

TABLE 1. Federal budget authority for R&D and R&D plant, by budget function, ordered by FY 2016 R&D and R&D plant total: FYs 2016–18  
(Millions of dollars)

Budget function	2016 actual	2017 preliminary <sup>a</sup>	2018 proposed	2016–17 (% change)	2017–18 (% change)
R&D and R&D plant	150,392	151,380	117,762	0.7	-22.2
National defense	80,202	80,428	60,719	0.3	-24.5
Health	32,526	32,835	26,643	0.9	-18.9
Space flight, research, and supporting activities	12,811	12,853	9,830	0.3	-23.5
General science and basic research	11,328	11,401	9,803	0.6	-14.0
Energy	3,492	3,472	1,780	-0.6	-48.7
Natural resources and environment	2,471	2,592	2,007	4.9	-22.6
Agriculture	2,350	2,347	1,849	-0.1	-21.2
Transportation	1,361	1,370	1,418	0.6	3.5
Veterans benefits and services	1,222	1,346	1,357	10.1	0.8
Commerce and housing credit	1,033	1,030	925	-0.3	-10.2
Administration of justice	613	728	570	18.7	-21.7
Education, training, employment, and social services	505	512	550	1.4	7.4
International affairs	288	263	110	-8.7	-58.2
Income security	105	117	118	11.4	0.9
Community and regional development	65	65	65	0.0	0.0
Medicare	21	21	18	0.0	-14.3
R&D	147,813	148,734	115,591	0.6	-22.3
National defense	79,828	80,125	60,368	0.4	-24.7
Health	32,365	32,597	26,499	0.7	-18.7
Space flight, research, and supporting activities	12,789	12,801	9,702	0.1	-24.2
General science and basic research	10,042	10,164	8,780	1.2	-13.6
Energy	3,473	3,453	1,757	-0.6	-49.1
Natural resources and environment	2,294	2,335	1,754	1.8	-24.9
Agriculture	2,030	2,026	1,841	-0.2	-9.1
Transportation	1,326	1,334	1,386	0.6	3.9
Veterans benefits and services	1,222	1,346	1,357	10.1	0.8
Commerce and housing credit	887	884	794	-0.3	-10.2
Administration of justice	605	728	570	20.3	-21.7
Education, training, employment, and social services	474	475	472	0.2	-0.6
International affairs	288	263	110	-8.7	-58.2
Income security	105	117	118	11.4	0.9
Community and regional development	65	65	65	0.0	0.0
Medicare	21	21	18	0.0	-14.3
R&D plant	2,579	2,646	2,171	2.6	-18.0
National defense	374	303	351	-19.0	15.7
Health	161	238	144	48.0	-39.5
Space flight, research, and supporting activities	22	52	128	138.5	145.2
General science and basic research	1,286	1,237	1,022	-3.8	-17.3
Energy	19	19	23	0.0	21.1
Natural resources and environment	177	258	253	45.9	-1.8
Agriculture	320	321	8	0.3	-97.4
Transportation	36	36	33	-0.4	-8.7
Veterans benefits and services	0	0	0	--	--
Commerce and housing credit	146	146	131	-0.2	-10.1
Administration of justice	8	0	0	-100.0	--
Education, training, employment, and social services	31	37	78	19.4	110.8
International affairs	0	0	0	--	--

TABLE 1. Federal budget authority for R&D and R&D plant, by budget function, ordered by FY 2016 R&D and R&D plant total: FYs 2016–18 (Millions of dollars)

Budget function	2016 actual	2017 preliminary <sup>a</sup>	2018 proposed	2016–17 (% change)	2017–18 (% change)
Income security	0	0	0	--	--
Community and regional development	0	0	0	--	--
Medicare	0	0	0	--	--

<sup>a</sup> Most FY 2017 figures are official estimates reflecting the continuing resolution funding for FY 2017 and not that of the enacted omnibus spending bill for that year (Consolidated Appropriations Act, 2017, signed 5 May 2017). Most federal agencies did not prepare R&D estimates for FY 2017 based on the final spending figures in the omnibus.

NOTES: Detail may not add to total because of rounding. Percentage change calculated on unrounded data. The application of a new Experimental Development definition is shown starting in FY 2018. FY 2016 and 2017 numbers reflect use of the former *development* definition.

SOURCES: Agencies' submissions to the Office of Management and Budget per MAX Schedule C, agencies' budget justification documents, and supplemental data obtained from agencies' budget offices.

TABLE 2. Distribution of federal budget authority for R&D and R&D plant, by budget function: FYs 2016–18  
(Percent distribution)

Budget function	2016 actual	2017 preliminary <sup>a</sup>	2018 proposed
R&D and R&D plant	100.0	100.0	100.0
National defense	53.3	53.1	51.6
Health	21.6	21.7	22.6
Space flight, research, and supporting activities	8.5	8.5	8.3
General science and basic research	7.5	7.5	8.3
Energy	2.3	2.3	1.5
Natural resources and environment	1.6	1.7	1.7
Agriculture	1.6	1.6	1.6
Transportation	0.9	0.9	1.2
Veterans benefits and services	0.8	0.9	1.2
Commerce and housing credit	0.7	0.7	0.8
Administration of justice	0.4	0.5	0.5
Education, training, employment, and social services	0.3	0.3	0.5
International affairs	0.2	0.2	0.1
Income security	0.1	0.1	0.1
Community and regional development	*	*	*
Medicare	*	*	*
R&D	100.0	100.0	100.0
National defense	54.0	53.9	52.2
Health	21.9	21.9	22.9
Space flight, research, and supporting activities	8.7	8.6	8.4
General science and basic research	6.8	6.8	7.6
Energy	2.3	2.3	1.5
Natural resources and environment	1.6	1.6	1.5
Agriculture	1.4	1.4	1.6
Transportation	0.9	0.9	1.2
Veterans benefits and services	0.8	0.9	1.2
Commerce and housing credit	0.6	0.6	0.7
Administration of justice	0.4	0.5	0.5
Education, training, employment, and social services	0.3	0.3	0.4
International affairs	0.2	0.2	0.1
Income security	0.1	0.1	0.1
Community and regional development	*	*	*
Medicare	*	*	*
R&D plant	100.0	100.0	100.0
National defense	14.5	11.5	16.2
Health	6.2	9.0	6.6
Space flight, research, and supporting activities	0.8	2.0	5.9
General science and basic research	49.9	46.7	47.1
Energy	0.7	0.7	1.1
Natural resources and environment	6.8	9.7	11.7
Agriculture	12.4	12.1	0.4
Transportation	1.4	1.3	1.5
Veterans benefits and services	0	0	0
Commerce and housing credit	5.7	5.5	6.0
Administration of justice	0.3	0.0	0.0
Education, training, employment, and social services	1.2	1.4	3.6
International affairs	0	0	0

TABLE 2. Distribution of federal budget authority for R&D and R&D plant, by budget function: FYs 2016–18  
(Percent distribution)

Budget function	2016 actual	2017 preliminary <sup>a</sup>	2018 proposed
Income security	0	0	0
Community and regional development	0	0	0
Medicare	0	0	0

\* = value less than 0.05%.

<sup>a</sup> Most FY 2017 figures are official estimates reflecting the continuing resolution funding for FY 2017 and not that of the enacted omnibus spending bill for that year (Consolidated Appropriations Act, 2017, signed 5 May 2017). Most federal agencies did not prepare R&D estimates for FY 2017 based on the final spending figures in the omnibus.

NOTES: Detail may not add to total because of rounding. Budget functions are ordered as under the table 1 stub entry for "R&D and R&D plant."

SOURCES: Agencies' submissions to the Office of Management and Budget per MAX Schedule C, agencies' budget justification documents, and supplemental data obtained from agencies' budget offices.

TABLE 3. Federal budget authority for R&D and R&D plant as percentage of total budget authority, by budget function: FYs 2016–18

Budget function	2016 actual	2017 preliminary <sup>a</sup>	2018 proposed
All functions conducting R&D	5.2	5.1	5.3
National defense	12.9	12.3	9.0
Health	6.3	6.1	5.2
General science and basic research	98.9	100.3	88.1
Space flight, research, and supporting activities	60.7	61.0	53.1
Energy	65.5	47.5	-50.0
Natural resources and environment	5.9	6.1	5.9
Agriculture	6.3	11.9	9.2
Transportation	1.5	1.5	1.6
Veterans benefits and services	0.7	0.8	0.7
Administration of justice	1.8	1.5	1.5
Commerce and housing credit <sup>b</sup>	8.8	-4.8	-12.6
Education, training, employment, and social services	0.5	0.3	0.6
International affairs	0.6	0.5	0.3
Medicare	0.0	0.0	0.0
Community and regional development	0.4	0.3	0.5
Income security	0.0	0.0	0.0

<sup>a</sup> Most FY 2017 figures are official estimates reflecting the continuing resolution funding for FY 2017 and not that of the enacted omnibus spending bill for that year (Consolidated Appropriations Act, 2017, signed 5 May 2017). Most federal agencies did not prepare R&D estimates for FY 2017 based on the final spending figures in the omnibus.

<sup>b</sup> Total budget authority in the Commerce and housing credit function and the Energy function are negative numbers (i.e., less than zero) in some years, due primarily to large offsetting collections and receipts leading to negative balances in the subfunctions for federal mortgage and credit programs and government-sponsored enterprise (e.g., Fannie Mae or Freddie Mac) purchase programs; repeal of the Advanced Technology Vehicles Manufacturing Loan program; and sales of the Strategic Petroleum Reserve. This makes these functions' R&D and R&D plant as percentages of total budget authority difficult to interpret.

NOTES: Total budget authority includes discretionary and mandatory budget authority, less offsets. Budget functions are ordered as under the table 1 stub entries for "R&D and R&D plant."

SOURCES: Agencies' submissions to the Office of Management and Budget (OMB) per MAX Schedule C, agencies' budget justification documents, supplemental data obtained from agencies' budget offices, and Executive Office of the President, OMB, *Budget of the United States Government, Fiscal Year 2018*, U.S. Government Printing Office (2017).

TABLE 4. Federal budget authority for basic research, by budget function: FYs 2016–18

Budget function	Millions of dollars			% change	
	2016 actual	2017 preliminary <sup>a</sup>	2018 proposed	2016–17	2017–18
All functions conducting R&D	32,820	33,077	28,935	0.8	-12.5
National defense	2,335	2,214	2,348	-5.2	6.0
Health	15,565	15,711	12,816	0.9	-18.4
Space flight, research, and supporting activities	3,578	3,617	3,717	1.1	2.8
General science and basic research	9,282	9,414	8,109	1.4	-13.9
Energy	51	51	38	-0.7	-26.5
Natural resources and environment	257	250	202	-2.7	-19.3
Agriculture	829	878	795	5.9	-9.5
Transportation	0	0	0	--	--
Veterans benefits and services	386	390	394	1.0	1.0
Administration of justice	58	67	59	15.5	-11.9
Commerce and housing credit	235	234	200	-0.3	-14.3
Education, training, employment, and social services	244	251	257	2.9	2.4
International affairs	1	0	0	-100.0	--
Community and regional development	0	0	0	--	--
Income security	0	0	0	--	--
Medicare	0	0	0	--	--

<sup>a</sup> Most FY 2017 figures are official estimates reflecting the continuing resolution funding for FY 2017 and not that of the enacted omnibus spending bill for that year (Consolidated Appropriations Act, 2017, signed 5 May 2017). Most federal agencies did not prepare R&D estimates for FY 2017 based on the final spending figures in the omnibus.

NOTES: Detail may not add to total because of rounding. Percentage change calculated on unrounded data. Budget functions are ordered as under the table 1 stub entries for "R&D and R&D plant."

SOURCES: Agencies' submissions to the Office of Management and Budget per MAX Schedule C, agencies' budget justification documents, and supplemental data obtained from agencies' budget offices.

