE (Thousands of Dollars):</u>	\$10,000
<u>PRIOR-YEAR FUNDING:</u>	\$40,000
<u>FUTURE-YEAR FUNDING:</u>	<u>\$0</u>
Total	\$50,000

BACKGROUND:

An exhaustive evaluation of the Smithsonian’s collections storage space has identified the Garber collections storage site, originally constructed as 10- to 15-year temporary buildings in the 1950s, as having almost half of the Smithsonian’s unacceptable collections space. Much of the more than 384,700 square feet of space at Garber, of which approximately 233,000 square feet houses NASM artifacts, is either not up to code requirements for structural support or is compromised by hazardous materials in and around the collections.

The expansion of collections storage space at the Smithsonian’s Dulles site establishes a permanent facility to take collections from the aging buildings of the Garber facility, which are being phased out after more than 60 years of service. Two three-story collections storage modules for medium- and large-size objects, and one single-story collections storage hangar for air and spacecraft, are proposed for construction adjacent to the NASM Udvar-Hazy Center (UHC) in Chantilly, Virginia.

These are the first modules of a larger Dulles Collections Center (which will total approximately 237,000 gross square feet), and will enable NASM to move a significant number of its remaining collections out of the Paul E. Garber Facility in Suitland, Maryland, as well as provide improved collections storage facilities.

PROJECT JUSTIFICATION:

As NASM proceeds with the move of collections out of Garber in accordance with its long-term strategy for collections consolidation at the Dulles site, it has determined that the Museum will run out of space for medium-size objects in the existing Udvar-Hazy Center in 2017.

Construction of the first storage module of approximately 124,000 gross square feet is required to support the continued move out of Garber. Furthermore, in the near term, the first storage module will also serve the immediate need for temporary collections swing space during the upcoming NASM National Mall Building (NMB) Envelope and Infrastructure Revitalization project (projected for FYs 2018–2023).

The April 2015 feasibility study for collections swing space identified a critical need for at least 40,250 net square feet of off-site space for exhibit collections for the duration of the NASM-NMB Envelope and Infrastructure Revitalization project. Relocation of artifacts off site significantly reduces the risk of damage to the collections during the building-wide renovation. The strategy also minimizes the number of collections that would require expensive “protect-in-place” enclosures during the renovations.

PROJECT DESCRIPTION:

The Smithsonian received \$40 million in FY 2017 to begin construction of Storage Module 1. In FY 2018, the Smithsonian requests the \$10 million balance of the project to complete the construction, fit-out, and support collections moves. The new facility (approximately 124,000 gross square feet) will provide approximately 108,000 square feet of collections storage space within an energy-efficient building envelope, with the appropriate temperature and humidity controls meeting Smithsonian standards for collections storage.

PROGRESS TO DATE:

