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

$288,770,000
+$16,570,000 / 6.1%

SBE Funding

(Dollars in Millions)

	FY 2015 Actual	FY 2016 Estimate	FY 2017 Request	Change Over FY 2016 Estimate Amount	Change Over FY 2016 Estimate Percent
Social and Economic Sciences (SES)	$98.36	$98.18	$105.42	$7.24	7.4%
Behavioral and Cognitive Sciences (BCS)	97.03	95.06	102.08	7.02	7.4%
National Center for Science and Engineering Statistics (NCSES)	50.94	50.76	51.76	1.00	2.0%
SBE Office of Multidisciplinary Activities (SMA)	29.86	28.20	29.51	1.31	4.6%
Total, SBE	**$276.19**	**$272.20**	**$288.77**	**$16.57**	**6.1%**

Totals may not add due to rounding.

The FY 2017 Budget Request for SBE is $288.77 million, of which $272.41 million is discretionary funding and $16.36 million is new mandatory funding. The major focus of the mandatory funding is support for core activities, with special emphasis on early career investigators. SBE seeks to inspire and invest in the next generation of scientists who will be able to capitalize on the availability of massive amounts of different types of data – for example, data that combine surveys, administrative records, brain imaging, and output from behavioral and geographic sensors – to advance knowledge about human behavior. As young scientists embark on their careers, they bring novel and far reaching ideas into play that can transform the future. They will seed the next harvest of discoveries in the social, behavioral, and economic sciences that support the Nation's economy, security, and global leadership. Examples of SBE activities in these areas include:

- Improve the overall success rate of high-quality research proposals, especially those submitted by early career investigators, by strengthening funding for core disciplinary programs;
- Support for pilot workshops and institutes on proposal development, robust and reliable research designs, data-sharing approaches, and analytic techniques to equip early career investigators with the skills to conduct and garner funding for research in the era of "Big Data" and new approaches to human neuroscience research; and
- Support for research enhancing the robustness and reliability of science.

About SBE

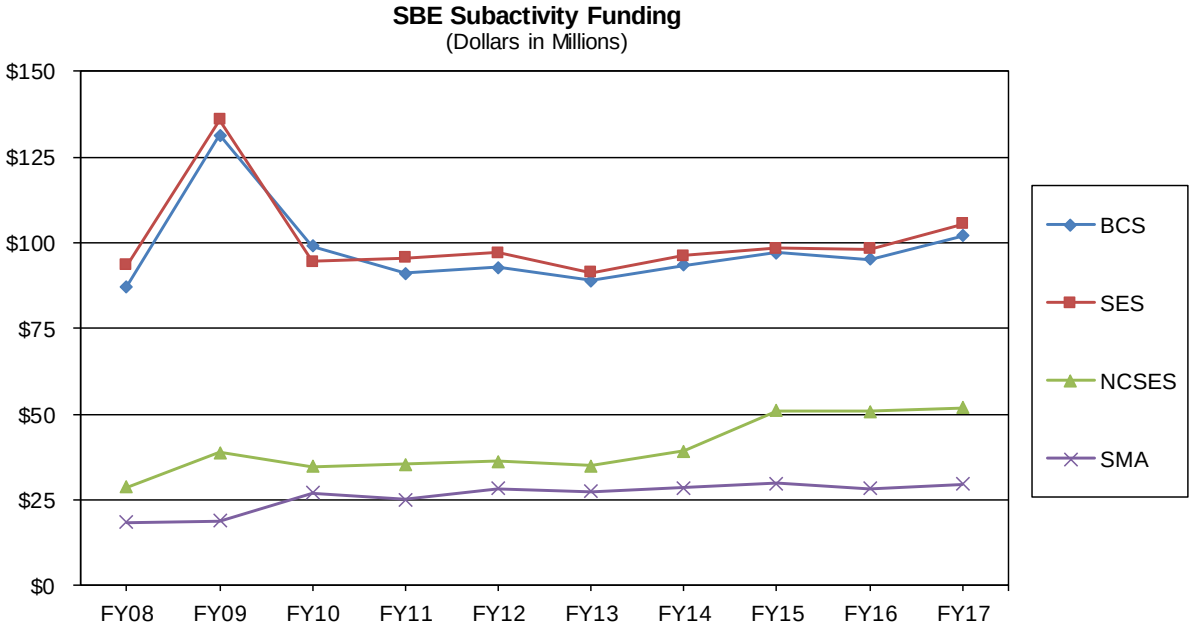
SBE's mission is to promote the understanding of people and their lives by supporting research that reveals basic facets of human behavior and social institutions; encouraging research that addresses important societal questions and problems; working with other scientific disciplines to ensure that basic research and solutions to problems build upon the best disciplinary and multidisciplinary science; and providing mission-critical statistical information about science and engineering (S&E) in the U.S. 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. SBE combines these sciences in interdisciplinary activities linking these fields to each other and to other science and engineering fields. SBE is a significant partner in cross-directorate programs that connect the social, behavioral, and economic sciences to priority investments across the agency. SBE provides approximately 66 percent of the federal funding for basic research at academic institutions in the social, behavioral, and economic sciences.

