



National Center for Science and  
Engineering Statistics

# Survey of State Government Research and Development: FY 2021

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## General Notes

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These tables present the results of the FY 2021 Survey of State Government Research and Development (R&D), conducted by the Census Bureau under an interagency agreement with the National Center for Science and Engineering Statistics within the National Science Foundation. The Census Bureau employed a methodology similar to one they use to collect data from state and local governments on other censuses and surveys.

The survey was distributed to departments, agencies, commissions, public authorities, and other state-run entities within the 50 states, the District of Columbia, and Puerto Rico that were considered likely to conduct or fund R&D activities. (The District of Columbia and Puerto Rico are referred to as states and treated as state equivalents throughout this report.) Respondents that did not have a qualifying R&D activity were not required to complete the questionnaire beyond a screening question. All 50 states and the District of Columbia participated in the survey. Puerto Rico did not participate this year. Respondents were asked to provide statistics on their total R&D expenditures and amounts for intramural and extramural performers; the amount of intramural R&D devoted to basic research, applied research, and experimental development activities by federal and nonfederal funds; the amount for which the federal government was an original source of funds for both intramural and extramural R&D and from which federal agency the funding came; and the amount of money allocated to particular government functions. An additional question was asked about the amount of expenditures for the construction and acquisition of R&D facilities and major equipment. Additional questions were asked about the number of employees (researchers, technicians, and support staff) and full-time equivalent personnel for intramural R&D.

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TABLE 1

## State government expenditures for R&amp;D and R&amp;D plant, by state: FY 2021

(Dollars)

State	State R&D expenditures <sup>a</sup>	State R&D plant expenditures <sup>b</sup>
United States <sup>c</sup>	2,471,471,226	29,269,916
Alabama	29,812,345	0
Alaska	19,671,388	0
Arizona	15,011,508	0
Arkansas	9,908,767	0
California	523,819,635	0
Colorado	38,436,248	0
Connecticut	55,050,702	0
Delaware	3,338,773	0
District of Columbia	8,128,666	0
Florida	178,360,429	2,646,068
Georgia	18,798,826	0
Hawaii	10,315,823	4,100,000
Idaho	18,210,054	5,000
Illinois	16,213,542	0
Indiana	10,485,205	0
Iowa	10,579,028	0
Kansas	15,002,554	0
Kentucky	29,737,068	0
Louisiana	32,115,461	0
Maine	32,392,463	487,798
Maryland	28,212,493	0
Massachusetts	23,307,621	6,292,368
Michigan	29,718,391	0
Minnesota	22,483,420	0
Mississippi	11,143,362	0
Missouri	14,009,154	0
Montana	8,447,295	0
Nebraska	31,337,947	0
Nevada	4,222,929	0
New Hampshire	8,675,207	0
New Jersey	12,864,404	0
New Mexico	3,054,817	0
New York	417,246,309	2,523,050
North Carolina	36,870,713	1,076,500
North Dakota	35,139,613	0
Ohio	55,336,431	9,847
Oklahoma	55,989,692	0
Oregon	37,419,218	2,700,000
Pennsylvania	93,621,093	0
Rhode Island	10,226,630	1,420,067
South Carolina	44,557,581	400,000
South Dakota	3,193,289	500,000
Tennessee	10,287,206	0
Texas	255,731,862	0
Utah	8,316,189	1,000
Vermont	1,535,157	0
Virginia	44,913,546	788,372
Washington	56,690,210	6,309,062
West Virginia	9,013,091	2,500

TABLE 1

**State government expenditures for R&D and R&D plant, by state: FY 2021**

(Dollars)

State	State R&D expenditures <sup>a</sup>	State R&D plant expenditures <sup>b</sup>
Wisconsin	15,239,075	0
Wyoming	7,278,796	8,284

<sup>a</sup> State R&D expenditures do not include R&D plant.

<sup>b</sup> State R&D plant expenditures include acquisition of land, facilities, major equipment, and major building renovations intended primarily for R&D use.

<sup>c</sup> U.S. total reflects all 50 states and the District of Columbia.

**Source(s):**

National Center for Science and Engineering Statistics, Survey of State Government Research and Development, FY 2021.

TABLE 2

## State government expenditures for R&amp;D and R&amp;D plant, by state and performer: FY 2021

(Dollars)

State	All R&D expenditures <sup>a</sup>	Intramural performers <sup>b</sup>	Extramural performers <sup>c</sup>				R&D plant <sup>f</sup>
			Total	Academic institutions	Companies and individuals <sup>d</sup>	Other <sup>e</sup>	
United States <sup>g</sup>	2,471,471,226	673,691,209	1,797,780,017	960,494,009	508,757,034	328,528,974	29,269,916
Alabama	29,812,345	17,295,499	12,516,846	6,296,012	120,834	6,100,000	0
Alaska	19,671,388	13,677,498	5,993,890	1,284,854	4,013,636	695,400	0
Arizona	15,011,508	3,522,494	11,489,014	6,118,524	1,195,026	4,175,464	0
Arkansas	9,908,767	170,429	9,738,338	7,506,063	603,235	1,629,040	0
California	523,819,635	81,309,690	442,509,945	145,143,314	197,745,251	99,621,380	0
Colorado	38,436,248	11,957,421	26,478,827	7,509,337	16,891,409	2,078,081	0
Connecticut	55,050,702	27,217,883	27,832,819	4,179,932	22,529,787	1,123,100	0
Delaware	3,338,773	1,894,419	1,444,354	700,491	693,063	50,800	0
District of Columbia	8,128,666	3,705,656	4,423,010	746,489	3,481,521	195,000	0
Florida	178,360,429	50,793,339	127,567,090	73,276,602	3,326,524	50,963,964	2,646,068
Georgia	18,798,826	2,016,590	16,782,236	6,416,100	8,661,580	1,704,556	0
Hawaii	10,315,823	2,311,413	8,004,410	5,526,606	2,398,104	79,700	4,100,000
Idaho	18,210,054	7,124,769	11,085,285	7,147,867	220,624	3,716,794	5,000
Illinois	16,213,542	554,067	15,659,475	11,875,208	121,074	3,663,193	0
Indiana	10,485,205	470,344	10,014,861	8,525,017	1,200,287	289,557	0
Iowa	10,579,028	3,091,936	7,487,092	5,794,456	1,692,636	0	0
Kansas	15,002,554	1,294,643	13,707,911	11,810,839	120,579	1,776,493	0
Kentucky	29,737,068	1,946,017	27,791,051	24,466,657	1,620,813	1,703,581	0
Louisiana	32,115,461	9,555,840	22,559,621	19,669,638	2,739,815	150,168	0
Maine	32,392,463	10,370,488	22,021,975	4,227,168	12,753,922	5,040,885	487,798
Maryland	28,212,493	878,718	27,333,775	20,033,775	7,300,000	0	0
Massachusetts	23,307,621	1,208,652	22,098,969	9,104,127	10,426,055	2,568,787	6,292,368
Michigan	29,718,391	237,018	29,481,373	11,424,715	1,648,966	16,407,692	0
Minnesota	22,483,420	2,458,490	20,024,930	13,942,965	3,148,933	2,933,032	0
Mississippi	11,143,362	2,005,582	9,137,780	4,863,478	1,937,313	2,336,989	0
Missouri	14,009,154	6,455,476	7,553,678	5,045,066	1,522,155	986,457	0
Montana	8,447,295	2,846,129	5,601,166	3,567,797	73,279	1,960,090	0
Nebraska	31,337,947	2,128,727	29,209,220	27,130,891	1,782,200	296,129	0
Nevada	4,222,929	237,064	3,985,865	2,739,972	245,979	999,914	0
New Hampshire	8,675,207	27,186	8,648,021	660,646	7,019,291	968,084	0
New Jersey	12,864,404	3,006,539	9,857,865	7,921,273	667,386	1,269,206	0
New Mexico	3,054,817	1,535,533	1,519,284	1,158,986	360,298	0	0
New York	417,246,309	259,432,614	157,813,695	90,758,427	35,387,607	31,667,661	2,523,050
North Carolina	36,870,713	17,422,714	19,447,999	16,999,276	2,213,000	235,723	1,076,500
North Dakota	35,139,613	294,748	34,844,865	9,364,150	24,151,033	1,329,682	0
Ohio	55,336,431	1,808,996	53,527,435	11,159,815	41,045,337	1,322,283	9,847
Oklahoma	55,989,692	2,575,950	53,413,742	19,467,169	1,341,409	32,605,164	0
Oregon	37,419,218	16,083,800	21,335,418	10,698,041	9,330,937	1,306,440	2,700,000
Pennsylvania	93,621,093	8,172,000	85,449,093	46,056,993	21,579,000	17,813,100	0
Rhode Island	10,226,630	8,118,721	2,107,909	529,672	1,190,412	387,825	1,420,067
South Carolina	44,557,581	27,709,617	16,847,964	5,856,144	395,148	10,596,672	400,000
South Dakota	3,193,289	359,853	2,833,436	2,051,503	361,252	420,681	500,000
Tennessee	10,287,206	1,289,255	8,997,951	8,495,132	0	502,819	0
Texas	255,731,862	2,686,856	253,045,006	225,812,226	26,198,074	1,034,706	0
Utah	8,316,189	5,326,711	2,989,478	2,121,462	868,016	0	1,000
Vermont	1,535,157	596,129	939,028	699,418	225,598	14,012	0

TABLE 2

**State government expenditures for R&D and R&D plant, by state and performer: FY 2021**

(Dollars)

State	All R&D expenditures <sup>a</sup>	Intramural performers <sup>b</sup>	Extramural performers <sup>c</sup>				R&D plant <sup>f</sup>
			Total	Academic institutions	Companies and individuals <sup>d</sup>	Other <sup>e</sup>	
Virginia	44,913,546	16,624,998	28,288,548	19,365,935	7,888,755	1,033,858	788,372
Washington	56,690,210	21,349,303	35,340,907	14,258,527	8,756,002	12,326,378	6,309,062
West Virginia	9,013,091	3,378,070	5,635,021	5,397,789	237,232	0	2,500
Wisconsin	15,239,075	4,401,850	10,837,225	4,404,511	6,126,721	305,993	0
Wyoming	7,278,796	2,753,475	4,525,321	1,182,954	3,199,926	142,441	8,284

<sup>a</sup> State R&D expenditures do not include R&D plant.<sup>b</sup> Intramural performers include a department's or agency's own employees who perform R&D and services performed by others in support of an internal R&D project.<sup>c</sup> Extramural performers are those outside the department or agency who perform R&D.<sup>d</sup> Companies and individuals include individuals under contract for research projects.<sup>e</sup> Other extramural performers include nonprofit organizations, including foundations; federal government departments and agencies; other departments or agencies within the state; other state governments; county, city, special district, or regional local governments.<sup>f</sup> State R&D plant expenditures include acquisition of land, facilities, major equipment, and major building renovations intended primarily for R&D use.<sup>g</sup> U.S. total reflects all 50 states and the District of Columbia.**Source(s):**

National Center for Science and Engineering Statistics, Survey of State Government Research and Development, FY 2021.



TABLE 3

## State government expenditures for R&amp;D, by state: FYs 2006–21

(Dollars)

State	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
United States <sup>a</sup>	1,059,104,585	1,161,477,543	NA	1,616,483,243	1,756,297,891	1,990,338,324	2,042,260,292	2,028,219,263	1,905,585,762	2,265,232,945	2,314,376,833	2,467,761,297	2,530,723,104	2,412,042,977	2,444,115,617	2,471,471,226
Alabama	7,269,319	9,065,725	NA	12,929,167	15,113,917	19,684,063	17,352,984	13,292,741	18,532,534	24,486,963	24,798,503	25,768,709	21,652,816	19,763,230	25,695,555	29,812,345
Alaska	10,019,060	9,526,100	NA	7,741,467	9,274,800	11,349,400	5,467,944	6,689,384	12,031,675	11,258,203	10,072,650	9,198,095	10,811,808	12,502,109	15,193,507	19,671,388
Arizona	37,151,471	20,442,635	NA	9,363,943	17,682,315	18,626,577	22,809,895	27,810,970	18,820,149	14,942,124	15,679,948	14,008,740	12,937,292	17,332,044	16,010,502	15,011,508
Arkansas	4,869,648	7,658,199	NA	11,465,214	14,446,084	14,705,327	15,518,374	16,518,947	14,994,903	16,642,711	17,242,823	15,891,579	16,325,049	21,098,863	19,921,168	9,908,767
California	145,880,736	120,641,324	NA	299,929,949	328,982,383	407,616,001	401,522,758	346,942,036	356,158,885	568,971,595	547,188,835	485,647,081	633,060,621	526,918,585	533,900,597	523,819,635
Colorado	8,997,236	11,924,981	NA	14,849,581	20,828,274	18,141,931	14,928,809	14,471,683	15,745,589	16,321,056	16,647,592	25,575,648	30,640,420	36,586,577	34,365,638	38,436,248
Connecticut	19,209,064	29,285,710	NA	28,559,052	40,065,786	39,192,091	40,017,523	41,023,368	47,405,244	55,816,528	49,460,236	55,586,487	54,492,430	57,241,037	58,810,853	55,050,702
Delaware	2,812,102	2,611,108	NA	1,683,562	2,389,720	2,609,902	4,635,720	4,729,141	2,243,868	2,199,635	2,694,787	3,267,034	3,856,775	3,826,318	3,598,156	3,338,773
District of Columbia	1,173,076	2,009,000	NA	487,411	696,198	1,221,108	2,018,447	1,848,800	3,136,271	3,216,073	4,059,615	3,724,444	4,632,564	4,222,412	5,860,668	8,128,666
Florida	42,329,624	51,968,573	NA	66,513,756	120,848,726	150,764,438	136,706,540	118,781,266	157,004,903	191,598,669	156,057,854	201,901,742	186,499,418	170,508,724	184,600,202	178,360,429
Georgia	10,620,188	4,886,946	NA	6,662,887	8,923,795	11,690,663	12,820,412	12,697,846	11,776,221	10,052,848	13,093,428	14,043,200	18,120,602	18,875,484	15,877,238	18,798,826
Hawaii	12,067,849	22,643,330	NA	13,976,364	14,233,186	13,103,983	11,145,520	13,094,794	13,125,455	11,520,961	18,032,316	11,414,756	12,981,754	7,325,591	11,122,545	10,315,823
Idaho	2,280,873	2,739,006	NA	8,552,058	9,059,568	9,366,052	11,785,529	12,929,174	12,862,935	12,935,976	14,501,235	15,029,122	15,690,791	17,828,263	21,882,976	18,210,054
Illinois	37,184,281	28,372,676	NA	9,570,893	16,553,689	17,207,125	17,859,438	17,999,229	24,988,306	30,817,406	19,774,448	18,582,210	17,501,801	17,548,556	16,055,917	16,213,542
Indiana	6,220,575	40,534,381	NA	47,549,928	8,444,832	6,983,364	7,667,988	10,167,120	23,590,723	9,987,058	13,279,466	16,966,067	19,814,418	12,357,151	9,591,408	10,485,205
Iowa	13,564,062	6,790,053	NA	37,976,643	12,950,176	36,992,222	16,147,249	19,365,308	10,357,010	11,277,534	12,296,647	9,343,267	9,710,381	9,386,675	11,877,131	10,579,028
Kansas	14,348,384	11,752,696	NA	12,305,385	6,509,225	6,635,626	6,160,680	5,708,223	5,326,455	6,462,317	7,385,081	10,358,152	14,274,887	12,355,458	13,152,904	15,002,554
Kentucky	17,558,997	11,960,634	NA	13,938,134	20,410,096	20,498,849	19,886,257	19,751,055	14,556,867	25,794,534	30,660,613	30,443,216	22,452,966	26,668,173	26,782,125	29,737,068
Louisiana	11,216,568	6,587,314	NA	8,285,478	9,165,144	14,979,079	18,143,396	15,713,110	18,778,159	32,175,199	27,268,166	41,455,247	37,057,152	35,142,225	31,965,852	32,115,461
Maine	17,509,051	27,525,552	NA	6,400,019	8,847,471	9,918,765	7,094,736	6,109,793	6,857,948	12,609,815	11,429,706	22,652,044	15,991,134	32,592,625	29,035,990	32,392,463
Maryland	24,945,119	40,298,691	NA	21,093,331	22,825,402	20,084,540	21,890,225	29,467,445	29,981,260	24,852,978	26,447,700	29,520,356	30,959,732	29,107,768	33,407,022	28,212,493
Massachusetts	10,729,419	5,600,189	NA	3,290,198	4,884,430	4,878,927	3,918,500	4,590,424	18,259,928	22,664,539	23,432,991	27,737,023	23,000,903	31,965,439	31,700,411	23,307,621
Michigan	75,016,589	32,849,159	NA	8,630,209	9,469,440	9,802,873	12,557,954	12,830,423	12,252,555	12,675,635	17,120,981	16,946,986	7,689,982	8,023,318	11,191,816	29,718,391
Minnesota	6,219,201	10,529,048	NA	16,655,913	12,212,546	11,653,327	11,524,686	14,855,954	19,378,825	21,455,746	22,861,457	18,344,346	18,502,324	20,150,907	20,511,698	22,483,420
Mississippi	2,744,882	7,343,892	NA	3,623,953	7,168,109	7,420,851	6,260,080	4,863,312	1,313,376	780,616	2,339,335	4,269,574	9,205,489	12,170,278	10,268,396	11,143,362
Missouri	18,465,303	15,567,277	NA	15,797,247	13,329,841	13,658,961	13,041,450	13,051,110	15,065,613	16,673,693	14,750,488	15,064,354	16,341,267	15,055,845	14,826,364	14,009,154
Montana	8,606,319	8,200,230	NA	7,200,442	7,543,860	6,474,190	6,841,897	6,570,018	10,428,010	10,362,726	17,990,469	18,230,275	8,867,208	8,794,140	13,131,022	8,447,295
Nebraska	5,602,163	4,043,480	NA	19,415,644	19,232,691	19,561,651	22,167,304	23,274,333	23,421,771	22,475,420	25,143,505	22,608,157	26,564,385	28,167,688	32,423,818	31,337,947
Nevada	1,397,463	1,748,776	NA	1,510,607	1,081,407	1,440,630	1,166,762	1,640,871	3,438,157	3,107,166	5,716,452	10,996,862	7,283,496	7,871,899	4,764,898	4,222,929
New Hampshire	2,040,544	1,685,178	NA	1,860,269	1,804,156	1,921,421	2,241,149	1,788,396	1,448,090	1,607,080	1,520,798	1,924,282	8,269,040	8,432,696	8,221,518	8,675,207
New Jersey	25,900,482	19,981,741	NA	25,146,838	38,639,539	27,868,781	29,818,258	34,413,516	30,384,821	33,756,028	30,483,309	37,415,121	51,295,009	23,886,758	23,754,925	12,864,404
New Mexico	3,105,000	672,921	NA	1,655,529	1,422,955	1,821,583	1,793,561	2,015,961	4,175,116	4,084,876	4,772,978	4,474,459	3,360,115	3,585,944	5,227,599	3,054,817
New York	103,597,135	128,361,166	NA	375,422,634	391,259,392	405,346,642	382,226,391	382,143,207	377,015,244	370,585,484	404,833,101	434,294,353	450,161,190	448,501,735	453,807,331	417,246,309
North Carolina	14,344,310	37,607,109	NA	41,404,202	27,342,380	29,611,785	32,529,885	30,649,974	22,614,350	34,502,384	37,142,044	32,513,098	33,719,142	32,754,090	35,892,185	36,870,713