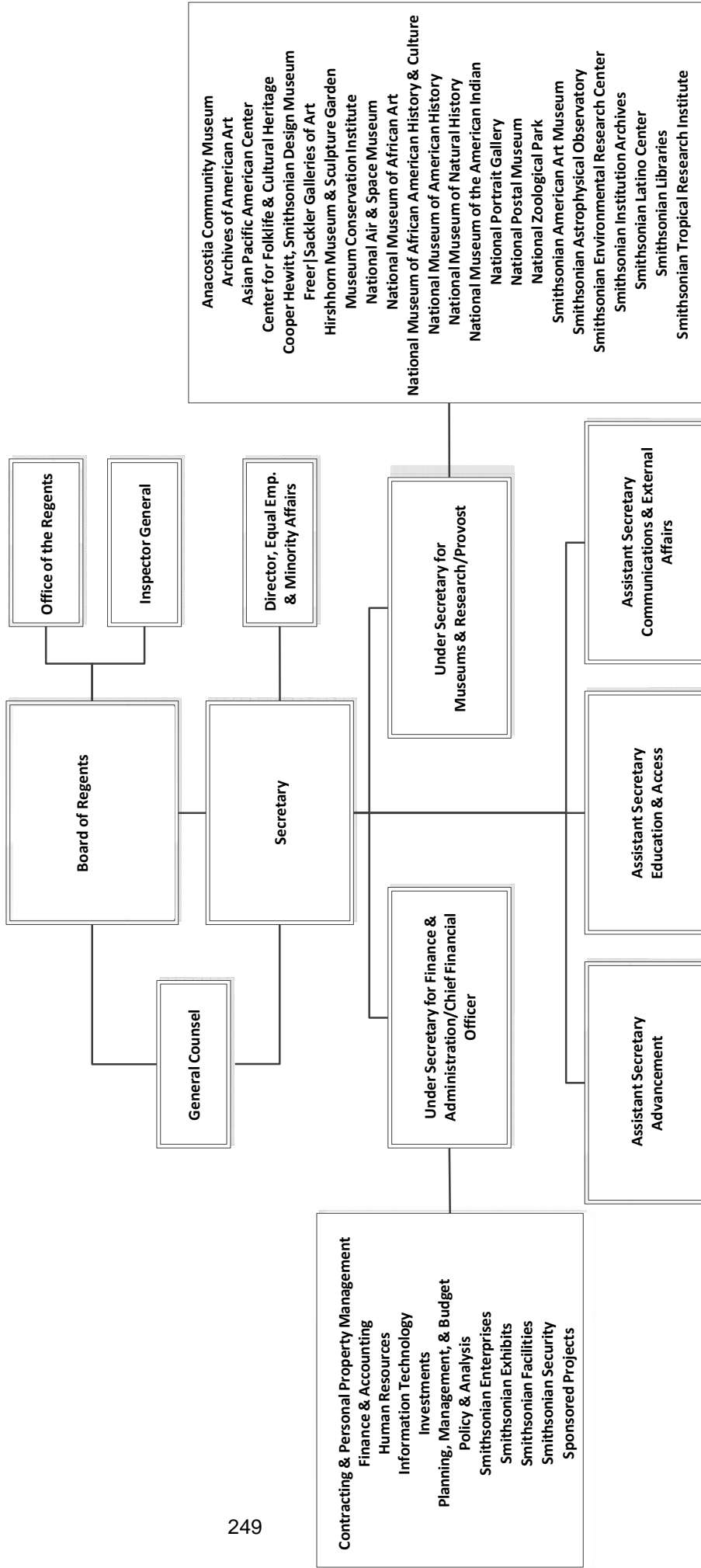
Design work began in 2015 and was completed at the end of 2016. The construction contract procurement was completed in May of 2017 and the notice to begin work on site is expected in June of 2017.

IMPACT OF DELAY:

Delaying the completion of construction of this critical collections storage facility would have a two-fold impact. First, it would set back the start of the NASM-NMB Envelope and Infrastructure Revitalization project. As stated earlier, the Dulles Collections Storage Module 1, in the near term, will serve the immediate need for temporary collections swing space during the upcoming NASM-NMB revitalization. Secondly, such a delay would halt the ongoing relocation of NASM collections out of the Garber facility to more appropriate and accessible storage space.

SMITHSONIAN INSTITUTION

May 2017



**VISITS TO THE SMITHSONIAN
FYs 2012–2016**

<u>MUSEUM</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>
MALL					
SI Castle	1,453,220	1,405,651	1,158,617	1,103,499	1,094,311
A&I Building ¹	0	0	0	0	56,427
Natural History	7,378,612	8,281,983	7,047,560	7,049,730	6,942,276
Air and Space/ Silver Hill	6,907,969	7,167,075	6,377,840	6,902,206	7,354,352
American Indian	1,605,547	1,444,279	1,260,756	1,307,568	1,120,359
Freer Gallery	567,183	401,101	357,282	389,113	88,989
Sackler Gallery	400,950	225,053	192,132	155,998	187,473
African Art	405,441	227,547	180,608	226,743	209,239
Ripley Center	519,878	226,052	140,701	156,318	155,548
American History	4,764,131	4,978,559	3,971,987	4,100,718	3,849,115
Hirshhorn	722,008	717,663	514,922	658,312	647,915
African American History and Culture ²	0	0	0	0	83,802
OFF MALL					
DW Reynolds Center (AA/PG)	1,078,774	1,063,299	1,075,866	1,265,223	1,224,282
Anacostia	37,952	37,611	37,440	32,983	28,458
Cooper Hewitt ³	328	0	0	218,840	408,846
American Indian ⁴ (Heye Center/CRC)	422,665	602,056	554,063	514,527	472,124
Renwick ⁵	175,183	138,951	17,199	0	829,735
National Zoo	2,237,922	2,092,824	2,304,129	2,194,194	2,593,559
Postal	325,571	284,971	363,802	401,124	359,562
Udvar-Hazy Center	<u>1,324,297</u>	<u>1,366,322</u>	<u>1,214,284</u>	<u>1,529,293</u>	<u>1,592,416</u>
TOTAL	30,327,631	30,660,997	26,769,188	28,206,389	29,298,788

