DIRECTORATE FOR SOCIAL, BEHAVIORAL, AND ECONOMIC SCIENCES (SBE)

$244,020,000
-$28,180,000/ -10.4%

SBE Funding

(Dollars in Millions)

	FY 2016 Actual	FY 2017 (TBD)	FY 2018 Request	Change Over FY 2016 Actual	
				Amount	Percent
Social and Economic Sciences (SES)	$98.12	-	$87.06	-$11.06	-11.3%
Behavioral and Cognitive Sciences (BCS)	95.01	-	85.32	-9.69	-10.2%
National Center for Science and Engineering Statistics (NCSES)	50.74	-	48.19	-2.55	-5.0%
SBE Office of Multidisciplinary Activities (SMA)	28.32	-	23.45	-4.87	-17.2%
Total	**$272.20**	**-**	**$244.02**	**-$28.18**	**-10.4%**

About SBE

The mission of the Directorate for Social, Behavioral, and Economic Sciences (SBE) is to promote the understanding of people and their lives by supporting research that reveals basic facets of human behavior and social institutions; to encourage research that addresses important societal questions and problems in the national interest; to work with other scientific disciplines to ensure that basic research and solutions to problems build upon the best disciplinary and multidisciplinary science; and to provide mission-critical statistical information about the Science and Engineering (S&E) enterprise in the United States and the world through the National Center for Science and Engineering Statistics (NCSES). SBE supports research across a diverse range of sciences that includes anthropology, archaeology, economics, geography, linguistics, neuroscience, political science, psychology, sociology, and statistics. In addition, the directorate combines these disciplinary sciences in interdisciplinary activities linking them to each other and to other science and engineering fields. SBE plays a role as a major partner across the agency due to the relevance of the social, behavioral, and economic sciences in NSF priority investments.

SBE seeks to inspire and invest in the next generation of scientists who will be able to capitalize on the growing availability of massive amounts of different types of data to advance knowledge about human behavior—for example, to use and combine data from surveys, administrative records, brain imaging, and biospecimen analysis as well as output from behavioral, environmental, and geographic sensors. As young scientists embark on their careers, they bring novel and far reaching ideas into play that can transform the future and seed the next harvest of discoveries in the social, behavioral, and economic sciences.

SBE's FY 2018 Budget Request is informed by four key priorities: (1) enhancing research investments that advance fundamental knowledge in the social, behavioral, and economic sciences; (2) supporting the directorate's ongoing interdisciplinary research and training activities; (3) participating in cross-directorate and NSF-wide priority activities in which a comprehensive understanding of human behavior—at the individual, group, and/or organizational levels, and across different scales of space and time—is central; and (4) supporting the work of NCSES as the Nation's leading provider of statistical data on the S&E enterprise. NCSES collects and analyzes data on research and development, the S&E workforce, the condition and progress of science, technology, engineering, and mathematics (STEM) education, and U.S. competitiveness in science, engineering, technology.

SBE's FY 2018 Budget Request includes continued investments that integrate the social, behavioral, and economic sciences into multi-directorate and multi-disciplinary activities that address issues of major

scientific, national, and societal importance. These priority investments include Understanding the Brain (UtB); the Secure And Trustworthy Cyberspace (SaTC) investment; Risk and Resilience via the Critical Resilient Interdependent Infrastructure Systems and Processes (CRISP) program; Innovations at the Nexus of Food, Energy, and Water Systems (INFEWS); and Harnessing the Data Revolution (HDR), which includes the SBE-managed Resource Implementations for Data Intensive Research in the Social Behavioral and Economic Sciences (RIDIR) program. SBE will also invest in the NSF-wide effort to increase participation of underrepresented groups in STEM fields, via the Inclusion across the Nation of Communities of Learners of Underrepresented Discoverers in Engineering and Science (NSF INCLUDES) program. SBE also continues to support, along with other NSF directorates, research and other activities that enhance the robustness and reliability of research.

Work at the Human-Technology Frontier: Shaping the Future (W-HTF)—SBE will lead the W-HTF Big Idea in partnership with the Directorates for Computer and Information Science and Engineering (CISE), Engineering (ENG), Education and Human Resources (EHR), and the Office of Integrative Activities (OIA). The W-HTF will engage the research communities in the sciences, engineering, and education to understand and explain how constantly evolving technologies are changing the world of work and the lives of workers and how people can in turn shape those technologies. As part of W-HTF, NSF will continue the visioning and planning activities that began in 2017 with workshops and research coordination networks (RCNs). Together with other directorates, SBE will continue to invest in the foundational basic research and engineering underlying W-HTF, as well as the development and capacity-building of the interdisciplinary communities that will help to advance this area.

