

DOT R&D Falls from Record High in 2007

AAAS R&D Funding Update on R&D in the FY 2007 DOT Budget

(This analysis is a preview of the Dept. of Transportation section in the forthcoming *AAAS Report XXXI: Research and Development FY 2007*, a comprehensive look at the President's budget for R&D in FY 2007. 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 2007 budget can be found on the AAAS R&D Web site at <http://www.aaas.org/spp/rd>.)

Highlights

- **After a dramatic increase to an all-time high in 2006 resulting from last summer's highway bill, the Department of Transportation's (DOT) R&D funding would fall 8.5 percent or \$71 million to \$767 million in FY 2007** (see Table II-15). Highway R&D would continue to increase, with a 4.6 percent boost to \$397 million.

- R&D in the Federal Aviation Administration (FAA) would fall 24 percent down to \$235 million after a substantial congressional increase in 2006.

DOT R&D in the FY 2007 Budget

The Department of Transportation (DOT) funds a broad range of highway, aviation, traffic safety, rail, transit, and marine transportation programs. Its total budget would be \$63.6 billion in the FY 2007 request, an increase of \$1.8 billion or 2.9 percent. **R&D is a relatively small part of the DOT budget and would total \$767 million in FY 2007, a cut of 8.5 percent or \$71 million that would retreat from a dramatic increase of \$131 million in 2006 to an all-time high (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 \$18 million to \$397 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.

After nearly two years of stops and starts and temporary extensions, Congress approved a new authorization bill 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, commonly called the highway 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 25 percent in 2006 to a record \$380 million. The FY 2007 budget, still based on the multi-year highway bill, would sustain those increases with a \$397 million R&D investment, an increase of 4.6 percent. The surface transportation research portfolio nearly doubled last year to \$147 million for R&D on highway safety, pavement technologies, highway operations, environmental impacts, and other road topics, and would be sustained at that level for FY 2007. The Intelligent Transportation Systems (ITS) portfolio of innovative technologies to improve traffic flow and reduce traffic congestion enjoyed a big boost last year from the highway bill and would be sustained at \$75 million in 2007. The FHWA budget also includes state highway R&D, distributed to state and local

governments to support their R&D efforts, with a proposed 11.5 percent increase to \$166 million in the 2007 request.

Federal Aviation Administration (FAA) R&D would total \$235 million in 2007, a sharp cut of 24 percent or \$75 million coming after a large increase in 2006. Last year's budget request proposed cuts in FAA R&D, but Congress boosted FAA's R&D efforts in a number of aviation-related topics, including weather research, aircraft safety technology, human factors research, and development of 'free flight' technologies to improve aviation system capacity. The FY 2007 request proposes only slight cuts in FAA's main Research, Engineering, and Development, which is mostly focused on aviation safety, but proposes steep cuts in the Facilities and Equipment portfolio of advanced technology development and 'free flight' technologies.

