

SSTI Weekly Digest

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Special Federal Budget Issue - February 13, 2006

Each year, SSTI dedicates an issue of the *SSTI Weekly Digest* to the president's budget request. Because of length considerations, the issue is not intended to be exhaustive. Instead, we highlight selected S&T programs and initiatives that we believe are of interest to our readers. The president's budget request and supporting documents can be found at: <http://www.whitehouse.gov/omb/budget/fy2007/>

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Publisher's Note

FY2007 Budget Request Represents a Mixed Bag

Over the last year, there has been increased public and government attention on issues involving tech-based economic development. For much of the year, Thomas Friedman's *The World is Flat* has dominated the *New York Times* bestseller list. A series of reports from the AeA, Council on Competitiveness, and the National Academy of Sciences call for increased action by the federal government. To help address a flattening world, Congress is now considering significant bi-partisan legislation addressing those report's recommendations. And just in the last

month, a series of governors have unveiled plans for dramatic new investments in innovation, science, and technology.

It is fitting, then, that President Bush made competitiveness a major theme of his State of the Union and, in his budget proposal, unveiled his American Competitiveness Initiative (see below for details).

A key portion of the American Competitiveness Initiative calls for major increases over the next 10 years in the physical sciences budgets at the Department of Energy's Office of Science, the National Institute of Standards and Technology, and the National Science Foundation. According to the plan, "President Bush plans to double, over 10 years, investments in innovation-enabling physical science and engineering research at the National Science Foundation (NSF), the Department of Energy's Office of Science (DoE SC), and the Department of Commerce's National Institute of Standards and Technology (NIST) core activities."

This proposal represents good news for anyone interested in tech-based economic development (TBED). More funding for research is needed for the U.S. to retain its national leadership in innovation. The proposal, however, is less ambitious than the plan Congress approved in 2002 to double NSF's budget by fiscal year 2008. Under the president's proposal, the doubling will be for "innovation-enabling physical science and engineering research" and will take until FY 2017.

Less encouraging, in the FY 2007 budget request are the amounts proposed for several programs of importance to the TBED community, including:

- **Advanced Technology Program** is proposed (again) for elimination, a cut of \$79 million from the FY 2006 level Congress approved.
- **Manufacturing Extension Partnership** would be cut to \$46.3 million, a cut of \$58.3 million from the FY 2006 level Congress approved.
- **Partnerships for Innovation** at NSF would receive a slight increase to \$9.19 million, but still lower than its FY 2005 level.
- **Economic Development Administration** would increase \$47 million to \$327 million, a level that is still far below its FY 2002 level of \$365.6 million.

In the area of education, the American Competitiveness Initiative calls for \$412 million in spending on new programs. Yet, at a time when we need to encourage increased college participation, especially among underrepresented groups, the budget proposal calls for freezing the Pell grant program and would eliminate \$303 million for the Gaining Early Awareness and Readiness for Undergraduate Programs, which supports early college prep activities for low-income elementary and secondary students. These programs are intended to discourage dropping out and to encourage postsecondary enrollment.

In short, the president's State of the Union represents an important step forward; unfortunately, the budget request doesn't come close to matching the State of the Union.

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Special Initiative - The American Competitiveness Initiative

During his 2006 State of the Union Address, President Bush outlined a decade-long \$50 billion [American Competitiveness Initiative \(ACI\)](#) for R&D, education and entrepreneurship. The FY 2007 downpayment on ACI is \$5.9 billion, which is accomplished by shuffling priorities within a shrinking federal discretionary budget environment to find \$1.3 billion in new funding and \$4.6 billion in R&D tax incentives. Specifically, ACI calls for:

- Doubling federal funding over 10 years for research in physical sciences and engineering within selected agencies: the National Science Foundation (NSF), the Department of Energy Office of Science and the

National Institute for Standards & Technology within the Department of Commerce. Combined funding for these specific offices is increased by \$910 million in the FY07 request, up 9.3 percent from FY06 figures, although NIST Core funding decreased by 5.8 percent.

- Makes the Research & Experimentation tax credit permanent. The total 10-year impact is projected to be \$86.4 billion.
- Creating new programs to support K-12 math and science education within the Department of Education (see the agency summary below).
- Reforming workforce training system, which at least initially would be accompanied by cuts in education and training programs in the Department of Education, Department of Labor and NSF (see individual agency summaries below).

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[Department of Agriculture](#)

Perennially a favorite target for Congressional earmarks, the U.S. Department of Agriculture (USDA) budget, at \$92.8 billion, is nearly \$3 billion below the FY 2006 level of anticipated expenditures. More than three-fourths of the USDA budget outlays for FY 2007 are dedicated to mandatory spending programs such as nutrition assistance, conservation, export promotion and farm commodity programs. The remaining balance of \$21.5 billion, \$1.7 billion or 7.3 percent less than the FY06 outlay level, is for discretionary programs. All USDA research and TBED-related programs fall within the discretionary section of the budget.

The FY07 budget request includes \$322 million for the USDA portion of the multi-agency **Food and Agricultural Defense Initiative (FADI)**, an increase of \$69 million or 27 percent above FY06 levels. Since the research and diagnostic facility in Ames, Iowa, was fully funded in 2006, the FY07 request represents a programmatic increase of \$127 million or 65 percent. The largest line-item FADI increases within the USDA are for Enhanced Surveillance for Pest Detection/Animal Health Monitoring (\$43 million; 49 percent increase); research within the Agricultural Research Service (\$72 million; 112 percent increase); and the Food Emergency Response Network (\$19 million; 533 percent increase).

USDA support for the much-in-the-news international Avian Influenza concern would decrease 29.3 percent in FY07 to \$82 million.

Tech-based and Traditional Economic Development

Economic development activities, targeting rural America are supported by two USDA service agencies: the Rural Business-Cooperative Service and the Rural Utilities Service. Comparison of FY07 budget levels with FY06 actual levels is challenged by a \$1.6 billion one-time infusion of funds for hurricane relief. The budget request also calls for elimination of a \$1.5 billion program that underwrites notes issued by private sector electric and telecommunication lenders.

In addition, the budget request eliminates funding (\$198 million) for the [Broadband and Internet Services](#) program, which helps finance the installation of various modes of broadband transmission capacity in rural America. However, other broadband loan programs remain in place, albeit at lower funding levels. The 2007 budget still includes discretionary funding to support about \$357 million in loans.

As was the case in the president's FY06 budget proposal, no new funds are included in the FY07 budget for the [Rural Business Enterprise](#) (Congress appropriated \$40 million in FY06) and [Rural Business Opportunity Grant](#) (\$3 million) programs, [Economic Impact Initiative Grants](#) (\$18 million), [Appropriate Technology Transfer for Rural Areas](#) (\$2 million), [Rural Community Development Initiative](#) (\$6 million), or the [Empowerment Zones & Enterprise](#)

[Community \(EZ/EC\) Program](#) (\$13 million).

Retained in the FY07 budget request are:

- [Distance Learning and Telemedicine \(DLT\) Grant Program](#) - \$24.75 million (18.5 percent decrease) to support the educational and health care needs of rural America through advanced telecommunications technologies. Regarding DLT loans, the budget request states, "Since there is little demand for the DLT loans and the loans now cost the Government [due to heavy default rates in 2003], the Budget proposes to not provide any DLT loans in 2007."
- [Business and Industry Guaranteed Loans](#) - \$990 million (8.3 percent increase) to provide protection against loan losses so that private lenders are willing to extend credit to establish, expand or modernize rural businesses. Special efforts are being made to help rural communities diversify their economies, particularly into value-added processing, by focusing on cooperative ventures.
- [Rural Economic Development Grants](#) - \$10 million (no change) for grants to electric and telephone utilities. Program promotes sustainable rural economic development and job creation projects through the operation of a revolving loan fund program.
- [Value-Added Producer Grants Program](#) (formerly known as Value-Added Development Grants) - \$19 million for discretionary grants (level funding).
- [Renewable Energy and Energy Efficiency Program](#) - \$8 million for discretionary grants (\$3 million decrease) and \$35 million in loans (\$143 million decrease). Funds are used to pay up to 25 percent of eligible project costs to purchase renewable energy systems or make energy improvements, including those that derive energy from wind, solar, biomass or geothermal sources, or hydrogen derived from biomass or water using wind, solar or geothermal energy sources.