¹ The Arts and Industries (A&I) Building closed to the public in January 2004 and hosts special events only.

² The National Museum of African American History and Culture opened in September 2016.

³ The Cooper Hewitt, Smithsonian Design Museum closed to the public in October 2011 for phase two of the Carnegie Mansion renovation project and reopened in December 2014.

⁴ Includes the George Gustav Heye Center in New York City and the Cultural Resources Center (CRC) in Suitland, Maryland.

⁵ The Renwick Gallery closed to the public in December 2013 and reopened in November 2016.

TRUST FUNDS

In addition to support provided by federal appropriations, the Smithsonian Institution receives and generates trust funds to expand and enrich its programs. Trust funds are used to leverage the Smithsonian’s research capacity through partnerships with federal agencies, universities, non-Governmental organizations, industry, and other private organizations, both national and international. Trust funds will be raised to renovate and modernize exhibits throughout the Institution. The following provides an overview of the current sources of trust funds.

The Institution’s trust funds include general trust funds with limited or no restrictions on their use, funds restricted by the donor or sponsor, and Government grants and contracts. Projections are subject to the uncertainty of the size of donations, grants, and contracts; to fluctuations in visitor attendance; and to the volatility of the economy, which together directly affect the return on the endowment, short-term interest income, and donor giving, as well as restaurant, magazine, catalogue, and museum shop revenues, memberships, and other business activities. The Institution’s gross operating revenue, less the expenses of the auxiliary activities, represents the net operating revenue available for programmatic and related purposes. The following table summarizes the sources of trust operating funds.

(Dollars in Millions)	FY 2015 Actuals	FY 2016 Actuals	FY 2017 Estimates
General Trust	85.7	87.5	85.6
Donor/Sponsor-Designated	250.2	326.1	237.2
Government Grants and Contracts	126.0	119.6	150.0
Total Available for Operations	\$461.9	\$533.2	\$472.8

SOURCE AND APPLICATION OF TRUST FUNDS — The following sections describe the sources of each category of trust funds as well as a general account of how they are used.

General Trust Funds — The sources of general trust funds are investment income; payout from unrestricted endowments; net proceeds from the museum shops, catalogues, and food service concessions; sales of Smithsonian books, records, and other products based on designs and objects in the collections; theater/planetarium operations at the National Air and Space Museum and the Samuel C. Johnson IMAX Theater in the National Museum of Natural History; licensing fees from the Smithsonian Channel and student travel programs; rental of exhibitions of the Smithsonian Institution Traveling Exhibition Service; membership programs (including subscriptions to *Smithsonian* and *Air and Space* magazines); the sale of posters, exhibition brochures, catalogues,

and other publications; and admission fees. Projected sources of FY 2017 general trust funds total \$85,600,000. These funds are used to support administrative programs such as central management, legal counsel, accounting, personnel, contracting, and budget, as well as fund raising, education, research and public programs, scholarly studies, and exhibitions.

Donor/Sponsor-Designated Funds — Designated trust funds include gifts, grants, and earnings on endowments from individuals, foundations, organizations, and corporations which specify the purpose of the funds. Designated funds in FY 2017 are projected to total \$237,200,000. Generally, these funds support a particular exhibition or program, or are used to manage the Smithsonian collections and/or support research projects in accordance with the Institution's mission.