TABLE 5. Federal budget authority for National defense (050) R&D and R&D plant: FYs 2016–18  
(Millions of dollars)

Budget function and agency	2016 actual	2017 preliminary <sup>a</sup>	2018 proposed	2016–17 (% change)	2017–18 (% change)
R&D and R&D plant	80,202	80,428	60,719	0.3	-24.5
Department of Defense, military (051) <sup>b</sup>	73,894	74,082	53,391	0.3	-27.9
R&D within RDT&E Accounts	70,633	72,320	51,265	2.4	-29.1
Defense agencies	19,007	19,460	15,648	2.4	-19.6
Defense Advanced Research Projects Agency	2,868	2,973	3,170	3.7	6.6
Missile Defense Agency	6,211	5,970	6,201	-3.9	3.9
Other defense agencies	9,928	10,517	6,277	5.9	-40.3
Department of the Air Force	25,244	26,079	14,342	3.3	-45.0
Department of the Army	7,862	8,052	7,624	2.4	-5.3
Department of the Navy	18,333	18,540	13,723	1.1	-26.0
Operational Test and Evaluation	187	190	211	1.3	11.1
Other military funding <sup>c</sup>	3,261	1,762	2,126	-46.0	20.6
Department of Energy, atomic energy defense activities (053) <sup>d</sup>	6,307	6,329	7,306	0.3	15.4
Defense environmental cleanup	22	23	28	4.5	21.7
Naval reactors development	1,375	1,373	1,480	-0.2	7.8
Nonproliferation	321	325	346	1.3	6.5
Weapons activities	4,589	4,608	5,452	0.4	18.3
Department of Justice, Federal Bureau of Investigation (054)	0	11	11	--	0.0
Department of Homeland Security, National Protection and Programs Directorate (054)	na	6	11	--	83.3
R&D	79,828	80,125	60,368	0.4	-24.7
Department of Defense, military (051) <sup>b</sup>	73,804	74,071	53,391	0.4	-27.9
R&D within RDT&E Accounts	70,633	72,320	51,265	2.4	-29.1
Defense agencies	19,007	19,460	15,648	2.4	-19.6
Defense Advanced Research Projects Agency	2,868	2,973	3,170	3.7	6.6
Missile Defense Agency	6,211	5,970	6,201	-3.9	3.9
Other defense agencies	9,928	10,517	6,277	5.9	-40.3
Department of the Air Force	25,244	26,079	14,342	3.3	-45.0
Department of the Army	7,862	8,052	7,624	2.4	-5.3
Department of the Navy	18,333	18,540	13,723	1.1	-26.0
Operational Test and Evaluation	187	190	211	1.3	11.1
Other military funding <sup>c</sup>	3,171	1,751	2,126	-44.8	21.4
Department of Energy, atomic energy defense activities (053) <sup>d</sup>	6,023	6,037	6,955	0.2	15.2
Defense environmental cleanup	22	23	28	4.5	21.7
Naval reactors development	1,208	1,214	1,299	0.5	7.0
Nonproliferation	321	325	346	1.3	6.5
Weapons activities	4,473	4,475	5,282	0.0	18.0

TABLE 5. Federal budget authority for National defense (050) R&D and R&D plant: FYs 2016–18

(Millions of dollars)

Budget function and agency	2016 actual	2017 preliminary <sup>a</sup>	2018 proposed	2016–17 (% change)	2017–18 (% change)
Department of Justice, Federal Bureau of Investigation (054)	0	11	11	--	0.0
Department of Homeland Security, National Protection and Programs Directorate (054)	na	6	11	--	83.3

na = not applicable.

RDT&E = research, development, test, and evaluation.

<sup>a</sup> Unless otherwise noted, the FY 2017 figures are official estimates reflecting the continuing resolution funding for FY 2017 and not that of the enacted omnibus spending bill for that year (Consolidated Appropriations Act, 2017, signed 5 May 2017). Most federal agencies did not prepare R&D estimates for FY 2017 based on the final spending figures in the omnibus.

<sup>b</sup> While not reflected in the figures displayed above, the Department of Defense (DOD) received a greater than 6% increase in the FY 2017 omnibus. Unlike previous years, totals for development spending in FY 2018 do not include DOD Budget Activity 7 (Operational System Development) due to changes in the definition of development. These funds support the development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

<sup>c</sup> This item includes appropriate personnel costs in direct support of conduct of R&D, other appropriations funding certain DOD programs, and medical research funded outside RDT&E accounts. In FY 2017, \$11 million for R&D plant is enacted, not the continuing resolution level.

<sup>d</sup> While not reflected in the figures displayed above, Department of Energy Atomic Defense received approximately a 3% increase in the FY 2017 omnibus.

NOTES: Detail may not add to total because of rounding. Percentage change calculated on unrounded data.

SOURCES: Agencies' submissions to the Office of Management and Budget per MAX Schedule C, agencies' budget justification documents, and supplemental data obtained from agencies' budget offices.

TABLE 6. Department of Defense, total obligational authority for research, development, test, and evaluation, by DOD budget activity: FYs 2016–18  
(Millions of dollars)

Budget activity <sup>a</sup>	Funding category and agency	2016 actual	2017 preliminary <sup>b</sup>	2018 proposed	2016–17 (% change)	2017–18 (% change)
	RDT&E total budget authority	69,540	70,481	83,045	1.4	17.8
	R&D budget authority within RDT&E accounts <sup>b</sup>	69,540	70,481	51,265	1.4	-27.3
	RDT&E total obligational authority <sup>c, d</sup>	70,633	74,259	83,328	5.1	12.2
1	Basic research	2,223	2,102	2,229	-5.5	6.0
	Defense agencies	613	630	697	2.7	10.7
	Department of the Air Force	511	500	505	-2.1	1.0
	Department of the Army	451	429	430	-4.9	0.3
	Department of the Navy	649	543	596	-16.3	9.7
2	Applied research	4,922	4,815	4,973	-2.2	3.3
	Defense agencies	1,659	1,787	1,914	7.7	7.1
	Department of the Air Force	1,242	1,260	1,284	1.5	1.9
	Department of the Army	1,070	908	889	-15.2	-2.0
	Department of the Navy	952	861	886	-9.5	2.9
3	Advanced technology development	5,633	5,662	6,022	0.5	6.4
	Defense agencies	3,163	3,255	3,471	2.9	6.6
	Department of the Air Force	676	726	794	7.4	9.4
	Department of the Army	1,114	943	1,071	-15.3	13.5
	Department of the Navy	681	737	686	8.2	-6.9
4	Advanced component development and prototypes	14,082	15,572	17,510	10.6	12.4
	Defense agencies	7,097	7,143	7,737	0.6	8.3
	Department of the Air Force	1,555	3,053	4,618	96.3	51.3
	Department of the Army	499	592	909	18.6	53.5
	Department of the Navy	4,930	4,785	4,246	-2.9	-11.3
5	System development and demonstration	12,801	13,507	14,728	5.5	9.0
	Defense agencies	529	645	819	21.8	27.0
	Department of the Air Force	3,832	4,147	4,477	8.2	7.9
	Department of the Army	2,203	2,603	3,071	18.2	18.0
	Department of the Navy	6,237	6,112	6,362	-2.0	4.1
6	RDT&E management support	5,579	4,654	6,085	-16.6	30.8
	Defense agencies	1,333	1,014	1,011	-23.9	-0.4
	Department of the Air Force	1,512	1,369	2,664	-9.5	94.5
	Department of the Army	1,260	1,162	1,254	-7.8	7.9
	Department of the Navy	1,286	918	946	-28.6	3.0
	Operational test and evaluation	187	190	211	1.3	11.1
7	Operational system development	25,391	27,947	31,780	10.1	13.7
	Defense agencies	4,612	4,635	5,069	0.5	9.4
	Department of the Air Force	15,916	18,005	20,707	13.1	15.0
	Department of the Army	1,265	1,481	1,921	17.1	29.7

TABLE 6. Department of Defense, total obligational authority for research, development, test, and evaluation, by DOD budget activity: FYs 2016–18 (Millions of dollars)

Budget activity <sup>a</sup>	Funding category and agency	2016 actual	2017 preliminary <sup>b</sup>	2018 proposed	2016–17 (% change)	2017–18 (% change)
	Department of the Navy	3,598	3,826	4,083	6.3	6.7
	Adjustment for undistributed budget authority <sup>e</sup>	na	-1,930	na	na	na
	Adjustment for RDT&E budget authority <sup>f</sup>	-1,093	-1,847	-283	na	na

na = not applicable.

DOD = Department of Defense; RDT&E = research, development, test, and evaluation.

<sup>a</sup> Unlike previous years, totals for development spending in FY 2018 do not include DOD Budget Activity 7 (Operational System Development) due to changes in the definition of development. These funds support the development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

<sup>b</sup> Unless otherwise noted, the FY 2017 figures are official estimates reflecting the continuing resolution funding for FY 2017 and not that of the enacted omnibus spending bill for that year (Consolidated Appropriations Act, 2017, signed 5 May 2017). Most federal agencies did not prepare R&D estimates for FY 2017 based on the final spending figures in the omnibus.

<sup>c</sup> RDT&E budget activity codes are broad categories reflecting different types of RDT&E efforts, as specified in DOD Financial Management Regulation.

<sup>d</sup> While not reflected in the figures displayed above, DOD RDT&E received a greater than 6% increase in the FY 2017 omnibus.

<sup>e</sup> "Undistributed budget authority" adjustment brings RDT&E funding figures into alignment with overall continuing resolution spending levels.

<sup>f</sup> Detailed budget information on DOD RDT&E activities is available only in total obligational authority (TOA), which is the sum of new budget authority, unobligated budget authority from previous years, and other authorized credits. The adjustment converts TOA to budget authority by subtracting unobligated budget authority from previous years and other authorized credits from TOA.

NOTES: Detail may not add to total because of rounding. Percentage change calculated on unrounded data.

SOURCES: Agencies' submissions to the Office of Management and Budget (OMB) per MAX Schedule C, agencies' budget justification documents, supplemental data obtained from agencies' budget offices, and Executive Office of the President, OMB, *Budget of the United States Government, Fiscal Year 2018*, U.S. Government Printing Office (2016).

TABLE 7. Federal budget authority for International affairs (150) R&D and R&D plant: FYs 2016–18  
(Millions of dollars)

Budget function and agency	2016 actual	2017 preliminary <sup>a</sup>	2018 proposed	2016–17 (% change)	2017–18 (% change)
R&D and R&D plant	288	263	110	-8.7	-58.2
Agency for International Development (151)	234	209	0	-10.7	-100.0
Department of State (151)	40	41	37	2.5	-9.8
International Security Assistance (152)	14	13	73	-7.1	461.5
R&D	288	263	110	-8.7	-58.2
Agency for International Development (151)	234	209	0	-10.7	-100.0
Department of State (151)	40	41	37	2.5	-9.8
International Security Assistance (152)	14	13	73	-7.1	461.5

<sup>a</sup> Unless otherwise noted, the FY 2017 figures are official estimates reflecting the continuing resolution funding for FY 2017 and not that of the enacted omnibus spending bill for that year (Consolidated Appropriations Act, 2017, signed 5 May 2017). Most federal agencies did not prepare R&D estimates for FY 2017 based on the final spending figures in the omnibus.

NOTES: Detail may not add to total because of rounding. Percentage change calculated on unrounded data.

SOURCES: Agencies' submissions to the Office of Management and Budget per MAX Schedule C, agencies' budget justification documents, and supplemental data obtained from agencies' budget offices.