Research

USDA research activities are coordinated by the four Research, Education and Economics agencies, which oversee the discovery, application and dissemination of information and technologies spanning the biological, physical and social sciences.

[Agriculture Research Service \(ARS\)](#), with a FY07 \$1.001 billion (11.9 percent decrease), is the principal in-house research agency for the USDA, conducting research toward a safer, more economical food supply of agricultural products and to provide producers with technologies to competitively supply these products. Most ARS program activities would experience cuts except homeland security (\$81 million; 125 percent increase) and the National Agricultural Library (\$25 million; 13.6 percent increase). Total ARS funding available for R&D contracts is slated to drop 42.3 percent from \$168 million to \$97 million. Most of this reduction, however, results from the elimination of congressionally earmarked funds for 2006.

[Cooperative State Research, Education, and Extension Service \(CSREES\)](#), at \$1.046 billion (13.3 percent decrease), is the federal partner with land grant and non-land grant colleges and universities in carrying out extramural research, higher education, and extension activities. After the removal of \$196 million in congressionally earmarked funds, the Administration has requested \$87 million of new funding for CSREES.

- **Formula grant programs** - \$544 million (0.8 percent decrease). The budget request promotes the continued shift toward competitive grant mechanisms and away from formula funding within the traditional formula grant programs (such as the Smith-Level 3,890 Research and Extension, McIntire-Stennis and Hatch Act grant programs).
- [National Research Initiative](#) - \$247.5 million (36.6 percent increase). This initiative accounts for the nation's largest competitive, peer-reviewed research program for fundamental and applied sciences in agriculture. The increase will fund initiatives in agricultural genomics, emerging issues in food and agricultural security, the ecology and economics of biological invasions, plant biotechnology and water

security.

- **Food and Agricultural Defense Initiative** - \$17 million (70 percent increase). Funding includes \$5 million for a Higher Education Agrosecurity Program to provide capacity building grants to universities for interdisciplinary degree programs targeted toward supplying educational and professional development for food defense personnel.

[Economic Research Service \(ERS\)](#), at \$82.5 million (8.7 percent increase), provides economic and other social science research and analysis for public and private decisions on agriculture, food, natural resources and rural America. The ERS request includes an increase of \$5 million to implement a new research program to monitor the changing economic health and well-being of farm and non-farm households in rural areas; and an increase of \$1.6 million to continue research into changing in food supply and consumption patterns. Principally an intramural research office, total ERS funding for R&D contracts remains level at \$5 million.

[National Agricultural Statistics Service](#), at \$153 million (10 percent increase), conducts the Census of Agriculture and provides the official current statistics on agricultural production and indicators of the economic and environmental welfare of the farm sector. The majority of the \$14 million increase is to conduct the 2007 Census.

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Department of Commerce

The Administration's FY 2007 \$6.138 billion discretionary budget request for the Department of Commerce reflects a 4.23 percent decrease from the FY06 appropriation of \$6.410 billion. However, the [Economic Development Administration \(EDA\)](#) would receive a \$46.7 million increase to support programs within the Administration's new [American Competitiveness Initiative \(ACI\)](#), announced in the president's [State-of-the-Union Address](#). The NIST Hollings Manufacturing Extension Program, on the other hand, is slated for a cut of \$58.3 million in the FY07 request.

EDA is charged with leading the federal economic development agenda by promoting innovation and competitiveness while preparing regions for growth and success in the worldwide economy. The Administration's FY07 budget request of \$327.2 million reflects a 16.7 percent increase compared to the FY06 appropriation of \$280.4 million. Additional funding is requested to assist distressed communities with integrating development strategies with the activities of the ACI, which includes investments in R&D, science, education and workforce training, and support for business environments that encourage entrepreneurship.

EDA also will advance the core principles outlined in the FY06 Strengthening America's Communities Initiative (SACI) and incorporate recommendations of the Secretarial Advisory Committee's report issued in June 2005. In addition, EDA plans to work with the Department of Housing and Urban Development's [Community Development Block Grant Program](#), as well as the [Department of Labor](#) and its workforce development programs, to explore the implementation of complementary program performance goals and metrics.

The [Technology Administration \(TA\)](#) works with U.S. industry to maximize technology's contribution to U.S. economic growth. Led by the Under Secretary for Technology, TA fulfills its broad responsibilities through its component organizations: the Office of Technology Policy (OTP), the National Institute of Standards and Technology (NIST), and the National Technical Information Service, with its National Telecommunications and Information Administration.

- [Under Secretary for Technology/ OTP](#) - \$1.5 million (\$4.4 million decrease) provides policy guidance to the Secretary of Commerce and TA's component agencies. The Under Secretary also provides counsel on all matters involving innovation and coordinates with counterpart offices in the trade and economic agencies to create unified and integrated trade and technology policies. Full-time equivalent staffing levels would be reduced by 15 in FY07.
- [NIST Advanced Technology Program \(ATP\)](#) - no funding is requested (\$79 million in FY06). Through

2006, NIST implemented the ATP program to assist industry to invest in and develop high-risk technologies. The FY07 budget proposes to terminate the program, due to "the growth of venture capital and other financing sources." FY07 phase out activities will be undertaken with FY06 carryover funding.

- [NIST Hollings Manufacturing Extension Partnership \(MEP\)](#) - \$46.3 million (\$58.3 million decrease). This program assists small manufacturing establishments in assimilating new technologies and manufacturing practices through government-industry partnerships and extension services. With a budget reduction of over 50 percent in FY07, the Administration "will focus funding on maintaining an effective network of centers with an emphasis on activities that promote innovation and competitiveness in small manufacturers." The number of full-time equivalent positions would be reduced by 18.
- [NIST Baldrige National Quality Program \(BNQP\)](#) - \$7.6 million (no change). This management program focuses on instilling the principles of continuous quality improvement in U.S. business and educational, health care and nonprofit organizations. Staffing levels are maintained at 49 full-time equivalent positions.
- [NIST Laboratories and Research Facilities](#) - \$455.9 million (\$67.7 million increase). This program focuses on providing the measurements, standards, verified data, and test methods necessary to support the development of new technologies and to promote the competitive standing of the U.S. in the global economy. Additional funding to complement the ACI is requested for NIST laboratories and research in numerous areas: nanotechnology, hydrogen, manufacturing innovation, quantum information science, environmental security, next generation materials innovation, international standards and innovation, innovation in measurement science, bio imaging, cyber security, and biometrics. Staffing would increase by 124 full-time equivalent positions.

Funding for the [Minority Business Development Agency \(MBDA\)](#) would remain at \$29.6 million in FY07, the same amount as the FY06 appropriation. MBDA provides management and technical assistance to minority-owned businesses through the national network of Minority Business Development Centers and Native American Business Development Centers. Staffing levels are maintained at 115 full-time equivalent positions.

The [National Oceanic and Atmospheric Administration \(NOAA\)](#) would receive \$3.684 billion in FY07 discretionary funding, or \$227.3 million less than the FY06 appropriation. NOAA components supporting significant research fall under the Operations, Research and Facilities line item, which is slated for a \$156.4 million cut. Key NOAA components for the research community would see increases, however:

- [National Marine Fisheries Service](#) - \$649 million (\$81 million increase) for research in the variables affecting the abundance and variety of marine fisheries.
- [National Ocean Service](#) - \$394.4 million (\$36.3 million increase) to support coastal science and estuarine research reserves of national significance.
- [Oceanic and Atmospheric Research](#) - \$338.3 million (\$37.2 million increase) for research and technology development to improve outlooks, solar-terrestrial forecasts and marine services.
- [National Weather Service](#) - \$783.4 million (\$37.4 million increase) for weather and flood warnings and forecasts.
- [National Environmental Satellite, Data and Information Service](#) - \$149.6 million (\$5 million increase) for operation and updating polar-orbiting and geostationary operational field satellites.

