

AAAS R&D Funding Update August 20, 2007 (updated September 25) -  
R&D Earmarks in FY 2008 House and Senate Appropriations

## Congress Earmarks 2008 R&D Dollars

**(This analysis was updated September 25 with new data on Senate earmarks for DOD R&D. All totals, charts, and databases now include Senate DOD earmarks.)**

(This analysis is part of a AAAS effort to enumerate congressionally designated, performer-specific R&D projects not appearing in agency budget requests (earmarks) in FY 2008 appropriations bills. The data in this analysis highlight AAAS interpretations of R&D earmarks in House- and Senate-approved appropriations. The complete series of AAAS R&D Funding Updates, including continually updated analyses of R&D in FY 2008 appropriations, is available on the AAAS R&D Web Site (<http://www.aaas.org/spp/rd>) in the “FY 2008 R&D” or the “What’s New” sections.)

- **Congress has resumed earmarking R&D projects in 2008 appropriations, after a one-year moratorium on most domestic earmarks in 2007.** Senate appropriators designated \$624 million for congressionally designated, performer-specific R&D projects in FY 2008 appropriations excluding the Department of Defense (DOD; see Table A and Figure 1), while the House would earmark \$529 million for the same programs in its appropriations.
- The 110<sup>th</sup> Congress has instituted new disclosure requirements for earmarks that have made previously hidden DOD earmarks more visible. **The House would earmark \$2.3 billion in R&D projects** out of the \$77.6 billion total DOD R&D portfolio, **while in September the Senate drafted a bill that would earmark \$2.1 billion in DOD R&D projects.**
- **Roughly one-fifth of the dollars Congress has added so far to the budget request for nondefense R&D would be in the form of earmarks, leaving four-fifths of the congressional increases for non-earmarked R&D funding.** The House would add \$2.5 billion to the request for nondefense R&D, of which \$529 million would be in the form of earmarks; the Senate would add \$3.0 billion to the request for nondefense R&D, of which \$624 million would be earmarked.
- **The House would add \$1.7 billion to DOD’s request for “S&T” programs (research plus early technology development), of which \$1.5 billion would be for earmarks; the Senate would add \$1.2 billion to DOD’s request for “S&T”, all of which would go to earmarks (\$1.2 billion).** For all DOD R&D, both the House and Senate would add more for earmarks than the increases to the request, meaning there would be net cuts to the Pentagon request for core development programs.
- Although earmarking in House and Senate appropriations would return in agencies such as the Department of Energy (DOE), the U.S. Department of Agriculture (USDA), the National Oceanic and Atmospheric Administration (NOAA), and the National Aeronautics and Space Administration (NASA) in 2008 after a one-year moratorium in 2007, the National Science Foundation (NSF) and the National Institutes of Health (NIH) would remain earmark-free.

### FY 2008 R&D Earmarks in House and Senate Appropriations

Before departing Washington for a month-long August recess, the House approved its versions of all 12 FY 2008 appropriations bills. The Senate Appropriations Committee in mid-September drafted its 12<sup>th</sup> appropriations bill, covering the Department of Defense (DOD), but the full Senate has approved only 4 out of the 12. (For full details of federal R&D so far in 2008 appropriations, please see the AAAS August R&D Funding Update, available on the AAAS R&D Web site). The House versions of the bills contain \$2.8 billion in R&D earmarks, significantly more than in previous years, primarily because of improved

disclosure of DOD earmarks. The Senate versions of the bills contain just slightly less than the House for a total of \$2.8 billion, again primarily because of improved disclosure of DOD earmarks (see Table A and Figure 1). Excluding DOD, these House and Senate earmark totals are comparable or less than earmark totals from previous years except for 2007, when Congress had a moratorium on most non-DOD earmarks.