TABLE 8. Federal budget authority for General science and basic research (251) R&D and R&D plant: FYs 2016–18  
(Millions of dollars)

Budget function and agency	2016 actual	2017 preliminary <sup>a</sup>	2018 proposed	2016–17 (% change)	2017–18 (% change)
R&D and R&D plant	11,328	11,401	9,803	0.6	-14.0
Department of Energy					
Office of Science	5,305	5,295	4,433	-0.2	-16.3
National Science Foundation <sup>b</sup>	6,022	6,106	5,370	1.4	-12.1
Arctic Research Commission	1	NA	1	NA	NA
Biological Sciences	724	NA	672	NA	NA
Computer and Information Science and Engineering	935	NA	839	NA	NA
Education and Human Resources	884	878	761	-0.7	-13.4
Engineering	916	NA	833	NA	NA
Geosciences	1,325	NA	1,192	NA	NA
Integrative Activities	427	NA	316	NA	NA
International Science and Engineering	49	NA	44	NA	NA
Major Research Equipment and Facilities	242	200	183	-17.2	-8.6
Mathematical and Physical Sciences	1,349	NA	1,219	NA	NA
Social, Behavioral and Economic Sciences	272	NA	244	NA	NA
Budget authority adjustment <sup>c</sup>	-1,101	NA	-935	NA	NA
R&D	10,042	10,164	8,780	1.2	-13.6
Department of Energy					
Office of Science	4,452	4,514	3,830	1.4	-15.2
National Science Foundation <sup>d</sup>	5,589	5,650	4,950	1.1	-12.4
Arctic Research Commission	1	NA	1	NA	NA
Biological Sciences	724	NA	672	NA	NA
Computer and Information Science and Engineering	935	NA	839	NA	NA
Education and Human Resources	884	878	761	-0.7	-13.4
Engineering	916	NA	833	NA	NA
Geosciences	1,325	NA	1,192	NA	NA
Integrative Activities	427	NA	316	NA	NA
International Science and Engineering	49	NA	44	NA	NA
Major Research Equipment and Facilities	242	200	183	-17.2	-8.6
Mathematical and Physical Sciences	1,349	NA	1,219	NA	NA
Social, Behavioral and Economic Sciences	272	NA	244	NA	NA
Budget authority adjustment <sup>e</sup>	-1,534	NA	-1,355	NA	NA

NA= not available.

<sup>a</sup> Unless otherwise noted, the FY 2017 figures are official estimates reflecting the continuing resolution funding for FY 2017 and not that of the enacted omnibus spending bill for that year (Consolidated Appropriations Act, 2017, signed 5 May 2017). Most federal agencies did not prepare R&D estimates for FY 2017 based on the final spending figures in the omnibus.

<sup>b</sup> Total National Science Foundation (NSF) budget shown here includes only R&D and R&D plant; however, subaccount budgets (Arctic Research Commission, Biological Sciences, etc.) include some non-R&D and non-R&D plant funding. FY 2017 R&D and R&D plant figures come from Office of Management and Budget MAX Schedule C reporting; other years come from NSF budget justification.

<sup>c</sup> Budget authority adjustment subtracts non-R&D and non-R&D plant spending (such as support and overhead) from subaccount budgets.

<sup>d</sup> Total NSF budget shown here includes funding for only R&D; however, subaccount budgets (Arctic Research Commission, Biological Sciences, etc.) include some non-R&D funding. FY 2017 R&D figures come from Office of Management and Budget MAX Schedule C reporting; other years come from NSF budget justification.

<sup>e</sup> Budget authority adjustment subtracts non-R&D spending (such as support, overhead, and R&D plant) from subaccount budgets.

NOTES: Detail may not add to total because of rounding. Percentage change calculated on unrounded data.

SOURCES: Agencies' submissions to the Office of Management and Budget per MAX Schedule C, agencies' budget justification documents, and supplemental data obtained from agencies' budget offices.

TABLE 9. Federal budget authority for Space flight, research, and supporting activities (252) R&D and R&D plant: FYs 2016–18  
(Millions of dollars)

Budget function and agency	2016 actual	2017 preliminary <sup>a</sup>	2018 proposed	2016–17 (% change)	2017–18 (% change)
R&D and R&D plant	12,811	12,853	9,830	0.3	-23.5
National Aeronautics and Space Administration <sup>b</sup>					
Safety, security, and mission services	272	271	269	-0.2	-0.9
Exploration <sup>c</sup>	3,600	3,603	964	0.1	-73.3
Exploration R&D	356	NA	350	NA	NA
Exploration systems development	3,244	NA	614	NA	NA
Science	5,532	5,522	5,652	-0.2	2.3
Astrophysics	724	NA	773	NA	NA
Earth science	1,926	NA	1,754	NA	NA
Heliophysics	649	NA	678	NA	NA
James Webb Space Telescope	620	NA	534	NA	NA
Planetary science	1,613	NA	1,914	NA	NA
Space operations	2,700	2,722	2,140	0.8	-21.4
International Space Station	1,436	NA	1,491	NA	NA
Space flight and support	12	NA	11	NA	NA
Space transportation	1,251	NA	638	NA	NA
Space technology	686	683	679	-0.5	-0.6
Construction, environmental compliance, and remediation	22	52	128	138.5	145.2
R&D	12,789	12,801	9,702	0.1	-24.2
National Aeronautics and Space Administration <sup>b</sup>					
Safety, security, and mission services	272	271	269	-0.2	-0.9
Exploration <sup>c</sup>	3,600	3,603	964	0.1	-73.3
Exploration R&D	356	NA	350	NA	NA
Exploration systems development	3,244	NA	614	NA	NA
Science	5,532	5,522	5,652	-0.2	2.3
Astrophysics	724	NA	773	NA	NA
Earth science	1,926	NA	1,754	NA	NA
Heliophysics	649	NA	678	NA	NA
James Webb Space Telescope	620	NA	534	NA	NA
Planetary science	1,613	NA	1,914	NA	NA
Space operations	2,700	2,722	2,140	0.8	-21.4
International Space Station	1,436	NA	1,491	NA	NA
Space flight and support	12	NA	11	NA	NA
Space transportation	1,251	NA	638	NA	NA
Space technology	686	683	679	-0.5	-0.6
Construction, environmental compliance, and remediation	0	0	0	--	--

NA = not available.

<sup>a</sup> Unless otherwise noted, the FY 2017 figures are official estimates reflecting the continuing resolution funding for FY 2017 and not that of the enacted omnibus spending bill for that year (Consolidated Appropriations Act, 2017, signed 5 May 2017). Most federal agencies did not prepare R&D estimates for FY 2017 based on the final spending figures in the omnibus.

<sup>b</sup> While not reflected in the figures displayed above, the National Aeronautics and Space Administration received an approximate 2% increase in the FY 2017 omnibus.

<sup>c</sup> The application of a new Experimental Development definition is shown starting in FY 2018. FY 2016 and FY 2017 numbers reflect use of the former Development definition.

NOTES: Detail may not add to total because of rounding. Percentage change calculated on unrounded data.

SOURCES: Agencies' submissions to the Office of Management and Budget per MAX Schedule C, agencies' budget justification documents, and supplemental data obtained from agencies' budget offices.

TABLE 10. Federal budget authority for Energy (270) R&D and R&D plant: FYs 2016–18  
(Millions of dollars)

Budget function and agency	2016 actual	2017 preliminary <sup>a</sup>	2018 proposed	2016–17 (% change)	2017–18 (% change)
R&D and R&D plant	3,492	3,472	1,780	-0.6	-48.7
Department of Energy (271)	3,393	3,381	1,697	-0.4	-49.8
Energy programs	3,087	3,076	1,682	-0.4	-45.3
Energy efficiency and renewable energy	1,434	1,434	572	0.0	-60.1
Electricity delivery and energy reliability <sup>d</sup>	141	135	85	-4.3	-37.0
Fossil energy <sup>d</sup>	624	620	325	-0.6	-47.6
Nuclear energy <sup>d</sup>	888	887	700	-0.1	-21.1
Advanced Research Projects Agency-Energy (ARPA-E) <sup>d</sup>	291	290	0	-0.3	-100.0
Bonneville Power Administration Fund	15	15	15	0.0	0.0
Nuclear Regulatory Commission (276)	86	75	67	-12.8	-10.7
Tennessee Valley Authority (271)	10	13	16	30.0	23.1
Department of Agriculture (271)					
National Institute of Food and Agriculture: Biomass R&D <sup>c</sup>	3	3	0	0.0	-100.0
R&D	3,473	3,453	1,757	-0.6	-49.1
Department of Energy (271)	3,374	3,362	1,674	-0.4	-50.2
Energy programs	3,068	3,057	1,659	-0.4	-45.7
Energy efficiency and renewable energy	1,430	1,430	568	0.0	-60.3
Electricity delivery and energy reliability <sup>d</sup>	141	135	85	-4.3	-37.0
Fossil energy <sup>d</sup>	609	605	306	-0.7	-49.4
Nuclear energy <sup>d</sup>	888	887	700	-0.1	-21.1
Advanced Research Projects Agency-Energy (ARPA-E) <sup>d</sup>	291	290	0	-0.3	-100.0
Bonneville Power Administration Fund	15	15	15	0.0	0.0
Nuclear Regulatory Commission (276)	86	75	67	-12.8	-10.7
Tennessee Valley Authority (271)	10	13	16	30.0	23.1
Department of Agriculture (271)					
National Institute of Food and Agriculture: Biomass R&D <sup>c</sup>	3	3	0	0.0	-100.0

<sup>a</sup> Unless otherwise noted, the FY 2017 figures are official estimates reflecting the continuing resolution funding for FY 2017 and not that of the enacted omnibus spending bill for that year (Consolidated Appropriations Act, 2017, signed 5 May 2017). Most federal agencies did not prepare R&D estimates for FY 2017 based on the final spending figures in the omnibus.

<sup>b</sup> While not reflected in the figures displayed above, these programs received FY 2017 omnibus increases of at least 3%.

<sup>c</sup> The Biomass R&D program is a mandatory program authorized in the 2014 farm bill.

NOTES: Detail may not add to total because of rounding. Percentage change calculated on unrounded data.

SOURCES: Agencies' submissions to the Office of Management and Budget per MAX Schedule C, agencies' budget justification documents, and supplemental data obtained from agencies' budget offices.

TABLE 11. Federal budget authority for Natural resources and environment (300) R&D and R&D plant: FYs 2016–18  
(Millions of dollars)