The [U.S. Patent and Trademark Office \(USPTO\)](#) under the Administration's FY07 recommendation would keep all the fees it will collect. USPTO would use the \$1.843 billion in spending authority contained in the president's FY07 budget request to reduce application processing time and increase the quality of its products. This funding would allow for increased staffing of 682 full-time equivalent positions. The mission of the USPTO is to ensure that the intellectual property system contributes to a strong global economy, encourages investment in innovation, and fosters entrepreneurial spirit. This proposal has been made by the Administration in previous years.

The [Bureau of Economic Analysis \(BEA\)](#) within the Economic and Statistical Analysis Administration would receive \$80.5 million, an increase of \$558,000 over the FY06 appropriation. Funding requested in FY07 will help BEA provide timely, relevant and accurate economic accounts data in an objective and cost-effective manner.

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Department of Defense

The Administration's FY07 budget request for the Department of Defense (DoD) totals \$439.3 billion, an increase of 7 percent from FY 2006. However, funding for DoD science and technology decreased 15.9 percent, to a total of \$11.1 billion for FY07. All stages of DoD R&D are anticipating cuts: budget category 6.1 basic research (3.3 percent decrease), budget category 6.2 applied research (13.4 percent decrease), and budget category 6.3 advanced technology development (21.5 percent decrease).

The story on the defense component level is more mixed. Total 6.1 through 6.3 research expenditures for the Army and the Navy would decrease, whereas Defense-wide programs (which includes DARPA, SOCOM, etc) would increase. The Air Force, on the other hand, would increase funding in 6.1 basic research, but would sustain a decrease for 6.2 applied research. Additionally, advanced technology development funding would decrease significantly for the Army, Navy, Air Force and Defense-wide. The breakdown by DoD departments is as follows:

Army

- 6.1 Basic Research - \$311.9 million (16.2 percent decrease)
- 6.2 Applied Research - \$685.2 million (45.2 percent decrease)
- 6.3 Advanced Technology Development - \$721.7 million (48 percent decrease)

Navy

- 6.1 Basic Research - \$455.9 million (4 percent decrease)
- 6.2 Applied Research - \$638.7 million (20.1 percent decrease)
- 6.3 Advanced Technology Development - \$504.6 million (50.6 percent decrease)

Air Force

- 6.1 Basic Research - \$370.2 million (2.1 percent increase)
- 6.2 Applied Research - \$973.1 million (9.1 percent decrease)
- 6.3 Advanced Technology Development - \$804.8 million (20.4 percent decrease)

Defense-wide

- 6.1 Basic Research - \$283.9 million (9.1 percent increase)
- 6.2 Applied Research - \$2.18 billion (6.5 percent increase)
- 6.3 Advanced Technology Development - \$3.15 billion (0.9 percent decrease)

Funding for university-based research and other DoD programs would incur major reductions or elimination:

- [Defense Experimental Program to Stimulate Competitive Research \(EPSCoR\)](#) - \$9.5 million (23.4 percent decrease) to improve the capabilities of U.S. institutions of higher education to conduct research and to educate scientists and engineers in the areas important to national defense.
- [Government/Industry Cosponsorship of University Research \(GICUR\)](#) - no new funding is requested (\$10 million decrease). GICUR fosters cooperative research by universities with industry or government laboratories.
- **University and Industry Research Centers** - \$86.4 million (14 percent decrease) to leverage research in the private sector through Federated Laboratories, Centers of Excellence, and the University Affiliated Research Center.
- [University Research Initiatives](#) - \$249.4 million (8.5 percent decrease) to enhance universities' capabilities to perform basic science and engineering research and related education in areas critical to national defense. Departmental breakdowns include \$68.5 million (11 percent decrease) for the Army, \$73.3 million (15.5 percent decrease) for the Navy, and \$107.6 million (1.1 percent decrease) for the Air Force.
- [Dual Use Science & Technology Program](#) – no new funding is requested. The program is scheduled to be eliminated in its last DoD component, the Air Force. The program received a nominal \$986,000 in FY06 for close-out purposes.
- [Office of Economic Adjustment](#) - \$73 million (54.8 percent decrease) to provide assistance to communities, regions and states adversely impacted by significant DoD program changes, such as base expansions, closures, realignments, major contract changes that result in significant worker layoffs, and other personnel reductions or increases.
- [Procurement Technical Assistance Centers \(PTAC\)](#) - The FY07 request was not available at press time. The Defense Logistics Agency (DLA) press office said that final funding levels within its Operations and Management line had not been approved yet. The FY06 appropriation is \$26.9 million. The 95 PTACs across the country provide assistance to business firms in marketing products and services to the federal, state, and local governments.
- [Technology Link](#) - \$6.8 million (58.3 percent decrease) to MDA for facilitating the use of technology developed in the non-defense public and private sectors.

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[Department of Education](#)

Discussion on competitiveness and innovation take very different tacts between the statehouses and Washington, D.C. Education is the fundamental building block for a skilled workforce and for creating future scientists and engineers. While most states are investing more in education, the Administration's FY07 budget request for the U.S. Department of Education totals \$54.41 billion, a 5.5 percent decrease from FY06 total spending of \$57.55 billion.

The 2007 request, proposes to eliminate 42 programs that totalled \$3.5 billion in FY06. Many also were proposed for elimination in 2006, but Congress disagreed with the Administration's plans.

Some of the proposed program cuts include:

- **Educational Technology State Grants** - \$272.3 million to finish phaseout begun in FY06 of formula - based grants to integrate technology into classroom instruction.
- **Federal Perkins Loans Cancellations** - \$65.5 million, as part of the effort to phase out the Perkins Loan program. In addition, the Administration is requesting colleges return \$664 million used as a revolving fund to support new Perkins Loans.
- **Gaining Early Awareness and Readiness for Undergraduate Programs** - \$303.4 million to support

early college prep activities for low-income elementary and secondary students. These programs are intended to discourage dropping out and to encourage postsecondary enrollment.

- **Safe and Drug-Free Schools and Communities State Grants** - \$346.5 million to provide formula grants to states. A portion of the funding would be shifted to the national program for safe and drug-free schools.
- **Star Schools** - \$14.9 million to support competitive grants for distance education projects.
- **Tech-prep Education State grants** - \$104.8 million to help develop structural links between secondary and postsecondary institutions that integrate academic and vocational education.
- **TRIO Talent Search** - \$145.3 million to provide competitive grants to colleges to encourage disadvantaged youth to graduate from high school and enroll in postsecondary education.
- **TRIO Upward Bound** - \$311 million to provide competitive grants to colleges to support intensive academic instruction for disadvantaged youth.
- **Vocational Education State Grants** - \$1.2 million for formula grants supporting vocational educational instruction

The education budget shifts more funding toward several K-12 math and science programs:

- \$250 million split evenly between two new initiatives to implement proven practices in math instruction: **Math Now for Elementary School Students** and **Math Now for Secondary School Students**;
- \$10 million for a **National Mathematics Panel** to identify key mathematics content and instructional principles to guide the implementation of the **Math Now Programs**;
- \$5 million for an **Evaluation of Mathematics and Science Programs**;
- \$25 million for the **Adjunct Teacher Corps** to create opportunities for qualified professionals from outside the K-12 educational system to teach secondary-school courses in the core academic subjects, with an emphasis on mathematics and the sciences; and,
- \$90 million increase in the **Advanced Placement (AP) program**, which offers training and incentives for teachers to become qualified to teach rigorous core subject courses. Total AP spending requested for FY07 is \$122 million.