SBE's FY 2017 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, 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, and research and development.

SBE's Budget Request for FY 2017 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); Cyberinfrastructure for 21st Century Science, Engineering, and Education (CIF21); the Comprehensive National Cybersecurity Initiative (CNCI) via the Secure And Trustworthy Cyberspace (SaTC) investment; Risk and Resilience via the Critical Resilient Interdependent Infrastructure Systems and Processes (CRISP) program; and Innovations at the Nexus of Food, Energy, and Water Systems (INFEWS). 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.

The FY 2017 Budget Request for SBE also increases funding in core disciplinary programs in order to bolster the success rate of highly meritorious proposals received by SBE that would otherwise be declined; supports research focused on robust and reliable science; and broadens participation from underrepresented groups and geographical regions.



FY 2009 reflects both the FY 2009 omnibus appropriation and funding provided through the American Recovery and Reinvestment Act of 2009 (P.L. 111-5).

FY 2017 Summary by Division

- SES's FY 2017 Request reflects its strong contribution to the unifying themes in the FY 2017 NSF Budget Request by supporting several NSF-wide investments that cross multiple scientific disciplines. This includes support for CIF21 to address issues related to data infrastructure for the social, behavioral, and economic sciences; 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 will increase funding for the Faculty Early Career Development (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 2017, SES will maintain investment in the National Nanotechnology Coordinated Infrastructure (NNCI), the successor to the National Nanotechnology Infrastructure Network (NNIN).

- As a critical aspect of the leadership provided by BCS in basic human neuroscience research, in FY 2017, BCS will continue to be a 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 Smart and Connected Communities research area. BCS will invest in CAREER, emphasizing the importance of developing scientific intellectual capital for the U.S.; in CRISP as part of the Risk and Resilience portfolio; in CIF21; and continue its investment in the science of learning. BCS will expand support for behavioral, cognitive, anthropological, and geographic research that informs and deepens understanding of basic psychological and behavioral scientific questions that can inform critical issues facing the Nation, such as terrorism, pandemics, sustainability, and forensic science. In its ongoing programs, BCS will operate in an interdisciplinary context, 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 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 and behavior through various research mechanisms.

- In FY 2017, NCSES will maintain its core programmatic data collection and publication activities. NCSES will invest in activities that support: (1) development of enhanced data access tools, techniques, and visualizations including integration of the Scientists and Engineers Statistical Data System (SESTAT) and WebCASPAR, into a combined database and interface to provide easy access to a large body of statistical data resources for S&E at U.S. academic institutions; (2) new data collection techniques building on administrative data and other "big data" sources; and (3) questionnaire redesign and survey improvements to support improved data on measures of innovation and educational and career pathways for scientists and engineers. Additionally, NCSES will continue to pursue significant and strategic targeted improvements – initiated in FY 2015 – in its statistical and analytic programs. NCSES will continue to develop and test new measures from the Survey of

Doctorate Recipients (SDR) that address data gaps related to understanding the relationship between federal support for graduate education and student outcomes such as employment. NCSES will work to close a growing gap in its national estimates for research and development by fielding a survey of research activities in nonprofit organizations. Responding to recommendations in the Committee on National Statistics report, *Capturing Change in Science, Technology and Innovation*,[1] NCSES will develop a conceptual framework for and test potential indicators of innovation. Throughout, NCSES will work to increase international comparability, particularly on the S&E workforce and innovation metrics.