SBE provides approximately 68 percent of the federal funding for basic research at U.S. academic institutions in the social, behavioral, and economic sciences.

Major Investments

SBE Major Investments
(Dollars in Millions)

Area of Investment	FY 2016 Actual	FY 2017 (TBD)	FY 2018 Request	Change Over FY 2016 Actual	
				Amount	Percent
CAREER	$9.50	-	$7.37	-$2.13	-22.4%
Harnessing the Data Revolution	-	-	3.25	3.25	N/A
I-Corps™	0.50	-	0.50	-	-
NSF INCLUDES	0.55	-	0.50	-0.05	-9.1%
INFEWS	4.50	-	2.50	-2.00	-44.4%
Risk and Resilience	4.90	-	2.90	-2.00	-40.8%
SaTC	4.00	-	4.00	-	-
Smart and Connected Communities	1.50	-	1.00	-0.50	-33.3%
Understanding the Brain	26.91	-	24.00	-2.91	-10.8%
BRAIN Initiative	*7.54*	*-*	*6.17*	*-1.37*	*-18.2%*

Major investments may have funding overlap and thus should not be summed.

All funding decreases/increases represent changes over the FY 2016 Actual.

- Faculty Early Career Development (CAREER): SBE supports CAREER (-$2.13 million to a total of $7.37 million) with awards to early-stage investigators in the social and behavioral sciences who exemplify the role of teacher-scholar through the integration of education and research.

- HDR ($3.25 million): SBE's HDR investment will encompass the directorate's existing data-related research and research infrastructure portfolio that is transitioning from the sunsetting CIF21 activity, including RIDIR; Critical Techniques, Technologies and Methodologies for Advancing Foundations and Applications of Big Data Science (BIGDATA); and Data Infrastructure Building Blocks (DIBBs). As part of HDR, SBE will also collaborate with other NSF directorates and offices on new approaches to community data governance and research data lifecycles in alignment with NSF's Public Access Plan.

- I-Corps™: In FY 2018, SBE will maintain its investment of $500,000 in continuing support of a multi-year effort to strengthen collaboration between SBE scientists in academia and the technological, entrepreneurial, and business communities and practitioners.

- NSF INCLUDES: SBE will invest (-$50,000 to a total of $500,000) in the NSF-wide effort to increase participation of underrepresented groups in STEM fields.

- INFEWS: SBE will continue support (-$2.0 million to a total of $2.50 million) for this NSF-wide initiative to explore the interactions among food, energy, and water (FEW) systems by supporting well-integrated interdisciplinary research efforts to understand, model, design, and manage these interconnected systems that include the social/behavioral processes (such as decision making by and governance of individuals, organizations, and institutions) and their interactions with the FEW systems' various physical, chemical, and biological processes.

- Risk and Resilience: SBE will provide continued investment (-$2.0 million, to a total of $2.90 million) in Critical Resilient Interdependent Infrastructure Systems and Processes (CRISP) to focus on the key social and behavioral research questions that are relevant for interdisciplinary perspectives on risk and resilience of social, designed, and natural systems.

- SaTC: SBE will sustain its investment of $4.0 million in SaTC to support research that seeks to understand how individuals, groups, organizations, and others make decisions in the realm of cybersecurity.

- Smart and Connected Communities (S&CC): SBE will continue to fund (-$500,000, to a total of $1.0 million) the S&CC activity. In partnership with CISE and ENG, SBE will support research that addresses organizational, social, psychological, political, geographic, and economic issues associated with rapidly developing and evolving smart city ecosystems.

- UtB: SBE will continue (-$2.91 million, to a total of $24.0 million) support of an integrative and comprehensive understanding of the brain and its function in context and in action. Investments will continue in cognitive science and neuroscience, including the Brain Research through Advancing Innovative Neurotechnologies (BRAIN) Initiative, as well as in cognitive science at the interface of computational and engineering science and education research.