The Education Department's FY07 budget also would provide \$35 million for a greatly expanded **National Security Language Initiative**. This initiative is designed to expand foreign language education beginning in early childhood and continuing throughout formal schooling and into the workforce. Special emphasis is in languages "critical to our national security," such as Arabic, Chinese, Farsi, Hindu, Japanese, Korean, Russian and Urdu.

At \$981.2 million, requested FY07 funding for the [21st Century Learning Centers](#) reflects no change. The centers are designed to help communities establish or expand learning centers that provide extended learning opportunities for students and related services to their families.

Requested FY07 funding of \$182.2 million for the [Mathematics and Science Partnerships](#) also reflects no change from the FY06 appropriation. This program provides state formula grants to develop rigorous mathematics and science curricula, distance learning programs, and incentives to recruit college graduates with degrees in math and science into the teaching profession.

On the research front, the [Institute of Education Sciences](#) would receive \$554.5 million, a 7.2 percent increase, in FY07 funding. The institute is intended to fund programs of research, development and dissemination in areas where knowledge of learning and instruction is inadequate.

- The **Research, Development and Dissemination** funding request for FY07 is \$162.6 million (no

change) to help support the [National Center for Educational Research \(NCER\)](#), which oversees directed research, field-initiated studies, and research and development centers. The ED [SBIR program](#) is administered by NCER.

Other key budget issues include:

- \$1.475 billion for a renewed **High School Reform** proposal designed to more thoroughly extend [No Child Left Behind \(NCLB\)](#) principles to the high school level. The argument for eliminating several of the larger programs mentioned above is they would become redundant with approval of the much smaller **High School Reform initiative**. A similar proposal was defeated in Congress in FY06.
- \$100 million for **America's Opportunity Scholarships for Kids**, a competitive grant program that would provide new educational options for low-income students attending schools identified for restructuring under NCLB.
- **Pell grant** award sizes remain at \$4,050 for the fifth year in a row, effectively decreasing the size of the award due to inflation.

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[Department of Energy](#)

The Administration's FY 2007 budget request for the Department of Energy (DOE) is \$23.6 billion, a \$5 million decrease from the FY 2006 appropriation. While overall funding for the DOE is virtually flat, the FY07 request includes significant shifts for many offices to reflect the Administration's realignment of energy priorities. Real decreases will be absorbed largely by DOE's \$6.6 billion [Environment](#) and \$2.6 billion [Energy](#) budgets, with decreases of \$589.6 million (8.2 percent) and \$130 million (4.8 percent), respectively. The [National Nuclear Security Administration](#) budget request is \$9.3 billion, a 2.3 percent increase over the FY06 appropriation.

DOE's [Office of Science](#) FY07 budget requests \$4.1 billion, a 14 percent increase over the FY06 appropriation, as a part of the [American Competitiveness Initiative](#). Funding for this initiative will go toward new technologies in such areas as nanotechnology, material science, biotechnology and high-speed computing. The Science budget includes \$539 million for the [Advanced Energy Initiative](#), a \$2.1 billion DOE program intended to reduce America's dependence on imported energy sources. Total funding for the initiative reflects a \$381 million increase over its FY06 level.

Also under the Office of Science, increases of \$50.9 million and \$31.3 million are targeted for **nanoscale science research** and **fusion sciences research**, respectively. Some of the Science program areas with proposed increases or decreases include:

- **Advanced Scientific Computing Research** – \$319 million (35.8 percent increase)
- **Basic Energy Sciences Program** – \$1.42 billion (25.2 percent increase)
- **Biological and Environmental Research** – \$510 million (12 percent decrease)
- **High Energy Physics** – \$775 million (8.1 percent increase)
- **Nuclear Physics** – \$454 million (23.7 percent increase)
- **Workforce Development for teachers and scientists** – \$10.9 million (53.8 percent increase)

The FY07 budget request for the [Office of Energy Efficiency and Renewable Energy \(EERE\)](#) is \$1.2 billion, a 0.2 percent increase over the office's FY06 level. EERE conducts research, development and deployment activities to

advance energy efficiency and clean power technologies and practices. Much of this funding is an integral part of the Advanced Energy Initiative and expands programs that research new energy sources, including \$195 million for **Hydrogen Technology**, a \$40 million increase over FY06; \$150 million for **Biomass and Biorefinery Systems R&D**, a \$59 million increase; \$148 million for **Solar Energy**, a \$65 million increase; and \$44 million for **Wind Energy**, a \$5 million or 12.8 percent increase.

One EERE program that would see a decline in its funding is **Vehicle Technologies**. This program researches technologies for cost effective plug-in hybrid vehicles and supports the **FreedomCAR and Fuel Partnership** and the **21st Century Truck Partnership**. It would receive \$166 million, a \$16 million (8.8 percent) cut from the FY06 level.

Under the Energy Supply account, the FY07 budget eliminates two programs that research alternative, clean and environmentally friendly power technologies -- **Geothermal Technology**, a \$23 million decrease, and **Hydropower**, a \$495,000 decrease.

The **Office of Fossil Energy** would receive \$649 million in FY07. Requested funding shows a \$192.7 million decrease over the FY06 appropriation. Funding for **coal R&D**, one of the office's major programs, would be slashed by \$46.1 million, relative to FY06. The FY07 budget proposes to cancel \$203 million in prior-year balances and request advanced appropriations of \$203 million of forward funding for **FutureGen** in FY 2008 and beyond, which fulfills a similar role of demonstrating advanced coal-based technologies. The budget request states these balances are no longer needed to complete active projects in the **Clean Coal Technology program**. The budget also proposes to transfer \$54 million from Clean Coal Technology to the Fossil Energy R&D program for work on the FutureGen project to develop a coal-fueled, near-zero atmospheric emissions electricity and hydrogen generation plant.

Additional DOE programs of interest:

- **Advanced Fuel Cycle Initiative** – \$243 million (206.8 percent increase)
- **Advanced Metallurgical Research** – no new funding requested (\$7.9 million decrease)
- **Building Technologies** – \$77.3 million (11.6 percent increase)
- **Clean Coal Technology** – \$20 million (100 percent increase)
- **Coal R&D Program** – \$330 million (12.2 percent decrease)
 - Clean Coal Power Initiative (CCPI)– \$4.9 million (90 percent decrease)
 - FutureGen – \$54 million (203 percent increase)
 - Advanced Research – \$28.9 million (45 percent decrease)
 - Fuels – \$22.1 million (23 percent decrease)
 - Carbon Sequestration R&D – \$73.9 million (11.4 percent increase)
- **Fossil Energy R&D** – \$469.6 million (20.7 percent decrease)
- **Generation IV Nuclear Energy Systems Initiative** – \$31.4 million (42.4 percent decrease)
- **High Temperature Superconductivity R&D** – \$45.5 million (9.1 percent decrease)
- **Industrial Technologies** – \$45.5 million (19.9 percent decrease)
- **Industries of the Future** – \$17 million (29.9 percent decrease) for Specific industries and \$28.6 million (1 percent decrease) for Crosscutting. Funding for industrial technical support program also is cut by \$3.7 million, virtually closing out the program.
- **Natural Gas Technologies** – no new funding requested (\$32.7 million decrease)
- **Petroleum/Oil Technologies** – no new funding requested (\$31.7 million decrease)
- **University Reactor Infrastructure and Education Assistance** – no new funding requested (\$26.7 million decrease)

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Department of Health and Human Services

The \$698 billion FY 2007 budget request for the Department of Health and Human Services (HHS) reflects an increase of \$58 billion over FY 2006, most of which occurs in mandatory spending programs such as Medicare. Total discretionary spending drops by \$1.5 billion. Funding levels for discretionary programs such as the [Food and Drug Administration](#), [Centers for Disease Control and Prevention](#), and the [National Institutes of Health \(NIH\)](#) are diverse. For example, FDA would receive a \$71 million increase over its FY 2006 level, while CDC would experience a \$367 million decrease.