TABLE 3

## State government expenditures for R&amp;D, by state: FYs 2006–21

(Dollars)

State	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
North Dakota	21,062,090	9,908,722	NA	16,415,807	6,352,675	8,072,257	6,034,991	7,364,184	10,784,572	9,611,936	8,470,309	14,851,522	16,108,458	12,140,358	18,065,251	35,139,613
Ohio	55,068,629	114,086,509	NA	121,394,963	125,120,668	159,322,228	153,382,845	188,311,926	94,882,275	94,299,294	99,329,386	108,542,077	93,189,867	80,148,377	76,169,661	55,336,431
Oklahoma	8,922,036	10,731,050	NA	15,930,878	21,226,236	20,304,740	23,133,843	28,224,758	30,473,702	29,952,934	33,460,991	33,512,333	26,848,844	29,607,888	30,050,338	55,989,692
Oregon	7,382,722	7,389,914	NA	11,120,140	18,013,730	20,001,272	22,003,035	23,083,506	29,679,288	31,990,073	24,831,090	30,549,080	31,254,046	44,222,659	30,486,113	37,419,218
Pennsylvania	117,320,158	103,973,448	NA	95,896,714	87,913,796	75,491,812	80,600,099	66,429,400	35,432,244	75,024,127	73,188,503	92,505,396	101,610,656	85,050,999	103,098,941	93,621,093
Rhode Island	150,000	1,771,949	NA	1,877,724	1,461,239	1,947,727	2,028,402	1,640,778	3,225,472	2,594,978	3,372,460	3,791,008	3,364,527	5,512,380	4,594,040	10,226,630
South Carolina	22,427,746	31,969,826	NA	28,599,885	71,290,446	84,692,653	72,467,293	47,732,177	22,311,739	27,419,285	30,512,353	34,686,268	34,291,703	46,983,243	46,800,816	44,557,581
South Dakota	5,791,586	5,473,603	NA	4,430,602	3,762,637	3,629,155	3,447,633	3,660,854	5,067,005	4,211,838	4,511,516	3,665,413	4,137,189	2,953,214	2,913,274	3,193,289
Tennessee	5,355,000	4,549,998	NA	3,752,587	1,064,262	3,642,490	4,293,334	3,430,476	4,363,565	3,828,567	7,040,422	9,433,779	9,231,710	7,439,395	7,039,923	10,287,206
Texas	28,019,645	29,650,947	NA	49,381,346	35,163,655	47,372,367	146,989,380	185,199,541	162,287,552	185,094,332	255,132,755	294,485,067	228,578,310	233,030,466	205,206,977	255,731,862
Utah	3,214,170	2,752,228	NA	26,442,711	30,812,205	34,418,764	47,388,335	53,636,842	36,466,790	38,168,197	31,465,580	32,673,333	27,593,284	7,985,508	9,205,399	8,316,189
Vermont	1,680,533	1,529,805	NA	738,707	1,665,079	1,711,673	1,653,315	1,827,562	2,039,520	2,199,082	1,041,249	1,140,267	1,841,754	2,730,591	1,669,900	1,535,157
Virginia	11,579,623	15,486,526	NA	22,662,519	28,961,491	29,376,417	33,295,328	36,017,935	38,439,643	43,645,755	33,556,333	29,624,941	30,596,207	29,951,353	35,552,565	44,913,546
Washington	22,834,218	23,333,431	NA	16,284,702	38,073,580	45,498,369	49,553,326	47,122,876	40,357,249	38,002,018	35,183,195	42,969,819	37,093,288	51,963,060	57,239,095	56,690,210
West Virginia	6,024,577	22,179,830	NA	10,357,006	23,867,732	35,475,338	33,580,156	19,027,684	11,216,042	10,840,665	8,233,431	11,193,344	10,492,922	11,068,061	10,862,315	9,013,091
Wisconsin	10,949,155	13,774,600	NA	24,942,415	12,435,548	21,128,936	17,861,390	21,212,446	14,643,835	14,517,671	13,442,158	13,300,449	15,879,688	17,473,890	14,340,014	15,239,075
Wyoming	6,326,604	19,500,357	NA	4,806,630	5,471,379	5,419,398	6,879,286	6,497,386	6,444,053	5,160,617	5,425,545	5,641,115	4,886,290	5,232,930	6,391,060	7,278,796
Puerto Rico <sup>b</sup>	1,458,790	2,326,241	NA	9,316,754	4,031,391	4,217,869	7,625,412	7,949,965	6,569,500	5,673,544	na	na	na	na	na	na

na = not applicable; did not report to survey. NA = not available; survey was not conducted for FY 2008.

<sup>a</sup> U.S. total reflects all 50 states and the District of Columbia.<sup>b</sup> Puerto Rico is not included in U.S. total due to its classification as a U.S. territory.**Note(s):**

State R&amp;D totals can display considerable volatility between survey years due to several national and state-specific factors. Large changes are not unusual, especially for discretionary spending items such as R&amp;D.

**Source(s):**

National Center for Science and Engineering Statistics, Survey of State Government Research and Development.

TABLE 4

## State government expenditures for R&amp;D for all performers, by state and source of funds: FY 2021

(Dollars)

State	All R&D expenditures	Source of funds	
		Federal government	State and all others <sup>a</sup>
United States <sup>b</sup>	2,471,471,226	612,123,519	1,859,347,707
Alabama	29,812,345	6,067,898	23,744,447
Alaska	19,671,388	11,068,861	8,602,527
Arizona	15,011,508	5,070,319	9,941,189
Arkansas	9,908,767	983,181	8,925,586
California	523,819,635	28,494,592	495,325,043
Colorado	38,436,248	6,546,643	31,889,605
Connecticut	55,050,702	15,879,739	39,170,963
Delaware	3,338,773	1,355,648	1,983,125
District of Columbia	8,128,666	6,245,794	1,882,872
Florida	178,360,429	25,068,596	153,291,833
Georgia	18,798,826	17,725,257	1,073,569
Hawaii	10,315,823	8,334,826	1,980,997
Idaho	18,210,054	9,698,956	8,511,098
Illinois	16,213,542	7,152,110	9,061,432
Indiana	10,485,205	6,875,499	3,609,706
Iowa	10,579,028	4,841,194	5,737,834
Kansas	15,002,554	8,343,437	6,659,117
Kentucky	29,737,068	7,548,030	22,189,038
Louisiana	32,115,461	19,523,775	12,591,686
Maine	32,392,463	12,263,843	20,128,620
Maryland	28,212,493	2,005,962	26,206,531
Massachusetts	23,307,621	6,047,993	17,259,628
Michigan	29,718,391	6,912,826	22,805,565
Minnesota	22,483,420	7,689,513	14,793,907
Mississippi	11,143,362	9,061,908	2,081,454
Missouri	14,009,154	4,240,386	9,768,768
Montana	8,447,295	5,600,354	2,846,941
Nebraska	31,337,947	6,288,269	25,049,678
Nevada	4,222,929	2,001,509	2,221,420
New Hampshire	8,675,207	631,502	8,043,705
New Jersey	12,864,404	5,466,394	7,398,010
New Mexico	3,054,817	2,152,671	902,146
New York	417,246,309	166,507,446	250,738,863
North Carolina	36,870,713	11,005,615	25,865,098
North Dakota	35,139,613	6,863,870	28,275,743
Ohio	55,336,431	8,732,356	46,604,075
Oklahoma	55,989,692	7,560,791	48,428,901
Oregon	37,419,218	14,233,548	23,185,670
Pennsylvania	93,621,093	10,315,593	83,305,500
Rhode Island	10,226,630	6,631,735	3,594,895
South Carolina	44,557,581	27,721,413	16,836,168
South Dakota	3,193,289	725,396	2,467,893
Tennessee	10,287,206	7,551,808	2,735,398
Texas	255,731,862	23,447,625	232,284,237
Utah	8,316,189	1,701,485	6,614,704
Vermont	1,535,157	1,081,618	453,539
Virginia	44,913,546	19,427,277	25,486,269
Washington	56,690,210	17,162,043	39,528,167

TABLE 4

**State government expenditures for R&D for all performers, by state and source of funds: FY 2021**

(Dollars)

State	All R&D expenditures	Source of funds	
		Federal government	State and all others <sup>a</sup>
West Virginia	9,013,091	5,247,993	3,765,098
Wisconsin	15,239,075	5,893,866	9,345,209
Wyoming	7,278,796	3,124,556	4,154,240

<sup>a</sup> State and all others include companies; nonprofit organizations; other state governments; and city, county, regional, or other local governments.

<sup>b</sup> U.S. total reflects all 50 states and the District of Columbia.

**Source(s):**

National Center for Science and Engineering Statistics, Survey of State Government Research and Development, FY 2021.

TABLE 5

## State government expenditures for R&amp;D for intramural performers, by state and source of funds: FY 2021

(Dollars)

State	R&D expenditures for intramural performers	Source of funds					
		Federal government	Own state government	Other nonfederal governments	Nonprofit organizations	Businesses and individuals	Higher education institutions
United States <sup>a</sup>	673,691,209	298,503,344	339,030,831	5,007,428	12,247,549	15,871,174	3,030,883
Alabama	17,295,499	2,700,032	14,369,750	138,647	87,070	0	0
Alaska	13,677,498	6,394,346	5,097,774	2,185,378	0	0	0
Arizona	3,522,494	2,549,694	952,253	0	20,547	0	0
Arkansas	170,429	38,919	131,510	0	0	0	0
California	81,309,690	3,696,424	77,406,561	206,705	0	0	0
Colorado	11,957,421	3,646,854	8,260,965	0	48,004	1,598	0
Connecticut	27,217,883	11,631,280	15,586,603	0	0	0	0
Delaware	1,894,419	307,938	1,586,481	0	0	0	0
District of Columbia	3,705,656	2,474,200	1,154,586	0	40,683	0	36,187
Florida	50,793,339	14,207,726	32,005,707	267	97,679	3,512,563	969,397
Georgia	2,016,590	1,927,148	89,442	0	0	0	0
Hawaii	2,311,413	2,311,413	0	0	0	0	0
Idaho	7,124,769	5,868,974	1,001,191	18,610	52,346	183,648	0
Illinois	554,067	0	554,067	0	0	0	0
Indiana	470,344	200,428	269,916	0	0	0	0
Iowa	3,091,936	1,562,393	1,446,047	0	83,496	0	0
Kansas	1,294,643	826,068	439,040	0	0	0	29,535
Kentucky	1,946,017	1,191,485	754,532	0	0	0	0
Louisiana	9,555,840	7,012,283	2,543,557	0	0	0	0
Maine	10,370,488	8,177,199	1,721,061	453,312	0	18,916	0
Maryland	878,718	654,603	224,115	0	0	0	0
Massachusetts	1,208,652	446,541	562,111	200,000	0	0	0
Michigan	237,018	0	237,018	0	0	0	0
Minnesota	2,458,490	1,071,612	1,386,878	0	0	0	0
Mississippi	2,005,582	864,505	896,516	244,561	0	0	0
Missouri	6,455,476	1,681,282	4,774,194	0	0	0	0
Montana	2,846,129	2,092,027	674,111	0	79,991	0	0
Nebraska	2,128,727	1,353,742	774,985	0	0	0	0
Nevada	237,064	177,064	60,000	0	0	0	0
New Hampshire	27,186	21,749	5,437	0	0	0	0
New Jersey	3,006,539	510,793	2,495,746	0	0	0	0
New Mexico	1,535,533	1,040,233	387,247	0	108,053	0	0
New York	259,432,614	140,797,896	94,234,010	720,272	9,706,329	12,124,449	1,849,658
North Carolina	17,422,714	1,368,548	16,054,166	0	0	0	0
North Dakota	294,748	116,830	177,918	0	0	0	0
Ohio	1,808,996	1,311,922	497,074	0	0	0	0
Oklahoma	2,575,950	1,965,050	590,900	20,000	0	0	0
Oregon	16,083,800	10,906,808	4,764,289	412,703	0	0	0
Pennsylvania	8,172,000	5,445,889	2,685,937	35,000	3,240	0	1,934
Rhode Island	8,118,721	5,668,950	2,449,771	0	0	0	0
South Carolina	27,709,617	19,454,775	8,123,246	0	58,824	0	72,772
South Dakota	359,853	179,763	180,090	0	0	0	0
Tennessee	1,289,255	857,781	420,746	0	10,728	0	0
Texas	2,686,856	1,366,339	1,320,517	0	0	0	0
Utah	5,326,711	211,570	5,115,141	0	0	0	0

TABLE 5

**State government expenditures for R&D for intramural performers, by state and source of funds: FY 2021**

(Dollars)

State	R&D expenditures for intramural performers	Source of funds					
		Federal government	Own state government	Other nonfederal governments	Nonprofit organizations	Businesses and individuals	Higher education institutions
Vermont	596,129	546,844	49,285	0	0	0	0
Virginia	16,624,998	6,150,929	10,325,664	41,405	20,000	30,000	57,000
Washington	21,349,303	9,409,743	9,868,765	225,836	1,830,559	0	14,400
West Virginia	3,378,070	1,919,073	1,458,997	0	0	0	0
Wisconsin	4,401,850	2,748,540	1,653,310	0	0	0	0
Wyoming	2,753,475	1,437,139	1,211,604	104,732	0	0	0

<sup>a</sup> U.S. total reflects all 50 states and the District of Columbia.

**Note(s):**

Intramural performers include a department's or agency's own employees who perform R&D and services performed by others in support of an internal R&D project.

**Source(s):**

National Center for Science and Engineering Statistics, Survey of State Government Research and Development, FY 2021.