Budget function and agency	2016 actual	2017 preliminary <sup>a</sup>	2018 proposed	2016–17 (% change)	2017–18 (% change)
R&D and R&D plant	2,471	2,592	2,007	4.9	-22.6
Conservation and land management (302)	472	426	378	-9.7	-11.3
Department of the Interior <sup>b</sup>	168	162	125	-3.6	-22.8
Department of Agriculture	304	264	253	-13.2	-4.2
Forest Service	304	264	253	-13.2	-4.2
Pollution control and abatement (304)	515	515	278	-0.1	-45.9
Environmental Protection Agency <sup>c</sup>	513	513	276	-0.1	-46.1
Oil spill response research	1	1	0	10.5	-39.7
Science and technology	494	493	264	-0.1	-46.6
Superfund	19	19	12	-0.6	-34.0
Coast Guard (DHS)	2	2	2	0.0	0.0
Recreational resources (303)	27	27	26	0.0	-3.7
National Park Service (DOI)	27	27	26	0.0	-3.7
Water resources (301)	105	129	92	22.9	-28.7
Army Corps of Engineers (DOD)	9	9	11	0.0	22.2
Bureau of Reclamation (DOI)	96	120	81	25.0	-32.5
Other natural resources (306)	1,352	1,496	1,232	10.7	-17.6
National Oceanic and Atmospheric Administration (DOC) <sup>d</sup>	675	808	671	19.8	-16.9
National Environmental Satellite, Data, and Information Service	23	26	29	12.9	12.7
National Marine Fisheries Service	70	71	55	0.8	-21.6
National Ocean Service	67	74	59	11.1	-20.2
National Weather Service	26	23	13	-10.2	-42.6
Office of Oceanic and Atmospheric Research	403	447	350	10.7	-21.6
Office of Marine and Aviation Operations	86	168	164	95.2	-2.2
Geological Survey (DOI) <sup>e</sup>	677	688	561	1.6	-18.4
Administration and enterprise information	0.5	0.5	0.4	0.0	-15.4
Climate and land use change	102	104	73	2.1	-30.2
Core science systems	86	88	72	3.1	-19.0
Ecosystems	160	160	132	-0.3	-17.3
Energy, minerals, and environmental health	95	94	92	-0.2	-3.0
Natural hazards	113	118	98	4.1	-16.8
Water resources	121	123	95	1.6	-23.0
R&D	2,294	2,335	1,754	1.8	-24.9
Conservation and land management (302)	460	415	367	-9.8	-11.6
Department of the Interior <sup>b</sup>	166	160	123	-3.6	-23.1
Department of Agriculture	294	255	244	-13.3	-4.3
Forest Service	294	255	244	-13.3	-4.3
Pollution control and abatement (304)	512	512	278	-0.1	-45.7
Environmental Protection Agency <sup>c</sup>	510	510	276	-0.1	-45.9
Oil spill response research	1	1	0	10.5	-39.7
Science and technology	491	490	263	-0.1	-46.3
Superfund	19	19	12	0.0	-34.0
Coast Guard (DHS)	2	2	2	0.0	0.0
Recreational resources (303)	27	27	26	0.0	-3.7
National Park Service (DOI)	27	27	26	0.0	-3.7
Water resources (301)	107	131	92	22.4	-29.8
Army Corps of Engineers (DOD)	11	11	11	0.0	0.0
Bureau of Reclamation (DOI)	96	120	81	25.0	-32.5
Other natural resources (306)	1,188	1,250	991	5.2	-20.7
National Oceanic and Atmospheric Administration (DOC) <sup>d</sup>	511	563	430	10.0	-23.6
National Environmental Satellite, Data, and Information Service	23	26	29	12.9	12.7
National Marine Fisheries Service	70	71	55	0.8	-21.6
National Ocean Service	67	74	59	11.1	-20.2
National Weather Service	22	21	12	-3.5	-40.8
Office of Oceanic and Atmospheric Research	330	371	274	12.4	-26.2
Office of Marine and Aviation Operations	0	0	0	--	--

TABLE 11. Federal budget authority for Natural resources and environment (300) R&D and R&D plant: FYs 2016–18  
(Millions of dollars)

Budget function and agency	2016 actual	2017 preliminary <sup>a</sup>	2018 proposed	2016–17 (% change)	2017–18 (% change)
Geological Survey (DOI) <sup>e</sup>	677	688	561	1.6	-18.4
Administration and enterprise information	0.5	0.5	0.4	0.0	-15.4
Climate and land use change	102	104	73	2.1	-30.2
Core science systems	86	88	72	3.1	-19.0
Ecosystems	160	160	132	-0.3	-17.3
Energy, minerals, and environmental health	95	94	92	-0.2	-3.0
Natural hazards	113	118	98	4.1	-16.8
Water resources	121	123	95	1.6	-23.0

DHS = Department of Homeland Security; DOC = Department of Commerce; DOD = Department of Defense; DOI = Department of the Interior.

<sup>a</sup> Unless otherwise noted, the FY 2017 figures are official estimates reflecting the continuing resolution funding for FY 2017 and not that of the enacted omnibus spending bill for that year (Consolidated Appropriations Act, 2017, signed 5 May 2017). Most federal agencies did not prepare R&D estimates for FY 2017 based on the final spending figures in the omnibus.

<sup>b</sup> Includes Bureau of Land Management, Office of Surface Mining Reclamation and Enforcement, Fish and Wildlife Service, Bureau of Ocean Energy Management, Bureau of Safety and Environmental Enforcement, and Wildland Fire Management.

<sup>c</sup> While not reflected in the figures displayed above, the Environmental Protection Agency budget was reduced by approximately 1% in the FY 2017 omnibus.

<sup>d</sup> While not reflected in the figures displayed above, the overall National Oceanic and Atmospheric Administration budget was reduced by approximately 2% in the FY 2017 omnibus, though the Office of Oceanic and Atmospheric Research budget was increased by approximately 7%.

<sup>e</sup> FY 2017 figures for U.S. Geological Survey are enacted omnibus figures, not continuing resolution estimates.

NOTES: Detail may not add to total because of rounding. Percentage change calculated on unrounded data.

SOURCES: Agencies' submissions to the Office of Management and Budget per MAX Schedule C, agencies' budget justification documents, and supplemental data obtained from agencies' budget offices.

TABLE 12. Federal budget authority for Agriculture (350) R&D and R&D plant: FYs 2016–18  
(Millions of dollars)

Budget function and agency	2016 actual	2017 preliminary <sup>a</sup>	2018 proposed	2016–17 (% change)	2017–18 (% change)
R&D and R&D plant	2,350	2,347	1,849	-0.1	-21.2
Agricultural research and services (352)					
Department of Agriculture	2,350	2,347	1,849	-0.1	-21.2
Agricultural Research Service <sup>b</sup>	1,380	1,378	916	-0.1	-33.5
Animal and Plant Health Inspection Service	39	40	40	2.6	0.0
Economic Research Service	85	85	77	0.0	-9.4
Foreign Agricultural Service	1	1	1	0.0	0.0
National Agricultural Statistics Service	9	9	9	0.0	0.0
National Institute of Food and Agriculture <sup>c</sup>	836	834	806	-0.2	-3.4
R&D	2,030	2,026	1,841	-0.2	-9.1
Agricultural research and services (352)					
Department of Agriculture	2,030	2,026	1,841	-0.2	-9.1
Agricultural Research Service <sup>b</sup>	1,060	1,057	908	-0.3	-14.1
Animal and Plant Health Inspection Service	39	40	40	2.6	0.0
Economic Research Service	85	85	77	0.0	-9.4
Foreign Agricultural Service	1	1	1	0.0	0.0
National Agricultural Statistics Service	9	9	9	0.0	0.0
National Institute of Food and Agriculture <sup>c</sup>	836	834	806	-0.2	-3.4

<sup>a</sup> Unless otherwise noted, the FY 2017 figures are official estimates reflecting the continuing resolution funding for FY 2017 and not that of the enacted omnibus spending bill for that year (Consolidated Appropriations Act, 2017, signed 5 May 2017). Most federal agencies did not prepare R&D estimates for FY 2017 based on the final spending figures in the omnibus.

<sup>b</sup> While not reflected in the figures displayed above, the Agricultural Research Service budget was reduced by approximately 6% in the FY 2017 omnibus, primarily due to reduced R&D plant spending.

<sup>c</sup> While not reflected in the figures displayed above, the National Institute of Food and Agriculture budget was increased by approximately 2% in the FY 2017 omnibus.

NOTES: Detail may not add to total because of rounding. Percentage change calculated on unrounded data.

SOURCES: Agencies' submissions to the Office of Management and Budget per MAX Schedule C, agencies' budget justification documents, and supplemental data obtained from agencies' budget offices.

TABLE 13. Federal budget authority for Commerce and housing credit (370) R&D and R&D plant: FYs 2016–18  
(Millions of dollars)

Budget function and agency	2016 actual	2017 preliminary <sup>a</sup>	2018 proposed	2016–17 (% change)	2017–18 (% change)
R&D and R&D plant	1,033	1,030	925	-0.3	-10.2
Other advancement of commerce (376)					
Department of Commerce	1,014	999	893	-1.5	-10.6
Census Bureau	227	224	228	-1.3	1.8
National Institute of Standards and Technology <sup>b</sup>	762	762	652	0.0	-14.4
Construction of research facilities	119	119	104	-0.2	-12.4
Industrial technology services	22	22	12	0.0	-45.5
Scientific and technical research and services	621	621	536	0.1	-13.7
National Oceanic and Atmospheric Administration	14	0	0	-100.0	--
National Marine Fisheries Service	14	0	0	-100.0	--
National Telecommunications and Information Administration	11	13	13	18.2	0.0
Postal Service	19	31	32	63.2	3.2
R&D	887	884	794	-0.3	-10.2
Other advancement of commerce (376)					
Department of Commerce	868	853	762	-1.7	-10.7
Census Bureau	227	224	228	-1.3	1.8
National Institute of Standards and Technology <sup>b</sup>	616	616	521	0.1	-15.4
Construction of research facilities	0	0	0	--	--
Industrial technology services	22	22	12	0.0	-45.5
Scientific and technical research and services	594	594	509	0.1	-14.3
National Oceanic and Atmospheric Administration	14	0	0	-100.0	--
National Marine Fisheries Service	14	0	0	-100.0	--
National Telecommunications and Information Administration	11	13	13	18.2	0.0
Postal Service	19	31	32	63.2	3.2

<sup>a</sup> Unless otherwise noted, the FY 2017 figures are official estimates reflecting the continuing resolution funding for FY 2017 and not that of the enacted omnibus spending bill for that year (Consolidated Appropriations Act, 2017, signed 5 May 2017). Most federal agencies did not prepare R&D estimates for FY 2017 based on the final spending figures in the omnibus.

<sup>b</sup> For FY 2017, the continuing resolution funding levels are shown, but National Institute of Standards and Technology budget was reduced by approximately 1% in the FY 2017 omnibus.

NOTES: Detail may not add to total because of rounding. Percentage change calculated on unrounded data.

SOURCES: Agencies' submission to the Office of Management and Budget per MAX Schedule C, agencies' budget justification documents, and supplemental data obtained from agencies' budget offices.

TABLE 14. Federal budget authority for Transportation (400) R&D and R&D plant: FYs 2016–18  
(Millions of dollars)

Budget function and agency	2016 actual	2017 preliminary <sup>a</sup>	2018 proposed	2016–17 (% change)	2017–18 (% change)
R&D and R&D plant	1,361	1,370	1,418	0.6	3.5
Air transportation (402)	841	858	884	2.0	3.0
Federal Aviation Administration (DOT)	379	377	362	-0.5	-4.2
National Aeronautics and Space Administration					
Aeronautics research <sup>b</sup>	462	476	502	3.0	5.5
Transportation Security Administration (DHS)	na	5	20	na	300.0
Ground transportation (401) (DOT)	467	460	479	-1.4	4.0
Federal Highway Administration	321	314	333	-2.3	6.1
Federal Motor Carrier Safety Administration	8	9	9	16.9	0.1
Federal Railroad Administration	44	43	44	-0.3	0.4
Federal Transit Administration	8	8	8	0.0	0.0
National Highway Traffic Safety Administration	87	86	86	-0.2	-1.0
Water transportation (403)	18	18	18	0.0	0.0
Coast Guard (DHS)	18	18	18	0.0	0.0
Other transportation (407) (DOT) <sup>c</sup>	35	33	38	-5.5	13.7
R&D	1,326	1,334	1,386	0.6	3.9
Air transportation (402)	809	826	855	2.1	3.5
Federal Aviation Administration (DOT)	347	345	333	-0.5	-3.6
National Aeronautics and Space Administration					
Aeronautics research <sup>b</sup>	462	476	502	3.0	5.5
Transportation Security Administration (DHS)	na	5	20	na	300.0
Ground transportation (401) (DOT)	463	457	475	-1.4	4.0
Federal Highway Administration	321	314	333	-2.3	6.1
Federal Motor Carrier Safety Administration	8	9	9	16.9	0.1
Federal Railroad Administration	40	40	40	-0.2	0.2
Federal Transit Administration	8	8	8	0.0	0.0
National Highway Traffic Safety Administration	87	86	86	-0.2	-1.0
Water transportation (403)	18	18	18	0.0	0.0
Coast Guard (DHS)	18	18	18	0.0	0.0
Other transportation (407) (DOT) <sup>c</sup>	35	33	38	-5.5	13.7

na = not applicable.

DHS = Department of Homeland Security; DOT = Department of Transportation.

