

DOT Proposes Increase for Highway R&D, Cut in Aviation R&D

AAAS R&D Funding Update on R&D in the FY 2008 DOT Budget

(This analysis is a preview of the DOT section in the forthcoming *AAAS Report XXXII: Research and Development FY 2008*, a comprehensive look at the President's budget for R&D in FY 2008. This analysis contains revised AAAS estimates of DOT R&D, different from figures originally presented in the President's budget. More tables and continually updated supplemental materials on R&D in the FY 2008 budget can be found on the AAAS R&D Web site at <http://www.aaas.org/spp/rd>.)

Highlights

- **Department of Transportation's (DOT) R&D funding would increase 2.4 percent to \$813 million** (see Table II-15) because of requested cuts in aviation R&D combined with increases for highway R&D.

DOT R&D in the FY 2008 Budget

The Department of Transportation (DOT) funds a broad range of highway, aviation, traffic safety, rail, transit, and marine transportation programs. **R&D is a relatively small part of a \$67 billion DOT budget and would total \$813 million in FY 2008, a small increase of 2.4 percent or \$19 million over the recently finalized 2007 budget that just keeps pace with expected inflation (see Table II-15).** Funding for aviation R&D would fall, along with R&D on most other transportation modes, but highway R&D would continue to increase by \$49 million to \$410 million.

Transportation funding is unusual in that although funds are appropriated, as they are for other discretionary programs, minimum funding levels each year are guaranteed by transportation authorization bills. Transportation appropriators must provide the funds necessary to meet these guarantees, occasionally adding to them or modifying them, before appropriating funds for programs outside the authorization bills. Because of congressional delays in wrapping up 2007 appropriations DOT only received its final 2007 budget on February 15, 4 ½ months into the fiscal year. DOT's R&D programs received far less than requested and a cut compared to 2006. (All figures in this analysis reflect estimates of final 2007 appropriations as signed into law on February 15.)

DOT programs are operating under a transportation authorization bill signed into law in August 2005 that dramatically increases highway R&D funding beginning in 2006 and extending through 2009. Nearly all the funds from the transportation authorization bill go to the Federal Highway Administration (FHWA) for state and local road projects, mostly in formula distributions but also in congressionally designated earmarked projects. FHWA's R&D portfolio is a mixture of formula funds for state transportation R&D, earmarked R&D projects, and intramural research. The highway bill helped FHWA R&D climb in 2006 and 2007 to record highs. The FY 2008 budget, still based on the multi-year highway bill, would sustain those increases with a \$410 million R&D investment, an increase of 13.7 percent. Based on past experience, FHWA is unlikely to get the full increase after Congress allocates some of the proposed increases to other programs. The surface transportation research portfolio on highway safety, pavement technologies, highway operations, environmental impacts, and other road topics would increase \$20 million to \$136 million in FY 2008. The Intelligent Transportation Systems (ITS) portfolio of innovative technologies to improve traffic flow would also increase dramatically to \$84 million, up \$20 million. The FHWA budget also includes state highway R&D, distributed to state and local governments to support their R&D efforts, with a proposed 5.7 percent increase to \$172 million in the 2008 request.

Federal Aviation Administration (FAA) R&D would total \$258 million in 2007, a sharp cut of 15 percent or \$46 million that repeats recent attempts to cut aviation R&D. The past two DOT budget requests have proposed cuts in FAA R&D, but Congress has ended up boosting FAA's R&D efforts in a number of aviation-related topics, including weather research, aircraft safety technology, human factors research, and development of next-generation technologies to improve aviation system capacity. The FY 2008 request proposes an increase in FAA's main Research, Engineering, and Development account, which is mostly focused on aviation safety, but once again proposes steep cuts in the Facilities and Equipment portfolio of advanced technology development for next-generation aviation systems.