SBE Funding for Centers Programs and Facilities

SBE Funding for Centers Programs

(Dollars in Millions)

	FY 2016 Actual	FY 2017 (TBD)	FY 2018 Request	Change Over FY 2016 Actual	
				Amount	Percent
Total, Centers Programs	**$0.13**	**-**	**-**	**-$0.13**	**-100.0%**
Nanoscale Science & Engineering Centers (SES)[1]	0.13	-	-	-0.13	-100.0%

[1] The Nanoscale Centers program will sunset as planned in FY 2017.

For detailed information on individual centers programs, see the NSF-Wide Investments chapter.

Funding for the Nanoscale Science & Engineering Centers (NSEC) ends in FY 2017 as two centers focused on the environmental implications of nanotechnology receive their final year of planned NSF support.

SBE Funding for Facilities

(Dollars in Millions)

	FY 2016 Actual	FY 2017 (TBD)	FY 2018 Request	Change Over FY 2016 Actual	
				Amount	Percent
Total, Facilities	**$0.40**	**-**	**$0.40**	**-**	**-**
National Nanotechnology Coordinated Infrastructure (SES)	0.40	-	0.40	-	-

SBE continues support for research infrastructure through investment in the National Nanotechnology Coordinated Infrastructure (NNCI), which is unchanged from the FY 2016 level of $400,000.

Funding Profile

SBE supports investments in core research, education, and research infrastructure. SBE will continue to fund research in areas such as UtB, INFEWS, Risk and Resilience, and cybersecurity research, while prioritizing its disciplinary and interdisciplinary investigator-led core research areas.

In FY 2018, the number of research grant proposals is projected to increase slightly relative to FY 2016. As shown in the table below, SBE expects to make approximately 900 new awards. The average annualized award size and award duration are estimated to remain constant with FY 2016.

FY 2018 funding for facilities accounts for less than one percent of SBE's Request and includes support for NNCI.

SBE Funding Profile

	FY 2016 Actual Estimate	FY 2017 (TBD)	FY 2018 Estimate
Statistics for Competitive Awards:			
Number of Proposals	4,179	-	4,200
Number of New Awards	993	-	900
Funding Rate	24%	-	21%
Statistics for Research Grants:			
Number of Research Grant Proposals	2,980	-	3,000
Number of Research Grants	638	-	600
Funding Rate	21%	-	20%
Median Annualized Award Size	$116,611	-	$110,000
Average Annualized Award Size	$135,357	-	$135,000
Average Award Duration, in years	2.6	-	2.6

Program Monitoring and Evaluation

External Program Evaluations and Studies:
- In FY 2015, SES awarded funding to support a 15-month examination by a National Academies of Sciences, Engineering, and Medicine (NAS) standing committee of the three major ongoing social science surveys: American National Election Studies (ANES), General Social Survey (GSS), and Panel Study of Income Dynamics (PSID). The objectives are to inform NSF's future efforts of the ANES, GSS, and PSID that enhance their importance and cost-effectiveness. This is especially critical as these three surveys represent considerable infrastructure opportunities and costs for the SBE sciences. The NAS standing committee considered the history of the surveys and the kinds of users and uses they have supported. The Committee's report provided insights about opportunities for collaboration and interoperability among the surveys, with foci on innovation, data collection and data dissemination.
- NCSES convened two review activities under the auspices of the NAS Division of Behavioral and Social Sciences and Education Committee on National Statistics (CNSTAT) to conduct a comprehensive review of the Center's approach to measuring the U.S. S&E enterprise. The first, continuing through FY 2017, examines current approaches to measuring the S&E workforce and will provide findings and recommendations for improving data and data collection methods. NCSES's expectation is that the information included in this report will provide the details, direction, and guidance necessary to develop a more robust and flexible framework for measuring the S&E workforce for the next decade and beyond. The second workshop, convened in FY 2016 on innovation activities and innovation measurement, will inform the refinement and prioritization of NCSES work in innovation planning in FY 2017 and beyond.[1]

Workshops and Reports:
- In order to develop a resource for policy makers in their decision-making and for NSF in its strategic planning process, NSF has requested that NAS convene a committee of experts to produce a report that describes the role of social, behavioral, and economic sciences in helping to address national priorities and to inform decisions about investments at NSF. The committee will be comprised of experts from multiple fields of sciences as well as from business and industry. A prepublication version of the report is expected to be released to the public in early summer 2017; the final report is to be published in late summer 2017.