TABLE 6

## State government expenditures for R&amp;D by intramural performers, by state: FYs 2006–21

(Dollars)

State	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
United States <sup>a</sup>	278,804,902	337,554,442	NA	544,768,301	666,474,213	715,619,606	671,902,599	657,514,410	582,262,610	585,025,545	604,530,902	636,036,132	628,288,241	657,808,336	691,921,461	673,691,209
Alabama	4,339,426	5,786,160	NA	9,138,896	9,749,394	14,250,319	8,612,718	9,160,769	4,589,652	6,167,637	11,438,924	13,806,194	11,465,666	7,412,961	13,704,571	17,295,499
Alaska	5,356,472	7,541,700	NA	6,387,016	7,885,200	9,004,800	5,346,296	5,963,195	9,399,991	9,464,543	7,791,729	6,608,776	7,376,047	8,920,501	10,745,451	13,677,498
Arizona	8,576,436	6,833,220	NA	6,869,506	7,545,171	7,410,362	13,303,829	16,141,770	8,953,596	8,268,168	5,938,520	3,742,746	1,618,025	761,096	1,562,435	3,522,494
Arkansas	1,073,285	420,340	NA	467,767	5,406,407	6,077,854	3,006,648	2,992,079	708,544	660,969	576,503	747,577	202,770	66,099	189,018	170,429
California	35,104,016	29,987,603	NA	48,407,683	59,744,655	69,864,773	59,490,293	57,262,060	53,984,295	55,223,244	68,155,837	77,743,824	78,250,013	73,081,146	81,087,677	81,309,690
Colorado	6,594,969	7,004,927	NA	9,395,554	7,108,498	6,942,978	8,170,313	8,248,707	8,178,672	8,467,517	7,733,398	9,193,948	9,119,788	11,900,858	12,047,699	11,957,421
Connecticut	14,519,731	13,979,139	NA	12,571,612	22,561,170	23,573,706	24,039,989	25,612,853	20,533,902	21,885,609	20,919,179	21,181,282	22,502,799	24,679,641	25,868,030	27,217,883
Delaware	1,207,011	2,011,600	NA	1,021,115	1,968,736	2,049,018	2,181,693	2,514,545	1,888,698	1,709,791	1,671,853	1,867,003	2,532,597	2,558,634	2,312,965	1,894,419
District of Columbia	302,000	2,009,000	NA	0	189,691	220,886	354,612	435,813	1,444,007	1,541,038	1,379,944	1,525,542	2,021,912	1,888,642	2,510,818	3,705,656
Florida	10,013,516	9,073,670	NA	10,356,355	50,546,200	48,327,623	48,910,954	47,372,831	44,017,593	45,015,557	44,254,939	44,546,892	51,598,115	50,604,692	52,430,371	50,793,339
Georgia	861,231	60,551	NA	3,500,000	3,200,000	3,600,000	4,145,859	2,041,101	1,766,014	1,709,229	2,303,714	2,608,350	2,345,600	3,539,835	2,648,196	2,016,590
Hawaii	2,329,186	7,617,547	NA	3,268,044	3,049,593	3,667,047	4,267,994	4,320,992	1,038,877	1,659,573	2,412,169	1,406,938	213,163	257,625	6,531,042	2,311,413
Idaho	257,926	1,127,217	NA	4,397,225	4,616,645	4,430,450	7,179,818	7,836,031	6,783,779	6,469,463	6,576,466	6,591,001	6,172,889	6,709,727	7,967,885	7,124,769
Illinois	17,617,332	18,022,400	NA	1,304,428	1,948,263	2,049,697	1,618,580	1,663,080	1,678,403	1,550,890	1,251,225	1,251,225	1,171,225	1,171,225	626,262	554,067
Indiana	2,364,046	36,349,207	NA	941,982	975,000	975,000	870,605	1,022,370	675,629	657,583	619,999	809,062	243,160	167,703	92,268	470,344
Iowa	5,754,032	363,153	NA	953,909	625,480	1,260,999	4,376,976	5,603,029	3,884,026	3,696,335	3,796,688	3,590,701	2,897,292	3,279,267	2,959,513	3,091,936
Kansas	2,137,741	1,636,784	NA	1,598,127	1,448,133	1,501,433	1,484,948	1,577,722	1,427,786	1,333,800	2,817,975	2,210,187	2,089,000	998,463	999,734	1,294,643
Kentucky	3,702,849	998,840	NA	6,241,919	1,635,906	2,137,354	2,893,270	2,962,965	454,669	734,444	1,547,014	4,414,627	2,135,186	2,038,186	1,752,643	1,946,017
Louisiana	7,530,897	4,259,147	NA	5,014,571	6,523,169	7,493,894	4,884,739	5,081,221	8,785,247	9,325,390	12,536,416	10,944,624	13,442,234	10,974,134	10,774,371	9,555,840
Maine	0	330,000	NA	1,566,832	1,542,846	1,883,123	1,071,798	1,154,177	2,048,918	2,911,504	2,970,210	2,999,641	2,802,497	3,051,263	4,038,999	10,370,488
Maryland	6,086,183	16,726,066	NA	5,683,023	1,962,000	1,928,700	513,661	572,247	906,472	846,300	327,732	1,077,744	2,744,392	989,368	659,436	878,718
Massachusetts	3,623,773	922,416	NA	831,202	862,331	785,738	917,177	1,083,202	10,934,792	11,254,392	12,613,509	9,071,354	8,362,815	8,798,238	9,681,990	1,208,652
Michigan	1,527,314	1,373,780	NA	1,800,696	1,688,930	1,509,097	2,277,811	2,651,063	626,768	702,187	1,249,998	1,287,328	0	336,227	527,096	237,018
Minnesota	2,132,277	2,904,128	NA	1,974,655	1,507,582	1,509,585	1,471,472	1,007,122	2,284,757	2,828,032	2,195,086	1,481,345	672,674	2,027,757	2,583,398	2,458,490
Mississippi	1,484,612	5,728,190	NA	2,884,940	3,933,046	4,028,133	1,890,566	2,094,537	510,446	252,513	190,826	1,192,864	1,791,073	1,755,759	1,236,050	2,005,582
Missouri	12,171,794	9,815,796	NA	9,289,817	8,065,733	7,546,964	7,274,626	6,696,607	6,922,875	7,284,056	7,900,361	7,593,953	7,809,676	8,242,424	8,112,983	6,455,476
Montana	2,404,391	1,007,000	NA	1,304,712	1,604,601	1,694,519	1,669,440	2,035,229	2,238,501	2,273,458	2,675,607	3,759,869	2,684,109	2,993,604	6,104,413	2,846,129
Nebraska	436,000	291,000	NA	125,000	327,845	320,392	303,472	368,009	769,135	534,852	465,732	373,809	6,000	17,116	2,342,783	2,128,727
Nevada	323,042	581,534	NA	342,744	295,579	364,476	376,301	366,804	9,927	3,893	5,000	3,950	140,823	184,774	188,146	237,064
New Hampshire	424,762	167,708	NA	1,018,069	502,616	591,869	760,392	683,882	84,253	82,781	367,680	460,000	151,247	131,672	49,309	27,186
New Jersey	5,483,784	5,093,922	NA	4,278,027	3,407,529	2,980,802	2,952,996	2,920,843	1,814,000	1,864,000	1,703,700	1,800,400	1,691,900	2,796,233	2,624,342	3,006,539
New Mexico	3,000,000	576,921	NA	535,531	560,955	494,193	671,314	768,893	2,462,904	2,539,877	1,390,991	860,774	1,240,504	900,212	2,594,660	1,535,533
New York	42,047,823	31,635,352	NA	266,188,075	311,702,575	318,563,367	277,561,513	267,002,282	259,604,368	243,064,412	237,318,047	246,099,969	240,591,998	276,773,893	278,751,443	259,432,614
North Carolina	3,789,289	27,479,434	NA	31,451,251	18,843,326	19,478,718	20,437,242	20,501,169	14,636,872	14,929,283	17,853,240	19,865,183	19,372,111	18,400,435	17,813,294	17,422,714

TABLE 6

## State government expenditures for R&amp;D by intramural performers, by state: FYs 2006–21

(Dollars)

State	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
North Dakota	762,297	500,943	NA	568,135	591,770	366,294	530,023	429,670	1,373,563	1,189,828	588,458	1,784,624	1,827,872	421,989	346,342	294,748
Ohio	1,515,058	283,131	NA	3,883,347	1,754,417	2,645,393	2,246,092	2,040,795	965,440	864,161	2,096,469	2,741,052	1,247,811	733,326	2,005,523	1,808,996
Oklahoma	83,333	252,516	NA	2,709,663	9,250	9,850	1,057,822	1,074,816	370,925	350,570	2,394,381	6,079,694	935,686	1,685,458	2,015,986	2,575,950
Oregon	3,318,194	2,851,734	NA	5,768,545	14,368,928	17,063,005	18,162,372	19,524,508	15,547,309	18,022,139	10,187,622	15,646,484	16,333,562	24,761,784	15,852,036	16,083,800
Pennsylvania	3,310,731	4,020,292	NA	2,992,367	5,052,858	5,826,832	5,632,495	6,675,458	7,012,137	7,387,261	6,451,626	9,100,618	7,237,397	8,579,205	7,874,722	8,172,000
Rhode Island	0	134,200	NA	67,000	53,547	80,000	20,000	225,050	389,829	281,200	175,000	6,000	1,638,664	2,767,111	3,098,833	8,118,721
South Carolina	15,780,585	26,968,153	NA	24,161,908	42,554,948	52,973,299	49,917,998	37,004,464	17,374,915	22,351,601	24,854,389	25,708,598	28,354,328	28,876,294	27,894,342	27,709,617
South Dakota	2,318,754	3,070,095	NA	424,407	722,906	652,055	60,976	114,425	220,000	240,000	432,788	437,052	330,492	361,072	327,346	359,853
Tennessee	704,000	595,010	NA	0	0	52,129	762,313	784,848	563,092	531,871	2,731,571	2,773,520	2,321,833	1,710,689	1,607,509	1,289,255
Texas	5,870,258	5,496,761	NA	4,763,897	2,813,346	9,823,374	12,375,067	11,746,259	2,673,588	2,745,383	4,289,841	4,135,685	3,201,472	3,855,855	3,165,023	2,686,856
Utah	964,170	1,333,630	NA	10,715,649	10,150,322	10,361,727	17,654,475	17,979,931	17,924,476	18,192,260	18,167,666	18,418,869	18,236,912	5,046,202	6,070,743	5,326,711
Vermont	848,787	847,350	NA	738,707	1,442,023	1,543,503	1,074,198	1,160,193	534,520	555,772	368,636	250,257	560,842	681,380	633,399	596,129
Virginia	5,045,794	7,577,630	NA	8,242,184	6,744,260	6,567,645	8,766,523	13,046,471	10,486,612	14,607,108	13,596,149	12,312,670	12,931,846	10,733,680	12,627,565	16,624,998
Washington	12,187,408	12,103,757	NA	8,136,939	10,916,316	11,745,788	12,875,297	12,820,150	9,824,415	10,470,091	14,446,035	14,515,938	15,395,106	19,986,935	23,415,061	21,349,303
West Virginia	1,767,688	2,414,915	NA	2,555,126	7,094,173	8,130,744	4,965,278	4,764,417	2,837,135	1,893,045	2,455,891	1,723,204	2,641,834	2,867,846	3,317,637	3,378,070
Wisconsin	5,534,273	4,766,000	NA	5,329,091	5,060,717	6,126,083	6,896,219	7,402,664	6,279,098	6,547,800	5,783,316	4,862,108	5,270,830	5,043,609	4,674,607	4,401,850
Wyoming	4,216,426	4,622,873	NA	2,601,053	3,609,627	3,134,016	3,615,536	3,001,092	1,837,188	1,883,135	2,560,853	2,821,077	2,362,454	1,286,491	2,875,496	2,753,475
Puerto Rico <sup>b</sup>	1,274,358	328,664	NA	8,352,468	2,300,000	2,500,000	6,360,716	6,084,344	5,193,888	4,454,166	na	na	na	na	na	na

na = not applicable; did not report to survey. NA = not available; survey was not conducted for FY 2008.

<sup>a</sup> U.S. total reflects all 50 states and the District of Columbia.<sup>b</sup> Puerto Rico is not included in U.S. total due to its classification as a U.S. territory.**Note(s):**

Intramural performers include a department's or agency's own employees who perform R&amp;D and services performed by others in support of an internal R&amp;D project. State R&amp;D totals can display considerable volatility between survey years due to several national and state-specific factors. Large changes are not unusual, especially for discretionary spending items such as R&amp;D.

**Source(s):**

National Center for Science and Engineering Statistics, Survey of State Government Research and Development.



TABLE 7

## State government expenditures for intramural R&amp;D, by state and type of work: FY 2021

(Dollars)

State	All intramural R&D expenditures	Type of R&D		
		Basic research	Applied research	Experimental development
United States <sup>a</sup>	673,691,209	119,427,378	505,569,152	48,694,679
Alabama	17,295,499	10,118,765	1,418,477	5,758,257
Alaska	13,677,498	278,100	9,361,400	4,037,998
Arizona	3,522,494	610,954	2,911,540	0
Arkansas	170,429	0	170,429	0
California	81,309,690	1,181,742	74,472,361	5,655,587
Colorado	11,957,421	0	11,790,523	166,898
Connecticut	27,217,883	9,304,764	17,603,119	310,000
Delaware	1,894,419	0	1,894,419	0
District of Columbia	3,705,656	2,502,492	1,063,799	139,365
Florida	50,793,339	1,358,100	49,274,126	161,113
Georgia	2,016,590	300,000	1,171,752	544,838
Hawaii	2,311,413	0	123,148	2,188,265
Idaho	7,124,769	11,367	7,113,402	0
Illinois	554,067	0	110,813	443,254
Indiana	470,344	260,000	145,344	65,000
Iowa	3,091,936	0	3,091,936	0
Kansas	1,294,643	5,489	1,289,154	0
Kentucky	1,946,017	0	1,946,017	0
Louisiana	9,555,840	4,395,958	5,059,882	100,000
Maine	10,370,488	5,335,257	4,089,910	945,321
Maryland	878,718	0	217,655	661,063
Massachusetts	1,208,652	473,470	668,345	66,837
Michigan	237,018	19,546	217,472	0
Minnesota	2,458,490	0	2,458,490	0
Mississippi	2,005,582	0	876,630	1,128,952
Missouri	6,455,476	0	6,455,476	0
Montana	2,846,129	0	2,719,739	126,390
Nebraska	2,128,727	10,000	2,077,727	41,000
Nevada	237,064	0	237,064	0
New Hampshire	27,186	0	11,301	15,885
New Jersey	3,006,539	154,725	2,452,314	399,500
New Mexico	1,535,533	0	608,053	927,480
New York	259,432,614	69,865,591	185,667,839	3,899,184
North Carolina	17,422,714	2,357,049	15,065,665	0
North Dakota	294,748	232,829	61,919	0
Ohio	1,808,996	740,712	1,068,284	0
Oklahoma	2,575,950	635,186	1,332,844	607,920
Oregon	16,083,800	3,509,204	8,904,760	3,669,836
Pennsylvania	8,172,000	3,240	557,531	7,611,229
Rhode Island	8,118,721	67,378	8,051,343	0
South Carolina	27,709,617	1,380,007	25,561,855	767,755
South Dakota	359,853	2,500	354,853	2,500
Tennessee	1,289,255	0	1,289,255	0
Texas	2,686,856	350,168	2,336,688	0
Utah	5,326,711	5,350	5,321,361	0
Vermont	596,129	50,306	372,253	173,570
Virginia	16,624,998	2,223,527	13,409,320	992,151
Washington	21,349,303	119,585	14,308,872	6,920,846

TABLE 7

**State government expenditures for intramural R&D, by state and type of work: FY 2021**

(Dollars)

State	All intramural R&D expenditures	Type of R&D		
		Basic research	Applied research	Experimental development
West Virginia	3,378,070	0	3,211,385	166,685
Wisconsin	4,401,850	0	4,401,850	0
Wyoming	2,753,475	1,564,017	1,189,458	0

<sup>a</sup> U.S. total reflects all 50 states and the District of Columbia.**Source(s):**

National Center for Science and Engineering Statistics, Survey of State Government Research and Development, FY 2021.