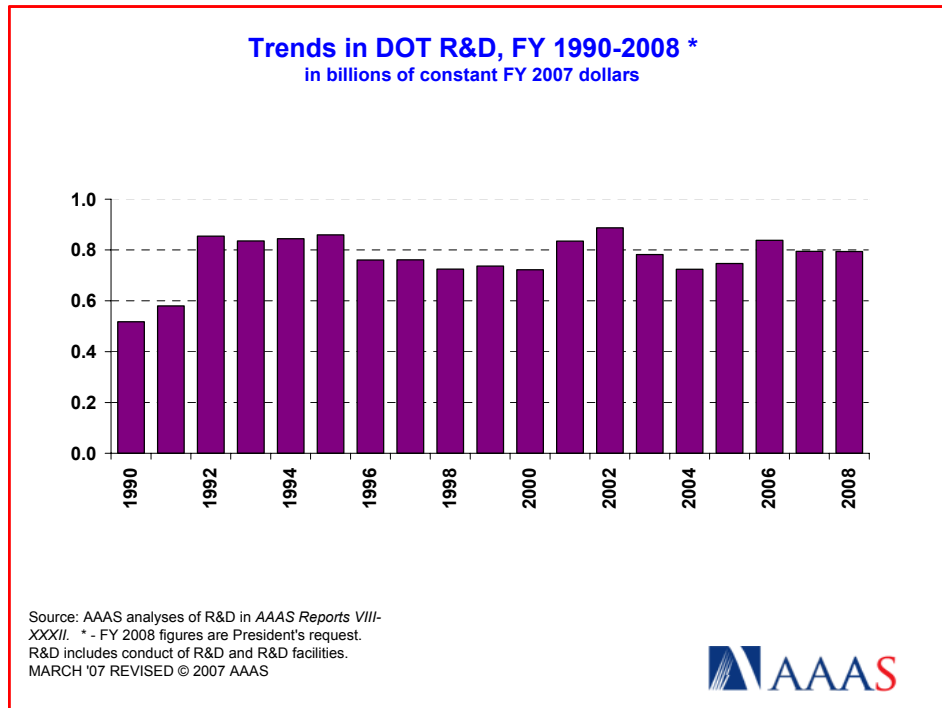


Figure 1. (click on the image for PDF)

Outlook and Impacts for the DOT Budget

Because of large increases for DOT R&D in FY 2001 and FY 2002 responding to the September 11 terrorist attacks on U.S. aviation, DOT's support for R&D reached a peak in FY 2002, after adjusting for inflation (see Figure 1). But with the transfer of aviation security R&D to the Department of Homeland Security (DHS), recent reductions in key programs, and the transfer of the Coast Guard and its R&D program to DHS, DOT R&D declined sharply in FY 2003 and 2004 before rebounding, nearly reaching the peak funding level in 2006. The 2006 budget actually exceeded previous highs, however, after adjusting for the Coast Guard and FAA transfers to DHS. The 2007 and 2008 budgets would retreat slightly from the 2006 peak.

The majority of DOT's R&D is performed by industrial performers and federal laboratories, with industry performing nearly 40 percent and federal labs 25 percent of all DOT R&D (see Figure 2). Universities and colleges perform just 7 percent. Unlike the other large R&D funding agencies, a large proportion (23 percent) is performed by state and local governments. Most of this money comes from the FHWA under formula grants.

More than three-quarters of DOT's research (excluding development and R&D facilities) is in the engineering sciences, particularly in civil engineering, but DOT also is a key federal funding source for research in psychology and environmental sciences. DOT is only the sixth-largest supporter of engineering research despite its importance in the DOT portfolio, funding only 4 percent of all federal support for

engineering. The major sponsors of engineering research are the Department of Defense (DOD), the National Aeronautics and Space Administration (NASA), and the Department of Energy (DOE), with about a quarter each of total federal support, followed by the National Institutes of Health and the National Science Foundation.