Within federal appropriations for R&D are R&D earmarks of unrequested, congressionally designated performer-specific R&D projects contained in legislative language or committee report language attached to appropriations bills. These projects have been added to agencies' requested budgets as part of the annual give-and-take between Congress and the Executive Branch over the size and shape of agencies' budgets. The current 110<sup>th</sup> Congress has made reforming the earmarking process a priority, and has promised to reduce the number and amount of earmarks from previous years and has also promised to make the earmarking process more transparent.

**- R&D earmarks total \$624 million for non-DOD programs in Senate FY 2008 appropriations bills, and \$529 million in House appropriations for the same agencies. In addition, both the House and Senate would earmark \$2.3 billion in R&D projects within the DOD budget (see Table A and Figure 1).** The R&D earmarks make up less than 1 percent of each chamber's R&D appropriations for the domestic budget, and 3 percent of each chamber's DOD R&D appropriation.

- Among domestic programs, the House's earmarks are found almost entirely in the Department of Energy (DOE; \$190 million) and the U.S. Department of Agriculture (USDA; \$250 million; see Figure 1). The Senate would earmark projects in those agencies, but would also allocate significant dollars for earmarked projects in the National Aeronautics and Space Administration (NASA; \$70 million), the National Oceanic and Atmospheric Administration (NOAA; \$53 million), and the previously earmark-free Department of Homeland Security (DHS; \$66 million).

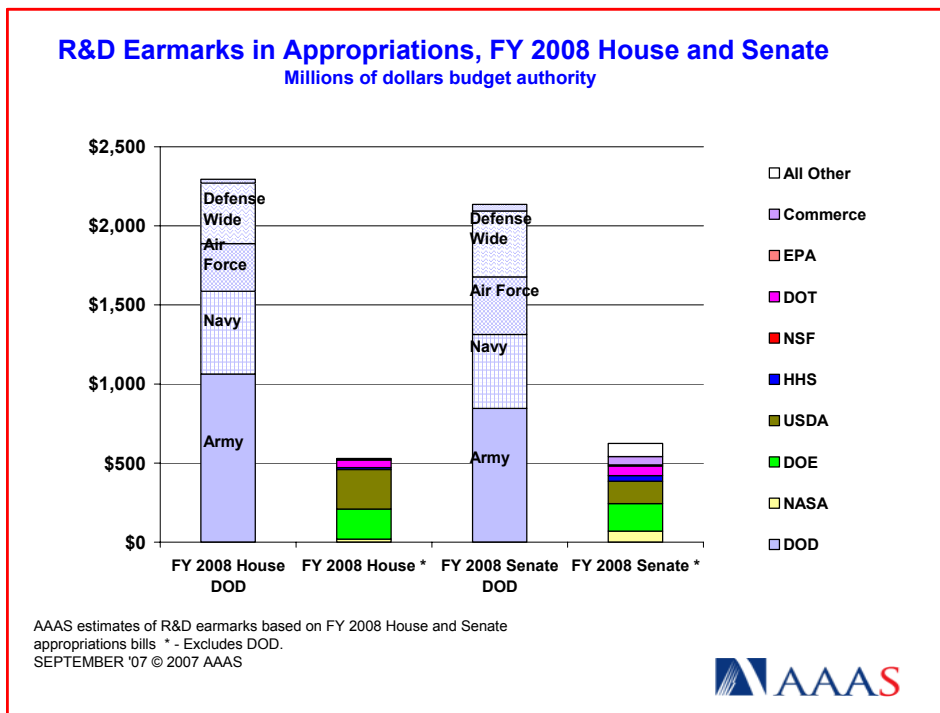


Figure 1. (click on image for PDF)

**- Roughly one-fifth of the dollars that Congress would add to the Bush Administration's budget request for nondefense R&D would be in the form of earmarks, leaving four-fifths of the congressional increases for non-earmarked R&D funding.** The House would add \$2.5 billion to the request for nondefense R&D, of which \$529 million would be in the form of earmarks; the Senate would add \$3.0 billion to the request for nondefense R&D, of which \$624 million would be earmarked. The

remainder of the net additions to the budget request would boost R&D programs that appear in the budget request or competitively awarded research programs.