TABLE 8

## State R&amp;D expenditures, by state and function of R&amp;D: FY 2021

(Dollars)

State	All R&D expenditures	Agriculture	Energy	Environment and natural resources	Health	Transportation	Other <sup>a</sup>
United States <sup>b</sup>	2,471,471,226	119,859,705	410,687,147	428,535,361	1,030,394,740	300,352,569	181,641,704
Alabama	29,812,345	104,373	178,809	6,080,232	2,163,596	2,211,001	19,074,334
Alaska	19,671,388	26,000	500,000	9,713,200	866,695	8,565,493	0
Arizona	15,011,508	1,071,301	0	1,682,113	8,467,153	3,179,987	610,954
Arkansas	9,908,767	6,614,526	50,000	1,143,026	200,000	376,215	1,525,000
California	523,819,635	6,934,080	267,900,000	46,696,431	142,503,729	47,716,505	12,068,890
Colorado	38,436,248	2,739,142	2,846,991	11,287,126	9,548,470	3,791,995	8,222,524
Connecticut	55,050,702	4,142,888	3,627,099	11,706,792	27,271,532	2,408,289	5,894,102
Delaware	3,338,773	0	46,054	2,125,080	0	1,167,639	0
District of Columbia	8,128,666	0	0	1,821,400	5,983,318	289,382	34,566
Florida	178,360,429	15,279,858	554,984	57,586,211	93,311,821	11,527,555	100,000
Georgia	18,798,826	0	9,067,079	3,132,706	0	6,599,041	0
Hawaii	10,315,823	524,528	4,216,265	320,500	37,500	5,013,530	203,500
Idaho	18,210,054	6,008,990	206,624	9,473,386	0	2,144,749	376,305
Illinois	16,213,542	2,019,400	0	2,000,000	295,040	9,430,989	2,468,113
Indiana	10,485,205	500,279	24,787	720,153	300,000	8,261,486	678,500
Iowa	10,579,028	170,448	0	2,994,029	0	6,942,156	472,395
Kansas	15,002,554	3,548,954	0	7,217,311	0	3,237,535	998,754
Kentucky	29,737,068	517,000	386,000	2,406,089	16,082,555	8,931,685	1,413,739
Louisiana	32,115,461	274,427	1,936,715	10,483,689	1,160,113	9,185,327	9,075,190
Maine	32,392,463	1,891,592	31,830	7,542,075	12,612,119	1,500,000	8,814,847
Maryland	28,212,493	0	0	900,754	25,100,000	2,211,739	0
Massachusetts	23,307,621	0	5,044,038	2,752,268	6,574,962	3,767,017	5,169,336
Michigan	29,718,391	1,216,089	0	1,690,204	20,000,000	6,812,098	0
Minnesota	22,483,420	4,789,550	0	3,612,375	0	14,081,495	0
Mississippi	11,143,362	1,564,195	0	4,036,645	0	5,542,522	0
Missouri	14,009,154	1,185,569	0	10,111,070	592,500	2,120,015	0
Montana	8,447,295	2,841,089	0	3,873,284	0	1,732,922	0
Nebraska	31,337,947	3,234,030	350,000	5,465,378	19,480,431	1,735,953	1,072,155
Nevada	4,222,929	237,064	0	439,233	0	1,588,437	1,958,195
New Hampshire	8,675,207	160,563	15,000	593,070	0	605,207	7,301,367
New Jersey	12,864,404	0	0	2,940,457	1,352,305	5,440,354	3,131,288
New Mexico	3,054,817	0	79,323	1,550,674	0	1,316,767	108,053
New York	417,246,309	8,731,413	60,426,855	31,482,716	289,740,653	11,189,625	15,675,047
North Carolina	36,870,713	14,123,005	1,574,989	5,733,496	3,665,704	10,882,065	891,454
North Dakota	35,139,613	3,177,142	24,409,679	918,049	5,182,820	1,204,774	247,149
Ohio	55,336,431	0	8,291,260	31,774,578	2,141,824	6,276,848	6,851,921
Oklahoma	55,989,692	1,329,150	550,284	2,291,905	17,077,727	4,963,501	29,777,125
Oregon	37,419,218	205,647	2,400,000	17,198,988	5,127,824	3,638,363	8,848,396
Pennsylvania	93,621,093	2,601,164	1,009,207	10,393,255	72,166,914	5,576,553	1,874,000
Rhode Island	10,226,630	53,000	0	9,014,506	411,325	185,472	562,327
South Carolina	44,557,581	1,839,876	474,350	27,217,435	10,768,594	2,646,350	1,610,976
South Dakota	3,193,289	2,013,292	1,968	0	0	1,178,029	0
Tennessee	10,287,206	0	0	233,025	0	6,683,667	3,370,514
Texas	255,731,862	932,510	0	11,309,543	222,983,844	20,505,965	0
Utah	8,316,189	0	0	4,995,663	5,350	3,315,176	0
Vermont	1,535,157	0	0	274,477	163,373	1,097,307	0
Virginia	44,913,546	3,118,841	409,898	8,065,546	4,132,097	18,505,828	10,681,336

TABLE 8

**State R&D expenditures, by state and function of R&D: FY 2021**

(Dollars)

State	All R&D expenditures	Agriculture	Energy	Environment and natural resources	Health	Transportation	Other <sup>a</sup>
Washington	56,690,210	11,882,329	11,573,426	20,929,359	1,367,538	7,528,900	3,408,658
West Virginia	9,013,091	166,685	872,617	3,183,300	293,814	2,257,746	2,238,929
Wisconsin	15,239,075	1,558,082	0	6,879,700	1,000,000	2,176,168	3,625,125
Wyoming	7,278,796	531,634	1,631,016	2,542,859	261,500	1,105,147	1,206,640

<sup>a</sup> Other functions include, but are not limited to, corrections, criminal justice, education, forensic science, labor, public safety, and social services.

<sup>b</sup> U.S. total reflects all 50 states and the District of Columbia.

**Source(s):**

National Center for Science and Engineering Statistics, Survey of State Government Research and Development, FY 2021.

TABLE 9

## State government expenditures for agriculture-related R&amp;D, by state: FYs 2009–21

(Dollars)

State	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
United States <sup>a</sup>	66,468,692	75,090,255	77,332,829	96,578,888	97,316,191	105,326,909	102,115,908	112,280,689	117,483,305	131,384,543	136,996,698	142,105,027	119,859,705
Alabama	0	0	0	0	0	0	250,000	0	0	0	0	0	104,373
Alaska	15,000	687,500	713,500	99,934	750,856	217,231	217,141	0	0	0	0	0	26,000
Arizona	220,751	142,816	732,254	616,827	549,556	944,617	718,324	945,226	887,874	723,371	1,054,913	1,041,995	1,071,301
Arkansas	6,755,483	6,643,460	7,945,440	8,803,765	8,857,097	8,483,250	8,248,838	7,513,291	9,063,778	7,087,642	12,519,460	12,606,385	6,614,526
California	6,235,149	3,091,420	4,057,537	5,640,401	5,039,599	7,470,645	8,225,669	7,475,484	6,695,567	5,834,873	7,705,454	7,116,436	6,934,080
Colorado	416,336	826,517	583,117	0	50,000	316,549	373,735	472,293	773,012	1,047,197	721,768	1,037,559	2,739,142
Connecticut	1,237,590	3,259,642	3,326,548	3,256,124	3,314,695	3,920,767	4,228,545	3,942,658	3,894,241	3,321,534	3,856,987	3,856,987	4,142,888
Delaware	0	0	0	0	0	0	0	0	0	0	0	0	0
District of Columbia	0	0	0	0	0	0	0	0	0	0	0	0	0
Florida	19,410,440	16,952,501	15,991,126	19,671,322	19,046,571	23,026,254	18,529,725	17,066,498	15,855,393	20,043,531	11,725,430	21,100,902	15,279,858
Georgia	0	0	0	0	0	0	0	0	0	0	633,607	255,642	0
Hawaii	233,394	505,967	914,799	1,516,064	1,516,064	80,000	60,000	2,179,089	1,544,443	3,700,895	1,680,702	1,977,000	524,528
Idaho	1,352,291	1,529,838	1,720,839	2,344,664	2,940,842	2,442,070	2,930,637	3,956,230	4,205,334	4,796,891	5,349,416	7,279,087	6,008,990
Illinois	18,096	0	0	0	0	0	139,697	2,839,551	2,975,635	2,975,635	3,989,560	3,140,385	2,019,400
Indiana	0	0	0	177,000	268,000	250,000	250,000	250,000	250,000	350,000	141,876	100,000	500,279
Iowa	0	0	0	0	0	0	0	0	0	0	0	60,000	170,448
Kansas	784,957	1,104,311	1,167,853	1,013,350	984,198	1,129,199	1,328,784	1,457,957	2,021,302	4,415,012	3,998,895	3,675,354	3,548,954
Kentucky	0	0	45,130	478,313	312,518	250,000	1,287,000	1,407,000	1,454,611	1,469,615	627,270	540,182	517,000
Louisiana	0	0	0	0	0	27,333	9,167	2,500	49,066	38,750	270,090	636,415	274,427
Maine	501,243	1,152,303	987,050	933,637	373,257	407,500	1,013,206	765,706	1,851,874	4,534,099	7,182,948	3,329,336	1,891,592
Maryland	336,650	228,000	451,700	300,000	384,771	200,000	200,000	245,456	379,919	352,432	357,910	269,157	0
Massachusetts	0	0	0	0	0	34,227	0	37,631	0	0	50,000	0	0
Michigan	206,282	36,910	82,793	493,895	548,396	3,190,880	3,150,111	1,279,134	1,444,252	1,437,876	1,246,732	3,316,092	1,216,089
Minnesota	987,608	1,301,382	1,387,590	1,721,463	1,981,417	2,725,197	2,938,310	5,516,597	4,972,707	3,929,309	3,701,150	5,526,168	4,789,550
Mississippi	0	0	0	0	0	84,209	0	49,896	0	1,027,288	599,632	1,213,684	1,564,195
Missouri	168,096	189,947	85,115	349,210	381,475	711,626	830,064	1,008,692	1,045,000	1,315,740	1,153,575	911,532	1,185,569
Montana	1,199,654	1,850,656	1,493,635	2,105,602	1,975,948	4,713,540	4,097,279	3,443,331	3,742,881	3,309,628	3,132,570	3,566,938	2,841,089
Nebraska	1,276,949	927,985	977,548	1,399,997	1,748,254	2,996,054	2,725,502	2,897,352	2,183,807	3,593,971	2,851,678	2,453,010	3,234,030
Nevada	0	0	0	0	0	10,000	0	0	0	140,823	184,774	188,146	237,064
New Hampshire	38,005	219,170	113,969	477,066	438,435	98,640	130,904	120,719	72,482	141,692	114,949	113,278	160,563
New Jersey	0	0	0	0	0	0	0	0	0	0	0	0	0
New Mexico	0	0	0	0	0	81,699	88,062	0	0	0	0	0	0
New York	1,869,720	2,117,582	1,779,089	1,748,998	1,383,413	2,265,729	2,605,432	4,885,323	9,014,755	10,578,603	10,612,279	7,919,165	8,731,413
North Carolina	10,568,425	12,625,716	12,878,500	17,944,847	17,947,847	12,239,391	12,050,000	12,225,000	14,972,009	17,220,343	14,132,932	13,961,296	14,123,005

TABLE 9

## State government expenditures for agriculture-related R&amp;D, by state: FYs 2009–21

(Dollars)

State	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
North Dakota	935,619	1,444,526	2,014,848	2,521,725	2,475,547	2,504,192	2,674,205	3,311,263	3,511,678	3,334,741	2,998,472	2,955,514	3,177,142
Ohio	0	0	0	0	0	0	0	200,000	0	0	0	0	0
Oklahoma	1,610,660	1,295,705	1,608,677	1,862,336	2,500,477	1,708,188	1,811,266	2,340,454	1,719,116	1,713,695	1,058,791	2,158,072	1,329,150
Oregon	134,857	489,631	532,446	218,038	290,595	384,341	372,579	169,212	669,211	740,878	1,638,762	706,521	205,647
Pennsylvania	852,734	755,736	640,671	1,512,706	2,033,013	787,000	787,000	1,587,000	1,687,000	1,687,000	3,187,000	3,877,434	2,601,164
Rhode Island	0	0	0	166,820	40,000	0	0	0	43,868	50,000	49,042	45,615	53,000
South Carolina	421,699	0	92,305	62,024	157,702	534,646	498,748	354,516	665,133	931,700	1,013,153	809,303	1,839,876
South Dakota	50,000	25,000	0	75,000	75,000	3,219,622	2,928,142	2,777,400	2,029,617	2,285,632	1,690,563	1,526,155	2,013,292
Tennessee	0	0	0	0	0	0	0	0	0	150,000	0	0	0
Texas	1,972,975	3,618,361	2,877,596	2,758,683	2,650,989	3,557,354	808,544	1,761,471	688,365	1,053,502	1,229,300	1,151,413	932,510
Utah	1,000,000	3,589	113,336	4,508,902	3,989,111	1,688,670	2,035,321	1,096,257	1,326,188	435,393	0	0	0
Vermont	0	490,900	652,700	503,308	538,173	384,878	407,694	50,000	0	0	0	0	0
Virginia	806,328	2,285,378	2,213,361	1,633,434	1,631,509	730,636	1,120,676	3,142,288	2,679,432	2,560,373	2,765,452	2,445,328	3,118,841
Washington	4,587,406	8,340,489	8,317,099	8,098,988	8,954,794	10,769,035	11,203,711	12,385,554	11,904,380	11,663,031	17,797,227	17,505,768	11,882,329
West Virginia	0	0	151,428	206,137	93,033	0	0	0	0	25,000	25,000	10,000	166,685
Wisconsin	0	770,721	536,004	864,399	640,941	616,740	841,890	900,573	928,599	838,651	3,518,097	1,060,099	1,558,082
Wyoming	264,295	176,596	147,226	493,909	452,098	125,000	0	222,087	280,776	528,197	429,282	661,674	531,634
Puerto Rico <sup>b</sup>	649,048	0	0	507,174	649,048	550,000	683,157	na	na	na	na	na	na

na = not applicable; did not report to survey.

<sup>a</sup> U.S. total reflects all 50 states and the District of Columbia.<sup>b</sup> Puerto Rico is not included in U.S. total due to its classification as a U.S. territory.**Note(s):**

State R&D expenditures by function were surveyed beginning with the FY 2009 survey. State R&D totals can display considerable volatility between survey years due to several national and state-specific factors. Large changes are not unusual, especially for discretionary spending items such as R&D.

**Source(s):**

National Center for Science and Engineering Statistics, Survey of State Government Research and Development.

TABLE 10

## State government expenditures for energy-related R&amp;D, by state: FYs 2009–21

(Dollars)

State	2009 <sup>a</sup>	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
United States <sup>b</sup>	NA	227,404,238	265,645,943	238,545,588	192,380,008	157,200,057	383,145,992	368,028,147	307,574,426	397,036,953	323,076,738	390,847,851	410,687,147
Alabama	NA	988,806	1,279,672	788,212	509,974	386,692	688,913	134,432	206,926	282,748	255,807	117,181	178,809
Alaska	NA	1,359,100	1,301,000	1,438,817	1,799,951	35,860	53,202	1,020,450	1,002,160	2,120,127	1,102,206	500,000	500,000
Arizona	NA	267,174	1,702,776	6,243,529	7,630,643	1,547,000	658,000	216,988	0	0	0	0	0
Arkansas	NA	1,736,657	3,156,213	2,913,191	3,620,296	4,800,000	5,243,216	1,548,704	1,444,227	2,304,745	852,718	502,762	50,000
California	NA	105,072,000	95,975,000	75,756,774	55,577,129	52,593,000	263,254,000	251,116,066	184,568,270	243,987,483	202,262,559	256,532,543	267,900,000
Colorado	NA	1,464,536	409,252	313,762	254,860	1,934,715	2,241,216	1,839,587	2,304,024	1,099,099	3,184,039	3,347,250	2,846,991
Connecticut	NA	358,778	553,640	571,414	588,724	1,714,724	1,944,337	240,000	0	0	0	4,083,058	3,627,099
Delaware	NA	0	0	0	0	0	10,000	0	0	13,683	24,256	20,800	46,054
District of Columbia	NA	0	0	0	0	0	75,000	0	0	29,500	0	520,000	0
Florida	NA	3,571,447	4,158,768	8,476,266	990,320	355,629	1,117,124	2,371,453	716,664	585,190	557,060	784,693	554,984
Georgia	NA	1,000,000	1,200,000	800,000	0	3,096,465	3,148,268	5,976,273	6,235,488	9,382,400	6,335,903	5,825,649	9,067,079
Hawaii	NA	5,825,028	6,020,023	4,024,303	5,674,072	4,300,000	1,500,000	7,500,000	4,108,496	6,004,495	2,510,732	6,466,637	4,216,265
Idaho	NA	0	0	0	0	401,783	274,051	178,178	260,435	237,898	0	0	206,624
Illinois	NA	190,000	0	21,110	225,000	5,885,366	4,333,344	390,473	66,300	0	0	0	0
Indiana	NA	0	0	0	383,432	657,307	354,693	125,478	0	2,298,615	268,086	95,000	24,787
Iowa	NA	0	26,590,826	5,207,302	6,340,014	1,117,561	710,522	1,181,136	164,157	0	0	0	0
Kansas	NA	0	0	0	0	0	0	0	0	0	0	0	0
Kentucky	NA	4,256,458	3,372,112	4,809,927	5,976,089	2,403,100	2,443,000	774,052	296,900	301,357	2,020,000	171,000	386,000
Louisiana	NA	0	0	0	0	0	0	0	790,430	756,017	2,875,376	2,613,811	1,936,715
Maine	NA	5,000	5,000	821,675	480,594	415,000	986,000	1,311,000	0	0	0	0	31,830
Maryland	NA	40,000	25,000	300,000	300,000	200,000	200,000	200,000	189,999	646,989	1,181,872	1,168,566	0
Massachusetts	NA	0	0	0	0	2,640,446	4,998,471	3,982,930	6,660,272	3,906,259	5,049,247	4,183,011	5,044,038
Michigan	NA	0	0	0	0	0	0	0	0	0	0	0	0
Minnesota	NA	1,243,965	249,201	1,702,500	122,084	327,995	897,117	387,372	0	0	0	0	0
Mississippi	NA	1,550,000	1,250,000	0	0	22,914	1,739	0	0	0	0	0	0
Missouri	NA	0	0	0	0	0	0	0	0	0	0	500,000	0
Montana	NA	835,942	405,260	187,163	1,200	332,678	0	0	178,300	0	0	0	0
Nebraska	NA	5,000	10,000	196,427	236,100	100,000	0	266,783	177,207	495,519	4,000	0	350,000
Nevada	NA	0	0	0	0	0	0	0	0	0	0	0	0
New Hampshire	NA	0	0	0	0	0	0	19,920	86,235	0	8,938	0	15,000
New Jersey	NA	500,000	0	437,685	0	0	0	0	0	0	0	0	0
New Mexico	NA	0	0	0	57,083	0	0	0	0	83,198	82,970	169,166	79,323
New York	NA	29,744,916	45,608,891	41,789,076	27,061,407	36,809,190	45,627,241	50,958,594	55,855,216	86,541,730	51,407,945	65,977,562	60,426,855
North Carolina	NA	100,000	105,000	0	0	1,322,052	1,652,847	1,969,629	0	0	1,656,680	1,500,000	1,574,989