The Administration is proposing to terminate three HHS programs related to community and economic development -- [Community Services Block Grants](#) (\$630 million in FY06), [Community Economic Development](#) (\$33 million) and [Rural Community Facilities](#) grants (\$7 million).

Although the total NIH FY07 request of \$28.587 billion is the same as the FY06 program level, FY07 funding for all but one of the 24 institutes, centers and the National Library of Medicine that comprise NIH would decrease, based on the Administration's request. The exception is the National Institute of Allergy and Infectious Diseases, which would see a 0.2 percent increase to \$4.395 billion. Funding for the Office of the Director also would increase by \$140 million or 26.5 percent to support the Advanced Development fund described below.

Despite the level funding, NIH anticipates supporting 9,337 competing research project grants, an increase of 275 over the FY06 appropriation. It also plans to support 1,373 research centers via \$2.834 billion in proposed funding, a 2.3 percent or \$62 million increase.

Stipends for trainees supported by the Ruth L. Kirschstein National Research Service Award (NRSA) will remain at the FY06 appropriation levels. No increases are provided for other components of the NRSA training programs, such as tuition or health benefits. Training remains at approximately the same level as the FY06 appropriation, with support provided for 17,499 full-time training positions.

Specific funding priorities for NIH in FY07 include:

- **Biodefense** - \$1.9 billion (6.2 percent increase). Within this increase, NIH will direct \$160 million (\$110 million increase) to an Advanced Development fund. This initiative will support efforts to work with academia and industry to develop candidate countermeasures from the point of Investigation New Drug Application to the level that these candidate countermeasures could be eligible for acquisition by Project BioShield.
- **Roadmap for Biomedical Research** - \$443 million (\$113 million increase). The Roadmap consists of three main areas -- New Pathways to Discovery (\$181 million), Research Teams of the Future (\$81 million), and Re-engineering the Clinical Research Enterprise (\$181 million).
- **Enhanced Support for New Investigators** - \$15 million for a new Pathway to Independence program that will provide increased support for new investigators engaging in interdisciplinary research.
- **Genes, Environment and Health Initiative** - \$68 million for this new multi-year initiative to catalyze the development of U.S. biotech and make resulting data available to public and private researchers, speeding the development of new strategies and tools to fight disease.
- **HIV/AIDS Research** - \$2.9 billion (\$15.2 million or 0.5 percent decrease)

The FY07 [NIH SBIR/STTR](#) budget for research grants is estimated to total \$603 million, a \$2 million decrease. The total available for contract awards through the SBIR and STTR programs is estimated to be \$27 million, which is even with the FY06 level.

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[Department of Homeland Security](#)

With the FEMA fiasco related to last summer's hurricanes, it should not be too surprising that much of the agency's discussion of its FY 2007 budget involves ways to improve the nation's preparedness and responsiveness to catastrophic events and natural disasters. Overall, the Department of Homeland Security (DHS) budget request for FY07 is \$42.7 billion, reflecting a 5.8 percent increase above FY 2006 appropriations.

The FY07 budget request for the [Science and Technology Directorate](#), which oversees the agency's research, development, testing and evaluation (RDT&E) activities, is \$1.002 billion. The figure reflects a 33 percent decrease from the FY06 appropriation level. However, nearly all of that cut stems from a departmental reorganization which spun out the Domestic Nuclear Detection Office with its own appropriation request of \$536.8 million for FY07.

Of the four offices within the Science and Technology Directorate, the two most frequently encountered by the state and local technology-based economic development community are:

- [Office of Research and Development \(ORD\)](#) builds RDT&E capability through stewardship of the homeland security complex through the participation of universities, national laboratories, federal laboratories and research centers.
- [Homeland Security Advanced Research and Projects \(HSARPA\)](#) is the extramural research-funding arm of the S&T Directorate. It has at its disposal a full range of contracting vehicles and the authority under the Homeland Security Act of 2002 to engage businesses, federally funded research and development centers, universities, and other government partners in performing its mission to gather, generate and develop ideas, concepts and advanced technologies to protect the homeland.

The agency's *FY07 Budget in Brief* breaks down the S&T directorate budget by program area rather than office. Reduced funding is requested for nearly every research program area, including a 16.7 percent decrease for the University and Fellowship Program. Fiscal year 2007 funding for the program, which supports university-based DHS Centers of Excellence, is \$51.97 million (\$10.4 million decrease).

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[Department of Housing and Urban Development](#)

The Administration's FY 2007 budget request for the Department of Housing and Urban Development (HUD) is \$33.528 billion, a 29.9 percent decrease from the FY 2006 appropriation of \$47.826 billion.

The [Office of Community Planning and Development](#) would receive \$6.5 billion under the Administration's FY07 budget request, down from \$19.129 billion in FY06. **Policy Development and Research** would receive \$68 million, a \$13 million increase over the FY06 appropriation. **Research and Technology** would receive \$40 million (\$10 million increase), and **University Programs** would receive \$28 million (\$8 million increase).

The FY07 budget proposes to reduce funding for the [Community Development Block Grant \(CDBG\) program](#) to \$3.032 billion, a 27.4 percent cut from the FY06 appropriation of \$4.178 billion. In addition, formula changes will be proposed to direct more of the program's base funding to communities that cannot meet their own needs, and bonus funds will be available to communities that demonstrate the greatest progress in expanding home ownership and opportunity for their residents.

The CDBG budget request is in keeping with the Administration's Strengthening America's Communities Initiative (SACI), which was first proposed in FY06. SACI calls for the termination of more than a dozen programs in several agencies and reduces overall federal support for local and regional community and economic development. CDBG and the [Economic Development Administration \(EDA\)](#), the two largest programs affected by the SACI proposal, eventually would be merged into a single, smaller competitive grant program tailored more

toward technology-based economic development activities. SACI is to be administered by the Department of Commerce. In FY07, EDA will work with CDBG to explore the implementation of complementary program performance goals and metrics.

Also, in keeping with FY06 proposals, several HUD programs dedicated to economic development are slated for elimination in FY07, including [Brownfields Redevelopment](#), [Rural Housing and Economic Development](#), [Section 108 Loan Guarantees](#), Community Development Loan Guarantees, [Economic Development Initiatives and Special Purpose Projects](#), [Neighborhood Network Initiative](#) and Neighborhood Initiative Demonstration, [Renewal Communities](#), [Urban Empowerment Zones and Enterprise Communities](#), and [Partnership for Advancing Technology in Housing](#).

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Department of the Interior

The Administration's \$16.1 billion FY 2007 budget request for the Department of Interior (DOI) represents a 1.8 percent decrease from FY 2006. The budget includes \$467.5 million for the department's energy programs, a net increase of \$43.5 million over FY06. It also includes a \$43.2 million initiative to implement the department's top energy priorities -- the **Energy Policy Act of 2005** and the president's **National Energy Policy**.

Some DOI research-related items of potential interest:

- [US Geological Survey](#) - \$952 million (1.4 percent decrease), which includes a \$1.9 million package of increases for [gas hydrate research](#) and development, and \$172.6 million for biological research (3.3 percent decrease).
- [Water 2025](#) - \$14.5 million (\$9.6 million increase) to fund challenge grants, water system optimization analysis, and research to improve water purification technology.
- [Oil Spill Research Program](#) - \$6.9 million (\$103,000 decrease) to support oil pollution research and other duties related to oil spill prevention. The program is run within the [Minerals Management Service](#).

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Department of Labor

The Department of Labor's (DOL) discretionary budget request of \$10.9 billion is \$600 million less (5.5 percent decrease) than the FY 2006 appropriation. The agency's payroll, however would increase by 103 full-time equivalent positions, according to the budget overview.