---

[1] www.nap.edu/catalog/23640/advancing-concepts-and-models-for-measuring-innovation-proceedings-of-a

Committees of Visitors (COV):
- In 2016 a COV reviewed SES. COV reports and SBE responses were presented to and approved by the SBE Advisory Committee in October, 2016. The SES COV provided input regarding the division's programs and the scientific and management aspects related to the administration of the merit review process, expanding the reviewer pool, best practices for rotating program officers, increasing grant proposals from under-represented institutions, and continuing investments to improve data availability and access with a goal of SES's continued support for NSF efforts to foster robust and reliable science.

The Performance chapter provides details regarding the periodic reviews of programs and portfolios of programs by external Committees of Visitors and directorate advisory committees. See this chapter for additional information.

Number of People Involved in SBE Activities

	FY 2016 Actual Estimate	FY 2017 (TBD)	FY 2018 Estimate
Senior Researchers	1,781	-	1,600
Other Professionals	464	-	400
Postdoctoral Associates	198	-	200
Graduate Students	1,554	-	1,400
Undergraduate Students	998	-	900
K-12 Teachers	-	-	-
K-12 Students	-	-	-
Total Number of People	4,995	-	4,500

DIVISION OF SOCIAL AND ECONOMIC SCIENCES (SES) $87,060,000
-$11,060,000 / -11.3%

SES Funding

(Dollars in Millions)

	FY 2016 Actual	FY 2017 (TBD)	FY 2018 Request	Change Over FY 2016 Actual Amount	Percent
Total	**$98.12**	**-**	**$87.06**	**-$11.06**	**-11.3%**
Research	**87.02**	**-**	**79.67**	**-7.35**	**-8.4%**
CAREER	3.32	-	3.74	0.42	12.6%
Centers Funding (total)	0.13	-	-	-0.13	-100.0%
Nanoscale Science & Engineering Centers	0.13	-	-	-0.13	-100.0%
Education	**2.84**	**-**	**0.90**	**-1.94**	**-68.3%**
Infrastructure	**8.27**	**-**	**6.49**	**-1.78**	**-21.5%**
NNCI	0.40	-	0.40	-	-
Research Resources	7.87	-	6.09	-1.78	-22.6%

SES supports research and related activities that improve understanding of economic, social, and political institutions and how individuals and organizations behave within them. SES funds activities investigating risk assessment and decision-making by individuals and groups; the nature and development of science and technology and their impact on society; methods and statistics applicable across the social, economic, and behavioral sciences; and broadening participation in the social, behavioral, and economic sciences. Discipline-based programs include economics, political science, and sociology, while interdisciplinary programs support research in fields such as decision-making and risk management; law and social sciences; methods, measurement, and statistics; science of organizations; and science, technology, and society. In many of its programs, SES is the major, if not the only, source of federal funding for fundamental research, making important investments in the data resources and methodological advances that produce transformative research. In addition, SES research contributes to better understanding of issues related to national security, terrorism, and economic, social, and behavioral well-being.

SES's FY 2018 Budget Request reflects its strong contribution to the unifying themes in the FY 2018 NSF Budget Request by supporting several NSF-wide investments that cross multiple scientific disciplines. This includes funding for CRISP as part of the Risk and Resilience investment, which focuses on the key social and behavioral research questions that are relevant for understanding risk and resilience of both designed and natural systems and of individuals interacting within and affected by these systems; and continued investments in SaTC by supporting social, behavioral, and economic sciences research that seeks to understand how individuals, groups, organizations, and others make decisions in the realm of cybersecurity. SES contributes to the NSF-wide INFEWS program as well as the Smart and Connected Communities activity, both initiated in FY 2016. SES will maintain its commitment to existing programs and continue support for surveys that provide unique insights into U.S. social, economic, and political life while providing funding for new research that has the potential to transform the social and economic sciences and inform policy development. SES funds the CAREER program. SES will continue efforts to build the scientific foundation and research evidence base needed for future programmatic efforts in broadening the participation of women, early career investigators, underrepresented minorities, and people with disabilities in S&E via investments in the Science of Broadening Participation (SBP) and the NSF INCLUDES programs. In FY 2018, SES will maintain investment in the National Nanotechnology Coordinated Infrastructure.

In general, 70 percent of the SES portfolio is available for new research grants and 30 percent is available for continuing grants.

FY 2018 Summary

All funding decreases/increases represent change over the FY 2016 Actual.

