

R&D in Selected Agencies

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HIGHLIGHTS

- The **Department of Commerce** would see its R&D budget increase by 7.0 percent to \$1.1 billion in FY 2001 due to an expanded intramural research program at the National Institute of Standards and Technology (NIST), a substantial increase for the Advanced Technology Program (ATP), and a new Institute for Information Infrastructure Protection (IIIP). There would also be a substantial increase in Technology Opportunity Grants aimed at developing new technologies to improve public access to information technologies (see Table II-14).
- R&D in the **Department of the Interior** would increase by 2.9 percent to \$590 million in FY 2001. Interior's lead science agency, the U.S. Geological Survey (USGS), would receive 7.3 percent more for its R&D programs for a total of \$539 million. USGS would place a high priority on geographic and biological research (see Table II-16).
- The **Department of Transportation's** (DOT) R&D in FY 2001 would increase substantially by \$172 million or 28.3 percent to \$778 million (see Table II-15) for aviation, highway, and traffic safety R&D. The budget proposes to finance much of the increase with additional highway trust fund revenues, but a similar proposed increase was rejected by Congress last year.
- The **Environmental Protection Agency's** (EPA) R&D budget would increase 4.0 percent to \$673 million (see Table II-17). Research on clean air, ecosystems, risk assessment, and emerging risk issues would be high priorities in the request.

DEPARTMENT OF COMMERCE

The FY 2001 R&D request for the Department of Commerce totals \$1.1 billion, a \$75 million or 7.0 percent increase over FY 2000 (see Table II-14). Most of the increase is due to three R&D programs in the **National Institute of Standards and Technology** (NIST): the Measurement and Standards Laboratories (MSL), the Advanced Technology Program (ATP), and a new Institute for Information Infrastructure Protection.

The MSL program funds NIST's intramural R&D at its Colorado and Maryland laboratories. NIST's labs provide U.S. industry with industrial standards and measurement technologies, and aim to bridge the gap between industrial R&D in company laboratories and the more basic research conducted in university and government labs. After several years of small requested increases, MSL R&D would jump by \$33 million or 14.0 percent to \$269 million. The increases would go toward the areas of manufacturing engineering, chemical sciences, physics, computer sciences, and applied mathematics to assist the semiconductor and electronics industries; to support expanded use of e-commerce by U.S. businesses; and to contribute to the Administration's nanotechnology initiative.

The ATP would receive \$148 million for its R&D activities in FY 2001, a 28.9 percent increase. ATP provides cost-shared, precompetitive research grants to industrial firms for developing promising new technologies with commercial potential. The Administration regularly requests substantial increases for this program, but Congress has usually cut the budget or given only a small increase.

NIST's new R&D program for the Institute for Information Infrastructure Protection (IIIP) would kick off in FY 2001 with an R&D budget of \$44 million out of a total \$50 million request. IIIP would support research and technology development to protect critical information and telecommunications infrastructures from attack or other failures. IIIP plans to foster partnerships between industry, universities, and government through competitively awarded research grants, mostly to external performers.

Total NIST R&D would increase 8.6 percent to \$497 million, with the

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large increases for the above three programs balanced by a substantial cut in the Construction of Research facilities account, which would fall from \$107 million to \$36 million because of expected completion with FY 2000 funds of the Advanced Measurement Laboratory.

The **National Oceanic and Atmospheric Administration** (NOAA), Commerce's other major R&D agency, performs R&D related to its mission of environmental stewardship of coastal and marine environments and the atmosphere to ensure sustainable economic opportunities. Of NOAA's \$2.8 billion FY 2001 discretionary budget, \$594 million (nearly the same as FY 2000) would go to R&D. Although the total request would represent an increase of nearly \$500 million, the increases would go to non-R&D programs in systems procurement, coastal impact assistance, coastal resources grants, and a Pacific Coastal Salmon Recovery initiative. (For details of NOAA's R&D request, please see Chapter 17.)

The National Telecommunications and Information Administration (NTIA) would increase its support of R&D from \$20 million to \$53 million in FY 2001. In addition to boosting its support for telecommunications sciences research from \$4 million to \$8 million, NTIA would nearly triple its support of Technology Opportunity Grants from \$16 million to \$45 million. These grants fund the development of innovative information technology systems to provide the benefits of information technology to Americans in under-served communities.

DEPARTMENT OF THE INTERIOR

The Department of the Interior's R&D would total \$590 million in FY 2001 (up 2.9 percent) out of a total budget of \$9.1 billion (up 10.5 percent). Interior's main science agency, the U.S. Geological Survey (USGS), would boost its budget by nearly 10 percent to \$896 million. Almost two-thirds of its budget is R&D, which would total \$539 million for an increase of 7.3 percent or \$37 million.

The FY 2001 USGS R&D budget would rise because of boosts in its geographic and biological research, mostly focused on improving USGS contributions to the science needs of Interior's land and resource management bureaus. National Mapping Program R&D would jump by

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66 percent to \$38 million because of increased efforts in geographic research, including studies of historical trends in land use changes and research on strengthening modeling capabilities for the potential impacts of resource management decisions. Biological research would increase from \$137 million to \$151 million to fund expanded research on decision support tools for Interior land managers, research support for other Interior bureaus, and research on aquatic resources and amphibians. Within the small increase for Geologic and Mineral Resources, there would be an increased emphasis on earthquake hazards R&D for better seismographic equipment, and on volcanic R&D focusing on Alaska. Water Resources R&D would stay nearly even at \$132 million, and most programs would be funded at close to FY 2000 levels for this division's activities in water resources R&D, hydrology, and water quality.