- On the defense side, however, 87 percent of the dollars that the House would add to the budget request for DOD's "S&T" programs go to earmarks. The House would add \$1.7 billion to the Pentagon request for "S&T" ("6.1" plus "6.3" programs and medical research, comprising basic and applied research and early technology development), of which \$1.5 billion would go to earmarked R&D projects. In DOD's weapons development programs ("6.4" and higher), the House would make program cuts to several development projects while also adding \$783 million in earmarks, for a net cut to the request. Combining the two, House DOD R&D earmarks of \$2.3 billion would be more than the \$1.4 billion the House would add to the Pentagon request. In the Senate, the \$1.24 billion in "S&T" earmarks would be more than the Senate's \$1.15 billion addition to the Pentagon request, meaning there would be net cuts to the request for non-earmarked "S&T" programs. The Senate would join the House in cutting several development projects while adding \$896 million in earmarks, for a net cut to the request. Senate DOD R&D earmarks of \$2.1 billion would be far more than the \$187 million the Senate would add to the Pentagon request.

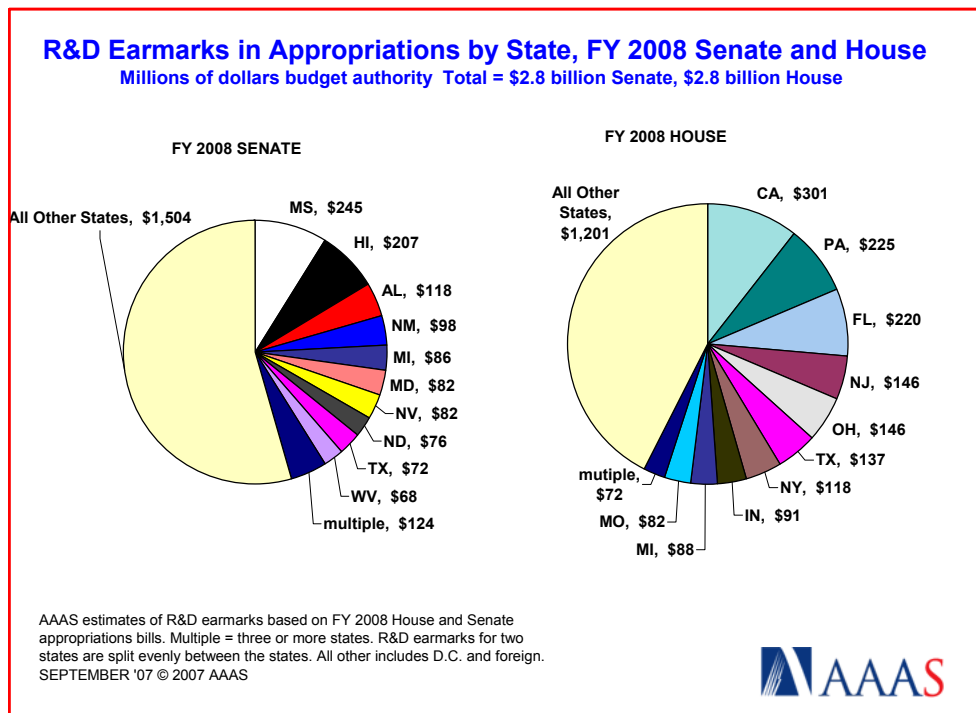


Figure 2. (click on image for PDF)

- **In the House, the top 10 state recipients of R&D earmarks would receive more than half of the total amount (see Figure 2). The Senate's earmarks would be slightly more evenly distributed. Only two states (Michigan and Texas) would be among the top 10 state beneficiaries of R&D earmarks in both the House and Senate bills.** The top 10 House states tend to be the largest, most populous states while the top 10 Senate states are mostly smaller states with Senators in key committee chairmanships. The improved disclosure of earmarks instituted by the current Congress enables earmarks to be more easily categorized by performer and state. The AAAS R&D web site now has a searchable, sortable spreadsheet cataloging all 2008 R&D earmarks in House and Senate appropriations so far by amount, state, performer or project, and agency, updated in September to include newly drafted Senate appropriations for DOD. (Click here to download an Excel spreadsheet of House and Senate 2008 R&D earmarks so far.)