- SMA provides a focal point for programmatic activities that cut across NSF's and SBE's disciplinary boundaries. SMA will maintain investment in UtB and CIF21. SMA will continue to play an important role in the expansion of interdisciplinary training and broadening participation with continued support and management of the SBE Postdoctoral Research Fellowships (SPRF) program. Support for enhancing the research experience for students will continue via sustained investments in the Research Experiences for Undergraduates (REU) Sites and Supplements programs. SMA will continue support of interdisciplinary activities associated with the Science of Science and Innovation Policy (SciSIP) program, as well as efforts to make NSF-funded research available to the public through the Public Access Initiative. SMA will continue to participate in the NSF Innovation Corps (I-Corps™), and SaTC programs.

Major Investments

SBE Major Investments
(Dollars in Millions)

Area of Investment	FY 2015 Actual	FY 2016 Estimate	FY 2017 Request	Change Over FY 2016 Estimate Amount	Change Over FY 2016 Estimate Percent
ADVANCE	$1.00	$1.00	$1.00	-	-
CAREER	8.52	7.27	7.37	0.10	1.4%
CIF21	6.57	6.82	6.82	-	-
NSF I-Corps™	0.50	0.50	0.50	-	-
NSF INCLUDES	-	0.50	0.50	-	-
INFEWS	-	4.50	4.50	-	-
NRT[1]	2.52	2.59	0.64	-1.95	-75.3%
Public Access	0.82	1.75	1.75	-	-
Risk and Resilience	1.84	4.90	4.90	-	-
SaTC	4.00	4.00	4.00	-	-
SciSIP	11.17	11.05	11.05	-	-
SEES	3.00	-	-	-	N/A
Smart and Connected Communities	-	1.50	1.50	-	-
Understanding the Brain	22.97	25.00	25.00	-	-
BRAIN Initiative	*4.53*	*7.17*	*7.17*	-	-

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

[1] Outyear commitments for Integrative Graduate Education and Research Traineeship (IGERT) are included in the NRT line and are $420,000 in FY 2015, $2.09 million in FY 2016, and $0 in FY 2017.

[1] www.nap.edu/catalog/18606/capturing-change-in-science-technology-and-innovation-improving-indicators-to

- ADVANCE ($1.0 million): SBE will continue to participate in the NSF-wide program ADVANCE as part of its ongoing commitment to broaden participation to build strategies and models to increase the participation, retention, and advancement of women in all STEM academic careers.

- CAREER: SBE supports CAREER (+$100,000, 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.

- CIF21: Funding of $6.82 million will continue to support development of user-friendly, large-scale, next-generation data resources and relevant analytical techniques to advance fundamental SBE research through increased investment in the Resource Implementations for Data Intensive Research in the Social, Behavioral, and Economic Sciences (RIDIR) program. SBE will support investments in data science and infrastructure, in collaboration with the Division of Advanced Cyberinfrastructure (ACI) within the Directorate for Computer and Information Sciences and Engineering (CISE), to address critically important issues related to reproducibility and data access.

- I-Corps™: In FY 2017, 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 $500,000 in an NSF-wide effort to increase participation of underrepresented groups in STEM fields.

- INFEWS: SBE will continue its investment of $4.50 million in this NSF-wide initiative to enhance capacity 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.

- NSF Research Traineeship (NRT): In FY 2017, SBE will increase participation (+$140,000, to a total of $640,000) in the NSF-wide NRT program, which is designed to encourage the development and implementation of bold, new, and potentially transformative models for STEM graduate education training. NRT is the successor to the Integrative Education and Research Traineeship (IGERT) program. The decrease in the above table is attributable to the final IGERT continuing grant increments in FY 2016.