Government Grants and Contracts — Various Government agencies and departments provide grants and contracts for specific projects that align with the Smithsonian's expertise in a particular area of science, history, art, or education. For FY 2017, Government grants and contracts are projected to total \$150,000,000. Of this amount, \$89,000,000 is planned for astrophysical research and development programs carried out by the Smithsonian Astrophysical Observatory.

APPROPRIATION LANGUAGE AND CITATIONS

The Act of August 10, 1846, codified within 20 U.S.C. §§ 41–70, established the Smithsonian Institution “for the increase and diffusion of knowledge,” and provided the organizational structure for the Institution’s administration. The mission of the Smithsonian Institution has remained unchanged throughout its 171-year history, although additional authority for many of the Institution’s programs and operations has been enacted over the years. Selected provisions of those statutes, along with selected provisions of the Smithsonian charter and prior-year appropriations acts, are cited below as authority for the Smithsonian Institution’s FY 2016 appropriations language.

Appropriation: Salaries and Expenses

1. For necessary expenses of the Smithsonian Institution, as authorized by law, including research in the fields of art, science, and history;

20 U.S.C. § 50 provides that “...all objects of art and of foreign and curious research, and all objects of natural history, plants, and geological and mineralogical specimens...shall be so arranged and classified...as best to facilitate the examination and study of them...”

20 U.S.C. § 53a provides that “Appropriations are hereby authorized for...the making of solar observations at high altitudes...”

20 U.S.C. § 69 provides that “The Secretary of the Smithsonian Institution is hereby authorized...to continue independently or in cooperation anthropological researches among the American Indians and the natives of lands under the jurisdiction or protection of the United States...”

20 U.S.C. § 75b(b) provides that “The [National Portrait] Gallery shall function as a free public museum for the exhibition and study of portraiture and statuary depicting men and women who have made significant contributions to the history, development, and culture of the people of the United States and of the artists who created such portraiture and statuary.”

20 U.S.C. § 76bb(c) provides that “The Joseph H. Hirshhorn Museum and Sculpture Garden...shall be used for the storage, exhibition, and study of works of art...”

20 U.S.C. § 77a provides that “Said national air and space museum shall...provide educational material for the historical study of aviation and space flight.”

20 U.S.C. § 78 provides that “The Secretary of the Smithsonian Institution is hereby authorized to cooperate with any State, educational institution, or scientific organization in the United States, for continuing paleontological investigations...”

20 U.S.C. § 80m(a)(3) provides that “(a)...the Board [of Regents] may-- ... (3) conduct programs of research and education [in the Museum of African Art]...”

20 U.S.C. §§ 80q-1(b)(1) & (3) provide that “(b)The purposes of the National Museum [of the American Indian] are to-- (1) advance the study of Native Americans, including the study of language, literature, history, art, anthropology, and life;... (3) provide for Native American research and study programs...”

20 U.S.C. § 80r-2(b)(1) provides that “(b) The purpose of the [National] Museum [of African American History and Culture] shall be to provide for-- (1) the collection, study and establishment of programs relating to African American life, art, history and culture that encompass [certain periods of the African American diaspora]...”

2. development, preservation, and documentation of the National Collections;

20 U.S.C. § 50 provides that “...all objects of art and of foreign and curious research, and all objects of natural history, plants, and geological and mineralogical specimens...shall be delivered to such persons as may be authorized by the Board of Regents to receive them, and shall be so arranged and classified...as best to facilitate the examination and study of them...”

20 U.S.C. § 50a provides that “The Smithsonian Institution is . . . authorized to include in its estimates of appropriations such sums as may be needful for the preservation and maintenance of the [John Gellatly art] collection.”

20 U.S.C. § 59 provides that “All collections of rocks, minerals, soils, fossils, and objects of natural history, archaeology, and ethnology...when no longer needed for investigations in progress shall be deposited in the National Museum.”

20 U.S.C. § 69 provides that “The Secretary of the Smithsonian Institution is hereby authorized...to continue independently or in cooperation...the excavation and preservation of archaeological remains.”