- **Some agencies remain earmark-free.** The **National Science Foundation (NSF)** and the **National Institutes of Health (NIH)** remain earmark-free in FY 2008 appropriations so far. Traditionally, NIH and NSF's research accounts have been free of earmarks, although in some years NSF construction projects are earmarked. But although DHS remained earmark-free for the first three years of its existence, one small

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earmark appeared in FY 2007 appropriations and in FY 2008 the Senate would earmark several projects for a total of \$66 million, 6 percent of total DHS R&D.

- **Only in USDA do earmarks make up more than 1 in 10 total R&D dollars so far**, unlike in previous years when earmarks in selected USDA, NASA, and DOE programs sometimes made up 1 out of every 5 R&D dollars (see Table A). R&D earmarks total 18 percent of all extramural research in the Cooperative State Research, Education, and Extension Service (CSREES) in the House appropriation and 12 percent in the Senate, making these a significant drain on resources that might have gone to competitively awarded research grants or formula-based research funding. The House would also earmark 12 percent of R&D funding in the Agricultural Research Service (ARS), USDA's intramural research arm. Without these earmarks, USDA R&D funding would fall compared to (earmark-free) 2007 funding in both the House and Senate 2008 plans. For all other major domestic R&D funding agencies, however, the House and Senate appropriations would provide more R&D funding in 2008 compared to 2007 even if earmarks are excluded.

- The **DOD** R&D portfolio contains \$2.3 billion in R&D earmarks in the House and \$2.1 billion in the Senate, dramatically higher than in previous years' AAAS analyses because improved congressional disclosure of earmarks has made many previously hidden earmarks more visible. By several independent accounts, however, total DOD earmarks would decline in 2008 from earlier years. The majority of earmarks in both the House and Senate would go to the "S&T" accounts. The Senate, for example, would add \$1.15 billion to the Pentagon request for "S&T" programs, but \$1.24 billion in earmarks, meaning there would be a net cut to the request for core programs and competitively awarded research. In basic research ("6.1"), 78 percent of the \$129 million the Senate would add to the budget request would go to earmarks, to make up 6 percent of the total DOD basic research portfolio. In applied research ("6.2" plus medical research), the \$473 million in Senate earmarks would represent 77 percent of all Senate additions to the Pentagon request; similar proportions would hold true in House appropriations. In the "6.3" category, the \$668 million in Senate earmarks would be more than the net Senate additions to the request because of offsetting cuts in other programs. As in previous years, the Army would get most of the House and Senate earmarks, followed by the Navy, the Defense Agencies, and the Air Force.

#### **Definitions: What is an R&D Earmark?**

For the purposes of this analysis, R&D earmarks are defined as "congressionally designated performer-specific R&D projects not included in agency budget requests." The earmarks appear in either legislative language contained in appropriations bills, in which case they have the force of law, or appear in committee report language accompanying appropriations bills, in which case they are technically advisory. For all practical purposes, however, agencies usually follow the instructions from Congress contained in committee report language, including earmarks. When Congress designates a specific performer or performers for a particular R&D project, these are counted as earmarks; because AAAS definitions of R&D include investments in R&D facilities construction, the earmarks in this analysis also include funds provided to specific institutions for investments in R&D major capital equipment, and also construction funds for specific R&D facilities. Starting with this year's appropriations bills, Congress has instituted new disclosure requirements for earmarks so that all performer-specific congressional additions to appropriations bills are disclosed by amount and by congressional sponsor(s).