TABLE 10

**State government expenditures for energy-related R&D, by state: FYs 2009–21**

(Dollars)

State	2009 <sup>a</sup>	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
North Dakota	NA	4,153,800	5,200,850	2,778,935	3,931,762	6,858,556	5,705,731	3,826,839	8,098,449	9,031,575	6,229,265	10,111,495	24,409,679
Ohio	NA	41,236,142	47,150,392	62,348,681	52,267,399	6,472,561	11,048,550	14,930,905	15,281,674	15,071,024	14,557,578	11,929,919	8,291,260
Oklahoma	NA	387,401	149,201	330,000	323,800	1,246,000	1,625,000	2,733,540	1,390,000	977,210	684,211	599,094	550,284
Oregon	NA	175,000	50,000	0	0	7,099,464	7,467,172	3,774,000	3,000,000	2,250,000	4,550,000	1,590,000	2,400,000
Pennsylvania	NA	0	0	2,070,343	1,699,984	2,580,520	2,156,564	2,603,817	100,000	0	5,323,743	837,000	1,009,207
Rhode Island	NA	0	0	0	0	2,000	1,200	104,121	131,554	48,106	0	0	0
South Carolina	NA	863,890	871,078	484,124	251,410	56,129	163,885	213,958	206,826	92,280	86,506	125,624	474,350
South Dakota	NA	0	0	0	0	3,779	26,862	11,135	22,447	181,466	39,853	16,021	1,968
Tennessee	NA	0	35,764	6,553	0	0	0	213,026	0	106,514	106,514	106,514	0
Texas	NA	0	0	374,013	447,132	0	0	0	0	0	0	0	0
Utah	NA	7,375,546	7,209,348	4,125,214	4,558,744	2,076,936	4,835,743	1,213,403	2,525,845	1,909,139	0	500,540	0
Vermont	NA	300,000	300,000	167,769	179,391	223,802	239,382	0	0	0	0	0	0
Virginia	NA	10,301,835	8,564,304	8,321,652	10,400,000	5,789,258	6,263,600	549,281	528,160	360,108	350,000	179,664	409,898
Washington	NA	0	0	0	0	148,000	0	1,916,700	8,197,974	3,309,037	7,621,218	6,731,672	11,573,426
West Virginia	NA	2,495,817	2,737,372	102,719	159,332	857,387	820,450	1,689,433	1,456,024	2,486,309	1,703,058	1,390,229	872,617
Wisconsin	NA	0	0	250,000	150,000	30,000	30,000	0	0	66,000	0	0	0
Wyoming	NA	0	0	386,452	182,082	356,188	349,552	538,491	1,323,767	71,133	184,398	1,651,390	1,631,016
Puerto Rico <sup>c</sup>	NA	100,000	100,000	106,470	220,000	422,494	400,000	na	na	na	na	na	na

na = not applicable; did not report to survey. NA = not available; not collected as a separate R&D function for FY 2009.

<sup>a</sup> Energy category was introduced with the FY 2010 and FY 2011 Survey of State Government Research and Development. Previously, energy-related R&D was reported primarily in Other and Environment and natural resources categories.

<sup>b</sup> U.S. total reflects all 50 states and the District of Columbia.

<sup>c</sup> Puerto Rico is not included in U.S. total due to its classification as a U.S. territory.

**Note(s):**

State R&D expenditures by function were surveyed beginning with the FY 2009 survey. State R&D totals can display considerable volatility between survey years due to several national and state-specific factors. Large changes are not unusual, especially for discretionary spending items such as R&D.

**Source(s):**

National Center for Science and Engineering Statistics, Survey of State Government Research and Development.



TABLE 11

## State government expenditures for environment and natural resources-related R&amp;D, by state: FYs 2009–21

(Dollars)

State	2009 <sup>a</sup>	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
United States <sup>b</sup>	328,102,718	356,603,823	380,376,738	357,528,082	380,245,106	369,242,699	416,120,534	411,765,467	450,709,184	418,889,511	440,269,973	448,489,450	428,535,361
Alabama	7,694,078	8,922,103	13,521,133	12,879,773	9,984,291	4,106,869	5,718,986	12,848,739	14,685,442	13,608,231	9,403,795	5,930,160	6,080,232
Alaska	6,449,300	5,833,600	6,767,900	3,702,011	3,662,664	9,001,900	8,987,200	7,617,940	5,324,200	7,104,800	8,392,100	8,878,600	9,713,200
Arizona	6,356,155	6,023,906	5,743,162	5,327,071	6,689,903	6,184,876	7,012,194	4,253,582	2,220,204	1,755,221	1,077,891	1,849,760	1,682,113
Arkansas	345,832	658,590	680,971	707,557	942,106	0	303,087	530,436	0	2,249,406	2,426,103	2,455,409	1,143,026
California	48,172,325	30,914,302	43,443,294	26,096,846	30,615,059	28,842,415	30,382,163	30,970,439	34,984,578	41,221,163	40,709,827	46,017,594	46,696,431
Colorado	8,317,796	7,142,396	7,185,567	6,957,024	6,576,449	8,449,733	8,630,632	7,187,484	9,718,770	9,097,135	10,798,678	11,609,704	11,287,126
Connecticut	5,814,050	13,081,012	12,517,073	12,661,538	13,780,616	10,592,603	10,303,327	10,527,008	9,545,714	10,218,069	10,599,160	11,473,607	11,706,792
Delaware	1,433,562	2,139,720	2,359,902	2,231,693	2,754,545	1,988,655	2,048,014	1,849,169	1,973,153	2,686,413	2,701,302	2,241,188	2,125,080
District of Columbia	0	0	0	0	0	1,740,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,920,000	1,821,400
Florida	17,934,886	50,262,488	47,437,237	48,709,314	47,462,678	51,191,986	57,934,383	51,313,340	52,812,260	50,929,717	52,486,202	56,851,522	57,586,211
Georgia	0	0	0	2,607,843	3,999,505	2,584,180	3,062,308	2,027,695	2,221,630	0	3,871,745	1,164,256	3,132,706
Hawaii	4,497,068	5,229,835	5,607,794	4,533,302	4,484,602	6,929,035	7,849,438	6,483,585	4,975,227	1,363,167	895,592	385,278	320,500
Idaho	5,881,390	6,123,012	6,064,901	8,072,165	8,059,032	7,827,527	8,164,676	7,991,169	8,495,485	8,049,677	8,364,544	10,831,981	9,473,386
Illinois	56,800	0	0	0	0	0	0	0	0	0	0	0	2,000,000
Indiana	1,821,645	1,700,000	1,700,000	15,000	2,500	37,694	124,964	790,356	309,601	100,000	0	141,764	720,153
Iowa	0	7,074,696	3,640,397	3,278,552	3,517,000	4,135,147	4,279,253	3,981,402	3,892,642	3,669,395	3,797,923	4,170,756	2,994,029
Kansas	365,000	365,000	465,000	0	0	166,000	258,099	747,974	3,190,713	4,145,270	3,645,223	4,840,882	7,217,311
Kentucky	2,874,829	2,005,156	2,137,523	5,902,607	6,074,737	688,300	768,100	2,021,103	3,610,436	2,897,000	2,531,000	2,237,368	2,406,089
Louisiana	1,567,596	2,522,697	8,005,483	10,305,857	8,174,868	7,750,826	21,166,032	18,265,666	16,653,861	12,451,900	11,751,729	12,455,929	10,483,689
Maine	1,969,352	2,527,524	3,728,729	1,615,411	1,434,954	2,127,448	3,129,609	4,737,000	4,913,480	3,399,559	12,055,909	7,070,173	7,542,075
Maryland	6,853,050	390,000	616,000	963,777	947,472	1,191,164	3,070,807	790,790	2,328,795	1,680,353	1,625,725	1,184,063	900,754
Massachusetts	1,082,161	1,116,916	842,629	928,129	1,031,320	11,503,702	12,416,317	13,432,781	9,621,224	8,926,019	8,938,925	10,052,872	2,752,268
Michigan	2,320,826	4,792,530	4,595,080	3,164,059	4,582,027	3,561,675	4,025,524	7,519,042	8,548,682	471,572	1,555,898	1,265,405	1,690,204
Minnesota	1,566,712	1,813,748	794,167	673,544	1,662,951	2,678,015	3,562,237	3,499,210	3,446,554	3,790,153	5,356,934	3,365,930	3,612,375
Mississippi	2,105,823	3,634,374	3,295,081	1,458,268	1,562,376	917,631	566,320	1,025,908	2,162,824	6,216,398	5,579,050	4,637,046	4,036,645
Missouri	10,133,435	9,482,088	8,530,764	9,502,232	9,297,498	10,347,414	11,728,858	12,524,705	12,672,628	13,159,754	11,968,316	11,624,124	10,111,070
Montana	1,871,061	2,185,884	2,343,724	2,920,932	2,479,271	3,247,491	3,688,918	3,336,125	4,888,356	4,140,091	4,146,533	7,753,095	3,873,284
Nebraska	2,048,838	2,214,924	1,902,385	1,818,917	2,040,414	219,783	529,071	928,291	400,154	679,369	4,757,681	6,941,251	5,465,378
Nevada	0	32,942	47,582	46,905	45,408	170,494	192,802	83,663	4,967	100,000	128,914	222,553	439,233
New Hampshire	155,000	100,000	111,000	0	0	262,850	331,476	744,520	642,613	74,981	101,215	113,525	593,070
New Jersey	2,974,000	4,305,318	1,988,395	2,837,940	3,192,669	3,162,639	2,721,846	2,591,814	2,487,857	1,823,000	2,192,254	2,206,594	2,940,457
New Mexico	0	0	0	312,918	502,068	1,274,000	1,156,279	1,595,891	1,283,998	1,727,331	2,108,672	2,147,277	1,550,674
New York	36,911,399	29,002,576	19,416,212	25,121,628	23,232,954	24,029,807	21,834,761	21,338,549	25,507,577	23,271,335	33,457,115	30,312,324	31,482,716
North Carolina	20,919,615	5,076,664	6,817,285	3,011,692	3,136,983	2,864,841	2,901,909	5,490,244	6,354,160	7,534,575	7,935,915	7,263,072	5,733,496

TABLE 11

**State government expenditures for environment and natural resources-related R&D, by state: FYs 2009–21**

(Dollars)

State	2009 <sup>a</sup>	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
North Dakota	587,710	22,500	15,000	0	0	825,000	825,000	432,220	1,339,067	1,150,015	1,546,256	789,902	918,049
Ohio	6,306,109	38,137,758	38,596,214	15,477,600	38,073,964	36,843,569	42,606,559	46,302,620	61,383,778	50,609,867	46,098,202	50,405,927	31,774,578
Oklahoma	2,552,285	1,631,015	2,505,761	2,248,062	4,765,208	5,921,730	5,465,000	5,201,284	5,714,953	3,041,465	3,697,616	2,281,991	2,291,905
Oregon	8,279,562	14,867,136	16,924,664	19,780,040	20,153,209	17,070,483	18,412,322	11,208,431	16,722,907	14,527,986	19,896,508	16,706,262	17,198,988
Pennsylvania	9,395,553	7,891,207	7,749,253	8,058,329	9,069,833	8,792,509	9,129,370	9,043,493	7,739,820	8,326,030	8,385,384	8,868,958	10,393,255
Rhode Island	446,347	401,045	590,282	927,489	1,059,308	861,501	869,042	1,342,772	1,320,932	2,476,653	3,507,663	3,868,806	9,014,506
South Carolina	25,183,342	34,711,576	45,163,028	46,038,125	36,316,203	17,608,196	23,516,239	24,859,330	26,168,247	29,097,570	28,245,560	27,721,566	27,217,435
South Dakota	2,311,292	1,638,739	1,628,888	1,894,989	1,774,517	45,000	20,000	0	62,998	0	0	50,000	0
Tennessee	0	0	320,000	856,000	866,500	583,092	571,871	1,085,874	863,020	901,162	906,097	919,243	233,025
Texas	24,750,247	6,351,022	4,805,152	5,492,140	6,428,787	13,206,103	14,491,269	13,099,100	16,408,555	9,895,119	9,797,876	7,456,321	11,309,543
Utah	6,149,899	6,329,203	7,943,186	17,978,580	18,312,681	17,125,000	18,245,765	17,814,501	18,126,510	17,282,000	4,537,659	5,558,311	4,995,663
Vermont	0	75,000	75,000	115,469	102,379	252,928	90,683	153,931	50,195	49,859	308,227	282,511	274,477
Virginia	4,005,964	3,947,713	3,829,525	4,874,529	5,709,773	9,017,423	9,630,219	7,583,316	5,564,985	6,068,610	7,210,949	5,985,898	8,065,546
Washington	6,993,436	10,782,537	11,087,560	10,712,941	10,953,130	9,118,095	9,698,425	11,991,928	14,779,468	12,726,589	16,415,784	23,572,042	20,929,359
West Virginia	1,804,769	1,818,077	1,873,514	1,501,719	1,611,130	279,478	305,196	1,709,742	3,335,151	2,967,206	4,141,682	3,939,496	3,183,300
Wisconsin	15,201,270	6,717,528	10,197,725	9,081,222	8,894,211	7,183,900	7,569,100	6,503,000	7,237,000	7,206,044	6,060,492	5,423,223	6,879,700
Wyoming	3,641,349	4,607,766	4,765,616	4,126,343	4,225,353	4,731,992	3,824,884	2,388,305	2,013,813	2,022,282	2,152,148	2,043,931	2,542,859
Puerto Rico <sup>c</sup>	136,021	100,000	100,000	201,685	244,845	205,623	150,000	na	na	na	na	na	na

na = not applicable; did not report to survey.

<sup>a</sup> Energy category was introduced with the FY 2010 and FY 2011 Survey of State Government Research and Development. Previously, energy-related R&D was reported primarily in Other and Environment and natural resources categories.<sup>b</sup> U.S. total reflects all 50 states and the District of Columbia.<sup>c</sup> Puerto Rico is not included in U.S. total due to its classification as a U.S. territory.**Note(s):**

State R&amp;D expenditures by function were surveyed beginning with the FY 2009 survey. State R&amp;D totals can display considerable volatility between survey years due to several national and state-specific factors. Large changes are not unusual, especially for discretionary spending items such as R&amp;D.

**Source(s):**

National Center for Science and Engineering Statistics, Survey of State Government Research and Development.