Research
- SES will support Risk and Resilience through CRISP, which focuses on the key social and behavioral research questions that are relevant for interdisciplinary perspectives on risk and resilience of social, designed, and natural systems. SES support for this activity in FY 2018 is $2.40 million.
- CAREER funding in FY 2017 totals $3.74 million, an increase of $420,000. This investment is consistent with SES's emphasis on supporting early career researchers.
- Continued investment of $2.0 million for SaTC will support research that seeks to understand how individuals, groups, organizations, and others make decisions in the realm of cybersecurity.
- Funding for SES's SBP investment is maintained at the level of $750,000. This investment supports efforts to build the scientific foundation and research evidence base needed for future broadening participation efforts. Investing in research that informs the science of broadening participation spans the SBE sciences and engages all of NSF.
- SES will invest $1.40 million in INFEWS, which will enhance capacity to explore the interactions among water, food, and energy systems.
- SES will invest $500,000 in S&CC. In partnership with ENG, GEO, and CISE, and in cooperation with BCS, SES will support research that addresses organizational, social, psychological, political, and economic issues associated with rapidly developing and evolving smart city ecosystems.

Education
- SES will maintain its investment in the NSF-wide effort to increase participation of underrepresented groups in STEM fields through the NSF INCLUDES program at $250,000.
- Support is provided for the ADVANCE program (-$450,000, to a total of $150,000) and Research Experiences for Undergraduates (REU) Supplements (+$200,000, to a total of $500,000), respectively.

Infrastructure
- SES will maintain its investment of $400,000 in NNCI.
- SES research resources activities are funded for a total of $6.09 million (-$1.78 million). Funding supports multi-million-dollar survey awards such as the American National Election Studies (ANES), the Panel Study of Income Dynamics (PSID), and the General Social Survey (GSS). These surveys are national resources for research, teaching, and decision-making, and have become models for similar undertakings in other fields. In addition, research resources funding includes SES's support for the RIDIR activity, which seeks to develop user-friendly, large-scale, next-generation data resources and relevant analytical techniques to advance fundamental SBE research.

DIVISION OF BEHAVIORAL AND COGNITIVE SCIENCES (BCS)

$85,320,000
-$9,690,000 / -10.2%

BCS Funding

(Dollars in Millions)

	FY 2016 Actual	FY 2017 (TBD)	FY 2018 Request	Change Over FY 2016 Actual	
				Amount	Percent
Total	**$95.01**	**-**	**$85.32**	**-$9.69**	**-10.2%**
Research	**90.58**	**-**	**83.83**	**-6.75**	**-7.5%**
CAREER	6.10	-	3.63	-2.47	-40.5%
Education	**2.62**	**-**	**0.79**	**-1.83**	**-69.8%**
Infrastructure	**1.82**	**-**	**0.70**	**-1.12**	**-61.4%**
Research Resources	1.58	-	0.70	-0.88	-55.7%

BCS supports research and related activities that advance fundamental understanding in the behavioral, cognitive, anthropological, neuroscience, and geographic sciences. Strong core programs are complemented by active involvement in competitions that support collaborative and cross-disciplinary projects that increase understanding of mind, brain, culture, and society. The division seeks to advance scientific knowledge and methods focusing on human cognition and behavior, including perception, thought processes, language, learning, and social behavior across neural, individual, family, and group levels. BCS supports activities focusing on human variation in society, culture, and biology, and how these variations and related patterns develop and change across time and space. The division aims to increase basic understanding of geographic distributions and relationships, as well as the capabilities to explore them, with an emphasis on interactions among human and natural systems. BCS research is helping to prepare for and mitigate the effects of natural and human-initiated disasters, predict and address how people respond to stressors, improve methods for effective learning, enhance the quality of social interaction, and anticipate and respond to critical issues in areas such as national security, terrorism, and global change.