- Public Access Initiative: Continued investments of $1.75 million will further NSF's efforts to make the results of the NSF-funded research available to the public.

- Risk and Resilience: SBE will continue its $4.90 million investment in 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 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.

- Science of Science and Innovation Policy (SciSIP): SciSIP funding is held constant with the FY 2016 Estimate at $11.05 million. SciSIP will continue to support research and data collections related to innovation and R&D spending.

- Smart and Connected Communities: SBE will continue its investment of $1.50 million, in the Smart and Connected Communities activity. In partnership with CISE and the Directorate for Engineering (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's investments in cognitive science and neuroscience and the BRAIN Initiative will remain $25.0 million, enhancing efforts to gain an integrative and comprehensive understanding of the brain and its function in context and in action. SBE will continue support of research 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 2015 Actual	FY 2016 Estimate	FY 2017 Request	Change Over FY 2016 Estimate Amount	Change Over FY 2016 Estimate Percent
Total, Centers Programs	**$6.89**	**$0.13**	**$0.13**	**-**	**-**
Nanoscale Science & Engineering Centers (SES)	0.90	0.13	0.13	-	-
Science of Learning Centers (BCS, SMA)	5.99	-	-	-	N/A

Totals may not add due to rounding.

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

- Funding for the Nanoscale Science & Engineering Centers (NSEC) will continue at $130,000 in FY 2017 in order to maintain continuing grant increments for two centers focused on the environmental implications of nanotechnology.

SBE Funding for Facilities

(Dollars in Millions)

	FY 2015 Actual	FY 2016 Estimate	FY 2017 Request	Change Over FY 2016 Estimate Amount	Change Over FY 2016 Estimate Percent
Total, Facilities	**$0.40**	**$0.40**	**$0.40**	**-**	**-**
National Nanotechnology Coordinated Infrastructure (NNCI) (SES)	0.40	0.40	0.40	-	-

Totals may not add due to rounding.

For detailed information on individual facilities, please see the Facilities chapter.

- SBE continues support for research infrastructure through investment in the National Nanotechnology Coordinated Infrastructure (NNCI) at the FY 2016 Estimate level of $400,000.

Summary and Funding Profile

SBE supports investments in core research, education, and research infrastructure.

In FY 2017, the number of research grant proposals is projected to remain unchanged from the prior year and SBE expects to award approximately 720 research grants. The average annualized award size and award duration are estimated to remain constant with FY 2016.

In FY 2017, funding for centers accounts for less than one percent of SBE's Request. Center funding only includes support for the Nanoscale Science and Engineering Centers. FY 2017 funding for facilities accounts for less than one percent of SBE's Request and includes support for NNCI.

SBE Funding Profile

	FY 2015 Actual Estimate	FY 2016 Estimate	FY 2017 Estimate
Statistics for Competitive Awards:			
Number of Proposals	4,284	4,300	4,300
Number of New Awards	1,042	1,000	1,120
Funding Rate	24%	23%	26%
Statistics for Research Grants:			
Number of Research Grant Proposals	2,991	3,000	3,000
Number of Research Grants	640	640	720
Funding Rate	21%	21%	24%
Median Annualized Award Size	$111,100	$111,000	$111,000
Average Annualized Award Size	$137,400	$137,000	$137,000
Average Award Duration, in years	2.6	2.6	2.6

Program Monitoring and Evaluation

External Program Evaluations and Studies:

Workshops and Reports

- The National Center for Science and Education Statistics (NCSES), by the end of FY 2016, will have convened two review activities under the auspices of the National Research Council's Committee on National Statistics (CNSTAT) to conduct a comprehensive review of its approach to measuring the U.S. Science and Engineering (S&E) enterprise. The first, continuing through FY 2017, examines current approaches to measuring the S&E workforce and provides 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, to be convened in FY 2016 on innovation activities and innovation measurement, will continue to inform the refinement and prioritization of NCSES work in innovation planning in FY 2017.
- In response to the recommendations of the SBE Advisory Committee, SES awarded funding to support the convening of a 15-month National Academies of Sciences, Engineering, and Medicine (NAS) standing committee to examine the most promising trajectories for the three major ongoing social science surveys: American National Election Studies (ANES), General Social Survey (GSS), and Panel Study of Income Dynamics (PSID). The objective is to inform NSF's FY 2017 efforts to develop options for the future of the ANES, GSS, and PSID that improve on their relevance and cost-effectiveness through assessments of the history of the surveys and the kinds of users and uses they have supported. Recommendations will provide insights about interoperability among the surveys, which represent considerable infrastructure for the SBE sciences.

- The SBE Advisory Committee Subcommittee on Replicability in Science completed and issued its report, *Social, Behavioral, and Economic Sciences Perspectives on Robust and Reliable Science*,[2] in FY 2015. The report, in conjunction with a follow-up set of specific research recommendations, will inform potential future SBE activities in this area.
- The Science of Science and Innovation Policy (SciSIP) program issued a Dear Colleague Letter (DCL) for *Agenda Setting Workshops in 2015 for the SciSIP Program*[3] to facilitate the generation and execution of a new roadmap for the Science of Science Policy community and a strategic plan for the SciSIP program. The resulting workshops, convening during FY 2016, will inform the funding priorities of SciSIP in FY 2017 and beyond.
- The Science of Learning program is hosting a Network for the Science of Learning meeting in 2016. The anticipated outcomes of this meeting will be to highlight the accomplishments of NSF investments in the science of learning and to assist in informing SBE regarding the direction and funding priorities of science of learning-related activities in FY 2017 and beyond.

Committees of Visitors (COVs)

- In 2015, COVs reviewed BCS and SMA. COV reports and SBE responses were presented to and approved by the SBE Advisory Committee in December 2015. Over the course of the next several years, the COV reports will influence both divisional operations as well as inform deliberations regarding SBE's programmatic portfolio development.
  - The SMA COV provided input regarding SMA's programs and the scientific and management aspects related to capacity building, community building, disciplinary diversity, and the adequacy of SMA's structure and resources. The COV's recommendations included exploring, with other divisions and directorates, ways to expand the capacity and infrastructure for large-scale data science; increasing outreach efforts to Minority Serving Institutions to improve the quality and number of proposals received; and strengthening the collection of long-term outcome measures for SMA-supported programs.
  - The BCS COV identified multiple key features that will define the future landscape for BCS sciences and programs by providing recommendations concerning the quality and effectiveness of the merit review process of BCS-managed programs; broadening the research portfolio of researchers and universities supported; and continuing support for and participation in broad, multi-disciplinary fields of sciences.
- In 2016, a COV will review the SES Division.

The Performance chapter provides details regarding the periodic reviews of programs and portfolios of programs by external Committees of Visitors and directorate Advisory Committees. Please see this chapter for additional information.

Number of People Involved in SBE Activities

	FY 2015 Actual Estimate	FY 2016 Estimate	FY 2017 Estimate
Senior Researchers	1,808	1,800	1,900
Other Professionals	406	400	400
Postdoctoral Associates	309	300	300
Graduate Students	1,858	1,800	1,900
Undergraduate Students	733	700	800
Total Number of People	**5,114**	**5,000**	**5,300**

[2] www.nsf.gov/sbe/AC_Materials/SBE_Robust_and_Reliable_Research_Report.pdf
[3] www.nsf.gov/pubs/2015/nsf15047/nsf15047.pdf

DIVISION OF SOCIAL AND ECONOMIC SCIENCES (SES) $105,420,000
+$7,240,000 / 7.4%

SES Funding
(Dollars in Millions)

	FY 2015 Actual	FY 2016 Estimate	FY 2017 Request	Change Over FY 2016 Estimate Amount	Change Over FY 2016 Estimate Percent
Total, SES	**$98.36**	**$98.18**	**$105.42**	**$7.24**	**7.4%**
Research	**88.31**	**87.81**	**96.61**	**8.80**	**10.0%**
CAREER	2.94	3.69	3.74	0.05	1.4%
Centers Funding (total)	0.82	0.13	0.13	-	-
Nanoscale Science & Engineering Centers	0.82	0.13	0.13	-	-
Education	**2.37**	**2.97**	**1.41**	**-1.56**	**-52.5%**
Infrastructure	**7.68**	**7.40**	**7.40**	**-**	**-**
NNCI	0.40	0.40	0.40	-	-
Research Resources	7.28	7.00	7.00	-	-

Totals may not add due to rounding.