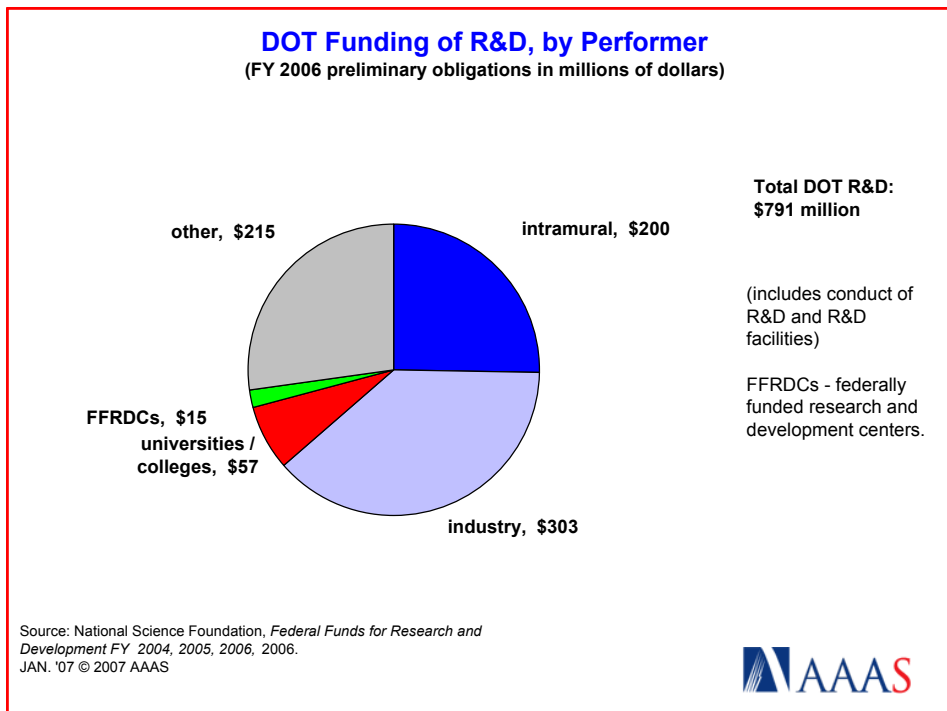


Figure 2. (click on the image for PDF)

Outlook for the DOT Budget

The 2008 DOT budget now goes to a new Democratic majority in the 110th Congress, which just last month wrapped up 2007 appropriations. Because of strong bipartisan support for transportation funding, however, the change in parties is expected to have little impact on DOT's R&D. If past patterns hold, some of the proposed FHWA increases will be chiseled down to allow for more funding for non-R&D programs, while funding for FAA cuts will be boosted.

(More materials on R&D in the FY 2008 budget, historical data and charts, and more information on *AAAS Report XXXII: Research and Development FY 2008*, can be found on the AAAS R&D Web site at <http://www.aaas.org/spp/rd>.)

- March 2, 2007

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Table II-15. Department of Transportation R&D

Table II-15. R&D in the Department of Transportation
(budget authority in millions of dollars) *

	FY 2006	FY 2007	FY 2008	Change FY 07-08	
	Actual	Estimate ^	Budget	Amount	Percent
Federal Aviation Administration	310	303	258	-46	-15.0%
- <i>Research, Eng. & Development</i>	137	130	140	10	7.7%
- <i>Facilities and Equipment</i>	160	160	108	-52	-32.6%
- <i>All Other</i>	14	14	10	-4	-25.8%
Federal Highway Administration	347	361	410	49	13.7%
- <i>Surface Transportation Res.</i>	116	116	136	20	17.0%
- <i>Intelligent Transportation Sys.</i>	64	64	84	20	30.3%
- <i>State Planning and Research</i>	149	163	172	9	5.7%
- <i>All Other</i>	17	17	18	1	5.4%
Federal Transit Administration	18	10	13	3	24.7%
Nat'l High. Traffic & Safety Adm.	58	58	66	8	14.2%
Federal Railroad Administration	48	36	36	0	-0.4%
Office of the Secretary	15	5	9	4	85.6%
Pipeline and Hazardous Materials	12	10	7	-4	-36.7%
Research and Innov. Tech.	2	2	8	6	253.1%
Federal Motor Carrier Safety Admin.	9	9	7	-2	-24.4%
Total DOT R&D	817	794	813	19	2.4%

Source: OMB data for R&D for FY 2008; agency budget justification; agency documents.
All figures are rounded to the nearest million. Changes calculated from unrounded figures.

* - DOT budget includes budget authority, limitations on obligations, and other resources.

March 1, 2007 - revised

^ - FY 2007 figures are AAAS estimates of final FY 2007 appropriations (P.L. 110-5).