The [Employment and Training Administration \(ETA\)](#) FY 07 budget request of \$5.6 billion reflects a 14.7 percent increase from the FY06 appropriation. Included in ETA funding is \$150 million (\$26 million increase) for [Community-Based Job Training Grants](#), in the effort to strengthen the role of community colleges in workforce investment. The grants build on the High Growth Job Training Initiative, which sought to prepare workers to take advantage of new and increasing job opportunities in high growth industries and sectors of the economy.

For a second straight year, the budget proposes to consolidate four DOL programs and state grants for basic employment services into a \$3.41 billion **Career Advancement Accounts**. The budget overview states that the new program includes formula grants and a National Reserve and will give states and the Secretary of Labor greater ability to target resources where needed, facilitate coordination, and eliminate duplication in the provision of services to adults, dislocated workers, and youth. The Administration tried unsuccessfully in FY06 to create a unified grant program by consolidating the WIA Adult, Dislocated Worker and Youth programs and Employment Service state grants. The FY07 consolidated program would be at least \$620.3 million under the comparable FY06 total for the programs.

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Department of Transportation

The Administration's FY 2007 budget request of \$65.6 billion for the Department of Transportation (DOT) is \$135 million higher than the FY 2006 appropriation. DOT's request would be distributed across the department's five key strategic objectives:

- Improve safety (24.3 percent);
- Increase mobility (67.1 percent);
- Increase global transportation connectivity (0.3 percent);
- Protect the environment (6.4 percent); and,
- Support national security (0.7 percent).

The balance of 1.1 percent would go toward organizational excellence, according to the DOT Budget in Brief.

Among budget highlights, \$122 million is requested for the **Next Generation Air Transportation System initiative**, a multi-agency effort to explore new ways to manage air transportation through the use of modern technology. Of the total, \$80 million would go to the [Federal Aviation Administration \(FAA\)](#) for the Automatic Dependent Surveillance-Broadcast (ADS-B) technology, and another \$24 million would fund System Wide Information Management. This ADS-B will replace current radar systems and provide more accurate surveillance coverage.

The FY07 request for all research, engineering and development at FAA is \$130 million (\$7 million decrease), including \$88 million for continued research on aviation safety issues. The remaining research funding is for mobility and environmental issues.

The FY07 budget request of \$35.2 million for the [Research and Innovative Technology Administration \(RITA\)](#) includes \$8.2 million for R&D, a \$2 million increase. RITA supports transportation research that cuts across all modes of transportation and promotes innovative transportation technologies, such as hydrogen fuels and remote sensing.

For other DOT agencies, RITA also will undertake more than \$300 million in transportation-related research, education, and technology application on a reimbursable basis. Through the [University Transportation Centers Program](#), for example, RITA will support the education of transportation professionals in obtaining advanced degrees in transportation-related programs from participating universities.

Under the [Federal Highway Administration](#), \$467.6 million is requested for R&D, including an obligation limitation of \$429.8 million. The budget proposes dedicating an additional \$37.8 million from the FY07 federal-aid obligation limitation for research. This level of funding will provide FHWA resources to pursue work critical to the department and its stakeholders.

The [National Highway Traffic Safety Administration](#) budget request includes \$86 million to support crashworthiness research for occupant protection and biomechanics; driver distraction testing; crash causation research; the use of linked databases; and national crash data systems.

The FY07 budget request for the [Federal Transit Administration \(FTA\)](#) includes \$61 million for National Research, to be distributed across four programs:

- \$40.4 million for the [National Research and Technology Program](#). Within this program, \$1.2 million is

targeted for increased deployment of new low or zero emissions technology, particularly hybrid electric buses, by a greater number of the nation's transit agencies.

- \$9.3 million for the [Transit Cooperative Research Program](#);
- \$4.3 million for the [National Transit Institute](#) training programs; and,
- \$7 million for the **University Transportation Research Program**.

Similar to FTA, and keeping with FY06 following DOT restructuring efforts, funding for Research and Special Programs under the [Pipeline and Hazardous Materials Safety Administration](#) would be reflected in four accounts: Hazardous Materials Safety, Pipeline Safety, Emergency Preparedness Grants, and Administrative Expenses. The total for the four accounts in FY07 would be \$149 million, an increase of \$20 million over FY06 appropriations.

The [Federal Railway Administration](#) budget request for R&D is \$35 million, a \$20 million decrease over the FY06 appropriation. FRA support research efforts in the areas of rail systems safety.

Lastly, \$3.9 million in FY07 funding is requested for the [Minority Business Resource Center](#) program. Federal subsidy and administrative expenses of \$900,000 would support an \$18 million short-term loan guarantee program to assist small, disadvantaged and women-owned transportation-related businesses. In addition, \$3 million would fund the Minority Business Outreach program, which includes a clearinghouse for national dissemination of information on transportation-related projects and grants to minority educational institutions.

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[Department of the Treasury](#)

There are only four programs in the Treasury Department that SSTI monitors for the tech-based economic development community. Similar to the Administration's FY 2006 budget request, all are slated for termination or phase out in FY 2007. Congress restored 98.9 percent of the funding in its final FY06 appropriations.

The programs slated for termination include the [Community Development Financial Institutions \(CDFI\)](#) Programs (appropriated \$30.9 million in FY06), the [Bank Enterprise Award](#) (\$13.4 million), and the [CDFI Native Initiatives](#) (\$5.8 million).

The Administration's FY07 request includes \$4.3 million for CDFI to administer the [New Market Tax Credits](#), a 1.4 percent increase over the FY06 appropriation of \$4.25 million. The New Market Tax Credits provide credit against federal income taxes to taxpayers making qualified equity investments in designated Community Development Entities in order to attract private capital investments in low-income communities.

The budget request also provides \$3.5 million to phase out the existing CDFI portfolio of outstanding obligations from the programs slated for elimination.

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Environmental Protection Agency

The Administration's FY 2007 Environmental Protection Agency (EPA) budget request is \$7.3 billion, a 4.07 percent decrease from the FY 2006 appropriation*. The agency's **science and technology** programs would receive \$788.3 million, a 7.86 percent increase over the FY06 appropriation. However, funding for **research** would decrease by \$19.9 million.

More than \$100 million is requested in the FY07 budget to support EPA's new priorities in the [Energy Policy Act of 2005](#). Selected highlights include:

- \$50 million for the Diesel Emissions Reduction program to support cleaner fuels and diesel retrofits, rebuilds and replacements; and,
- \$11 million for development and implementation of the renewable fuel standard leading to increased market share of ethanol and renewable fuels.

The FY07 budget request includes \$184 million for [EPA Homeland Security](#) efforts, an increase of \$55 million over the FY06 appropriation. Funding requests include:

- \$33 million to protect drinking water from terrorist attacks, including additional Water Sentinel pilots;
- \$10 million to develop environmental preparedness and response capability; and,
- \$10 million to provide for environmental decontamination, including research and development.

To help promote scientific research, the president's budget request includes:

- \$7 million for a [Water Infrastructure Initiative](#) to generate the science and engineering needed to evaluate promising innovative technologies;
- \$4 million in additional support for FY07, for a total of \$8.6 million, to study the impacts of manufactured nanomaterials on human health and the environment and nanotechnology's potential beneficial uses; and
- \$8.9 million for the [Integrated Risk Information System](#), an Internet database of information on the potential human health effects of environmental substances.

In addition, the president is requesting an increase of \$16.9 million for the [Superfund](#), bringing FY07 total funding to \$1.258 billion. The Superfund appropriation includes \$27.8 million for **science and technology transfer**, a decrease of 7.8 percent from FY06.