TABLE 12

## State government expenditures for health-related R&amp;D, by state: FYs 2009–21

(Dollars)

State	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
United States <sup>a</sup>	655,232,591	706,857,175	807,478,439	928,730,622	917,012,571	857,841,801	953,278,196	982,391,978	1,102,800,942	1,103,231,515	1,081,355,223	1,027,756,537	1,030,394,740
Alabama	0	0	0	0	0	1,000,000	2,829,600	0	0	980,000	1,080,000	2,000,000	2,163,596
Alaska	0	0	0	0	0	0	0	930,260	1,591,735	506,881	320,476	474,542	866,695
Arizona	27,750	8,330,000	8,330,000	8,805,168	11,203,068	8,881,971	5,294,706	9,412,703	9,980,905	7,818,486	13,843,058	11,085,857	8,467,153
Arkansas	0	0	0	479,000	806,060	75,000	726,189	3,963,571	725,427	1,152,372	3,477,448	2,813,075	200,000
California	126,845,475	148,970,628	225,037,368	253,217,501	217,140,177	216,614,046	221,214,363	199,522,966	203,217,560	287,551,776	224,834,054	171,494,281	142,503,729
Colorado	4,029,968	8,527,268	6,759,774	5,131,657	4,261,796	1,640,750	1,248,410	3,389,071	6,359,827	9,708,144	10,026,796	8,061,107	9,548,470
Connecticut	17,730,124	19,337,597	18,783,202	19,510,447	19,239,333	20,966,024	28,803,862	26,312,600	29,158,735	29,361,070	29,921,946	29,124,362	27,271,532
Delaware	0	0	0	0	0	0	0	0	0	0	0	0	0
District of Columbia	487,411	503,267	956,728	656,448	861,058	563,442	174,578	527,470	805,139	1,792,224	1,716,302	1,929,090	5,983,318
Florida	18,478,377	39,962,706	65,570,757	47,079,479	38,775,780	67,376,045	102,896,382	72,373,725	118,404,672	98,470,122	90,372,743	92,452,504	93,311,821
Georgia	0	0	0	0	0	0	0	0	0	0	0	0	0
Hawaii	0	0	0	190,000	190,000	0	0	0	0	263,750	0	0	37,500
Idaho	0	0	0	0	0	30,226	130,045	148,927	111,453	376,277	338,288	212,000	0
Illinois	4,107,400	2,596,733	680,013	4,383,094	3,550,718	1,433,534	2,552,945	2,340,975	1,797,019	217,779	15,596	399,924	295,040
Indiana	20,304,740	0	0	135,000	708,497	10,000,000	0	0	2,849,998	299,865	600,000	0	300,000
Iowa	0	0	0	0	0	0	0	56,706	79,418	0	61,000	0	0
Kansas	1,040,411	0	0	0	0	0	0	0	0	0	0	0	0
Kentucky	3,150,948	7,371,306	7,136,813	4,695,084	4,793,049	4,461,800	13,390,238	13,781,476	11,429,613	10,071,322	14,469,601	15,023,579	16,082,555
Louisiana	0	0	0	0	0	0	0	0	1,287,883	1,231,812	1,532,501	2,800,226	1,160,113
Maine	1,187,173	349,014	1,082,201	414,740	1,115,608	1,040,000	2,210,000	266,000	11,422,764	2,427,890	2,467,740	9,463,845	12,612,119
Maryland	8,801,328	17,699,478	13,611,823	17,851,235	24,603,993	26,800,000	20,500,000	23,700,000	23,800,000	23,800,000	22,520,611	24,466,432	25,100,000
Massachusetts	2,208,037	2,130,489	2,045,865	2,990,371	3,559,104	4,081,553	5,249,751	5,979,649	5,003,259	5,043,625	6,632,267	6,849,528	6,574,962
Michigan	0	0	0	0	0	0	0	2,122,805	134,052	0	88,488	0	20,000,000
Minnesota	0	0	0	0	0	2,500,000	2,500,000	56,970	0	0	0	0	0
Mississippi	0	0	0	0	0	0	0	0	0	0	0	0	0
Missouri	0	0	0	0	0	21,534	48,741	26,867	56,987	509,035	103,760	233,307	592,500
Montana	822,627	822,299	848,774	202,778	39,483	577,157	642,384	389,076	491,415	311,826	311,826	0	0
Nebraska	15,035,043	15,097,864	15,548,482	16,056,068	16,245,250	18,200,000	17,312,977	18,084,908	18,473,914	20,240,268	18,986,705	19,977,610	19,480,431
Nevada	0	0	0	0	0	0	0	0	0	0	0	0	0
New Hampshire	0	0	0	0	0	0	0	0	0	0	0	0	0
New Jersey	17,709,498	26,514,169	20,337,742	23,299,300	27,235,551	23,534,704	27,235,340	23,477,042	28,254,395	43,407,927	15,865,431	14,879,386	1,352,305
New Mexico	0	0	0	0	0	15,000	25,000	25,000	25,000	0	0	0	0
New York	280,837,508	283,069,421	282,851,404	277,519,794	270,756,889	256,559,541	243,968,723	269,492,703	284,862,343	267,111,534	315,479,125	313,857,986	289,740,653
North Carolina	0	50,000	50,000	0	0	0	7,966,618	6,899,677	3,686,679	0	778,247	3,810,296	3,665,704

TABLE 12

## State government expenditures for health-related R&amp;D, by state: FYs 2009–21

(Dollars)

State	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
North Dakota	100,000	0	0	0	0	0	0	0	0	0	29,510	349,127	5,182,820
Ohio	41,320,535	19,731,000	13,231,000	12,112,168	9,039,545	4,508,615	3,246,554	7,565,421	5,676,625	4,017,450	3,200,453	2,752,778	2,141,824
Oklahoma	5,796,835	5,049,251	5,478,209	12,107,346	14,185,074	14,455,147	14,970,721	15,661,166	16,552,610	14,673,618	16,263,121	17,420,143	17,077,727
Oregon	0	0	0	0	0	1,000,000	1,000,000	2,000,000	3,736,168	4,400,000	6,000,000	3,100,000	5,127,824
Pennsylvania	66,341,905	70,998,595	59,182,594	56,902,179	44,055,514	11,421,718	52,398,628	51,364,919	47,614,029	52,933,326	53,335,777	73,605,865	72,166,914
Rhode Island	984,944	776,356	912,363	400,000	0	305,066	179,946	307,601	351,000	299,864	150,000	139,519	411,325
South Carolina	0	1,151,294	1,794,228	1,444,209	1,176,021	461,758	152,441	140,504	2,071,908	1,422,065	14,541,188	15,991,705	10,768,594
South Dakota	0	0	0	0	0	0	0	0	0	0	0	0	0
Tennessee	0	0	0	0	0	0	0	0	0	450,000	0	0	0
Texas	123,000	123,000	15,838,498	115,648,847	155,001,396	131,883,911	149,991,410	212,222,958	251,174,470	200,381,853	204,708,613	175,905,076	222,983,844
Utah	10,409,824	12,853,867	14,602,894	18,745,639	24,346,306	8,226,438	8,531,383	4,418,669	6,739,754	4,592,665	12,780	4,850	5,350
Vermont	0	132,198	190,117	160,853	170,780	170,047	252,706	139,055	166,047	166,047	210,747	215,000	163,373
Virginia	1,560,000	611,496	4,370,815	4,273,179	1,806,000	6,113,236	6,250,104	3,723,667	3,065,856	3,458,734	3,183,007	3,829,173	4,132,097
Washington	2,418,730	13,547,879	20,997,880	22,801,588	19,586,521	11,904,246	8,364,171	0	0	1,188,578	1,188,510	1,260,394	1,367,538
West Virginia	0	0	0	0	0	179,292	179,280	566,871	892,283	1,050,330	1,296,852	712,330	293,814
Wisconsin	3,373,000	550,000	1,248,895	1,517,450	2,560,000	840,000	840,000	1,000,000	750,000	1,543,000	1,140,656	1,000,000	1,000,000
Wyoming	0	0	0	0	0	0	0	0	0	0	250,000	61,640	261,500
Puerto Rico <sup>b</sup>	6,599,988	3,050,000	3,250,000	6,259,429	5,695,724	4,036,171	3,123,280	na	na	na	na	na	na

na = not applicable; did not report to survey.

<sup>a</sup> U.S. total reflects all 50 states and the District of Columbia.<sup>b</sup> Puerto Rico is not included in U.S. total due to its classification as a U.S. territory.**Note(s):**

State R&D expenditures by function were surveyed beginning with the FY 2009 survey. State R&D totals can display considerable volatility between survey years due to several national and state-specific factors. Large changes are not unusual, especially for discretionary spending items such as R&D.

**Source(s):**

National Center for Science and Engineering Statistics, Survey of State Government Research and Development.

TABLE 13

## State government expenditures for transportation-related R&amp;D, by state: FYs 2009–21

(Dollars)

State	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
United States <sup>a</sup>	242,284,805	247,322,194	265,500,923	252,070,334	265,514,142	254,719,885	246,570,344	264,596,307	265,470,160	258,418,727	260,024,511	279,442,920	300,352,569
Alabama	3,485,318	4,730,116	4,407,856	3,348,079	2,654,296	7,237,806	9,255,656	7,658,433	6,921,982	2,014,658	3,601,526	3,601,526	2,211,001
Alaska	1,277,167	1,394,600	2,567,000	227,182	475,913	2,776,684	2,000,660	504,000	1,280,000	1,080,000	2,687,327	5,340,365	8,565,493
Arizona	2,624,700	2,175,550	1,756,700	1,817,300	1,737,800	1,261,685	1,258,900	851,449	919,757	2,500,355	1,356,182	1,473,269	3,179,987
Arkansas	881,000	1,064,332	927,990	2,057,208	1,915,324	1,269,000	1,486,000	639,945	1,266,550	1,013,231	855,437	690,108	376,215
California	40,057,000	38,136,000	37,445,000	36,897,000	35,038,000	35,560,150	35,201,005	38,340,899	35,515,719	36,225,667	34,906,443	41,248,806	47,716,505
Colorado	1,424,481	1,930,506	2,270,155	1,623,980	2,338,837	2,099,101	1,881,210	1,476,466	1,128,528	1,750,822	3,288,163	3,268,633	3,791,995
Connecticut	3,777,288	4,028,757	4,011,628	4,018,000	4,100,000	3,936,126	5,409,867	2,370,317	3,516,438	3,150,000	3,283,420	2,734,495	2,408,289
Delaware	250,000	250,000	250,000	2,404,027	1,974,596	255,213	141,621	845,618	1,293,881	1,156,679	1,100,760	1,336,168	1,167,639
District of Columbia	0	192,931	264,380	1,361,999	987,742	754,327	828,377	1,532,145	919,305	723,440	422,412	239,295	289,382
Florida	9,830,053	9,804,294	15,645,022	11,836,984	10,300,582	15,054,989	11,121,055	12,932,838	14,112,753	16,470,858	15,367,289	13,322,175	11,527,555
Georgia	4,162,887	7,723,795	10,290,663	9,012,569	8,698,341	6,095,576	3,842,272	5,089,460	5,586,082	8,738,202	8,034,229	8,599,878	6,599,041
Hawaii	2,339,180	2,672,356	561,367	881,851	1,230,056	1,148,448	1,338,452	1,023,488	786,590	595,364	802,000	487,500	5,013,530
Idaho	1,318,377	1,406,718	1,580,312	1,368,700	1,929,300	2,161,329	1,436,567	2,015,633	1,956,415	1,861,276	3,339,242	3,317,794	2,144,749
Illinois	5,369,057	7,066,133	9,287,308	7,354,832	8,719,083	9,517,493	9,602,367	10,148,743	9,969,256	7,834,288	9,458,562	9,710,698	9,430,989
Indiana	4,000,000	5,616,545	4,074,838	6,927,051	8,444,691	10,584,435	7,483,614	5,021,323	6,477,522	10,641,648	8,495,933	8,734,644	8,261,486
Iowa	6,463,700	5,770,000	6,050,000	7,638,920	9,485,810	4,581,695	5,829,951	6,645,953	4,785,941	5,543,815	5,190,691	7,228,882	6,942,156
Kansas	7,416,636	5,039,914	5,002,773	5,147,330	4,724,025	3,923,777	3,749,587	3,872,000	3,049,000	3,960,800	3,714,875	3,637,912	3,237,535
Kentucky	4,228,240	4,042,181	4,425,113	3,324,600	1,964,500	5,769,400	6,294,300	8,442,000	7,461,167	7,152,574	7,020,302	7,158,996	8,931,685
Louisiana	6,717,882	6,642,447	6,396,052	6,975,472	6,965,116	11,000,000	11,000,000	9,000,000	9,000,000	9,500,000	10,000,000	9,200,000	9,185,327
Maine	563,379	709,306	505,860	354,463	521,444	868,000	1,003,000	1,253,000	903,000	780,000	1,136,000	824,000	1,500,000
Maryland	2,209,280	3,167,924	4,080,017	1,928,111	1,778,080	1,590,096	882,171	711,454	2,011,643	2,313,219	1,735,096	3,660,436	2,211,739
Massachusetts	0	1,637,025	1,504,260	0	0	0	0	0	3,480,037	1,700,000	4,425,000	3,840,000	3,767,017
Michigan	6,103,101	4,640,000	5,125,000	8,900,000	7,700,000	5,500,000	5,500,000	6,200,000	6,820,000	5,780,534	5,132,200	6,610,319	6,812,098
Minnesota	13,908,648	7,853,451	9,222,369	7,427,179	11,089,502	11,147,618	11,558,082	13,401,308	9,925,085	10,782,862	11,092,823	11,619,600	14,081,495
Mississippi	1,518,130	1,883,735	2,463,770	4,801,812	3,300,936	288,622	212,557	1,263,531	2,106,750	1,961,803	5,991,596	4,417,666	5,542,522
Missouri	5,495,716	3,657,806	5,043,082	3,190,008	3,372,137	3,985,039	4,066,030	1,190,224	1,289,739	1,356,738	1,830,194	1,557,401	2,120,015
Montana	876,558	917,662	1,168,956	1,418,422	2,061,516	1,418,000	1,663,000	2,886,974	1,215,380	722,979	820,527	1,810,989	1,732,922
Nebraska	1,014,814	986,918	1,123,236	1,647,512	1,721,453	1,708,434	1,810,483	2,966,171	1,373,075	1,355,258	1,409,861	1,985,947	1,735,953
Nevada	1,510,607	1,048,465	1,393,048	1,119,857	1,595,463	3,257,663	2,914,364	1,554,297	1,860,066	921,936	973,452	1,298,811	1,588,437
New Hampshire	1,167,264	1,009,986	1,196,452	1,380,083	1,226,961	786,600	844,700	260,640	673,806	669,797	807,378	661,587	605,207
New Jersey	4,153,340	6,570,052	5,542,644	3,243,333	3,985,296	3,687,478	3,798,842	4,414,453	6,672,869	6,064,082	2,717,094	3,125,627	5,440,354
New Mexico	1,655,529	1,422,955	1,821,583	941,856	1,249,365	1,648,017	1,577,835	1,352,087	502,000	1,403,431	1,377,302	2,808,156	1,316,767
New York	12,445,993	13,024,897	12,191,046	6,071,256	12,838,391	9,321,647	6,850,569	10,571,211	10,836,858	14,441,199	8,842,589	9,463,758	11,189,625
North Carolina	9,000,000	9,225,000	9,500,000	8,884,000	6,548,000	5,688,066	5,534,981	6,864,896	7,395,578	8,661,785	7,959,645	8,877,335	10,882,065

TABLE 13

## State government expenditures for transportation-related R&amp;D, by state: FYs 2009–21

(Dollars)

State	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
North Dakota	963,611	598,349	578,559	569,931	584,875	596,824	407,000	899,987	1,902,328	2,592,127	1,336,855	3,635,470	1,204,774
Ohio	10,308,223	13,111,393	17,281,878	20,745,056	22,035,664	16,507,471	10,142,447	12,713,029	12,015,510	7,078,867	6,886,766	6,249,317	6,276,848
Oklahoma	3,818,308	3,845,728	4,101,968	2,497,372	4,030,997	4,873,928	3,817,249	4,554,002	4,365,557	5,700,014	6,849,411	6,480,977	4,963,501
Oregon	2,705,721	2,481,963	2,494,162	2,004,957	2,639,702	2,290,000	2,938,000	1,960,000	3,120,794	3,445,111	5,411,595	2,460,479	3,638,363
Pennsylvania	5,815,684	2,979,258	3,919,294	4,034,828	3,842,683	3,095,997	2,438,279	3,889,274	2,714,547	1,714,300	3,913,899	3,934,697	5,576,553
Rhode Island	446,433	283,838	445,082	334,093	541,470	1,576,999	1,436,793	183,000	1,164,842	0	1,225,000	0	185,472
South Carolina	2,476,225	1,384,632	1,581,676	1,967,442	1,942,501	1,594,110	2,160,647	2,225,883	2,497,762	2,178,465	2,159,379	1,851,635	2,646,350
South Dakota	2,069,310	2,098,898	2,000,267	1,477,644	1,811,337	1,798,604	1,236,834	1,722,981	1,550,351	1,670,091	1,222,798	1,321,098	1,178,029
Tennessee	3,752,587	1,064,262	3,286,726	3,369,468	2,505,628	3,780,473	3,256,696	2,911,522	3,528,759	2,659,034	3,107,664	2,650,589	6,683,667
Texas	22,535,124	25,071,272	23,851,121	22,715,697	20,671,237	13,640,184	19,803,109	28,049,226	26,213,677	17,247,836	17,294,677	20,694,167	20,505,965
Utah	800,000	2,600,000	2,600,000	2,030,000	2,430,000	2,293,133	1,470,900	2,375,221	3,955,036	3,374,087	3,435,069	3,141,698	3,315,176
Vermont	738,707	666,981	493,856	705,916	836,839	1,007,865	793,005	698,263	924,025	1,625,848	2,211,617	1,081,391	1,097,307
Virginia	9,443,286	8,931,272	8,469,431	9,974,446	14,128,627	12,779,955	17,554,526	16,692,096	15,877,244	15,739,313	12,889,933	19,782,914	18,505,828
Washington	2,285,130	5,402,675	5,095,830	4,893,607	4,257,879	5,450,000	5,450,000	5,607,000	4,852,000	4,852,000	5,596,000	4,890,000	7,528,900
West Virginia	950,000	5,100,000	5,583,425	2,518,000	2,729,000	2,477,760	2,193,922	2,690,000	3,935,000	2,400,000	2,124,711	2,028,215	2,257,746
Wisconsin	5,030,145	3,572,299	4,115,612	4,828,319	6,215,294	3,843,195	3,106,681	3,038,585	2,884,850	4,084,993	3,754,645	4,106,692	2,176,168
Wyoming	900,986	687,017	506,556	1,872,582	1,637,853	1,230,873	986,181	1,085,282	955,106	1,227,341	1,428,942	1,240,805	1,105,147
Puerto Rico <sup>b</sup>	200,000	180,000	180,000	200,000	200,000	560,000	560,000	na	na	na	na	na	na

na = not applicable; did not report to survey.