<sup>a</sup> Unless otherwise noted, the FY 2017 figures are official estimates reflecting the continuing resolution funding for FY 2017 and not that of the enacted omnibus spending bill for that year (Consolidated Appropriations Act, 2017, signed 5 May 2017). Most federal agencies did not prepare R&D estimates for FY 2017 based on the final spending figures in the omnibus.

<sup>b</sup> FY 2017 figures come from Office of Management and Budget MAX Schedule C; other years come from agency reporting.

<sup>c</sup> Includes the Office of the Secretary of DOT and the Pipeline and Hazardous Materials Safety Administration.

NOTES: Detail may not add to total because of rounding. Percentage change calculated on unrounded data.

SOURCES: Agencies' submissions to the Office of Management and Budget per MAX Schedule C, agencies' budget justification documents, and supplemental data obtained from agencies' budget offices.

TABLE 15. Federal budget authority for Community and regional development (450) R&D and R&D plant: FYs 2016–18  
(Millions of dollars)

Budget function and agency	2016 actual	2017 preliminary <sup>a</sup>	2018 proposed	2016–17 (% change)	2017–18 (% change)
R&D and R&D plant	65	65	65	0.0	0.0
Department of Housing and Urban Development (451)	60	60	60	0.0	0.0
Department of the Interior (452)	5	5	5	0.0	0.0
Bureau of Indian Affairs and Bureau of Indian Education	5	5	5	0.0	0.0
R&D	65	65	65	0.0	0.0
Department of Housing and Urban Development (451)	60	60	60	0.0	0.0
Department of the Interior (452)	5	5	5	0.0	0.0
Bureau of Indian Affairs and Bureau of Indian Education	5	5	5	0.0	0.0

<sup>a</sup> Unless otherwise noted, the FY 2017 figures are official estimates reflecting the continuing resolution funding for FY 2017 and not that of the enacted omnibus spending bill for that year (Consolidated Appropriations Act, 2017, signed 5 May 2017). Most federal agencies did not prepare R&D estimates for FY 2017 based on the final spending figures in the omnibus.

NOTES: Detail may not add to total because of rounding. Percentage change calculated on unrounded data.

SOURCES: Agencies' submission to the Office of Management and Budget per MAX Schedule C, agencies' budget justification documents, and supplemental data obtained from agencies' budget offices.

TABLE 16. Federal budget authority for Education, training, employment, and social services (500) R&D and R&D plant: FYs 2016–18  
(Millions of dollars)

Budget function and agency	2016 actual	2017 preliminary <sup>a</sup>	2018 proposed	2016–17 (% change)	2017–18 (% change)
R&D and R&D plant	505	512	550	1.4	7.4
Research and general education aids (501, 502, 503)	505	512	550	1.4	7.4
Department of Education programs	254	257	246	1.2	-4.3
Smithsonian Institution programs	251	255	304	1.6	19.2
R&D	474	475	472	0.2	-0.6
Research and general education aids (501, 502, 503)	474	475	472	0.2	-0.6
Department of Education programs	254	257	246	1.2	-4.3
Smithsonian Institution programs	220	218	226	-0.9	3.7

<sup>a</sup> Unless otherwise noted, the FY 2017 figures are official estimates reflecting the continuing resolution funding for FY 2017 and not that of the enacted omnibus spending bill for that year (Consolidated Appropriations Act, 2017, signed 5 May 2017). Most federal agencies did not prepare R&D estimates for FY 2017 based on the final spending figures in the omnibus.

SOURCES: Agencies' submissions to the Office of Management and Budget per MAX Schedule C, agencies' budget justification documents, and supplemental data obtained from agencies' budget offices.

TABLE 17. Federal budget authority for Health (550) R&D and R&D plant: FYs 2016–18  
(Millions of dollars)

Budget function and agency	2016 actual	2017 preliminary <sup>a</sup>	2018 proposed	2016–17 (% change)	2017–18 (% change)
R&D and R&D plant	32,526	32,835	26,643	0.9	-18.9
Consumer and occupational health and safety (554)	504	412	411	-18.3	-0.2
Consumer Product Safety Commission	2	2	1	0.0	-50.0
Food and Drug Administration (HHS)	502	410	410	-18.3	0.0
Health care services and health research and training (551, 552)	32,022	32,423	26,232	1.3	-19.1
Department of Health and Human Services	31,553	31,960	25,699	1.3	-19.6
Agency for Healthcare Research and Quality	355	359	0	1.1	-100.0
Centers for Disease Control and Prevention	398	477	479	19.8	0.4
Departmental management (other)	89	102	109	14.6	6.9
Health Resources and Services Administration	31	31	18	0.0	-41.9
National Institutes of Health <sup>b,c</sup>	30,680	30,991	25,093	1.0	-19.0
Patient-Centered Outcomes Research Trust Fund <sup>d</sup>	469	463	533	-1.3	15.1
R&D	32,365	32,597	26,499	0.7	-18.7
Consumer and occupational health and safety (554)	488	377	376	-22.7	-0.3
Consumer Product Safety Commission	2	2	1	0.0	-50.0
Food and Drug Administration (HHS)	486	375	375	-22.8	0.0
Health care services and health research and training (551, 552)	31,877	32,220	26,123	1.1	-18.9
Department of Health and Human Services	31,408	31,757	25,590	1.1	-19.4
Agency for Healthcare Research and Quality	355	359	0	1.1	-100.0
Centers for Disease Control and Prevention	398	477	479	19.8	0.4
Departmental management (other)	89	102	109	14.6	6.9
Health Resources and Services Administration	31	31	18	0.0	-41.9
National Institutes of Health <sup>b,c</sup>	30,535	30,788	24,984	0.8	-18.9
Patient-Centered Outcomes Research Trust Fund <sup>d</sup>	469	463	533	-1.3	15.1

HHS = Department of Health and Human Services.

<sup>a</sup> Unless otherwise noted, the FY 2017 figures are official estimates reflecting the continuing resolution funding for FY 2017 and not that of the enacted omnibus spending bill for that year (Consolidated Appropriations Act, 2017, signed 5 May 2017). Most federal agencies did not prepare R&D estimates for FY 2017 based on the final spending figures in the omnibus.

<sup>b</sup> FY 2018 figures for R&D and R&D plant come from Office of Management and Budget MAX Schedule C; other years come from agency reporting.

<sup>c</sup> While not reflected in the figures displayed above, the National Institutes of Health budget was increased by approximately 6% in the FY 2017 omnibus.

<sup>d</sup> Established by the Patient Protection and Affordable Care Act (P.L. 111-148) to prioritize and fund comparative effectiveness research. Funds are partially managed by the private, nonprofit Patient-Centered Outcomes Research Institute.

NOTES: Detail may not add to total because of rounding. Percentage change calculated on unrounded data.

SOURCES: Agencies' submissions to the Office of Management and Budget per MAX Schedule C, agencies' budget justification documents, and supplemental data obtained from agencies' budget offices.

TABLE 18. National Institutes of Health, federal budget authority for R&D and R&D plant: FYs 2016–18

(Millions of dollars)

Organization and program by FY 2016 rank order	2016 actual	2017 preliminary <sup>a</sup>	2018 proposed	2016–17 (% change)	2017–18 (% change)
<b>R&amp;D and R&amp;D plant<sup>b,c</sup></b>	30,680	30,991	25,093	1.0	-19.0
National Cancer Institute	5,133	5,469	NA	6.5	NA
National Institute of Allergy and Infectious Diseases	4,688	4,597	NA	-2.0	NA
National Heart, Lung, and Blood Institute	3,003	2,996	NA	-0.3	NA
National Institute of Diabetes and Digestive and Kidney Diseases	1,902	1,890	NA	-0.6	NA
National Institute of Neurological Disorders and Stroke	1,664	1,657	NA	-0.4	NA
National Institute on Aging	1,570	1,573	NA	0.2	NA
Office of the Director	1,551	1,600	NA	3.2	NA
National Institute of General Medical Sciences	1,522	1,521	NA	-0.1	NA
National Institute of Mental Health	1,477	1,505	NA	1.9	NA
National Institute of Child Health and Human Development	1,304	1,302	NA	-0.1	NA
National Institute on Drug Abuse	1,025	1,033	NA	0.8	NA
National Institute of Environmental Health Sciences <sup>d</sup>	752	749	NA	-0.4	NA
National Eye Institute	695	702	NA	1.0	NA
National Center for Advancing Translational Sciences	660	659	NA	-0.2	NA
National Institute of Arthritis and Musculoskeletal and Skin Diseases	524	524	NA	0.0	NA
National Human Genome Research Institute	504	508	NA	0.7	NA
National Institute on Alcohol Abuse and Alcoholism	453	452	NA	-0.1	NA
National Institute on Deafness and Other Communication Disorders	409	408	NA	-0.2	NA
National Institute of Dental and Craniofacial Research	401	403	NA	0.5	NA
National Library of Medicine	395	394	NA	-0.3	NA
National Institute of Biomedical Imaging and Bioengineering	309	311	NA	0.7	NA
National Institute on Minority Health and Health Disparities	280	278	NA	-0.9	NA
National Institute of Nursing Research	134	136	NA	1.4	NA
National Center for Complementary and Integrative Health	125	126	NA	0.6	NA
John E. Fogarty International Center	70	70	0	0.1	-100.0
National Institute for Healthcare Research and Quality <sup>e</sup>	na	na	NA	na	NA
Buildings and facilities	129	129	NA	-0.2	NA
<b>R&amp;D<sup>b,c</sup></b>	30,535	30,788	24,984	0.8	-18.9
National Cancer Institute	5,117	5,394	NA	5.4	NA
National Institute of Allergy and Infectious Diseases	4,688	4,597	NA	-2.0	NA
National Heart, Lung, and Blood Institute	3,003	2,996	NA	-0.3	NA
National Institute of Diabetes and Digestive and Kidney Diseases	1,902	1,890	NA	-0.6	NA
National Institute of Neurological Disorders and Stroke	1,664	1,657	NA	-0.4	NA
National Institute on Aging	1,570	1,573	NA	0.2	NA
Office of the Director	1,551	1,600	NA	3.2	NA
National Institute of General Medical Sciences	1,522	1,521	NA	-0.1	NA
National Institute of Mental Health	1,477	1,505	NA	1.9	NA
National Institute of Child Health and Human Development	1,304	1,302	NA	-0.1	NA
National Institute on Drug Abuse	1,025	1,033	NA	0.8	NA
National Institute of Environmental Health Sciences <sup>d</sup>	752	749	NA	-0.4	NA
National Eye Institute	695	702	NA	1.0	NA
National Center for Advancing Translational Sciences	660	659	NA	-0.2	NA
National Institute of Arthritis and Musculoskeletal and Skin Diseases	524	524	NA	0.0	NA
National Human Genome Research Institute	504	508	NA	0.7	NA
National Institute on Alcohol Abuse and Alcoholism	453	452	NA	-0.1	NA
National Institute on Deafness and Other Communication Disorders	409	408	NA	-0.2	NA
National Institute of Dental and Craniofacial Research	401	403	NA	0.5	NA
National Library of Medicine	395	394	NA	-0.3	NA
National Institute of Biomedical Imaging and Bioengineering	309	311	NA	0.7	NA
National Institute on Minority Health and Health Disparities	280	278	NA	-0.9	NA
National Institute of Nursing Research	134	136	NA	1.4	NA
National Center for Complementary and Integrative Health	125	126	NA	0.6	NA

TABLE 18. National Institutes of Health, federal budget authority for R&D and R&D plant: FYs 2016–18  
(Millions of dollars)

Organization and program by FY 2016 rank order	2016 actual	2017 preliminary <sup>a</sup>	2018 proposed	2016–17 (% change)	2017–18 (% change)
John E. Fogarty International Center	70	70	0	0.1	-100.0
National Institute for Healthcare Research and Quality <sup>e</sup>	na	na	NA	na	NA
Buildings and facilities	0	0	NA	-	NA

na = not applicable; NA = not available.