Other EPA programs of interest include:

- [Pollution Prevention Grant Program](#) - \$5.9 million (\$1 million increase) to help state programs assist businesses and industries in identifying better environmental strategies and solutions for complying with federal and state environmental regulations.
- [Regional Science and Technology](#) - \$3.5 million (\$1,300 decrease) to support geographically targeted research activities.
- **Research** - \$479.4 million (\$19.9 million decrease)
 - [Computational Toxicology](#) - \$15 million (\$2.7 million increase) to apply mathematical and computational tools to advance the science needed to protect human health and natural ecosystems from pollutants.
 - [Environmental Technology Verification](#) - no funding requested (\$3 million decrease) for this voluntary, market-based verification program for commercial ready technologies.
 - [Human Health and Ecosystems](#) - \$161.3 million (\$6.4 million decrease) to enhance current risk assessment and management strategies and guidance to better consider risk determination needs for children.
 - [Fellowships](#) - \$8.4 million (\$3.3 million decrease) to support fellowships, including the Science to Achieve Results (STAR) program and the Greater Research Opportunity (GRO) graduate and undergraduate fellowships.

- [Pollution Prevention](#) - \$21.3 million (\$4.7 million increase) to facilitate the incorporation of pollution prevention concepts and principles into the daily operations of government agencies, businesses, manufacturers, nonprofit organizations, and individuals.
- [Science Advisory Board](#) - \$4.6 million (\$213,700 increase) to provide scientific, credible and technical assistance as may be requested by the Administration or Congress.
- [Science Policy and Biotechnology](#) - \$1.7 million (\$60,000 increase) to coordinate scientific, technical, and policy development activities within the Office of Prevention, Pesticides, and Toxic Substances. The Office of Science Coordination and Policy Biotechnology Team also is a focal point for coordination with other federal agencies on any issues involving biotechnology, including international activities.

*FY06 enacted amounts include a 0.476 percent rescission and additional 1 percent reduction.

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[NASA](#)

The FY 2007 budget request for NASA totals \$16.8 billion, a 1 percent increase from FY 2006. Included in the FY07 request is \$5.3 billion for the [Science Mission Directorate](#), an increase of 1.5 percent from FY06. However, funding for [Aeronautics Research](#) decreased 18.1 percent, totaling \$724.4 million for FY07.

Of the five directorates, the [Exploration Systems Mission Directorate \(ESMD\)](#) would receive the largest increase at \$3.98 billion, a 30.4 percent increase from FY06. Three-fourths of the ESMD FY07 budget, \$3.06 billion, is requested for the [Constellation Systems](#) Program -- a net increase of 76.4 percent above the program's FY07 appropriation level, which was 1.73 billion. This includes \$894.7 million (6.6 percent increase) to develop and implement the Crew Exploration Vehicle, which will replace the **Space Shuttle** that is due to retire in 2010.

The [Human Systems Research and Technology](#) FY07 budget request is \$274.6 million, a 56 percent decrease from FY06. Human Systems Research and Technology supports programs to develop and implement technology critical for supporting long-term human survival and performance during space expeditions.

The third and final component of ESMD is **Exploration Systems Research & Technology**. The budget request includes \$646.1 million (6.7 percent decrease) to support four programs:

- **Exploration Technology Development Program** - program develops key technologies to enable safe, affordable, effective and sustainable human and robotic exploration missions
- **Centennial Challenges Program** - program establishes purse awards to stimulate innovative technical accomplishments that could advance the state of civil space exploration and aeronautics
- **Robotic Lunar Exploration Program** - program develops robotic missions to the moon
- **Prometheus Power and Propulsion Program** - program develops nuclear technologies for power and propulsion

In NASA's new budget structure, the [Innovative Partnership Program \(IPP\)](#) and [Education](#) both fall under the newly created \$491.7 million **Cross-Agency Support Programs** budget category. The IPP would receive \$197.9 million for FY07, a decrease of 7.9 percent from FY06. IPP activities include Technology Transfer efforts (\$35.9 million), the [Space Products Development \(SPD\)](#) program (\$14.5 million), and [SBIR/STTR](#) programs (\$114.9 million). SPD operates through 12 [Research Partnership Centers](#) located at universities or nonprofit institutions throughout the country. Education programs would receive \$153.3 million, a 0.6 percent decrease from FY06. The [University Research Engineering & Technology Institutes program](#) is scheduled to expire in FY07, a \$21 million decrease from FY06.

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[National Science Foundation](#)

The Administration's FY07 National Science Foundation (NSF) budget request of \$6.02 billion reflects an increase of \$439 million or 7.9 percent from the FY06 appropriation.

Funding for fixed assets of the nation's research enterprise, such as instrumentation, research facilities, infrastructure and federally-funded R&D centers, receive \$1.685 billion in the FY07 request, a 13.2 percent increase above the FY06 plan.

Monies available for grants in fundamental science and engineering, for the centers programs and for capability enhancement are proposed to increase by 6.1 percent to \$2.915 billion in FY07.

FY07 budget requests for selected initiatives crossing several NSF directorates include:

- [National Nanotechnology Initiative \(NNI\)](#) - \$373.2 million (8.56 percent increase), including \$65 million to support approximately 50 new Nanoscale Interdisciplinary Research Teams. NSF is the lead for this multi-agency initiative. Total FY07 NNI funding across the 10 agencies involved drops 1.8 percent to \$1.277 billion.
- [Networking and Information Technology Research and Development \(NITRD\)](#) - \$903.74 million (11.5 percent increase), including \$35 million for [Cyber Trust](#). This research program is designed to ensure that computers and networks underlying national infrastructures, homes and offices can be relied on during cyber attacks. Cyber Trust is part of a larger NSF Cybersecurity and Information Assurance research effort totaling \$97 million, an increase of 26 percent in FY07.
- [International Polar Year](#) - \$61.6 million for a new program to celebrate the 50th anniversary of the International Geophysical Year 1957-58, in which unparalleled exploration of the Earth and space led to discoveries in many fields of science that have changed the way we view polar regions and their global significance. The funding request is the first of a two-year program to support U.S. polar research and education activities.
- [Partnership for Innovation](#) - \$9.19 million (2.11 percent increase). The program stimulates the transformation of knowledge created by the national research and education enterprise into innovations that creates new wealth, build strong local, regional and national economies and improve the national well-being.
- **Sensors for the Detection of Explosives** - \$20 million in new funding to support fundamental research and new technologies for sensors and sensor systems to improve the detection of explosives, including Improvised Explosive Devices.
- **Science Metrics** - \$6.8 million for a new research effort to address policy-relevant science metrics. The goal is to develop the data, tools, and knowledge needed to establish the foundations for an evidence-based "science of science policy."

Funding for NSF's centers programs, supported by many state tech-based economic development initiatives as well as NSF, is mixed. While total centers funding would increase by 2.6 percent to \$259.78 million, several individual center programs would experience cuts or virtually level funding.

- [Science and Technology Centers](#) - \$67.5 million (8.2 percent increase) distributed across several NSF directorates to support partnerships involving academia, industry, government laboratories, and other public and private organizations to explore research problems that require interdisciplinary expertise and high-risk approaches. NSF plans to initiate four new centers in FY06 and no new centers in FY07.

- [Engineering Research Centers \(ERCs\)](#) - \$62.8 million (1 percent decrease) within the Engineering Directorate to support partnerships involving academe, industry and NSF for development of next-generation advances in complex engineered systems important for the nation's future. The reduction is to to be absorbed by all current ERC recipients.
- [Materials Research Science & Engineering Centers](#) - \$55.7 million (3.8 percent increase) for grants to support multi-year interdisciplinary materials research in academic institutions across the country.
- [Nanoscale Science and Engineering Centers](#) - \$37.35 million (0.4 percent increase) across several directorates for multi-disciplinary research on the nanoscale.
- [Science of Learning Centers](#) - \$27 million (18.9 percent increase) across several directorates to continue support for multidisciplinary, multi-institutional centers to advanced understanding of learning.
- **Centers for Analysis and Synthesis** - \$6.46 million (1.1 percent increase) within the Biological Sciences Directorate to support two centers exploring ecological analysis and evolutionary biology.
- **Chemical Bonding Centers** - \$3 million (102.7 percent increase) are designed to support long-term "big questions" in basic chemical research.
- **Earthquake Engineering Research Centers** - no funding (\$6 million decrease) within the Engineering Directorate. Phaseout of the three existing centers is underway in FY06. The program was initiated in 1988.