The FY 2017 Budget Request for SES is $105.42 million, of which $98.18 million is discretionary funding and $7.24 million is new mandatory funding. The mandatory funding is within the research line in the above table.

SES supports research and related activities, conducted within the U.S. and globally, that improve understanding of economic, political, and social 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; scholarly career development; and broadening participation in the social, behavioral, and economic sciences. Discipline-based programs include economics, political science, and sociology, while interdisciplinary programs support 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 general, 72 percent of the SES portfolio is available for new research grants and 28 percent is available for continuing grants.

FY 2017 Summary
All funding decreases/increases represent change over the FY 2016 Estimate.

Research
Overall, support for SES disciplinary and interdisciplinary research increases (+$8.80 million, to a total of $96.61 million).

- SES will maintain support 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. SES support for this activity is held constant with the FY 2016 Estimate at $4.0 million.

- CAREER funding in FY 2017 increases by $50,000, to a total of $3.74 million. This investment is consistent with SES's emphasis on supporting early career researchers.
- CIF21 funding is maintained at $4.23 million, supporting the development of user-friendly, large-scale, next-generation data resources and relevant analytical techniques to advance fundamental SBE research. SES will continue its investments in data science, in collaboration with CISE/ACI to address critically important issues related to reproducibility and data access.
- 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 continue an investment of $2.50 million in INFEWS, which will enhance capacity to explore the interactions among water, food, and energy systems.
- Funding for NSEC will continue at $130,000.
- SES will invest $750,000 in the Smart and Connected Communities activity. In partnership with ENG 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.
- A general increase to core program investments of $8.75 million will increase funding in support of research focused on robust and reliable science; enhance support for early career investigators, and improve the overall success rate of high-quality research proposals received by SES.

Education

- Support for the ADVANCE program is maintained at $600,000, and REU supplements ($500,000) remain constant.
- NRT and IGERT: Funding for IGERT decreases $1.56 million, to a total of zero, as a result of final IGERT continuing grant increments. In FY 2014, IGERT was succeeded by a new program, NRT, which encourages the development of bold, new, potentially transformative, and scalable models for STEM graduate training that ensure graduate students develop the skills, knowledge, and competencies needed to pursue a range of careers within and outside academia. SES will invest $40,000 in FY 2017 in NRT, equal to the FY 2016 Estimate.
- SES will invest $250,000 in an NSF-wide effort to increase participation of underrepresented groups in STEM fields through the NSF INCLUDES program.
- In an effort to establish a better balance between the responsibilities and demands of work lives and family lives for social and behavioral scientists, SES will maintain its investment of $20,000 to support the Career-Life Balance (CLB) initiative.

Infrastructure

- SES will maintain its investment of $400,000 in NNCI, the successor to NNIN.
- SES research resources activities are unchanged, for a total of $7.0 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. $2.0 million of the research resources funding supports SES's CIF21 investment inclusive of 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) — $102,080,000 / +$7,020,000 / 7.4%

BCS Funding

(Dollars in Millions)

	FY 2015 Actual	FY 2016 Estimate	FY 2017 Request	Change Over FY 2016 Estimate Amount	Change Over FY 2016 Estimate Percent
Total, BCS	**$97.03**	**$95.06**	**$102.08**	**$7.02**	**7.4%**
Research	**92.88**	**92.25**	**99.80**	**7.55**	**8.2%**
CAREER	5.42	3.58	3.63	0.05	1.4%
Centers Funding (total)	1.71	-	-	-	N/A
Nanoscale Science & Engineering Centers	0.08	-	-	-	N/A
Science of Learning Centers	1.63	-	-	-	N/A
Education	**2.40**	**2.11**	**1.58**	**-0.53**	**-25.1%**
Infrastructure	**1.75**	**0.70**	**0.70**	**-**	**-**
Research Resources	1.75	0.70	0.70	-	-

Totals may not add due to rounding.