20 U.S.C. § 75e(1) provides that “...the Board [of Regents] may-- (1) purchase, accept, borrow, or otherwise acquire portraiture, statuary, and other items for preservation, exhibition, or study.”

20 U.S.C. § 76c(b) provides that “...the Regents are hereby authorized...to acquire (by purchase or otherwise) and sell contemporary works of art or copies thereof...”

20 U.S.C. § 76cc(a) provides that “There is established in the Smithsonian Institution a Board of Trustees...which shall have the sole authority (i) to purchase or otherwise acquire (whether by gift, exchange, or other means) works of art for the Joseph H. Hirshhorn Museum and Sculpture Garden...”

20 U.S.C. § 77a provides that “Said national air and space museum shall...collect, preserve, and display aeronautical and space flight equipment of historical interest and significance...”

20 U.S.C. § 80a(a) provides that “...the Smithsonian Institution shall collect, preserve, and exhibit military objects of historical interest and significance.”

20 U.S.C. §§ 80m(a)(1) & (2) provide that “(a)...the Board [of Regents] may-- (1) purchase, accept, borrow or otherwise acquire additional works of art or any other real or personal property for the Museum [of African Art]; (2) preserve, maintain, restore...or otherwise hold any property of whatsoever nature acquired...”

20 U.S.C. § 80q-1(b)(2) provides that “(b) The purposes of the National Museum [of the American Indian] are to--...(2) collect, preserve, and exhibit Native American objects of artistic, historical, literary, anthropological, and scientific interest...”

20 U.S.C. § 80r-2(b)(3) provides that “(b) The purpose of the [National] Museum [of African American History and Culture] shall be to provide for-- ...(3) the collection and study of artifacts and documents relating to African American life, art, history, and culture...”

20 U.S.C. § 81 provides that “The National Zoological Park is placed under the direction of the Regents of the Smithsonian Institution, who are authorized to transfer to it any living specimens, whether of animals or plants, in their charge, to accept gifts for the park...[and] to make exchanges of specimens...”

3. presentation of public exhibits and performances;

20 U.S.C. § 75b(b) provides that “The [National Portrait] Gallery shall function as a free public museum for the exhibition and study of portraiture and statuary...”

20 U.S.C. § 76c(b) provides that “In order to encourage the development of contemporary art and to effect the widest distribution and cultivation in matters of such art, the Regents are hereby authorized to...conduct exhibitions...”

20 U.S.C. § 76bb(c) provides that “The Joseph H. Hirshhorn Museum and Sculpture Garden...shall be used for the storage, exhibition, and study of works of art...”

20 U.S.C. § 77a provides that “Said national air and space museum shall...collect, preserve, and display aeronautical and space flight equipment of historical interest and significance...”

20 U.S.C. § 80a(a) provides that “...the Smithsonian Institution shall collect, preserve, and exhibit military objects of historical interest and significance.”

20 U.S.C. § 80m(a)(2) provides that “(a)...the Board [of Regents] may--...(2)...display...any property of whatsoever nature acquired [for the Museum of African Art]...”

20 U.S.C. § 80q-1(b)(2) provides that “(b) The purposes of the National Museum [of the American Indian] are to--...(2) collect, preserve, and exhibit Native American objects of artistic, historical, literary, anthropological, and scientific interest...”

20 U.S.C. § 80r-2(b)(3) provides that “(b) The purpose of the [National] Museum [of African American History and Culture] shall be to provide for--...(3) the collection and study of artifacts and documents relating to African American life, art, history, and culture...”

4. collection, preparation, dissemination, and exchange of information and publications;

20 U.S.C. § 53a provides that “Appropriations are hereby authorized for...preparation of manuscripts, drawings, and illustrations for publications.”

5. conduct of education, training, and museum assistance programs:

20 U.S.C. §§ 65a(a)(1),(3) & (4) provide that “(a)The Director of the National Museum under the direction of the Secretary of the Smithsonian Institution shall-- (1) cooperate with museums and their professional organizations in a continuing study of museum problems and opportunities, both in the United States and abroad;... (3) prepare and distribute significant museum publications; (4) perform research on, and otherwise contribute to, the [development of] museum techniques....”