As a basic aspect of the leadership provided by BCS in fundamental human neuroscience research and the biological understanding of mind and behavior including genetics research, in FY 2018, BCS will continue to lead in the UtB activity while maintaining its robust investment in this research area. BCS will also be a partner in two interdisciplinary activities established in FY 2016: the NSF-wide INFEWS activity and the emerging, multi-directorate S&CC research area. BCS will invest in the CAREER program, emphasizing the importance of developing scientific intellectual capital for developing leadership and innovation in the U.S.; and in CRISP as part of the Risk and Resilience portfolio. BCS will support behavioral, cognitive, anthropological, and geographic research that deepens understanding of basic scientific questions that inform critical issues facing the Nation, such as threats to national security and terrorism, pandemics, sustainability, and forensic science. In all activities, BCS continues to support an interdisciplinary approach to science, providing support for research on the complex ways people think, adapt, and interact with social, natural, and built environments. BCS support for SaTC will enable research about cognitive and behavioral aspects of threats to and enhancements in cybersecurity. BCS will continue efforts to broaden the participation of women, underrepresented minorities, young investigators, and people with disabilities in science and engineering via its existing disciplinary programs, SBP, and NSF INCLUDES. BCS will continue to fund basic research that advances understanding of cognition, emotion, social interaction, and behavior through various research mechanisms.

In general, 80 percent of the BCS portfolio is available for new research grants and 20 percent is available for continuing grants.

FY 2018 Summary

All funding decreases/increases represent change over the FY 2016 Actual.

<u>**Research**</u>
- Support of $17.60 million for UtB will further efforts to gain an integrative and comprehensive understanding of the brain and its function in context and in action.
- BCS will provide $500,000, for Risk and Resilience through CRISP, which focuses on the key social and behavioral research questions that are relevant for interdisciplinary perspectives on risk and resilience of social, designed, and natural systems.
- CAREER funding in FY 2018 totals $3.63 million, a decrease of $2.47 million. This investment is consistent with BCS's emphasis on supporting early career researchers.
- Continued investment of $1.20 million is provided for SaTC to support research that seeks to understand how individuals, groups, organizations, and others make decisions in the realm of cybersecurity.
- BCS will make an investment of $1.10 million in INFEWS. This investment will enhance capacity to explore the interactions among water, food, and energy systems.
- BCS will fund an investment of $500,000 in S&CC. In partnership with ENG, GEO and CISE, and in cooperation with SES, BCS will support research that addresses organizational, social, psychological, political, geographic, and economic issues associated with rapidly developing and evolving smart city ecosystems.
- Funding for BCS's Science of Broadening Participation investment is maintained at the level of $750,000. This investment supports efforts to build the scientific foundation and research evidence base needed for future broadening participation efforts.

<u>**Education**</u>
- BCS support for the ADVANCE program is $100,000 (-$300,000).
- REU supplements funding decreases to $440,000 (-$500,000).
- BCS will invest $250,000 (-$500,000) in the NSF-wide effort to increase participation of underrepresented groups in STEM fields through the NSF INCLUDES program.

<u>**Infrastructure**</u>
- FY 2018 support for infrastructure activities is continued at $700,000 (-$1.12 million). Funding partially supports BCS's contribution to the RIDIR competition, which seeks to develop user-friendly, large-scale, next- generation data resources and relevant analytical techniques to advance fundamental SBE research.

NATIONAL CENTER FOR SCIENCE AND ENGINEERING STATISTICS (NCSES)

$48,190,000
-$2,550,000/ -5.0%

NCSES Funding
(Dollars in Millions)

	FY 2016 Actual	FY 2017 (TBD)	FY 2018 Request	Change Over FY 2016 Actual	
				Amount	Percent
Total	**$50.74**	**-**	**$48.19**	**-$2.55**	**-5.0%**
Infrastructure	**50.74**	**-**	**48.19**	**-2.55**	**-5.0%**

NCSES was established within the National Science Foundation by Section 505 of the America COMPETES Reauthorization Act of 2010 (P.L. 111-358). The Act provides NCSES with the legislative mission to "…serve as the central federal clearinghouse for the collection, interpretation, analysis, and dissemination of objective data on science, engineering, technology, and research and development." NCSES is called on to support the collection of statistical data on research and development trends, the science and engineering workforce, U.S. competitiveness, and the condition and progress of the Nation's STEM education; to support research using the data it collects and on methodologies in areas related to the work of the Center; and to support the education and training of researchers in the use of its own and other large-scale, nationally representative data sets.

As one of the thirteen principal federal statistical agencies, NCSES has broad responsibility for statistics regarding the S&E enterprise. NCSES designs, supports, and directs a coordinated collection of periodic national surveys and performs a variety of other data collections and research, providing policymakers, researchers, and other decision-makers with high quality data and analysis on R&D, innovation, the education of scientists and engineers, and the science and engineering workforce. The work of NCSES involves survey development, methodological and quality improvement efforts, data collection, analysis, information compilation, dissemination, web access, and customer service to meet the statistical and analytical needs of a diverse user community. It prepares two congressionally mandated biennial reports — *Science and Engineering Indicators* and *Women, Minorities, and Persons with Disabilities in Science and Engineering*. In addition, the data collected by NCSES serve as an important resource for researchers in SBE's Science of Science and Innovation Policy (SciSIP) program.