<sup>a</sup> Unless otherwise noted, the FY 2017 figures are official estimates reflecting the continuing resolution funding for FY 2017 and not that of the enacted omnibus spending bill for that year (Consolidated Appropriations Act, 2017, signed 5 May 2017). Most federal agencies did not prepare R&D estimates for FY 2017 based on the final spending figures in the omnibus.

<sup>b</sup> FY 2018 figures for R&D and R&D plant come from Office of Management and Budget MAX Schedule C; other years come from agency reporting. Individual institute figures not available.

<sup>c</sup> While not reflected in the figures displayed above, the National Institutes of Health (NIH) budget was increased by approximately 6% in the FY 2017 omnibus.

<sup>d</sup> Includes funding from Superfund-related transfers and appropriations.

<sup>e</sup> The Department of Health and Human Services Agency for Healthcare Research and Quality becomes the NIH National Institute for Healthcare Research and Quality in FY 2018.

NOTES: Detail may not add to total because of rounding. Percentage change calculated on unrounded data. Institute totals exclude non-R&D components of institute budgets.

SOURCES: Agencies' submissions to the Office of Management and Budget per MAX Schedule C, agencies' budget justification documents, and supplemental data obtained from agencies' budget offices.

TABLE 19. Federal budget authority for Medicare (570) R&D and R&D plant: FYs 2016–18  
(Millions of dollars)

Budget function and agency	2016 actual	2017 preliminary <sup>a</sup>	2018 proposed	2016–17 (% change)	2017–18 (% change)
R&D and R&D plant	21	21	18	0.0	-14.3
Department of Health and Human Services (571)					
Centers for Medicare and Medicaid Services	21	21	18	0.0	-14.3
R&D	21	21	18	0.0	-14.3
Department of Health and Human Services (571)					
Centers for Medicare and Medicaid Services	21	21	18	0.0	-14.3

<sup>a</sup> Unless otherwise noted, the FY 2017 figures are official estimates reflecting the continuing resolution funding for FY 2017 and not that of the enacted omnibus spending bill for that year (Consolidated Appropriations Act, 2017, signed 5 May 2017). Most federal agencies did not prepare R&D estimates for FY 2017 based on the final spending figures in the omnibus.

NOTES: Detail may not add to total because of rounding. Percentage change calculated on unrounded data.

SOURCES: Agencies' submissions to the Office of Management and Budget per MAX Schedule C, agencies' budget justification documents, and supplemental data obtained from agencies' budget offices.

TABLE 20. Federal budget authority for Income security (600) R&D and R&D plant: FYs 2016–18  
(Millions of dollars)

Budget function and agency	2016 actual	2017 preliminary <sup>a</sup>	2018 proposed	2016–17 (% change)	2017–18 (% change)
R&D and R&D plant	105	117	118	11.4	0.9
Department of Health and Human Services (609)					
Administration for Children and Families	4	16	17	300.0	6.3
Social Security Administration (609)	101	101	101	0.0	0.0
R&D	105	117	118	11.4	0.9
Department of Health and Human Services (609)					
Administration for Children and Families	4	16	17	300.0	6.3
Social Security Administration (609)	101	101	101	0.0	0.0

<sup>a</sup> Unless otherwise noted, the FY 2017 figures are official estimates reflecting the continuing resolution funding for FY 2017 and not that of the enacted omnibus spending bill for that year (Consolidated Appropriations Act, 2017, signed 5 May 2017). Most federal agencies did not prepare R&D estimates for FY 2017 based on the final spending figures in the omnibus.

NOTES: Detail may not add to total because of rounding. Percentage change calculated on unrounded data.

SOURCES: Agencies' submissions to the Office of Management and Budget per MAX Schedule C, agencies' budget justification documents, and supplemental data obtained from agencies' budget offices.

TABLE 21. Federal budget authority for Veterans benefits and services (700) R&D and R&D plant: FYs 2016–18  
(Millions of dollars)

Budget function and agency	2016 actual	2017 preliminary	2018 proposed	2016–17 (% change)	2017–18 (% change)
R&D and R&D plant	1,222	1,346	1,357	10.1	0.8
Department of Veterans Affairs					
Medical and prosthetic research (703)	611	673	640	10.1	-4.9
Medical services (703)	611	673	717	10.1	6.5
R&D	1,222	1,346	1,357	10.1	0.8
Department of Veterans Affairs					
Medical and prosthetic research (703)	611	673	640	10.1	-4.9
Medical services (703)	611	673	717	10.1	6.5

NOTES: Data reflect final appropriations for FY 2017. Detail may not add to total because of rounding. Percentage change calculated on unrounded data. Data include administration and operating expenses related to Department of Veterans Affairs research.

SOURCES: Agencies' submissions to the Office of Management and Budget per MAX Schedule C, agencies' budget justification documents, and supplemental data obtained from agencies' budget offices.

TABLE 22. Federal budget authority for Administration of justice (750) R&D and R&D plant: FYs 2016–18  
(Millions of dollars)

Budget function and agency	2016 actual	2017 preliminary <sup>a</sup>	2018 proposed	2016–17 (% change)	2017–18 (% change)
R&D and R&D plant	613	728	570	18.7	-21.7
Department of Homeland Security (751)	562	676	513	20.2	-24.1
Department of Justice	51	52	57	2.0	9.6
Federal Prison System (753)	11	11	16	0.0	45.5
Office of Justice Programs (754)	40	41	41	2.5	0.0
R&D	605	728	570	20.3	-21.7
Department of Homeland Security (751)	554	676	513	22.0	-24.1
Department of Justice	51	52	57	2.0	9.6
Federal Prison System (753)	11	11	16	0.0	45.5
Office of Justice Programs (754)	40	41	41	2.5	0.0

<sup>a</sup> Unless otherwise noted, the FY 2017 figures are official estimates reflecting the continuing resolution funding for FY 2017 and not that of the enacted omnibus spending bill for that year (Consolidated Appropriations Act, 2017, signed 5 May 2017). Most federal agencies did not prepare R&D estimates for FY 2017 based on the final spending figures in the omnibus.

NOTES: Detail may not add to total because of rounding. Percentage change calculated on unrounded data.

SOURCES: Agencies' submissions to the Office of Management and Budget per MAX Schedule C, agencies' budget justification documents, and supplemental data obtained from agencies' budget offices.

TABLE 23. Federal funding for R&D, R&D plant, and basic research, by budget function: FYs 1955–2018  
(Millions of dollars)

Fiscal year	Total for all budget functions	National defense (050)	International affairs (150)	General science and basic research (251)	Space flight, research, and supporting activities (252)	Energy (270)	Natural resources and environment (300)	Agriculture (350)	Commerce and housing credit (370)	Transportation (400)	Community and regional development (450)	Education, training, employment, and social services (500)	Health (550)	Medicare (570)	Income security (600)	Veterans benefits and services (700)	Administration of justice (750)	General government (800)	Other <sup>a</sup>
R&D and R&D plant <sup>b</sup>																			
2000	83,581	43,161	200	5,593	8,437	1,000	2,082	1,561	530	1,664	46	429	18,121	na	25	645	73	14	na
2001	91,505	46,202	252	6,353	8,951	1,320	2,138	1,826	468	1,654	54	424	21,023	na	30	719	88	3	na
2002	103,057	53,731	279	6,605	9,227	1,332	2,175	1,909	549	1,889	50	426	23,998	na	37	756	91	3	na
2003	118,065	63,708	269	6,999	9,677	1,412	2,198	2,042	534	1,888	48	444	27,677	na	38	817	316	0	na
2004	126,270	70,344	264	7,352	9,746	1,369	2,244	1,910	499	1,881	47	469	28,480	na	47	866	752	0	na
2005	131,259	74,641	255	7,477	9,656	1,324	2,245	2,094	475	1,866	45	495	29,129	na	35	742	779	0	na
2006	136,019	78,737	255	7,539	10,401	1,244	2,219	2,118	461	1,730	55	523	28,932	na	27	769	1,008	0	na
2007	141,890	82,658	246	8,712	10,988	1,922	2,096	1,950	516	1,380	49	577	29,581	na	27	820	369	0	na
2008	144,391	85,129	255	9,007	10,672	2,076	2,202	1,997	560	1,413	50	549	29,212	na	27	886	355	0	na
2009 <sup>c</sup>	164,292	85,642	255	14,128	9,060	3,794	2,615	2,249	1,051	1,461	62	553	42,051	30	63	943	335	0	na
Non-ARRA	145,553	85,342	255	9,941	8,374	2,234	2,371	2,073	641	1,357	62	543	30,989	30	63	943	335	0	na
ARRA	18,739	300	0	4,187	686	1,560	244	176	410	104	0	10	11,062	0	0	0	0	0	na
2010	148,962	86,789	194	10,509	8,232	2,570	2,430	2,206	668	1,517	109	581	31,693	36	77	1,034	318	0	na
2011	144,379	83,226	196	10,581	8,658	2,265	2,314	1,768	650	1,420	83	636	30,990	180	68	1,160	184	0	na
2012	143,737	79,875	269	10,536	10,801	2,231	2,300	2,005	698	1,511	58	640	31,411	80	18	1,160	143	1	na
2013	132,477	70,781	350	9,620	10,476	2,289	2,169	1,818	795	1,359	54	572	30,200	72	26	1,164	730	0	na
2014	136,159	70,992	410	10,524	11,228	2,407	2,328	2,077	957	1,278	66	542	31,099	25	58	1,101	1,067	0	na
2015	138,544	72,950	290	11,088	10,928	3,173	2,358	2,149	889	1,389	55	527	30,495	71	55	1,178	949	0	na
2016	150,393	80,202	288	11,328	12,811	3,492	2,471	2,350	1,033	1,361	65	505	32,526	21	105	1,222	613	0	na
2017 preliminary <sup>d</sup>	151,380	80,428	263	11,401	12,853	3,472	2,592	2,347	1,030	1,370	65	512	32,835	21	117	1,346	728	0	na
2018 proposed <sup>e</sup>	117,762	60,719	110	9,803	9,830	1,780	2,007	1,849	925	1,418	65	550	26,643	18	118	1,357	570	0	na
R&D <sup>f</sup>																			
1955	2,533	2,151	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	67	na	NA	NA	NA	NA	315
1956	2,988	2,535	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	83	na	NA	NA	NA	NA	370
1957	3,932	3,327	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	140	na	NA	NA	NA	NA	465
1958	4,570	3,801	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	177	na	NA	NA	NA	NA	592
1959	6,694	5,556	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	233	na	NA	NA	NA	NA	904
1960	7,552	6,107	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	305	na	NA	NA	NA	NA	1,140
1961	9,059	7,005	NA	137	777	373	73	125	NA	55	NA	NA	405	na	NA	NA	NA	NA	108
1962	10,290	7,238	NA	187	1,413	448	108	136	NA	101	NA	NA	551	na	NA	NA	NA	NA	107
1963	12,495	7,764	NA	246	2,812	515	120	146	NA	142	NA	NA	626	na	NA	NA	NA	NA	125

TABLE 23. Federal funding for R&D, R&D plant, and basic research, by budget function: FYs 1955–2018  
(Millions of dollars)