20 U.S.C. § 77a provides that “Said national air and space museum shall...provide educational material for the historical study of aviation and space flight.”

20 U.S.C. § 79a provides that “The purpose of setting aside such an area [Barro Colorado Island] is to preserve and conserve its natural features...thus providing a place where duly qualified students can make observations and scientific investigations for increase of knowledge, under such conditions and regulations as may be prescribed by the [Smithsonian Institution].”

20 U.S.C. § 79e provides that “There are authorized to be appropriated annually...such sums as are necessary for the administration of [the Canal Zone Biological Area] ... and for the maintenance of laboratory or other facilities...”

20 U.S.C. § 80m(a)(3) provides that “(a)...the Board [of Regents] may-- ... (3) conduct programs of research and education [in the Museum of African Art]....”

Section 2 of Public Law 114-151 (May 9, 2016), to protect and preserve international cultural property, provides that the Smithsonian Institution should be included in an interagency coordinating committee to...”consult with governmental and nongovernmental organizations... museums, educational institutions, and research institutions, and participants in the international art and cultural property market on efforts to protect and preserve international cultural property.”

6. maintenance, alteration, operation, lease agreements of no more than 30 years, and protection of buildings, facilities, and approaches;

20 U.S.C. § 53a provides that “Appropriations are hereby authorized for the maintenance of the Astrophysical Observatory and...for repairs and alterations of buildings and grounds occupied by the Smithsonian Institution in the District of Columbia and elsewhere...”

20 U.S.C. § 76ee provides that “There is authorized to be appropriated...such additional sums as may be necessary for the maintenance and operation of such [Hirshhorn] museum and sculpture garden.”

20 U.S.C. § 79b(c) provides that “The ...[Smithsonian Institution] shall...(c) be responsible for the construction and maintenance of laboratory and other facilities on the area provided for the use of students authorized to carry on studies within the confines of the area...”

20 U.S.C. § 80m(a)(2) provides that “(a)...the Board [of Regents] may--...(2) preserve, maintain...any property of whatsoever nature acquired [for the Museum of African Art]...”

20 U.S.C. § 81 provides that “The National Zoological Park is placed under the direction of the Regents of the Smithsonian Institution, who are authorized...to administer and improve the said Zoological Park for the advancement of science and the instruction and recreation of the people.” Public Law 101-512 making appropriations for the Department of the Interior and Related Agencies for the fiscal year 1991 extended the maximum term for federal leases from ten years to thirty.

7. not to exceed \$_____ for services as authorized by 5 U.S.C. 3109;

5 U.S.C. § 3109(b) provides that “When authorized by an appropriation or other statute, the head of an agency may procure by contract the temporary (not in excess of 1 year) or intermittent services of experts or consultants or an organization thereof, including stenographic reporting services.”

8. and purchase, rental, repair, and cleaning of uniforms for employees,

5 U.S.C. § 5901(a) provides that “There is authorized to be appropriated annually to each agency of the Government of the United States...on a showing of necessity or desirability, such sums as may be necessary to carry out this subchapter.

40 U.S.C. § 6306(c) provides that “The employees designated as special police under subsection (a) [covering the Smithsonian Institution] may be provided, without charge, with uniforms and other equipment as may be necessary for the proper performance of their duties...”

9. \$_____, to remain available until September 30, 20___, except as otherwise provided herein;

Wording added by the Congress in Public Law 111-88 making appropriations for the Department of the Interior and Related Agencies for fiscal year 2010 to extend the availability for the Salaries and

Expenses account from one year to two years unless otherwise provided.