AAAS definitions of R&D earmarks have tended to undercount earmarks in the past, because they include explicitly performer-specific projects only. In the FY 2008 appropriations season, however, the number of R&D earmarks will expand dramatically, especially in DOD, as the new congressional disclosure requirements make visible earmarks that were previously hidden in non-performer specific language. Congress often designates funding for a specific research project without identifying a location explicitly, but on the implicit understanding that only one organization is capable of performing it or has already been selected to do earlier work in that area. Such topical earmarks are common in DOD's R&D portfolio, where earmarks for weapons projects or technology areas are understood to steer the funds to a specific performer with demonstrated expertise or past experience. While such earmarks were difficult to identify in earlier years, in 2008 appropriations the tagging of each project with a congressional sponsor makes the location of the intended performer visible.

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Congress often designates funding for specific projects or research topics; in some cases such as in DOD's peer-reviewed medical research programs the topics may be congressionally designated but the performers are selected competitively, so they are not counted as earmarks.

These figures include earmarks to all categories of R&D performers. While discussion of the earmarks issue tends to center on earmarks to academic institutions, this analysis also includes R&D earmarks to other categories of performers, most prominently federal laboratories. While academic institutions receive the bulk of the earmarks for nondefense R&D in Table A (defense R&D earmarks tend to favor industrial performers), federal laboratories, sometimes located on university campuses, also receive earmarks as well as some nonprofits and industrial firms.

The earmarks counted in this analysis are a subset of R&D in the federal budget as tracked by AAAS. Thus, the earmarks in this analysis do not include non-R&D projects that may go to R&D performers, for example educational or extension projects awarded to universities and colleges. Some of these earmarks may come from the same budget accounts that fund R&D earmarks. They also do not include construction funds for non-R&D facilities, except when they are provided in R&D accounts.

### **Purpose of the AAAS Analysis**

The analysis is intended to provide timely and unbiased information for further analysis and debate on the allocation of R&D resources in the federal budget process, and the R&D Budget and Policy Program undertakes this analysis to provide timely and relevant information for policymakers and members of the science and engineering community who are concerned about methods of allocating R&D resources. It attempts to provide additional information to supplement existing AAAS coverage of R&D in the appropriations process. The analysis is not a comprehensive inventory of earmarks. Also, because earmarks are in the eye of the beholder and are ill-defined (unlike the standardized, longstanding definitions for R&D used by AAAS and federal agencies) this analysis relies on AAAS interpretations and judgment calls on a project-by-project basis of what is or is not an R&D earmark. In doing this analysis, AAAS does not take a position on the relative merits of agency requests vs. congressional earmarks, or of competitively awarded funds vs. earmarked funds.

### **Conclusions**

With the October 1 start of FY 2008 just days away, appropriators have given up hope of completing FY 2008 appropriations on time, so most federal R&D funding agencies will have to wait until well into the fall to receive their final budgets. There has been much debate and attention on the practice of congressional earmarking in this 110<sup>th</sup> Congress, primarily as a result of the new Democratic majority promising to rein in the freewheeling earmarking practices of past Congresses. To start the year, the Democratic majority finalized FY 2007 appropriations with a one-year moratorium on most domestic R&D earmarks, and then tried to set up a more transparent process for allocating and disclosing earmarks in the 2008 appropriations process. After some fits and starts, the new earmark disclosure process appears to be well in place as the 2008 appropriations bills move forward. So far Congress, armed with more money than the President's request for domestic appropriations, has managed to add funds primarily for non-earmarked projects but also for earmarks on the nondefense side, unlike in past years when restrictive budget totals forced appropriators to cut into non-earmarked funds in order to make room for earmarks. But it is too soon to tell how R&D funding will fare in final 2008 appropriations, and there are few clear signals as to how the House and Senate will combine their mostly separate lists of earmarks in the final versions of 2008 agency appropriations.