Fiscal year	Total for all budget functions	National defense (050)	International affairs (150)	General science and basic research (251)	Space flight, research, and supporting activities (252)	Energy (270)	Natural resources and environment (300)	Agriculture (350)	Commerce and housing credit (370)	Transportation (400)	Community and regional development (450)	Education, training, employment, and social services (500)	Health (550)	Medicare (570)	Income security (600)	Veterans benefits and services (700)	Administration of justice (750)	General government (800)	Other <sup>a</sup>
1964	14,225	7,829	NA	277	4,241	571	134	165	NA	122	NA	NA	728	na	NA	NA	NA	NA	160
1965	14,614	7,342	NA	304	4,887	585	159	195	NA	147	NA	NA	792	na	NA	NA	NA	NA	203
1966	15,320	7,536	NA	377	4,976	575	189	201	NA	251	NA	NA	900	na	NA	NA	NA	NA	315
1967	16,529	8,566	18	409	4,778	600	320	218	43	380	37	154	915	na	48	41	*	3	na
1968	15,921	8,275	17	437	4,304	657	331	217	48	304	44	166	1,021	na	50	45	1	5	na
1969	15,641	8,356	26	433	3,799	597	323	221	54	404	32	169	1,088	na	78	50	5	5	na
1970	15,339	7,981	32	452	3,606	574	340	238	79	535	47	164	1,084	na	136	59	9	6	na
1971	15,543	8,110	32	513	3,048	556	416	259	90	728	65	215	1,288	na	145	63	10	7	na
1972	16,496	8,902	29	625	2,932	574	479	294	50	558	66	235	1,547	na	106	69	23	8	na
1973	16,800	9,002	28	658	2,824	630	554	308	50	572	78	290	1,585	na	106	74	33	7	na
1974	17,410	9,016	24	749	2,702	759	516	313	51	693	82	236	2,069	na	71	85	35	9	na
1975	19,039	9,679	29	813	2,764	1,363	624	342	65	635	93	239	2,170	na	72	95	44	12	na
1976	20,780	10,430	42	858	3,130	1,649	683	383	69	631	109	255	2,351	na	48	98	35	12	na
1977	23,450	11,864	66	974	2,832	2,562	753	457	71	708	101	230	2,629	na	55	107	30	13	na
1978	25,976	12,899	57	1,050	2,939	3,134	904	501	77	768	92	345	2,968	na	67	111	44	20	na
1979	28,208	13,791	117	1,119	3,136	3,461	1,010	552	93	798	127	354	3,401	na	57	123	47	23	na
1980	29,739	14,946	125	1,233	2,738	3,603	999	585	101	887	119	468	3,694	na	47	126	45	22	na
1981	33,735	18,413	160	1,340	3,111	3,501	1,061	659	106	869	104	298	3,871	na	43	143	34	22	na
1982	36,115	22,070	165	1,359	2,584	3,012	965	693	104	791	63	228	3,869	na	32	139	31	10	na
1983	38,768	24,936	177	1,502	2,134	2,578	952	745	107	876	44	189	4,298	na	32	157	37	6	na
1984	44,214	29,287	192	1,676	2,300	2,581	963	762	110	1,040	46	200	4,779	na	26	218	24	8	na
1985	49,887	33,698	210	1,862	2,725	2,389	1,059	836	114	1,030	50	220	5,418	na	21	193	47	17	na
1986	53,249	36,926	211	1,873	2,894	2,286	1,062	815	111	917	88	248	5,565	na	14	183	41	14	na
1987	57,069	39,152	223	2,042	3,398	2,053	1,133	822	110	908	99	267	6,556	na	25	215	49	17	na
1988	59,106	40,099	224	2,160	3,683	2,126	1,160	882	122	896	108	285	7,076	na	23	195	51	17	na
1989	62,115	40,642	279	2,373	4,555	2,419	1,255	907	128	1,064	74	347	7,773	na	27	212	45	15	na
1990	63,781	39,925	375	2,410	5,765	2,726	1,386	950	140	1,045	67	374	8,308	na	33	216	44	17	na
1991	65,898	39,328	378	2,635	6,511	2,953	1,582	1,052	178	1,231	88	433	9,226	na	30	219	51	4	na
1992	68,398	40,083	371	2,659	6,744	3,099	1,688	1,155	192	1,523	127	365	10,055	na	37	245	51	4	na
1993	69,884	41,249	382	2,691	6,988	2,677	1,802	1,152	220	1,703	57	348	10,280	na	36	250	49	*	na
1994	68,331	37,764	254	2,712	7,414	2,873	2,062	1,193	380	1,888	68	373	10,993	na	45	265	46	0	na
1995	68,791	37,204	287	2,794	7,916	2,844	1,988	1,194	525	1,833	70	369	11,407	na	43	257	59	1	na
1996	69,049	37,801	252	2,846	7,844	2,521	1,802	1,176	432	1,795	50	331	11,867	na	16	259	56	2	na
1997	71,653	39,591	190	2,944	7,844	2,372	1,886	1,203	409	1,785	48	373	12,670	na	9	267	59	2	na

TABLE 23. Federal funding for R&D, R&D plant, and basic research, by budget function: FYs 1955–2018  
(Millions of dollars)

Fiscal year	Total for all budget functions	National defense (050)	International affairs (150)	General science and basic research (251)	Space flight, research, and supporting activities (252)	Energy (270)	Natural resources and environment (300)	Agriculture (350)	Commerce and housing credit (370)	Transportation (400)	Community and regional development (450)	Education, training, employment, and social services (500)	Health (550)	Medicare (570)	Income security (600)	Veterans benefits and services (700)	Administration of justice (750)	General government (800)	Other <sup>a</sup>
1998	73,569	39,823	163	4,360	8,198	948	1,855	1,249	398	1,833	42	444	13,576	na	18	587	72	2	na
1999	77,637	41,306	190	4,690	8,245	1,131	1,842	1,288	432	1,725	59	403	15,553	na	38	644	88	3	na
2000	78,664	42,580	200	4,977	5,363	996	1,999	1,426	406	1,636	46	418	17,869	na	25	645	73	6	na
2001	86,756	45,713	252	5,468	6,126	1,314	2,096	1,657	429	1,640	54	411	20,758	na	30	719	88	3	na
2002	97,624	53,016	279	5,753	6,270	1,327	2,160	1,606	467	1,838	50	411	23,560	na	37	756	91	3	na
2003	112,544	63,048	269	6,129	7,355	1,403	2,151	1,708	463	1,869	48	430	26,517	na	38	817	299	0	na
2004	121,867	69,593	264	6,466	7,612	1,343	2,168	1,750	454	1,863	47	459	28,251	na	47	866	684	0	na
2005	126,601	74,047	255	6,570	7,300	1,296	2,168	1,820	423	1,847	45	470	28,824	na	35	742	758	0	na
2006	131,624	78,037	255	6,691	8,204	1,195	2,120	1,869	390	1,711	55	495	28,797	na	27	769	1,008	0	na
2007	138,087	82,272	246	7,809	9,024	1,893	1,936	1,857	428	1,361	49	536	29,461	na	27	819	369	0	na
2008	140,113	84,713	255	8,234	8,323	1,896	2,106	1,864	450	1,394	50	497	29,063	na	27	886	355	0	na
2009 <sup>c</sup>	156,009	85,166	255	11,840	6,891	3,318	2,245	1,935	618	1,440	62	479	40,389	30	63	943	335	0	na
Non-ARRA	140,903	84,866	255	8,885	6,205	2,014	2,171	1,935	507	1,336	62	469	30,827	30	63	943	335	0	na
ARRA	15,106	300	0	2,955	686	1,304	74	0	111	104	0	10	9,562	0	0	0	0	0	na
2010	146,596	86,517	194	9,280	8,232	2,455	2,237	2,043	550	1,496	109	535	31,488	36	77	1,034	313	0	na
2011	142,457	82,972	196	9,483	8,398	2,233	2,171	1,916	548	1,420	83	578	30,903	180	68	1,160	172	0	na
2012	141,450	79,559	269	9,304	10,661	2,197	2,147	1,920	607	1,486	58	597	31,243	80	18	1,160	143	1	na
2013	130,861	70,620	350	8,802	10,476	2,269	2,020	1,753	719	1,337	54	536	30,044	72	26	1,164	618	0	na
2014	133,547	70,611	410	9,482	11,055	2,387	2,172	1,967	877	1,261	66	515	30,927	25	58	1,101	634	0	na
2016	147,813	79,828	288	10,042	12,789	3,473	2,294	2,030	887	1,326	65	474	32,365	21	105	1,222	605	0	na
2017 preliminary <sup>d</sup>	148,734	80,125	263	10,164	12,801	3,453	2,335	2,026	884	1,334	65	475	32,597	21	117	1,346	728	0	na
2018 proposed <sup>e</sup>	115,591	60,368	110	8,780	9,702	1,757	1,754	1,841	794	1,386	65	472	26,499	18	118	1,357	570	0	na
Basic research <sup>g</sup>																			
1978	3,665	320	*	962	412	157	207	197	9	70	8	57	1,246	0	2	9	10	0	na
1979	4,108	365	0	1,026	440	172	131	222	10	75	8	59	1,579	0	1	10	10	*	na
1980	4,716	552	0	1,152	482	200	136	246	15	79	8	61	1,761	0	1	14	9	*	na
1981	5,107	610	12	1,256	445	220	131	281	17	89	5	66	1,951	0	3	15	5	3	na
1982	5,305	696	10	1,296	434	260	139	295	17	102	7	78	1,953	0	0	13	4	2	na
1983	6,247	788	10	1,439	501	320	156	326	19	117	6	70	2,475	0	0	14	4	3	na
1984	7,072	845	3	1,606	646	365	192	353	20	125	5	77	2,813	0	0	15	5	3	na
1985	7,810	856	4	1,779	498	428	206	406	23	255	6	86	3,243	0	0	15	4	4	na
1986	8,193	960	5	1,795	737	456	204	390	26	184	6	83	3,324	0	0	15	5	5	na
1987	9,021	900	3	1,942	843	511	206	397	26	231	4	78	3,851	0	0	17	8	4	na

TABLE 23. Federal funding for R&D, R&D plant, and basic research, by budget function: FYs 1955–2018  
(Millions of dollars)

Fiscal year	Total for all budget functions	National defense (050)	International affairs (150)	General science and basic research (251)	Space flight, research, and supporting activities (252)	Energy (270)	Natural resources and environment (300)	Agriculture (350)	Commerce and housing credit (370)	Transportation (400)	Community and regional development (450)	Education, training, employment, and social services (500)	Health (550)	Medicare (570)	Income security (600)	Veterans benefits and services (700)	Administration of justice (750)	General government (800)	Other <sup>a</sup>
1988	9,553	905	3	2,061	944	571	210	428	28	197	7	83	4,087	0	0	17	8	5	na
1989	10,648	965	3	2,265	1,099	703	331	433	29	287	3	92	4,413	0	0	16	7	3	na
1990	11,288	964	4	2,306	1,389	761	336	456	31	242	3	106	4,661	0	0	16	9	3	na
1991	12,405	1,188	6	2,526	1,479	878	389	486	39	246	10	115	5,021	0	0	16	6	0	na
1992	12,973	1,147	6	2,532	1,499	921	383	528	35	266	11	118	5,506	0	0	16	5	0	na
1993	13,440	1,323	8	2,553	1,588	917	376	553	34	238	10	121	5,700	0	0	16	5	0	na
1994	13,552	1,174	6	2,542	1,796	921	224	567	38	220	9	145	5,889	0	0	16	5	0	na
1995	13,772	1,181	0	2,622	1,614	930	187	565	35	389	3	153	6,068	0	0	16	9	0	na
1996	14,442	1,165	2	2,662	1,685	1,182	147	547	37	456	0	140	6,395	0	0	13	12	0	na
1997	14,961	1,090	2	2,753	1,653	1,288	153	548	34	420	0	142	6,852	0	0	14	13	0	na
1998	15,523	1,067	1	4,121	1,610	34	145	571	35	411	0	133	7,356	0	0	23	16	0	na
1999	17,433	1,110	0	4,464	1,667	36	142	602	41	358	0	99	8,634	0	0	263	18	0	na
2000	19,470	1,184	42	4,722	1,616	36	146	651	39	542	0	107	10,099	0	0	266	20	0	na
2001	21,376	1,303	50	5,187	1,695	40	215	749	50	17	0	112	11,642	0	0	289	27	0	na
2002	23,848	1,404	53	5,561	1,912	45	471	762	56	17	0	115	12,957	0	0	465	30	0	na
2003	25,323	1,409	18	5,907	2,206	40	185	824	53	23	1	125	14,162	0	0	327	42	0	na
2004	26,529	1,380	18	6,198	2,473	32	201	780	46	20	0	125	14,850	0	0	347	58	0	na
2005	27,678	1,508	18	6,238	2,486	31	195	789	53	65	0	130	15,826	0	0	297	42	0	na
2006	27,336	1,490	18	6,406	2,299	8	195	805	66	0	0	131	15,532	0	0	318	68	0	na
2007	28,166	1,533	18	6,887	2,318	7	260	821	92	2	0	149	15,637	0	0	335	106	0	na
2008	28,740	1,631	18	7,260	2,183	16	210	790	98	0	0	146	15,909	0	0	354	125	0	na
2009 <sup>c</sup>	36,400	1,772	18	10,727	932	28	219	799	152	0	0	155	21,108	0	0	375	115	0	na
Non-ARRA	28,161	1,769	18	7,913	900	28	219	799	112	0	0	145	15,767	0	0	375	115	0	na
ARRA	8,240	3	0	2,814	32	0	0	0	40	0	0	10	5,341	0	0	0	0	0	na
2010	29,614	1,849	0	8,578	1,109	57	223	881	131	0	0	174	16,125	0	0	413	74	0	na
2011	29,888	1,940	0	8,738	1,199	47	218	823	154	0	0	207	16,002	0	0	438	122	0	na
2012	31,846	2,066	0	8,491	3,181	57	135	847	163	0	0	206	16,196	0	0	470	33	0	na
2013	30,202	1,950	0	8,147	2,950	17	120	762	192	0	0	208	15,317	0	0	476	63	0	na
2014	32,086	2,167	0	8,739	3,320	16	252	790	213	0	0	227	15,853	0	0	451	58	0	na
2015	31,821	2,213	1	9,308	3,210	55	254	793	214	0	0	217	15,014	0	0	484	58	0	na