10. of which not to exceed \$_____ for the instrumentation program, collections acquisition, exhibition reinstallation, the National Museum of African American History and Culture, and the repatriation of skeletal remains program shall remain available until expended;

Wording added by the Congress in Public Law 100-446 making appropriations for the Department of the Interior and Related Agencies for fiscal year 1989 to permit the Institution to establish no-year funding within the Salaries and Expenses account for the development of major scientific instrumentation. Public Law 101-512, making appropriations for the Department of the Interior and Related Agencies for fiscal year 1991, allowed no-year funding to be used for the instrumentation program as well as purchases for museum collections and the repatriation of skeletal remains. Public Law 108-447 making appropriations for the Department of the Interior and Related Agencies for fiscal year 2005 allowed additional no-year funding for exhibition reinstallation; and the National Museum of African American History and Culture.

31 U.S.C. § 1301(c)(2) provides that “(c) An appropriation in a regular, annual appropriation law may be construed to be permanent or available continuously only if the appropriation--... (2) expressly provides that it is available after the fiscal year covered by the law in which it appears.”

11. and including such funds as may be necessary to support American overseas research centers:

Wording added by the Congress in Public Law 99-190 making appropriations for Other Related Agencies for fiscal year 1986.

12. *Provided*, That funds appropriated herein are available for advance payments to independent contractors performing research services or participating in official Smithsonian presentations.

31 U.S.C. § 3324(b)(1) provides that (b) “An advance of public money may be made only if it is authorized by-- (1) a specific appropriation or other law...”

Appropriation: Facilities Capital

1. For necessary expenses of repair, revitalization, and alteration of facilities owned or occupied by the Smithsonian Institution, by contract or otherwise, as authorized by section 2 of the Act of August 22, 1949 (63 Stat. 623),

20 U.S.C. § 53a provides that “Appropriations are hereby authorized...for repairs and alterations of buildings and grounds occupied by the Smithsonian Institution in the District of Columbia and elsewhere...”

20 U.S.C. § 81 provides that “The National Zoological Park is placed under the direction of the Regents of the Smithsonian Institution, who are authorized...to administer and improve the said Zoological Park for the advancement of science and the instruction and recreation of the people.”

Public Law 108-108, making appropriations for the Department of the Interior and Related Agencies for fiscal year 2004, established the Facilities Capital appropriation. The appropriation includes activities formerly financed through the Repair, Restoration and Alteration of Facilities appropriation and the Construction appropriation.

2. and for construction,

20 U.S.C. § 53a provides that “Appropriations are hereby authorized...for repairs and alterations of buildings and grounds occupied by the Smithsonian Institution in the District of Columbia and elsewhere...”

3. including necessary personnel,

Wording added by Congress for clarification in Public Law 108-7 making appropriations for the Department of Interior and Related Agencies for fiscal year 2003.

4. \$ _____ to remain available until expended,

31 U.S.C. § 1301(c)(2) provides that “(c) An appropriation in a regular, annual appropriation law may be construed to be permanent or available continuously only if the appropriation--... (2) expressly provides that it is available after the fiscal year covered by the law in which it appears.”

5. of which not to exceed \$_____ shall be for services as authorized by 5 U.S.C. 3109.

5 U.S.C. § 3109(b) provides that “When authorized by an appropriation or other statute, the head of an agency may procure by contract the temporary (not in excess of 1 year) or intermittent services of experts or consultants or an organization thereof, including stenographic reporting services.”

Adjustments for FY 2017
(Dollars in Thousands)