<sup>a</sup> U.S. total reflects all 50 states and the District of Columbia.<sup>b</sup> Puerto Rico is not included in U.S. total due to its classification as a U.S. territory.**Note(s):**

State R&D expenditures by function were surveyed beginning with the FY 2009 survey. State R&D totals can display considerable volatility between survey years due to several national and state-specific factors. Large changes are not unusual, especially for discretionary spending items such as R&D.

**Source(s):**

National Center for Science and Engineering Statistics, Survey of State Government Research and Development.

TABLE 14

## State government R&amp;D expenditures for other functions not separately identified, by state: FYs 2009–21

(Dollars)

State	2009 <sup>a</sup>	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
United States <sup>b</sup>	324,394,437	143,020,206	194,003,452	168,806,778	175,751,245	161,254,411	164,001,971	175,314,245	223,723,280	221,761,855	170,319,834	155,473,832	181,641,704
Alabama	1,749,771	472,892	475,402	336,920	144,180	5,801,167	5,743,808	4,156,899	3,954,359	4,767,179	5,422,102	14,046,688	19,074,334
Alaska	0	0	0	0	0	0	0	0	0	0	0	0	0
Arizona	134,587	742,869	361,685	0	0	0	0	0	0	139,859	0	559,621	610,954
Arkansas	3,482,899	4,343,045	1,994,713	557,653	378,064	367,653	635,381	3,046,876	3,391,597	2,517,653	967,697	853,429	1,525,000
California	78,620,000	2,798,033	1,657,802	3,914,236	3,532,072	15,078,629	10,694,395	19,762,981	20,665,387	18,239,659	16,500,248	11,490,937	12,068,890
Colorado	661,000	937,051	934,066	902,386	989,741	1,304,741	1,945,853	2,282,691	5,291,487	7,938,023	8,567,133	7,041,385	8,222,524
Connecticut	0	0	0	0	0	6,275,000	5,126,590	6,067,653	9,471,359	8,441,757	9,579,524	7,538,344	5,894,102
Delaware	0	0	0	0	0	0	0	0	0	0	0	0	0
District of Columbia	0	0	0	0	0	78,502	138,118	0	0	87,400	83,698	252,283	34,566
Florida	860,000	295,290	1,961,528	933,175	2,205,335	0	0	0	0	0	0	88,406	100,000
Georgia	2,500,000	200,000	200,000	400,000	0	0	0	0	0	0	0	31,813	0
Hawaii	6,906,722	0	0	0	0	667,972	773,071	846,154	0	1,054,083	1,436,565	1,806,130	203,500
Idaho	0	0	0	0	0	0	0	211,098	0	368,772	436,773	242,114	376,305
Illinois	19,540	6,700,823	7,239,804	6,100,402	5,504,428	8,151,913	14,189,053	4,054,706	3,774,000	6,474,099	4,084,838	2,804,910	2,468,113
Indiana	21,423,543	1,128,287	1,208,526	413,937	360,000	2,061,287	1,773,787	7,092,309	7,078,946	6,124,290	2,851,256	520,000	678,500
Iowa	31,512,943	105,480	710,999	22,475	22,484	522,607	457,808	431,450	421,109	497,171	337,061	417,493	472,395
Kansas	2,698,381	0	0	0	0	107,479	1,125,847	1,307,150	2,097,137	1,753,805	996,465	998,756	998,754
Kentucky	3,684,117	2,734,995	3,382,158	675,726	630,162	984,267	1,611,896	4,234,982	6,190,489	561,098	0	1,651,000	1,413,739
Louisiana	0	0	577,544	862,067	573,126	0	0	0	13,674,007	13,078,673	8,712,529	4,259,471	9,075,190
Maine	2,178,872	4,104,324	3,609,925	2,954,810	2,183,936	2,000,000	4,268,000	3,097,000	3,560,926	4,849,586	9,750,028	8,348,636	8,814,847
Maryland	2,893,023	1,300,000	1,300,000	547,102	1,453,129	0	0	800,000	810,000	2,166,739	1,686,554	2,658,368	0
Massachusetts	0	0	486,173	0	0	0	0	0	2,972,231	3,425,000	6,870,000	6,775,000	5,169,336
Michigan	0	0	0	0	0	0	0	0	0	0	0	0	0
Minnesota	192,945	0	0	0	0	0	0	0	0	0	0	0	0
Mississippi	0	100,000	412,000	0	0	0	0	0	0	0	0	0	0
Missouri	0	0	0	0	0	0	0	0	0	0	0	0	0
Montana	2,430,542	931,417	213,841	7,000	12,600	139,144	271,145	7,934,963	7,713,943	382,684	382,684	0	0
Nebraska	40,000	0	0	1,048,383	1,282,862	197,500	97,387	0	0	200,000	157,763	1,066,000	1,072,155
Nevada	0	0	0	0	0	0	0	4,078,492	9,131,829	6,120,737	6,584,759	3,055,388	1,958,195
New Hampshire	500,000	475,000	500,000	384,000	123,000	300,000	300,000	374,999	449,146	7,382,570	7,400,216	7,333,128	7,301,367
New Jersey	310,000	750,000	0	0	0	0	0	0	0	0	3,111,979	3,543,318	3,131,288
New Mexico	0	0	0	538,787	207,445	1,156,400	1,237,700	1,800,000	2,663,461	146,155	17,000	103,000	108,053
New York	43,358,014	34,300,000	43,500,000	29,975,639	46,870,153	48,029,330	49,698,758	47,586,721	48,217,604	48,216,789	28,702,682	26,276,536	15,675,047
North Carolina	916,162	265,000	261,000	2,689,346	3,017,144	500,000	4,396,029	3,692,598	104,672	302,439	290,671	480,186	891,454

TABLE 14

**State government R&D expenditures for other functions not separately identified, by state: FYs 2009–21**

(Dollars)

State	2009 <sup>a</sup>	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
North Dakota	13,828,867	133,500	263,000	164,400	372,000	0	0	0	0	0	0	223,743	247,149
Ohio	63,460,096	12,904,375	43,062,744	42,699,340	66,895,354	30,550,059	27,255,184	17,617,411	14,184,490	16,412,659	9,405,378	4,831,720	6,851,921
Oklahoma	2,152,790	9,017,136	6,460,924	4,088,727	2,419,202	2,268,709	2,263,698	2,970,545	3,770,097	742,842	1,054,738	1,110,061	29,777,125
Oregon	0	0	0	0	0	1,835,000	1,800,000	5,719,447	3,300,000	5,890,071	6,725,794	5,922,851	8,848,396
Pennsylvania	13,490,838	5,289,000	4,000,000	8,021,714	5,728,373	8,754,500	8,114,286	4,700,000	32,650,000	36,950,000	10,905,196	11,974,987	1,874,000
Rhode Island	0	0	0	200,000	0	479,906	107,997	1,434,966	778,812	489,904	580,675	540,100	562,327
South Carolina	518,619	33,179,054	35,190,338	22,471,369	7,888,340	2,056,900	927,325	2,718,162	3,076,392	569,623	937,457	300,983	1,610,976
South Dakota	0	0	0	0	0	0	0	0	0	0	0	0	0
Tennessee	0	0	0	61,313	58,348	0	0	2,830,000	5,042,000	4,965,000	3,319,120	3,363,577	3,370,514
Texas	0	0	0	0	0	0	0	0	0	0	0	0	0
Utah	8,082,988	1,650,000	1,950,000	0	0	5,056,613	3,049,085	4,547,529	0	0	0	0	0
Vermont	0	0	0	0	0	0	415,612	0	0	0	0	90,998	0
Virginia	6,846,941	2,883,797	1,928,981	4,218,088	2,342,026	4,009,135	2,826,630	1,865,685	1,909,264	2,409,069	3,552,012	3,329,588	10,681,336
Washington	0	0	0	3,046,202	3,370,552	2,967,873	3,285,711	3,282,013	3,235,997	3,354,053	3,344,321	3,279,219	3,408,658
West Virginia	7,602,237	14,453,838	25,129,599	29,251,581	14,435,189	7,422,125	7,341,817	1,577,385	1,574,886	1,564,077	1,776,758	2,782,045	2,238,929
Wisconsin	1,338,000	825,000	5,030,700	1,320,000	2,752,000	2,130,000	2,130,000	2,000,000	1,500,000	2,141,000	3,000,000	2,750,000	3,625,125
Wyoming	0	0	0	0	0	0	0	1,191,380	1,067,653	1,037,337	788,160	731,620	1,206,640
Puerto Rico <sup>c</sup>	1,731,697	601,391	587,869	350,654	940,348	795,212	757,107	na	na	na	na	na	na

na = not applicable; did not report to survey.

<sup>a</sup> Energy category was introduced with the FY 2010 and FY 2011 Survey of State Government Research and Development. Previously, energy-related R&D was reported primarily in Other and Environment and natural resources categories.<sup>b</sup> U.S. total reflects all 50 states and the District of Columbia.<sup>c</sup> Puerto Rico is not included in U.S. total due to its classification as a U.S. territory.**Note(s):**

State R&amp;D expenditures by function were surveyed beginning with the FY 2009 survey. State R&amp;D totals can display considerable volatility between survey years due to several national and state-specific factors. Large changes are not unusual, especially for discretionary spending items such as R&amp;D. Other R&amp;D functions include, but are not limited to, corrections, criminal justice, education, forensic science, labor, public safety, and social services.

**Source(s):**

National Center for Science and Engineering Statistics, Survey of State Government Research and Development.



TABLE 15

## State government expenditures for R&amp;D funded from federal sources, by state: FYs 2006–21

(Dollars)

State	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
United States <sup>a</sup>	255,400,683	279,267,900	NA	427,193,729	535,196,259	566,896,209	541,892,652	525,458,601	483,187,498	482,539,820	509,239,249	540,645,678	532,149,801	560,855,931	607,588,752	612,123,519
Alabama	3,636,117	4,968,557	NA	8,118,750	11,332,512	12,632,066	12,966,760	6,682,218	7,543,639	8,931,316	13,217,714	11,383,605	8,523,193	8,126,730	6,774,915	6,067,898
Alaska	5,647,941	4,945,800	NA	2,956,434	2,766,100	4,548,900	206,004	395,154	3,871,691	2,812,832	1,709,208	2,419,834	2,275,990	4,540,940	6,143,917	11,068,861
Arizona	5,659,756	5,436,201	NA	6,302,846	7,013,167	8,138,077	12,004,585	14,307,201	8,490,200	8,321,298	5,300,664	3,437,562	4,329,332	2,973,198	3,766,942	5,070,319
Arkansas	2,066,318	1,224,152	NA	3,578,975	2,473,992	4,465,149	8,031,452	8,588,120	5,015,200	6,238,800	7,575,244	6,581,901	6,295,667	5,674,217	4,966,349	983,181
California	27,867,854	13,491,703	NA	21,031,780	23,698,863	21,016,057	22,646,488	20,235,896	19,504,949	20,343,864	22,209,845	29,772,940	33,014,863	28,877,496	22,657,670	28,494,592
Colorado	4,044,780	4,684,285	NA	4,612,094	6,363,519	5,930,771	5,170,087	6,017,553	4,133,204	3,668,094	3,112,212	4,193,326	4,897,272	7,347,294	6,659,704	6,546,643
Connecticut	6,735,926	6,906,959	NA	6,507,528	11,067,425	11,158,166	11,904,666	13,751,916	12,150,832	13,036,055	13,926,972	13,638,682	13,800,338	15,827,200	15,873,807	15,879,739
Delaware	277,211	844,200	NA	566,184	796,963	847,732	1,687,502	1,684,136	691,432	862,471	1,210,192	1,548,842	1,742,603	1,572,165	1,476,864	1,355,648
District of Columbia	938,460	1,621,000	NA	487,411	657,612	1,168,232	1,712,507	1,467,091	1,277,405	1,035,397	848,770	1,249,571	2,359,043	2,025,098	2,560,026	6,245,794
Florida	9,887,481	9,439,483	NA	13,605,050	27,629,492	26,588,661	26,701,503	25,537,040	25,536,046	22,302,689	21,594,312	26,259,352	26,978,471	24,512,331	30,382,990	25,068,596
Georgia	5,545,780	2,763,180	NA	2,918,071	5,018,230	6,919,140	8,600,759	10,454,723	10,548,856	8,055,609	11,377,179	12,488,470	16,868,348	16,171,100	14,101,354	17,725,257
Hawaii	8,578,749	17,593,176	NA	10,716,399	11,483,268	10,343,631	8,180,435	9,594,181	9,214,342	6,940,018	13,543,956	8,424,072	6,649,466	3,667,466	7,330,911	8,334,826
Idaho	652,451	1,276,787	NA	3,986,193	4,716,185	4,925,050	6,959,273	7,971,555	8,208,360	7,130,703	8,670,010	8,699,138	7,910,743	10,596,005	12,620,448	9,698,956
Illinois	1,521,332	1,990,000	NA	3,414,851	4,851,170	7,033,966	5,421,531	6,176,896	7,032,929	6,913,774	9,304,530	6,902,678	5,330,301	6,900,290	7,641,755	7,152,110
Indiana	4,428,024	4,017,815	NA	4,681,045	6,559,869	5,428,287	6,187,545	7,252,510	9,738,835	7,358,178	5,189,705	5,270,053	6,000,000	6,100,000	7,126,764	6,875,499
Iowa	4,388,234	2,424,713	NA	1,949,200	4,210,203	3,391,265	3,370,143	3,960,205	5,481,288	5,615,415	5,714,200	4,745,317	5,823,675	5,215,707	7,734,114	4,841,194
Kansas	4,864,624	4,107,233	NA	5,619,610	3,625,557	3,675,258	3,356,770	2,983,235	2,360,850	2,138,068	4,036,102	4,875,065	5,768,271	5,465,441	6,612,890	8,343,437
Kentucky	6,823,866	6,315,996	NA	4,755,197	5,263,230	5,873,846	6,170,250	4,316,909	5,266,569	5,935,717	8,070,770	8,364,540	7,475,368	6,577,173	6,273,543	7,548,030
Louisiana	6,382,762	4,125,505	NA	4,539,936	4,929,033	5,536,833	7,295,467	7,412,982	9,900,000	10,012,449	14,853,950	24,199,118	21,892,547	21,317,872	19,251,675	19,523,775
Maine	0	65,000	NA	1,304,294	1,836,035	2,439,296	1,167,751	1,158,805	2,038,174	2,952,778	3,557,605	3,276,573	3,057,355	3,830,784	4,162,595	12,263,843
Maryland	5,053,001	7,228,749	NA	4,234,200	1,643,939	1,551,214	1,888,327	1,944,190	1,782,810	1,649,862	940,143	2,557,338	4,220,626	2,924,655	4,016,621	2,005,962
Massachusetts	1,125,989	1,200,525	NA	379,847	814,609	1,209,020	1,328,828	1,803,176	5,480,624	6,490,647	6,615,788	8,499,880	6,838,085	10,952,465	11,397,894	6,047,993
Michigan	4,127,849	3,910,171	NA	6,054,036	6,885,798	7,110,347	8,187,688	8,454,896	8,417,785	8,346,295	9,760,802	9,352,419	5,774,656	4,579,680	7,184,297	6,912,826
Minnesota	2,002,686	3,083,506	NA	4,864,789	3,457,202	3,782,840	3,718,840	3,652,840	4,827,540	4,814,486	6,772,202	4,757,077	4,443,333	6,020,868	6,272,311	7,689,513
Mississippi	2,285,202	6,272,085	NA	2,926,523	5,671,257	5,454,392	5,174,275	3,937,121	971,637	618,485	2,036,701	3,479,041	5,695,540	8,869,165	8,768,392	9,061,908
Missouri	5,473,754	4,962,973	NA	5,556,085	3,161,177	4,103,709	3,702,943	3,521,812	4,887,547	5,641,298	3,684,515	3,979,736	4,114,609	5,102,079	5,750,412	4,240,386
Montana	2,913,589	1,837,440	NA	2,249,403	2,659,895	2,868,954	2,907,039	3,463,568	3,254,014	3,672,296	4,640,449	5,546,645	4,365,342	4,577,231	6,777,890	5,600,354
Nebraska	1,940,130	1,275,191	NA	1,162,077	878,999	1,071,515	1,900,163	1,973,878	1,607,015	1,668,537	2,703,884	1,406,169	1,681,576	4,371,507	6,818,177	6,288,269
Nevada	505,000	1,115,700	NA	1,242,142	688,933	320,608	469,512	1,001,898	2,771,066	2,515,000	1,752,237	2,091,202	1,147,161	2,370,078	1,606,707	2,001,509
New Hampshire	1,793,026	1,599,228	NA	937,998	896,396	1,081,852	1,302,649	1,071,409	959,521	1,113,769	683,400	874,200	694,217	715,823	639,820	631,502
New Jersey	2,927,179	4,040,714	NA	4,293,720	3,735,882	4,387,432	3,628,894	3,989,987	3,453,756	4,041,326	4,398,146	6,367,385	5,773,046	2,890,436	3,299,908	5,466,394
New Mexico	0	538,337	NA	1,324,423	1,072,611	1,443,195	1,434,849	1,592,483	2,086,119	1,966,767	1,959,974	1,325,804	2,201,370	2,415,620	4,238,566	2,152,671
New York	11,175,919	7,858,707	NA	160,779,049	175,534,885	174,021,455	156,066,229	154,054,612	162,053,306	150,683,260	142,916,034	153,685,522	150,807,413	156,961,125	173,176,058	166,507,446
North Carolina	8,043,625	13,118,979	NA	8,477,435	10,223,740	11,187,114	7,904,917	6,075,886	6,418,931	15,605,925	15,392,504	7,949,309	9,085,073	8,477,781	9,125,937	11,005,615