In FY 2018, NCSES will maintain its core programmatic data collection and publication activities while striving to preserve recent gains in data quality and coverage. To operate within estimated funding levels, NCSES will apply early results from its ongoing research in the new area of adaptive design methods that promises to reduce data collection effort while maintaining quality.

FY 2018 Summary

All funding decreases/increases represent change over the FY 2016 Actual.

Infrastructure

In FY 2018, support for NCSES infrastructure activities total $48.19 million, a decrease of $2.55 million. Funding at this level supports NCSES's core data collection and analytic activities.
- Continued support for the National Survey of College Graduates and the Survey of Doctorate Recipients coupled with the accelerated implementation of advanced data collection techniques to operate within the FY 2018 Request funding level.

- In FY 2018, the purchase of external, open market data sets will occur at a reduced level, and current efforts to meet modern functionality and usability standards of online data systems and tools will be decreased.

SBE OFFICE OF MULTIDISCIPLINARY ACTIVITIES (SMA) **$23,450,000**
-$4,870,000 / -17.2%

SMA Funding
(Dollars in Millions)

	FY 2016 Actual	FY 2017 (TBD)	FY 2018 Request	Change Over FY 2016 Actual	
				Amount	Percent
Total	**$28.31**	**-**	**$23.45**	**-$4.86**	**-17.2%**
Research	**18.82**	**-**	**15.75**	**-3.07**	**-16.3%**
Education	**7.13**	**-**	**5.95**	**-1.18**	**-16.6%**
Infrastructure	**2.36**	**-**	**1.75**	**-0.61**	**-25.8%**
Research Resources	2.36	-	1.75	-0.61	-25.8%

SMA provides a focal point for programmatic activities that cut across SBE and NSF disciplinary boundaries. SMA houses three programs: Science of Science and Innovation Policy (SciSIP), REU Sites, and SBE Postdoctoral Research Fellowships (SPRF). SMA will play a critical role in several crosscutting NSF investments in FY 2018: UtB; cybersecurity, via SaTC; innovation, via I-Corps™; interdisciplinary research and training, via activities such as the SBE Postdoctoral Research Fellowship-Fundamental Research (SPRF-FR) track; and the science of learning core program. Co-funding with other divisions in SBE and with other directorates is typical for SMA. While all SBE divisions pursue interdisciplinary work, SMA assists with seeding multidisciplinary activities for the future, such as SBE's Robust and Reliable Science funding activity initiated with a Dear Colleague Letter from SMA. All areas of SBE sciences are represented in the SMA portfolio.

In general, 70 percent of the SMA portfolio is available for new research grants and 30 percent is available for continuing grants.

FY 2018 Summary

All funding decreases/increases represent change over the FY 2016 Actual.

Research
- Support for UtB is maintained at $6.40 million in order to enhance efforts to gain an integrative and comprehensive understanding of the brain and its function in context and in action.
- Investment in I-Corps™ is maintained at $500,000.
- Funding for the SciSIP disciplinary research activities is $5.0 million, a decrease of $1.08 million.
- With a continued investment of $800,000, SMA will partner with CISE in devoting resources to the SaTC initiative through support for research that seeks to understand how individuals, groups, organizations, and others make decisions in the realm of cybersecurity. This investment will support research at the interstices of the economic and computer sciences to achieve secure practices through market mechanisms and behavioral incentives.

Education
Support for education activities in SMA will include:
- SMA investments in the REU Sites (-$730,000, to a total of $2.89 million) and REU supplement ($60,000) programs are maintained. Funding will support research experiences for students by providing appropriate and valuable educational experiences for undergraduate students through their participation in research.

- The SBE Postdoctoral Research Fellowship (SPRF) has two tracks: broadening participation (SPRF-BP) and fundamental research (SPRF-FR). FY 2018 Request funding for these programs is unchanged at $1.50 million for each activity.

Infrastructure
- A reduction of $610,000 in Research Resources is primarily associated with the sunsetting of SMA-supported CIF21 activities in FY 2017, partially offset with increased FY 2016 actual support for other infrastructure investments.