TABLE 23. Federal funding for R&D, R&D plant, and basic research, by budget function: FYs 1955–2018  
(Millions of dollars)

Fiscal year	Total for all budget functions	National defense (050)	International affairs (150)	General science and basic research (251)	Space flight, research, and supporting activities (252)	Energy (270)	Natural resources and environment (300)	Agriculture (350)	Commerce and housing credit (370)	Transportation (400)	Community and regional development (450)	Education, training, employment, and social services (500)	Health (550)	Medicare (570)	Income security (600)	Veterans benefits and services (700)	Administration of justice (750)	General government (800)	Other <sup>a</sup>
2016	32,821	2,335	1	9,282	3,578	51	257	829	235	0	0	244	15,565	0	0	386	58	0	na
2017 preliminary <sup>d</sup>	33,077	2,214	0	9,414	3,617	51	250	878	234	0	0	251	15,711	0	0	390	67	0	na
2018 proposed <sup>e</sup>	28,936	2,348	0	8,109	3,717	38	202	795	200	0	0	257	12,816	0	0	394	59	0	na

\* = amount less than \$500,000. na = not applicable. NA = not available; data were not collected for all budget functions in all years.

ARRA = American Recovery and Reinvestment Act of 2009.

<sup>a</sup> Other includes amounts not explicitly tallied in one of the separately identified categories.

<sup>b</sup> Data on budget authority for R&D plant were not tabulated before FY 2000.

<sup>c</sup> Total for FY 2009 is the sum of non-ARRA and ARRA funds.

<sup>d</sup> Most FY 2017 figures are official estimates reflecting the continuing resolution funding for FY 2017 and not that of the enacted omnibus spending bill for that year (Consolidated Appropriations Act, 2017, signed 5 May 2017). Most federal agencies did not prepare R&D estimates for FY 2017 based on the final spending figures in the omnibus.

<sup>e</sup> The application of a new Experimental Development definition is shown starting in FY 2018. The previous years' numbers reflect use of the former Development definition.

<sup>f</sup> Data for 1955–77 are obligations; data for 1978–2017 are budget authority.

<sup>g</sup> Not all basic research funded by the federal government falls into the General science and basic research (251) category. Federal funding for basic research arises in other functional categories—such as National defense or Health—and is included in the category funding totals there.

NOTES: Detail may not add to total because of rounding. In FY 2007, the Department of Homeland Security (DHS) changed its R&D portfolio to reclassify funding in National defense and most Administration of justice as General science and basic research; in FY 2013, this was reclassified back to Administration of justice. In FY 2004, DHS changed its R&D portfolio to reclassify funding in General science and basic research and in Agriculture as Administration of justice. In FY 2000, the National Aeronautics and Space Administration (NASA) transferred funding for the International Space Station program from R&D to R&D plant; the change is reflected in the budget authority for Space flight, research, and supporting activities. In both FY 2009 and FY 2012, NASA revised the classification of its R&D and non-R&D funding. In FY 2000, the National Institutes of Health in the Department of Health and Human Services classified all of its previous development activities as basic research or applied research, with resulting increase in Health basic research. In FY 1998, many Department of Energy programs were reclassified from Energy to General science and basic research. In FY 1998, the Department of Veterans Affairs began reporting medical care support funds as a part of its total research budgetary resources; the change is reflected in the budget authority for Veterans benefits and services. The proposed FY 2017 budget includes multiple mandatory components totaling \$4.2 billion. These components affect several categories: Health; General science and basic research; Space flight, research, and supporting activities; Energy; Agriculture; and Transportation.

SOURCES: Data from FYs 1955–94 are from agencies' submissions to the Office of Management and Budget (OMB), Circular No. A-11, exhibit 44A, "Research and development activities," and from supplemental data obtained from agencies' budget offices. Data from FYs 1995–2017 are from agencies' submissions to OMB per MAX Schedule C, budget justification documents, and supplemental data obtained from agencies' budget offices.

TABLE 24. Federal funding for R&amp;D for national defense and civilian functions: FYs 1955–2018

Fiscal year	Current \$millions			% distribution		
	Total	National defense	Civilian functions	Total	National defense	Civilian functions
R&D obligations						
1955	2,533	2,151	382	100.0	84.9	15.1
1956	2,988	2,535	453	100.0	84.8	15.2
1957	3,932	3,327	605	100.0	84.6	15.4
1958	4,570	3,801	769	100.0	83.2	16.8
1959	6,694	5,556	1,138	100.0	83.0	17.0
1960	7,552	6,107	1,445	100.0	80.9	19.1
1961	9,059	7,005	2,054	100.0	77.3	22.7
1962	10,290	7,238	3,052	100.0	70.3	29.7
1963	12,495	7,764	4,731	100.0	62.1	37.9
1964	14,225	7,829	6,396	100.0	55.0	45.0
1965	14,614	7,342	7,272	100.0	50.2	49.8
1966	15,320	7,536	7,784	100.0	49.2	50.8
1967	16,529	8,566	7,963	100.0	51.8	48.2
1968	15,921	8,275	7,646	100.0	52.0	48.0
1969	15,641	8,356	7,285	100.0	53.4	46.6
1970	15,339	7,981	7,358	100.0	52.0	48.0
1971	15,543	8,110	7,433	100.0	52.2	47.8
1972	16,496	8,902	7,594	100.0	54.0	46.0
1973	16,800	9,002	7,798	100.0	53.6	46.4
1974	17,410	9,016	8,394	100.0	51.8	48.2
1975	19,039	9,679	9,360	100.0	50.8	49.2
1976	20,780	10,430	10,350	100.0	50.2	49.8
1977	23,450	11,864	11,586	100.0	50.6	49.4
R&D budget authority						
1978	25,976	12,899	13,077	100.0	49.7	50.3
1979	28,208	13,791	14,417	100.0	48.9	51.1
1980	29,739	14,946	14,793	100.0	50.3	49.7
1981	33,735	18,413	15,322	100.0	54.6	45.4
1982	36,115	22,070	14,045	100.0	61.1	38.9
1983	38,768	24,936	13,832	100.0	64.3	35.7
1984	44,214	29,287	14,927	100.0	66.2	33.8
1985	49,887	33,698	16,189	100.0	67.5	32.5
1986	53,249	36,926	16,323	100.0	69.3	30.7
1987	57,069	39,152	17,917	100.0	68.6	31.4
1988	59,106	40,099	19,007	100.0	67.8	32.2
1989	62,115	40,642	21,473	100.0	65.5	34.5
1990	63,781	39,925	23,856	100.0	62.6	37.4
1991	65,898	39,328	26,570	100.0	59.7	40.3
1992	68,398	40,083	28,315	100.0	58.6	41.4
1993	69,884	41,249	28,635	100.0	59.0	41.0
1994	68,331	37,764	30,566	100.0	55.3	44.7
1995	68,791	37,204	31,587	100.0	54.1	45.9
1996	69,049	37,801	31,248	100.0	54.7	45.3
1997	71,653	39,591	32,062	100.0	55.3	44.7
1998	73,569	39,823	33,746	100.0	54.1	45.9
1999	77,637	41,306	36,332	100.0	53.2	46.8
2000	78,664	42,580	36,084	100.0	54.1	45.9
2001	86,756	45,713	41,043	100.0	52.7	47.3
2002	97,624	53,016	44,608	100.0	54.3	45.7
2003	112,544	63,048	49,495	100.0	56.0	44.0
2004	121,867	69,593	52,274	100.0	57.1	42.9
2005	126,601	74,047	52,554	100.0	58.5	41.5
2006	131,624	78,037	53,586	100.0	59.3	40.7
2007	138,087	82,272	55,815	100.0	59.6	40.4
2008	140,113	84,713	55,400	100.0	60.5	39.5
2009 <sup>a</sup>	156,009	85,166	70,843	100.0	54.6	45.4

TABLE 24. Federal funding for R&amp;D for national defense and civilian functions: FYs 1955–2018

Fiscal year	Current \$millions			% distribution		
	Total	National defense	Civilian functions	Total	National defense	Civilian functions
Non-ARRA	140,903	84,866	56,037	100.0	60.2	39.8
ARRA	15,106	300	14,806	100.0	2.0	98.0
2010	146,596	86,517	60,079	100.0	59.0	41.0
2011	144,379	83,226	61,154	100.0	57.6	42.4
2012	141,450	79,559	61,891	100.0	56.2	43.8
2013	130,861	70,620	60,241	100.0	54.0	46.0
2014	133,547	70,611	62,937	100.0	52.9	47.1
2015	136,090	72,560	63,530	100.0	53.3	46.7
2016	147,813	79,828	67,985	100.0	54.0	46.0
2017 preliminary <sup>b</sup>	148,734	80,125	68,609	100.0	53.9	46.1
2018 proposed	115,591	60,368	55,223	100.0	52.2	47.8

ARRA = American Recovery and Reinvestment Act of 2009.

<sup>a</sup> Total for FY 2009 is the sum of non-ARRA and ARRA funds.

<sup>b</sup> Most FY 2017 figures are official estimates reflecting the continuing resolution funding for FY 2017 and not that of the enacted omnibus spending bill for that year (Consolidated Appropriations Act, 2017, signed 5 May 2017). Most federal agencies did not prepare R&D estimates for FY 2017 based on the final spending figures in the omnibus.

NOTES: The National defense function includes Department of Defense military activities and Department of Energy atomic energy defense programs; some years also include defense-related R&D in the Department of Homeland Security and the Department of Justice. Civilian functions include all other federally funded R&D activities. The application of a new Experimental Development definition is shown starting in FY 2018. The previous years' numbers reflect use of the former Development definition.

SOURCES: Agencies' submissions to the Office of Management and Budget per MAX Schedule C, agencies' budget justification documents, and supplemental data obtained from agencies' budget offices.