- August 20, 2007 (updated September 25)  
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Table A. Earmarks for FY 2008 R&amp;D by Agency (House and Senate as of 9/07)

**Table A. Congressional Earmarks for R&D by Agency and Program**  
**House and Senate Action on R&D in the FY 2008 Budget (as of September 2007)**  
**(budget authority in millions of dollars)**

	FY 2008 SENATE			FY 2008 HOUSE		
	FY 2008 Earmarks	FY 2008 R&D	Earmarks % of R&D	FY 2008 Earmarks	FY 2008 R&D	Earmarks % of R&D
Defense (military)	2,136	76,326	2.8%	2,296	77,572	3.0%
(Army)	847	11,292	7.5%	1,063	11,510	9.2%
(Navy)	467	17,375	2.7%	524	17,719	3.0%
(Air Force)	363	25,925	1.4%	302	26,164	1.2%
(Defense Agencies)	417	20,190	2.1%	382	20,659	1.8%
(Other)	42	1,543	2.7%	25	1,521	1.6%
National Aeron. & Space Admin.	70	12,798	0.5%	19	12,959	0.1%
Energy	174	9,995	1.7%	190	9,753	2.0%
(Science programs)	49	4,141	1.2%	70	4,102	1.7%
(Energy programs)	100	1,965	5.1%	97	1,803	5.4%
(Defense programs)	26	3,889	0.7%	23	3,848	0.6%
Health and Human Services	36	30,760	0.1%	13	30,459	0.0%
(National Institutes of Health)	0	29,310	0.0%	0	29,067	0.0%
National Science Foundation	0	4,888	0.0%	0	4,870	0.0%
(Major Research Equipment)	0	245	0.0%	0	245	0.0%
Agriculture	141	2,343	6.0%	250	2,289	10.9%
(Agricultural Res. Service)	52	1,212	4.3%	133	1,158	11.5%
(CSREES)	80	662	12.0%	115	657	17.6%
(Forest Service)	5	344	1.4%	0	347	0.0%
Interior	17	661	2.5%	3	680	0.5%
(U.S. Geological Survey)	10	581	1.7%	1	602	0.2%
Transportation	61	847	7.2%	48	836	5.7%
Environ. Protection Agency	7	566	1.2%	0	620	0.0%
Commerce	53	1,252	4.2%	7	1,233	0.6%
(NOAA)	53	628	8.4%	7	585	1.2%
(NIST)	1	595	0.2%	0	619	0.0%
Homeland Security	66	1,059	6.2%	0	986	0.0%
Education	0	338	0.0%	0	312	0.0%
Agency for Int'l Development	0	215	0.0%	0	256	0.0%
Department of Veterans Affairs	0	911	0.0%	0	891	0.0%
Housing and Urban Development	0	59	0.0%	0	58	0.0%
Department of Justice	0	104	0.0%	0	116	0.0%
All Other	0	420	0.0%	0	396	0.0%
Total **	2,760	143,542	1.9%	2,825	144,287	2.0%
<b>TOTAL excluding DOD</b>	<b>624</b>	<b>67,216</b>	<b>0.9%</b>	<b>529</b>	<b>66,714</b>	<b>0.8%</b>

AAAS estimates of R&D in FY 2008 House and Senate appropriations bills. Includes conduct of R&D and R&D facilities.

All figures are rounded to the nearest million. Changes calculated from unrounded figures.

**"Earmarks" are AAAS interpretations of unrequested, congressionally designated, performer-specific R&D projects contained in legislative language or committee report language in appropriations bills.**

Earmarks do not include non-R&D congressionally designated projects.

FY 2008 columns represent earmarks report language accompanying House and Senate versions of appropriations bills.

September 25, 2007 - AAAS estimates of House and Senate FY 2008 appropriations bills.