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Big Increases for Aviation and Highway R&D in 2009 Budget

AAAS R&D Funding Update on R&D in the FY 2009 DOT Budget

(This analysis is a preview of the DOT section in the forthcoming *AAAS Report XXXIII: Research and Development FY 2009*, a comprehensive look at the President's budget for R&D in FY 2009. 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 2009 budget can be found on the AAAS R&D Web site at http://www.aaas.org/spp/rd.)

Highlights

- The **Department of Transportation's (DOT) R&D funding would increase 9.9 percent or $81 million to $902 million in fiscal year (FY) 2009** (see Table II-15) because of large requested increases for aviation R&D and highway R&D.

DOT R&D in the FY 2009 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 $57 billion DOT budget but would increase nearly 10 percent to $902 million in FY 2009, an $81 million increase primarily for aviation programs but also for highway R&D (see Table II-15).** R&D funding would increase even as the total DOT budget would fall 10 percent to $57 billion, though primarily because of proposed rescissions in previously appropriated funds.

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. 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 2009 budget, still based on the multi-year highway bill, would sustain those increases with a $393 million R&D investment, an increase of $20 million or 5.4 percent. The surface transportation research portfolio on highway safety, pavement technologies, highway operations, environmental impacts, and other road topics would increase $23 million to $167 million in FY 2009 with increases across the board. The Intelligent Transportation Systems (ITS) portfolio of innovative technologies to improve traffic flow would also increase to $51 million, up $7 million. The FHWA budget also includes state highway R&D, distributed to state and local governments to support their R&D efforts, but funding for these state funds would decline $11 million or 6.4 percent to $156 million in the 2009 request.

Federal Aviation Administration (FAA) R&D would receive a large increase of 24 percent in 2009 to $335 million, a reversal of the past three DOT budget requests which proposed cuts in FAA R&D. The FAA funds a number of R&D efforts on 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 2009 request focuses its increases on the Next Generation Air Transportation System (NextGen), a suite of technologies and operating systems envisioned to transition the U.S. civil aviation system from radar-based to satellite-based navigation and to boost capacity while preserving safety. Increases related to NextGen would boost funding for both FAA's main Research, Engineering, and Development (RE&D) account and also the Facilities and Equipment portfolio of advanced technology development for next-generation aviation systems. The RE&D NextGen increases would focus on environmental research, especially on aircraft technologies that would reduce emissions and noise.

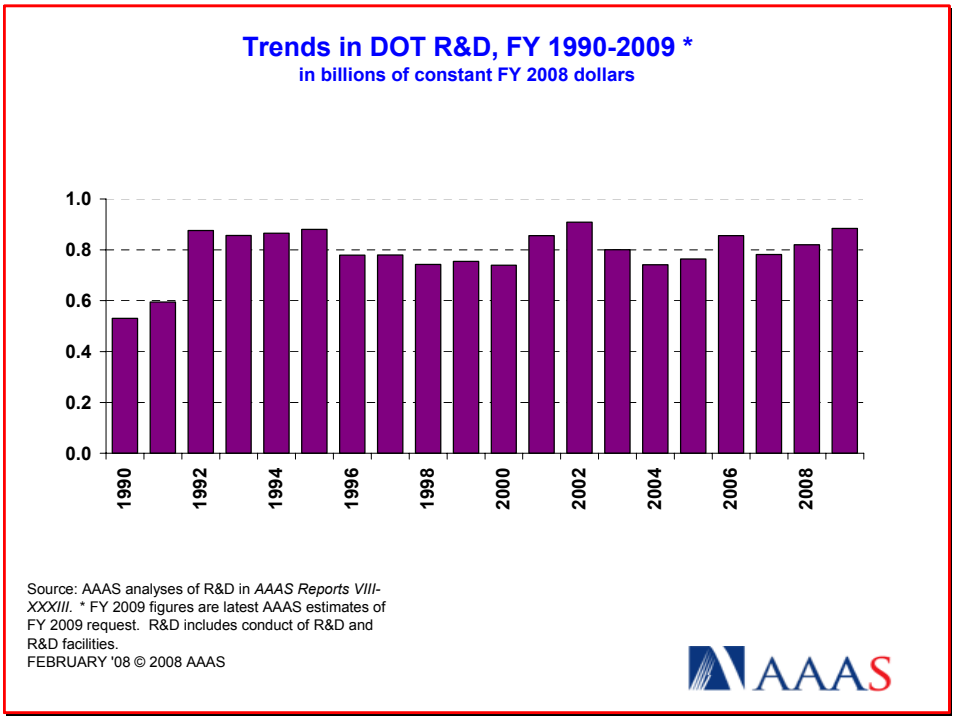

Figure 1. (click on the image for PDF)

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), 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 retreated slightly from the 2006 peak, but the 2009 request, if enacted, would be the largest DOT R&D budget in history for the programs that are currently a part of DOT.

The majority of DOT's R&D is performed by industrial performers and federal laboratories, with industry performing half and federal labs a third 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 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.