The FY07 budget request for the Directorate for Engineering is \$628.55 million, an increase of \$47.63 million, or 8.2 percent, more than the FY06 total of \$580.92 million. Highlights in addition to the ERCs described above include:

- A proposed **Office of Emerging Frontiers in Research and Innovation (EFRI)** - \$25 million (new program) to help NSF focus on emerging areas in a timely manner. Each year, beginning in FY07, EFRI will annually recommend, prioritize, and fund interdisciplinary initiatives at the emerging frontier of engineering research and education.
- [SBIR / STTR programs](#) - \$108.9 million (8.5 percent increase) to support innovation research conducted by small technology firms.
- [Industry/University Cooperative Research Centers \(I/UCRCs\)](#) - \$6.8 million (no change) to further develop long-term partnerships among industry, academe and government and to allow the 50 existing centers to compete for supplements for fundamental research that will enhance their capabilities.
- [Grant Opportunities for Academic Liaison with Industry \(GOALI\)](#) - \$4.4 million (29.4 percent increase) to enable partnerships between industry and academe where there is a common intellectual and educational agenda.

The FY07 budget request for the Education and Human Resources (EHR) Directorate is \$816.2 million, an increase of \$19.35 million, or 2.5 percent above FY06 appropriations. Highlights include:

- [Experimental Program to Stimulate Competitive Research \(EPSCoR\)](#) - \$100 million (1.3 percent increase) to promote the development of selected states' science and technology resources through partnerships involving a state's universities, industry, government and the federal R&D enterprise.
- [Graduate Research Fellowships](#) - \$88 million (3.1 percent increase) to support the most promising graduate science, mathematics and engineering students in the U.S. for a broad range of disciplinary and interdisciplinary careers.
- [Informal Science Education](#) - \$65.6 million (4.7 percent increase) to promote public interest understanding and engagement in science and technology through voluntary self-directed, and life-long learning opportunities for children and adults.

- [Graduate Teaching Fellows in K -12 Education](#) - \$46.8 million (8.7 percent increase) to enable graduate students in NSF-supported Science, Technology, Engineering and Math (STEM) disciplines to acquire skills that will prepare them for professional and scientific careers.
- [Advanced Technological Education](#) - \$45.9 million (2.2 percent increase) to improve technician education in science- and engineering-related fields that drive the nation's economy, particularly at two-year colleges and secondary schools.
- [STEM Talent Expansion Program](#) - \$26 million (2 percent increase) to increase the number of U.S. citizens and permanent residents receiving associate or baccalaureate degrees in established or emerging STEM fields.
- [Center of Research Excellence in Science and Technology \(CREST\)](#) - \$24.9 million (39.3 percent increase). Two to four new CREST Centers will be initiated.
- [Integrative Graduate Education and Research Training](#) - \$24.6 million (4.9 percent increase) to prepare U.S. doctoral students for advancing knowledge in emerging areas of research and to pursue successful careers in academia, industry or the public sector.

Several activities within the EHR Directorate are proposed for budget reductions instead:

- [Course, Curriculum & Laboratory Improvement](#) - \$86.5 million (1.8 percent decrease) to support research on undergraduate STEM teaching and learning.
- [Math and Science Partnership](#) - \$46 million (27.2 percent decrease) to improve student outcomes in math and science for all students in grades K-12 through partnerships with higher education. Funding would support awards from previous years and new Teacher Institutes for the 21st Century with funds appropriated in FY06.

The FY07 budget request for the [Biological Science Directorate](#) is \$607.9 million, 5.4 percent higher than the FY06 budget of \$576.7 million. The [Emerging Frontiers](#) division, recipient of more than half of the directorate's increase, would see its budget grow 22.7 percent to \$99.2 million in FY06 with approval of the Administration's request. The Emerging Frontiers increase would allow expansion of the [Frontiers in Integrative Biological Research](#) program, initiation of a new program in theoretical biology and expanded R&D in sensor development.

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Regional Commissions and Authorities

There are five federally established regional commissions and authorities that are dedicated to improving the economic opportunities within specific geographic regions. The Appalachian Regional Commission, Delta Regional Authority and Denali Commission are dependent on annual appropriations. The Northern Great Plains Regional Authority did not receive any new federal funding in FY 2006 or the FY 2007 request. The Tennessee Valley Authority (TVA), the oldest and largest of the five, generates its budget primarily through power generation revenues. TVA still requires the government to approve or set its annual spending level.

- [Appalachian Regional Commission](#) - \$64.8 million (no change) to assist the 13-state, 410-county Appalachian Region in achieving socioeconomic parity with the nation through four goals, including increasing job opportunities and per capita income, strengthening the capacity of citizens to compete in the global economy, improving the region's competitiveness through development of key infrastructure, and reducing the region's isolation through the Appalachian Development Highway System (ADHS). ADHS receives an additional appropriation for road construction and maintenance.
- [Delta Regional Authority](#) - \$5.9 million (\$6 million decrease) to assist an eight-state, 240-county region of

demonstrated distress in obtaining the transportation and basic public infrastructure, skill training, and opportunities for economic development essential to strong local economies. An additional \$2 million the authority received from the Department of Agriculture is eliminated in FY07.

- [Denali Commission](#) - \$2.54 million (\$47.5 million decrease) to promote economic development in rural Alaska. In addition, the FY06 budget included \$86 million for the Commission in Congressional earmarked funds from several federal agencies that are not included in the Administration's FY07 request.
- [Tennessee Valley Authority](#) - \$8.4 million (\$6,000 increase). Established in 1933, TVA is a government-owned corporation for the unified development of a river basin comprised of parts of seven states. The agency finances its program primarily from proceeds available from current power operations and borrowings against future power revenues. TVA operates a series of 49 dams and reservoirs to reduce the risk of flooding, enable year-round navigation, supply affordable and reliable electricity, improve water quality and supply, provide recreational opportunities, and stimulate economic growth.

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[Small Business Administration](#)

The Administration requests \$624 million in FY 2007 funding for the Small Business Administration (SBA). Comparison with FY 2006 is challenging due to the disaster loans added to the SBA's authority in FY06. *Tech Daily* quotes an SBA official as saying the FY07 request "basically would be a straight-line" comparison to the FY 2006 appropriation.

Funding levels for selected activities identified as "core programs" in the agency's press release include:

- [Small Business Development Centers \(SBDC\)](#) - \$87 million (0.98 percent decrease) to support the 63 Lead SBDCs with a network of more than 1,100 service locations around the country that provide management assistance to current and prospective small business owners.
- [Women's Business Centers \(WBC\)](#) - \$12 million (2.76 percent decrease) to support a national network of more than 100 resource centers located throughout the U.S. to promote the growth of women-owned businesses. This is accomplished through programs that address business training and technical assistance and provide access to credit and capital, federal contracts, and international trade opportunities.
- [Service Corps of Retired Executives \(SCORE\)](#) - \$5 million (approximately level funding with FY06) to support 389 chapter offices to provide entrepreneurs with free, confidential face-to-face and e-mail business counseling services.
- [National Women's Business Council](#) - \$743,000 (0.2 percent increase) to support a bi-partisan federal advisory council created to serve as an independent source of advice and policy recommendations to the president, Congress and SBA on economic issues of importance to women business owners.
- [Veteran's Outreach](#) - \$743,000 (0.2 percent increase) to provide entrepreneurial development services such as business training, counseling and mentoring to eligible veterans owning or considering starting a small business.

No FY07 funds were requested for the **Program for Investment in Microentrepreneurs (PRIME)**. The program's last direct appropriations were \$2 million in FY06.

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