Unit	FY 2016 Adjusted Base \$000s	FY 2017 Continuing Resolution Rescission \$000s	FY 2017 Continuing Resolution (CR) \$000s	Reorganizations and Reprogrammings \$000s	FY 2017 Adjusted CR \$000s
MUSEUMS AND RESEARCH CENTERS					
<i>Unlocking the Mysteries of the Universe</i>					
National Air and Space Museum	19,209	-37	19,172	0	19,172
Smithsonian Astrophysical Observatory	24,141	-46	24,095	0	24,095
Major Scientific Instrumentation	4,118	-8	4,110	0	4,110
Universe Consortium	184	0	184	0	184
Subtotal, <i>Unlocking the Mysteries of the Universe</i>	47,652	-91	47,561	0	47,561
<i>Understanding and Sustaining a Biodiverse Planet</i>					
National Museum of Natural History	48,503	-92	48,411	0	48,411
National Zoological Park	26,382	-50	26,332	0	26,332
Smithsonian Environmental Research Center	3,956	-8	3,948	0	3,948
Smithsonian Tropical Research Institute	14,166	-27	14,139	0	14,139
Biodiversity Consortium	1,523	-3	1,520	0	1,520
Subtotal, <i>Understanding and Sustaining a Biodiverse Planet</i>	94,530	-180	94,350	0	94,350
<i>Valuing World Cultures</i>					
Arthur M. Sackler Gallery/Freer Gallery of Art	6,111	-12	6,099	0	6,099
Center for Folklife and Cultural Heritage	2,581	-5	2,576	0	2,576
Cooper Hewitt, Smithsonian Design Museum	4,810	-9	4,801	0	4,801
Hirshhorn Museum and Sculpture Garden	4,414	-8	4,406	-153	4,253
National Museum of African Art	4,399	-8	4,391	0	4,391
World Cultures Consortium	284	-1	283	0	283
Subtotal, <i>Valuing World Cultures</i>	22,599	-43	22,556	-153	22,403
<i>Understanding the American Experience</i>					
Anacostia Community Museum	2,252	-4	2,248	0	2,248
Archives of American Art	1,880	-4	1,876	0	1,876
National Museum of African American History & Culture	41,347	-79	41,268	0	41,268
National Museum of American History, Behring Center	22,697	-43	22,654	0	22,654
National Museum of the American Indian	31,726	-60	31,666	0	31,666
National Portrait Gallery	6,200	-12	6,188	0	6,188
National Postal Museum	1,109	-2	1,107	0	1,107
Smithsonian American Art Museum	9,723	-18	9,705	0	9,705
American Experience Consortium	595	-1	594	0	594
Subtotal, <i>Understanding the American Experience</i>	117,529	-223	117,306	0	117,306
TOTAL, MUSEUMS AND RESEARCH CENTERS	282,310	-537	281,773	-153	281,620

Adjustments for FY 2017
(Dollars in Thousands)

Unit	FY 2016 Adjusted Base \$000s	FY 2017 Continuing Resolution Rescission \$000s	FY 2017 Continuing Resolution (CR) \$000s	Reorganizations and Reprogrammings \$000s	FY 2017 Adjusted CR \$000s
MISSION ENABLING					
Program Support and Outreach					
Outreach	9,045	-17	9,028	0	9,028
Communications	2,594	-5	2,589	0	2,589
Institution-wide Programs	13,284	-25	13,259	0	13,259
Smithsonian Exhibits	3,009	-6	3,003	15 \2	3,018
Museum Support Center	1,866	-4	1,862	0	1,862
Museum Conservation Institute	3,277	-6	3,271	0	3,271
Smithsonian Institution Archives	2,253	-4	2,249	15 \3	2,264
Smithsonian Libraries	10,654	-20	10,634	0	10,634
Subtotal, Program Support and Outreach	45,982	-87	45,895	30	45,925
Office of the Chief Information Officer	50,462	-96	50,366	42 \4	50,408
Administration	34,773	-66	34,707	96 \1,2,4	34,803
Office of the Inspector General	3,451	-7	3,444	0	3,444
Facilities Services					
Facilities Maintenance	73,877	-140	73,737	0	73,737
Facilities Operations, Security, and Support	205,190	-390	204,800	-15 \3	204,785
TOTAL, MISSION ENABLING	413,735	-786	412,949	153	413,102
GRAND TOTAL, SMITHSONIAN INSTITUTION	696,045	-1,323	694,722	0	694,722

Footnotes for FY 2017 Continuing Resolution:

- \1 Transfer of \$153,000 from Hirshhorn Museum and Sculpture Garden to Administration to fund budget support functions.
- \2 Transfer of \$15,000 from Administration to Smithsonian Exhibits for operational support.
- \3 Transfer of \$15,000 from Facilities Operations, Security, and Support to Smithsonian Archives to fund expenses for commercial records management and retrieval services.
- \4 Transfer of \$42,000 from Administration to Office of the Chief Information Officer to return balance of funding previously provided for an Information Technology (IT) position.