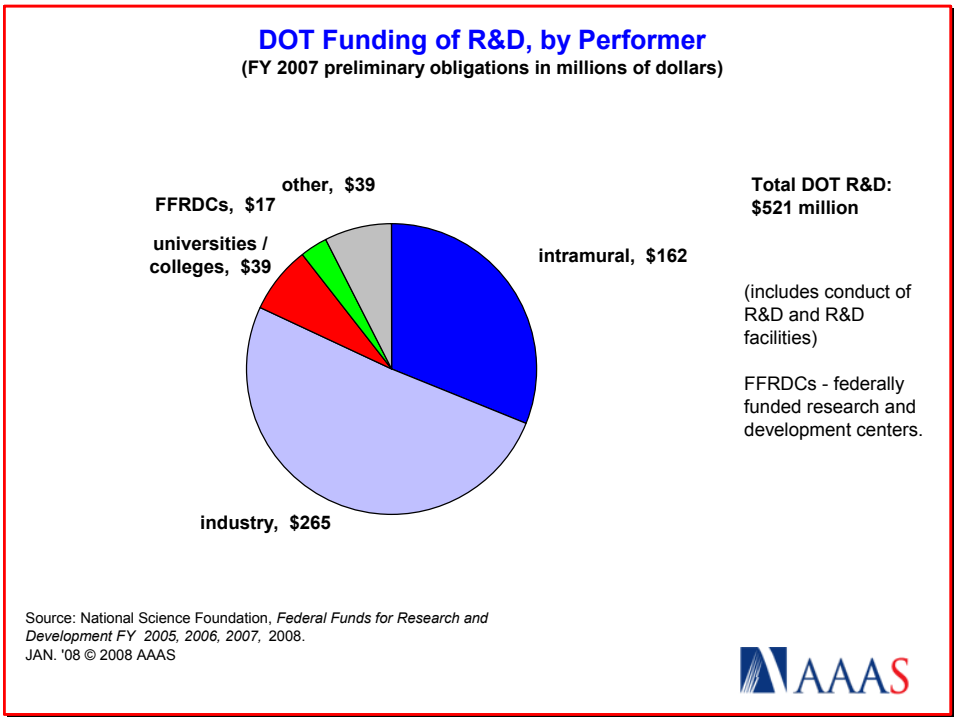

Figure 2. (click on the image for PDF)

Outlook for the DOT Budget

The 2009 DOT budget is likely to be received favorably in Congress, although there are concerns about the proposed rescissions of funds that make the total DOT budget appear to fall sharply. Because of increased congressional concerns about improving air-traffic capacity and boosting infrastructure investments, the R&D request should be favorably received on Capitol Hill, but some of the R&D increases could be chiseled down to allow for more funding for non-R&D programs.

(More materials on R&D in the FY 2009 budget, historical data and charts, and more information on *AAAS Report XXXIII: Research and Development FY 2009*, can be found on the AAAS R&D Web site at http://www.aaas.org/spp/rd.)

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

	FY 2007 Actual	FY 2008 Estimate	**FY 2009 Budget**	Change FY 08-09 Amount	Change FY 08-09 Percent
Federal Aviation Administration	234	271	**335**	64	23.7%
- Research, Eng. & Development	*130*	*147*	***171***	*24*	*16.5%*
- Facilities and Equipment	*95*	*114*	***161***	*47*	*41.3%*
- All Other	*8*	*10*	***2***	*-7*	*-74.4%*
Federal Highway Administration	371	373	**393**	20	5.4%
- Surface Transportation Res.	*126*	*144*	***167***	*23*	*16.0%*
- Intelligent Transportation Sys.	*61*	*44*	***51***	*7*	*17.0%*
- State Planning and Research	*166*	*167*	***156***	*-11*	*-6.4%*
- All Other	*18*	*18*	***18***	*0*	*2.3%*
Federal Transit Administration	8	13	**18**	5	42.1%
Nat'l High. Traffic & Safety Adm.	79	83	**83**	0	0.2%
Federal Railroad Administration	37	39	**37**	-2	-4.8%
Office of the Secretary	15	14	**10**	-4	-27.2%
Pipeline and Hazardous Materials	12	11	**9**	-2	-21.2%
Research and Innov. Tech.	3	10	**10**	1	6.3%
Federal Motor Carrier Safety Admin.	9	8	**6**	-1	-16.7%
Total DOT R&D	767	820	**902**	81	9.9%

Source: OMB data for R&D for FY 2009; 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.
See Chapter 12 for a discussion of DOT R&D.
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DOT Budget (includes R&D components; budget authority in millions): *

	FY 2007 Actual	FY 2008 Estimate	**FY 2009 Budget**	Change FY 08-09 Amount	Change FY 08-09 Percent
Federal Highway Administration 1/	37,764	39,226	**29,084**	-10,142	-25.9%
Federal Aviation Administration	14,696	11,220	**14,644**	3,424	30.5%
Federal Transit Administration	9,987	9,462	**10,136**	674	7.1%
Federal Railroad Administration	1,477	1,576	**1,087**	-489	-31.0%
Nat'l Highway Traffic Safety Admin.	821	815	**852**	37	4.5%
All Other 2/	1,417	1,412	**1,513**	101	7.2%
Total DOT Budget *	65,994	63,437	**57,138**	-6,299	-9.9%

Source: *Budget of the United States Government FY 2009.*
* - DOT budget includes budget authority, limitations on obligations, and other resources.
1/ FY 2009 Request includes rescissions of previous contract authority.
2/ Includes Office of Secretary, RITA, Pipeline, Maritime Administration, Bureau of Transportation Statistics, and others.
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