The FY 2017 Budget Request for BCS is $102.08 million, of which $95.06 million is discretionary funding and $7.02 million is new mandatory funding. The mandatory funding is within the research line in the above table.

BCS supports research and related activities that advance fundamental understanding in the behavioral, cognitive, anthropological, and geographic sciences. Strong core programs are complemented by active involvement in competitions that support collaborative and cross-disciplinary projects. 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 on the Earth's surface. 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 respond to issues such as globalization, terrorism, and environmental change.

In general, 74 percent of the BCS portfolio is available for new research grants and 26 percent is available for continuing grants.

FY 2017 Summary

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

Research

Overall, support for BCS disciplinary and interdisciplinary research increases (+$7.55 million, to a total of $99.80 million).

- Continued support of $18.60 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 maintain its support, at $900,000, 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 2017 increases by $50,000, to a total of $3.63 million. This investment is consistent with BCS's emphasis on supporting early career researchers.
- CIF21 funding totals $1.50 million, to support development of user-friendly, large-scale, next-generation data resources and relevant analytical techniques to advance fundamental SBE research. BCS will enhance its investments in data science, in collaboration with CISE/ACI, to address critically important issues related to reproducibility and data access.
- 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 $2.0 million in INFEWS. This investment will enhance capacity to explore the interactions among water, food, and energy systems.
- BCS support ($3.0 million) for the science of learning will fund interdisciplinary research on the science of learning.
- BCS will fund an investment of $750,000 in the Smart and Connected Communities activity. In partnership with ENG 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 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.
- A general increase to core program investments of $7.50 million will support early career investigators, disciplinary and interdisciplinary research in the behavioral and cognitive sciences and improve the funding rate for highly meritorious research proposals received by BCS.

Education

- BCS support for the ADVANCE program is maintained at $400,000.
- REU supplements funding remains constant at $440,000.
- NRT and IGERT: Funding for IGERT decreases $530,000, to a total of zero, as a result of final IGERT continuing grant increments. In FY 2014, IGERT was succeeded by NRT, which encourages the development of bold, new, potentially transformative, and scalable models for STEM graduate training that ensure that graduate students develop the skills, knowledge, and competencies needed to pursue a range of careers within and outside academia. BCS will invest $460,000 in FY 2017 in NRT, level with the FY 2016 Estimate.
- BCS will invest $250,000 in an NSF-wide effort to increase participation of underrepresented groups in STEM fields through the NSF INCLUDES program.
- In an effort to establish a better balance between the responsibilities and demands of work lives and family lives for social and behavioral scientists, BCS will maintain its investment of $30,000 to support the CLB initiative.

Infrastructure

- FY 2016 support for infrastructure activities is continued at $700,000. Funding supports BCS's CIF21 investment inclusive of support for 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 STATISTIC (NCSES) — $51,760,000 +$1,000,000 / 2.0%

NCSES Funding

(Dollars in Millions)

	FY 2015 Actual	FY 2016 Estimate	FY 2017 Request	Change Over FY 2016 Estimate Amount	Percent
Total, NCSES	**$50.94**	**$50.76**	**$51.76**	**$1.00**	**2.0%**
Infrastructure	**50.94**	**50.76**	**51.76**	**1.00**	**2.0%**

Totals may not add due to rounding.

The FY 2017 Budget Request for NCSES is $51.76 million, which is entirely discretionary funding.

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 science and engineering 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 (SEI) and Women, Minorities, and Persons with Disabilities in Science and Engineering. The data collected by NCSES serve as an important resource for researchers in SBE's SciSIP program.

The funding portfolio for NCSES includes ongoing, cyclical surveys; data, reports and other products; and projects accomplished primarily through contracts and grants.