Although USGS is Interior's primary science agency, other Interior bureaus also fund small amounts of R&D. The Minerals Management Service would reduce its R&D by two-thirds to \$11 million. The National Park Service would keep its R&D funding steady at \$31 million. Roughly half of this effort is for R&D related to ecosystems in the Florida Everglades. (For more information, please see Chapters 17, 18, and 19.)

DEPARTMENT OF TRANSPORTATION (DOT)

DOT asks for a total budget in FY 2001 of \$58.3 billion (up 9.7 percent or \$5.2 billion), including appropriations, transportation trust funds, and mandatory programs. Over half would go toward the Federal Highway Administration (FHWA), mostly for spending out of the highway trust funds for road projects. R&D is a relatively small part of the DOT budget and would total only \$778 million in FY 2001, but this would represent an increase of \$172 million, or 28.3 percent (see Table II-15).

Transportation funding increased dramatically beginning in FY 1999 as a result of the six-year (FY 1998-2003) reauthorization of transportation programs known as the Transportation Equity Act for the 21st Century (TEA-21), which was signed into law in June, 1998. The law specifies that transportation tax revenues will be devoted exclusively to transportation and specifies formulas for allocating these funds. In the past, a portion of these revenues was used to finance other federal programs. As a result, DOT's budget climbed from \$44 billion in FY 1998

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to \$53 billion in FY 2000, with a proposed increase to \$58 billion in FY 2001 as a result of burgeoning revenues from transportation taxes.

The Administration proposes to reallocate a portion of increased transportation tax revenues in FY 2001 for purposes not currently specified in TEA-21. FHWA R&D would total \$314 million in FY 2001 under the proposal, up \$57 million or 22.3 percent over FY 2000. Most of the increase would come from reallocated funds. The proposal would nearly double funding for surface transportation research to \$128 million (up from \$72 million) for research on transportation structures, pavements, and highway safety. Intelligent Transportation Systems (ITS) R&D would increase from \$41 million to \$47 million to finance research on intelligent vehicles and advanced information technologies.

DOT also proposes to reallocate TEA-21 funds to help finance increases in R&D in other DOT agencies (see Table II-15), including the National Highway Traffic and Safety Administration (NHTSA) which would see its R&D budget climb from \$51 million to \$95 million. The increase would pay for expanded efforts in biomechanics, driver/vehicle performance, and safety systems research.

The Federal Aviation Administration (FAA) would increase its R&D investment by 25.7 percent to \$284 million in FY 2001. There would be a large increase in FAA's main Research, Engineering, and Development account to finance expanded research efforts in aircraft structures, aircraft materials, aviation security, and weather. There would also be a substantial increase in the Free Flight program, an initiative to develop improved air-traffic and navigation systems for commercial airliners.

Although R&D is only a small portion of the total DOT budget, the Administration's proposals to allocate additional revenue to R&D and other purposes may not be received favorably by Congress, which has traditionally favored funds for highway construction and maintenance. Last year, a similar increase for DOT R&D paid for through reallocated funds was rejected by Congress.

ENVIRONMENTAL PROTECTION AGENCY (EPA)

EPA's budget would total \$7.3 billion in FY 2001, a cut of \$287 million or

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3.8 percent from FY 2000 because of cuts to state and tribal assistance grants, perennially a higher priority for Congress than for EPA. Most other EPA accounts would increase. EPA's R&D would increase from \$647 million to \$673 million (up 4.0 percent; see Table II-17).

In response to the Government Performance and Results Act (GPRA), EPA has organized its programs around 10 strategic goals. In order to fulfill its goal of achieving clean air, EPA would focus its clean air research agenda on particulate matter (PM) research, tropospheric ozone, and air toxics. In FY 2000, Congress appropriated \$62 million for PM research, and the FY 2001 request would provide \$65 million. Tropospheric ozone research would increase from \$6 million to \$9 million. Through these programs, EPA hopes to better understand how to attain National Ambient Air Quality Standards for these substances.

Most of EPA's R&D is organized around the strategic goal of "Sound Science, Improved Understanding of Environmental Risk, and Greater Innovation to Address Environmental Problems." The \$248 million budgeted for this goal in FY 2001 would address long-term research needs in ecosystems assessment and restoration, human health risk assessment, emerging environmental risks, and new technologies for pollution prevention. These programs aim to strengthen the scientific basis for EPA's environmental protection activities and to better integrate risk assessment into the agency's priority-setting process. Programs in the Sound Science goal also nurture ties between EPA and the wider scientific community. The Science to Achieve Results (STAR) program provides peer-reviewed research grants to universities, nonprofits, and other external performers, and also supports fellowships; Regional Geographic programs foster partnerships between EPA and local governments to address local environmental problems; and the Science Advisory Board provides independent scientific advice on EPA's research programs.

Although most of EPA's R&D is funded in the Science and Technology account, the Superfund program also funds R&D, a total of \$36 million in FY 2001 that is transferred to the S&T account for research on assessing and remediating contaminated sites. Superfund would also transfer \$49 million in FY 2001 to the National Institute of Environmental Health Sciences (NIEHS) for its research program on environmental health.