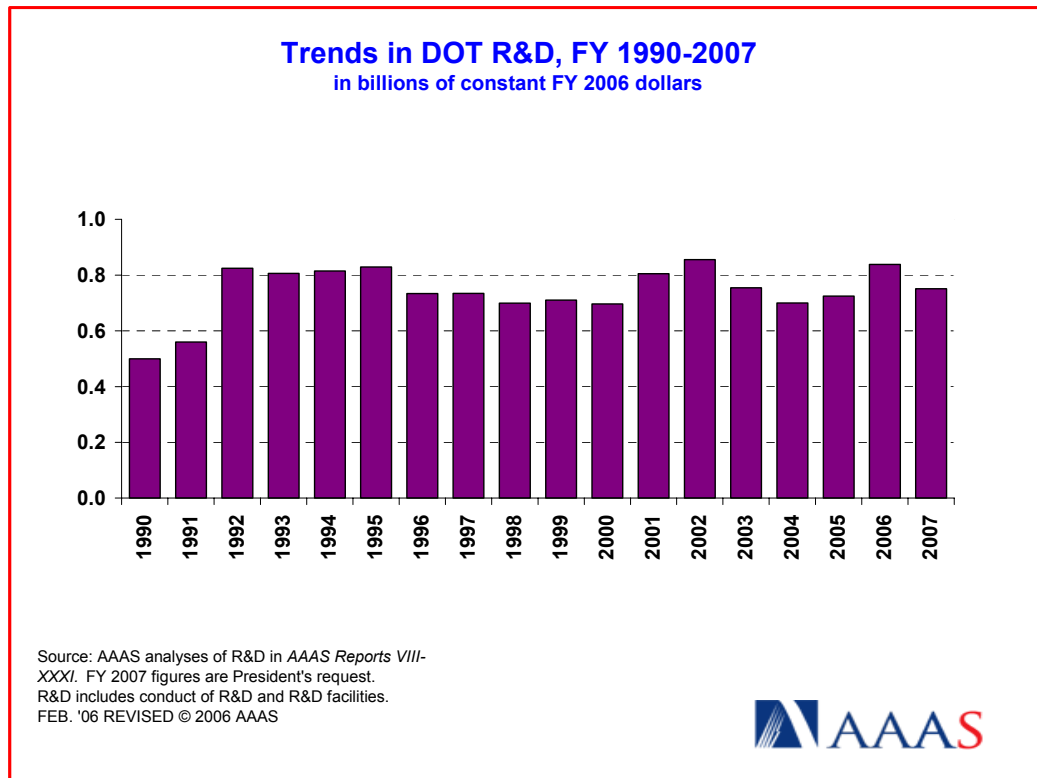


Figure 1. (click on the image for PDF)

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 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 last year and nearly reaching the 2002 funding level in 2006. **The 2006 budget actually exceeds previous highs, however, because Coast Guard and aviation security R&D are now funded in the Department of Homeland Security (DHS). The FY 2007 budget would be a retreat from the 2006 peak.**

The majority of DOT's R&D is performed by intramural laboratories and industrial performers, with about a third each of the total portfolio. Universities and colleges perform just 4 percent DOT's R&D. 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 physics. DOT is only the fifth-largest supporter of engineering research despite its importance in the DOT portfolio, funding less than 4 percent of all federal support for engineering. The major sponsors of engineering research are DOD and NASA, with about a third each of total federal support, followed by the Department of Energy and National Science Foundation.

Looking to the future, the Bush Administration's outyear budget projections show that in the push to reduce the budget deficit in half over the next few years DOT R&D will be one of the programs to sacrifice. Although key physical sciences research agencies would see their R&D budgets increase in 2008 and beyond, funding for DOT's investments in engineering and the physical sciences is projected to fall in 2008, 2009, and 2010 before rebounding slightly in 2011. **After adjusting for inflation, DOT R&D would fall a projected 17 percent over the next five years.**

(More materials on R&D in the FY 2007 budget, historical data and charts, and more information on *AAAS Report XXXI: Research and Development FY 2007*, can be found on the AAAS R&D Web site at <http://www.aaas.org/spp/rd>.)

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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 2005	FY 2006	FY 2007	Change FY 06-07	
	Actual	Estimate	Budget	Amount	Percent
Federal Aviation Administration	263	310	235	-75	-24.1%
- <i>Research, Eng. & Development</i>	130	137	130	-7	-4.8%
- <i>Facilities and Equipment</i>	120	160	97	-63	-39.3%
- <i>All Other</i>	13	14	8	-5	-38.0%
Federal Highway Administration	304	380	397	18	4.6%
- <i>Surface Transportation Res.</i>	78	147	147	0	0.0%
- <i>Intelligent Transportation Sys.</i>	64	75	75	0	0.0%
- <i>State Planning and Research</i>	150	149	166	17	11.5%
- <i>All Other</i>	12	10	10	1	5.2%
Federal Transit Administration	4	6	8	3	45.9%
Nat'l High. Traffic & Safety Adm.	61	58	51	-7	-12.0%
Federal Railroad Administration	32	48	38	-10	-20.5%
Office of the Secretary	19	15	9	-6	-40.0%
Pipeline and Hazardous Materials 1/	12	12	12	0	4.1%
Research and Innov. Tech. 1/	2	2	4	2	76.6%
Federal Motor Carrier Safety Admin.	8	9	12	4	43.2%
Total DOT R&D	707	838	767	-71	-8.5%

Source: OMB data for R&D for FY 2007; 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.

1/ Formerly the Research and Special Programs Administration.

REVISED March 1, 2006**DOT Budget** (includes R&D components; budget authority in millions): *

	FY 2005	FY 2006	FY 2007	Change FY 06-07	
	Actual	Estimate	Budget	Amount	Percent
Federal Highway Administration	34,152	35,571	39,083	3,512	9.9%
Federal Aviation Administration	14,011	14,270	12,774	-1,496	-10.5%
Federal Transit Administration	8,605	8,503	8,846	343	4.0%
Federal Railroad Administration	1,426	1,502	1,086	-416	-27.7%
Nat'l Highway Traffic Safety Admin.	450	806	815	9	1.1%
All Other ¹	1,134	1,190	1,033	-157	-13.2%
Total DOT Budget *	59,778	61,842	63,637	1,795	2.9%

Source: *Budget of the United States Government FY 2007*.

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

¹ Includes Office of Secretary, RITA, Pipeline, Maritime Administration, Bureau of Transportation Statistics, and others.**March 1, 2006****For more information on DOT, see Chapter 13.**