FY 2017 Summary
All funding decreases/increases represent change over the FY 2016 Estimate.

Infrastructure
In FY 2017, support for NCSES infrastructure activities increases by $1.0 million, to an overall total of $51.76 million. Funding at this level maintains NCSES' core programmatic activities and supports significant targeted improvements in NCSES's statistical and analytic programs.

The additional resources will be used to provide continued support for (1) developing enhanced data access tools, techniques, and visualizations; (2) new data collection techniques building on administrative data and other "big data" sources; and (3) questionnaire redesign and survey improvements supporting current

research, policy, and community needs, such as improved data on pathways for scientists and engineers and measures of innovation.

SBE OFFICE OF MULTIDISCIPLINARY ACTIVITIES (SMA) $29,510,000
+$1,310,000 / 4.6%

SMA Funding
(Dollars in Millions)

	FY 2015 Actual	FY 2016 Estimate	FY 2017 Request	Change Over FY 2016 Estimate Amount	Change Over FY 2016 Estimate Percent
Total, SMA	**$29.86**	**$28.20**	**$29.51**	**$1.31**	**4.6%**
Research	**20.70**	**19.60**	**20.77**	**1.17**	**6.0%**
CAREER	0.17	-	-	-	N/A
Centers Funding (total)	4.36	-	-	-	N/A
Science of Learning Centers	4.36	-	-	-	N/A
Education	**6.87**	**5.95**	**6.09**	**0.14**	**2.4%**
Infrastructure	**2.29**	**2.65**	**2.65**	**-**	**-**
Research Resources	1.47	0.90	0.90	-	-
Research Resources - Public Access Initiative	0.82	1.75	1.75	-	-

Totals may not add due to rounding.

The FY 2017 Budget Request for SMA is $29.51 million, of which $27.41 million is discretionary funding and $2.10 million is new mandatory funding. The mandatory funding is within the research line in the above table.

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), Research Experiences for Undergraduates (REU) Sites, and SBE Postdoctoral Research Fellowships (SPRF). SMA will play a critical role in several NSF areas of emphasis in FY 2017: UtB, cyberinfrastructure and computer science, via CIF21; cybersecurity, via SaTC; innovation, via I-Corps™; interdisciplinary research and training, via activities such as the SPRF-IBSS track; and the science of learning. These investments reflect newly requested funds and a redeployment of resources previously committed to other cross-directorate and NSF-wide priority activities. 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. All areas of SBE sciences are represented in the SMA portfolio.

In general, 61 percent of the SMA portfolio is available for new research grants and 39 percent is available for continuing grants.

FY 2017 Summary
All funding decreases/increases represent change over the FY 2016 Estimate.

Research
Overall, support increases for basic research activities (+$1.17 million, to a total of $20.77 million).
- SMA will fund integrative, interdisciplinary research in the science of learning ($2.0 million).
- 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 constant at $6.10 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.
- CIF21 support is held constant at $1.09 million, for investments in data science, to address critically important issues related to reproducibility and data access.
- SMA will redeploy its $1.0 million from the final year of the INSPIRE program to other core and crosscutting activities such as robust and reliable research in FY 2017.

Education

Support for education activities in SMA will increase.

- SMA investments in the Research Experiences for Undergraduates (REU) Sites ($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 interdisciplinary behavioral and social science research (SPRF-IBSS). FY 2017 Request funding for these programs is unchanged at $1.50 million for each activity.
- SMA will initiate an investment of $140,000 in support of the NRT program, which encourages the development of bold, new, potentially transformative, and scalable models for STEM graduate training that ensure that graduate students develop the skills, knowledge, and competencies needed to pursue a range of careers within and outside academia.

Infrastructure

- Continued investment of $1.75 million in NSF's Public Access Initiative will support efforts to make NSF-funded research available to the public, including developing outreach and guidance materials.
- Support for research resources is held constant at $900,000. Funding supports SMA's CIF21 investment inclusive of support for the RIDIR competition, which seeks to develop user-friendly, large-scale, next-generation data resources and relevant analytical techniques to advance fundamental SBE research.