TABLE 15

## State government expenditures for R&amp;D funded from federal sources, by state: FYs 2006–21

(Dollars)

State	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
North Dakota	5,957,704	3,713,936	NA	1,895,456	575,654	557,822	540,086	564,878	1,199,176	1,020,728	1,172,763	2,327,432	2,965,210	2,299,808	4,025,187	6,863,870
Ohio	8,767,534	8,253,286	NA	5,141,853	3,351,457	4,455,517	6,415,795	10,584,324	6,979,454	6,437,833	9,624,514	9,889,818	9,948,825	8,126,122	8,463,693	8,732,356
Oklahoma	643,333	3,296,216	NA	5,120,111	5,229,705	6,138,385	5,283,506	8,289,178	8,986,041	7,578,340	8,390,649	11,350,041	8,183,905	10,192,859	7,922,136	7,560,791
Oregon	2,245,190	2,470,211	NA	3,957,639	12,870,466	14,753,575	17,582,132	16,942,402	9,815,170	10,390,644	9,900,748	11,365,484	13,498,683	17,340,000	11,978,580	14,233,548
Pennsylvania	4,278,736	5,321,876	NA	5,975,911	5,882,402	6,652,868	6,442,990	6,002,259	5,353,083	4,830,151	5,686,837	7,498,785	6,801,366	9,903,377	19,656,077	10,315,593
Rhode Island	150,000	403,939	NA	396,154	281,728	515,480	487,305	664,190	1,251,398	1,114,694	1,361,000	1,470,052	852,644	2,473,315	1,918,239	6,631,735
South Carolina	19,731,986	29,773,259	NA	22,877,576	59,873,605	71,204,639	59,056,716	33,931,311	16,290,802	20,114,487	20,737,825	23,646,742	24,143,358	23,400,794	30,291,219	27,721,413
South Dakota	3,011,796	3,847,153	NA	3,522,778	3,145,143	2,882,410	2,618,318	2,840,315	1,427,976	1,003,921	1,255,737	909,739	1,150,602	754,880	752,592	725,396
Tennessee	4,658,000	3,638,000	NA	3,002,070	851,410	2,985,145	3,594,115	2,906,011	3,368,748	2,903,575	5,128,836	5,755,973	5,385,899	5,112,715	4,792,328	7,551,808
Texas	20,318,659	19,853,357	NA	22,174,250	21,943,248	21,488,561	20,949,356	20,382,696	17,280,822	21,106,336	28,647,673	28,163,945	20,766,503	21,003,405	23,192,709	23,447,625
Utah	1,800,000	1,880,823	NA	5,593,015	20,724,230	20,687,819	21,153,987	25,727,343	755,484	1,077,198	807,539	1,711,697	1,355,017	2,294,696	1,721,014	1,701,485
Vermont	1,282,280	783,845	NA	610,565	1,100,865	1,184,957	1,121,698	1,240,063	1,583,729	1,183,900	905,065	940,123	1,647,291	2,225,472	1,119,199	1,081,618
Virginia	6,387,630	9,427,028	NA	11,409,211	9,370,939	9,735,857	9,710,044	8,149,554	12,804,594	13,040,444	10,654,905	9,141,544	9,633,966	12,948,118	14,998,852	19,427,277
Washington	7,728,621	8,091,640	NA	5,925,432	9,841,190	9,420,257	8,462,965	8,292,342	11,078,789	12,398,340	11,677,113	9,374,759	11,948,543	14,915,365	14,747,139	17,162,043
West Virginia	2,663,801	5,008,707	NA	3,733,032	7,830,732	6,157,841	8,139,084	7,256,479	6,299,975	7,333,474	3,729,381	6,799,242	6,681,206	7,579,295	6,903,375	5,247,993
Wisconsin	4,772,502	6,316,820	NA	8,656,553	7,890,044	15,611,863	9,632,605	13,741,242	9,388,919	9,471,310	8,658,738	8,233,839	6,971,498	9,448,498	8,358,684	5,893,866
Wyoming	1,688,296	10,903,754	NA	1,068,548	815,693	809,183	1,345,319	1,457,932	2,346,866	2,100,967	1,620,007	2,464,097	2,380,392	2,290,192	3,555,506	3,124,556
Puerto Rico <sup>b</sup>	103,503	0	NA	4,946,080	1,702,000	1,850,000	4,070,151	3,931,918	1,489,553	1,561,588	na	na	na	na	na	na

na = not applicable; did not report to survey. NA = not available; survey was not conducted for FY 2008.

<sup>a</sup> U.S. total reflects all 50 states and the District of Columbia.<sup>b</sup> Puerto Rico is not included in U.S. total due to its classification as a U.S. territory.**Note(s):**

State R&amp;D totals can display considerable volatility between survey years due to several national and state-specific factors. Large changes are not unusual, especially for discretionary spending items such as R&amp;D.

**Source(s):**

National Center for Science and Engineering Statistics, Survey of State Government Research and Development.

TABLE 16

## State government expenditures for R&amp;D funded from federal sources, by state and federal agency: FY 2021

(Dollars)

State	Total federal	DOC	DOD	DOE	DOI	DOT	ED	EPA	HHS	NSF	USDA	Other <sup>a</sup>
United States <sup>b</sup>	612,123,519	19,551,988	8,466,077	24,977,083	104,838,922	193,239,062	7,347,231	5,619,101	186,336,216	7,680,678	26,306,316	27,760,845
Alabama	6,067,898	216,374	275,624	138,848	2,649,550	1,958,301	247,000	0	0	522,916	59,285	0
Alaska	11,068,861	0	0	0	2,028,593	8,285,625	0	662,537	0	0	0	92,106
Arizona	5,070,319	0	0	0	1,611,566	2,543,989	0	0	0	0	914,764	0
Arkansas	983,181	0	0	0	762,209	220,972	0	0	0	0	0	0
California	28,494,592	0	0	0	711,415	21,074,351	2,702,614	627,926	3,068,462	0	54,964	254,860
Colorado	6,546,643	0	23,575	0	2,441,788	3,274,866	0	70,974	0	0	614,541	120,899
Connecticut	15,879,739	0	32,761	0	5,822,801	2,109,918	0	0	4,676,381	14,459	3,223,419	0
Delaware	1,355,648	0	0	0	403,085	841,736	0	0	0	23,124	0	87,703
District of Columbia	6,245,794	0	0	0	0	243,025	0	0	5,701,269	0	0	301,500
Florida	25,068,596	5,835,230	427,079	63,058	6,955,174	5,360,199	0	993,952	0	20,465	5,258,768	154,671
Georgia	17,725,257	252,101	0	11,369,004	458,702	5,645,450	0	0	0	0	0	0
Hawaii	8,334,826	0	2,188,265	2,000,000	0	3,517,533	0	0	115,656	0	513,372	0
Idaho	9,698,956	0	0	4,232,852	3,132,880	1,881,821	0	115,127	0	0	336,276	0
Illinois	7,152,110	0	0	0	0	7,152,110	0	0	0	0	0	0
Indiana	6,875,499	0	0	0	166,962	6,428,537	0	0	0	0	280,000	0
Iowa	4,841,194	0	0	0	1,762,651	2,911,744	0	0	0	0	0	166,799
Kansas	8,343,437	0	0	0	6,113,806	2,177,974	0	51,657	0	0	0	0
Kentucky	7,548,030	0	0	0	1,412,298	6,135,732	0	0	0	0	0	0
Louisiana	19,523,775	0	0	1,257,316	4,347,706	0	0	0	0	4,869,444	0	9,049,309
Maine	12,263,843	1,610,540	0	0	1,879,359	1,200,000	0	0	7,438,983	134,961	0	0
Maryland	2,005,962	114,626	0	0	122,916	1,768,420	0	0	0	0	0	0
Massachusetts	6,047,993	218,223	566,930	0	447,605	3,183,706	0	22,369	1,609,160	0	0	0
Michigan	6,912,826	0	0	0	22,670	5,938,761	0	364,565	0	0	586,830	0
Minnesota	7,689,513	0	0	0	1,224,022	5,764,839	0	0	0	0	700,652	0
Mississippi	9,061,908	1,465,367	0	0	1,307,041	4,869,891	0	0	0	0	152,264	1,267,345
Missouri	4,240,386	0	451,011	0	1,626,841	1,650,453	0	87,260	0	0	224,821	200,000
Montana	5,600,354	0	0	0	2,863,513	1,239,894	0	9,304	0	0	1,465,456	22,187
Nebraska	6,288,269	0	0	0	4,198,454	1,387,584	0	0	0	0	702,231	0
Nevada	2,001,509	0	0	0	0	1,824,445	0	0	0	0	177,064	0
New Hampshire	631,502	0	0	0	0	574,966	0	0	0	0	56,536	0
New Jersey	5,466,394	0	0	0	311,619	4,437,628	0	578,838	8,540	0	0	129,769
New Mexico	2,152,671	0	0	0	593,995	1,449,219	0	109,457	0	0	0	0
New York	166,507,446	390,412	3,439,428	0	970,305	4,424,437	0	0	149,350,044	504,389	2,330,465	5,097,966
North Carolina	11,005,615	718,568	0	0	0	9,717,445	0	149,727	0	0	0	419,875

TABLE 16

**State government expenditures for R&D funded from federal sources, by state and federal agency: FY 2021**

(Dollars)

State	Total federal	DOC	DOD	DOE	DOI	DOT	ED	EPA	HHS	NSF	USDA	Other <sup>a</sup>
North Dakota	6,863,870	0	0	0	801,402	1,071,666	0	0	0	0	0	4,990,802
Ohio	8,732,356	47,539	0	0	1,474,561	4,994,556	215,700	0	2,000,000	0	0	0
Oklahoma	7,560,791	0	0	0	1,480,987	3,753,809	0	207,380	1,791,100	0	327,515	0
Oregon	14,233,548	429,124	773,220	4,018,865	4,642,022	2,992,484	65,263	0	792,480	0	74,587	445,503
Pennsylvania	10,315,593	0	0	0	5,164,024	4,366,553	0	510,852	0	0	274,164	0
Rhode Island	6,631,735	663,904	0	0	5,897,831	70,000	0	0	0	0	0	0
South Carolina	27,721,413	6,867,919	255,427	143,919	11,676,814	2,111,072	0	200,294	6,217,929	0	248,039	0
South Dakota	725,396	0	0	0	0	723,428	0	0	0	1,968	0	0
Tennessee	7,551,808	0	0	0	113,372	5,346,933	2,086,399	5,104	0	0	0	0
Texas	23,447,625	0	0	0	4,319,258	16,421,173	0	0	1,131,209	0	991,482	584,503
Utah	1,701,485	0	0	0	0	1,701,335	0	0	150	0	0	0
Vermont	1,081,618	0	0	0	0	918,245	0	0	163,373	0	0	0
Virginia	19,427,277	191,239	0	0	3,074,063	7,652,026	2,030,255	157,739	610,414	0	1,578,115	4,133,426
Washington	17,162,043	530,822	32,757	1,189,675	4,240,845	5,537,600	0	369,239	1,494,381	0	3,525,102	241,622
West Virginia	5,247,993	0	0	70,699	1,713,843	1,707,814	0	0	166,685	1,588,952	0	0
Wisconsin	5,893,866	0	0	0	2,488,100	1,793,444	0	324,800	0	0	1,287,522	0
Wyoming	3,124,556	0	0	492,847	1,402,274	881,353	0	0	0	0	348,082	0

DOC = Department of Commerce; DOD = Department of Defense; DOE = Department of Energy; DOI = Department of the Interior; DOT = Department of Transportation; ED = Department of Education; EPA = Environmental Protection Agency; HHS = Department of Health and Human Services; NSF = National Science Foundation; USDA = Department of Agriculture.

<sup>a</sup> Other includes the Departments of Housing and Urban Development, Homeland Security, Justice, Labor, Treasury, and Veterans Affairs; National Aeronautics and Space Administration; and others.

<sup>b</sup> U.S. total reflects all 50 states and the District of Columbia.

**Note(s):**

State R&D totals can display considerable volatility between survey years due to several national and state-specific factors. Large changes are not unusual, especially for discretionary spending items such as R&D.

**Source(s):**

National Center for Science and Engineering Statistics, Survey of State Government Research and Development, FY 2021.

TABLE 17

## State agency expenditures for R&amp;D and R&amp;D plant, by state, department or agency, and R&amp;D performer: FY 2021

(Dollars)

State and department or agency	R&D performers <sup>a</sup>			R&D plant <sup>b</sup>
	All	Intramural	Extramural	
United States <sup>c</sup>	2,471,471,226	673,691,209	1,797,780,017	29,269,916
Alabama	29,812,345	17,295,499	12,516,846	0
Commerce, Department of	3,000,000	0	3,000,000	0
Conservation and Natural Resources, Department of; Wildlife and Freshwater Fisheries Division	2,300,326	707,371	1,592,955	0
Economic & Community Affairs, Department of	533,590	0	533,590	0
Education, Department of	13,196,000	12,449,000	747,000	0
Forensic Sciences, Department of	272,635	272,635	0	0
Geological Survey	2,690,719	2,690,719	0	0
Marine Environmental Science Consortium, Dauphin Island Sea Lab	1,175,774	1,175,774	0	0
Supercomputer Authority	4,432,300	0	4,432,300	0
Transportation, Department of	2,211,001	0	2,211,001	0
Alaska	19,671,388	13,677,498	5,993,890	0
Environmental Conservation, Department of	866,695	38,918	827,777	0
Housing Finance Corporation	500,000	0	500,000	0
Natural Resources, Department of; Division of Geological and Geophysical Surveys	9,086,400	9,086,400	0	0
Railroad Corporation	6,685,193	3,999,080	2,686,113	0
Seafood Marketing Institute	26,000	0	26,000	0
Transportation and Public Facilities, Department of	2,507,100	553,100	1,954,000	0
Arizona	15,011,508	3,522,494	11,489,014	0
Agriculture, Department of	1,167,546	0	1,167,546	0
Game and Fish Department	1,585,868	1,205,047	380,821	0
Health Services, Department of	8,467,153	0	8,467,153	0
Juvenile Corrections, Department of	610,954	610,954	0	0
Transportation, Department of	3,179,987	1,706,493	1,473,494	0
Arkansas	9,908,767	170,429	9,738,338	0
Agriculture, Department of	152,420	0	152,420	0
Beef Council	60,406	0	60,406	0
Corn and Grain Sorghum Promotion Board	992,000	0	992,000	0
Economic Development Commission	2,075,000	0	2,075,000	0
Game and Fish Commission	872,648	0	872,648	0
Midwest Dairy Association, Arkansas Division	9,700	0	9,700	0
Natural Heritage Commission	195,378	145,031	50,347	0
Rice Research and Promotion Board	2,775,000	0	2,775,000	0
Soybean Promotion Board	2,400,000	0	2,400,000	0
Transportation, Department of	276,215	25,398	250,817	0
Wheat Promotion Board	100,000	0	100,000	0
California	523,819,635	81,309,690	442,509,945	0
Air Resources Board	16,703,318	9,600,011	7,103,307	0
Children and Families Commission (First 5 California)	4,493,407	0	4,493,407	0
Conservation, Department of	1,508,933	502,000	1,006,933	0
Corrections and Rehabilitation, Department of	1,139,419	0	1,139,419	0
Covered California	3,793,141	0	3,793,141	0
Dairy Council	18,672	0	18,672	0
Delta Stewardship Council	4,093,320	0	4,093,320	0
Energy Commission	230,900,000	23,000,000	207,900,000	0
Environmental Health Hazard Assessment, Office of	17,522,940	16,750,976	771,964	0
Food and Agriculture, Department of	4,686,177	0	4,686,177	0
Forestry and Fire Protection, Department of	5,500,000	0	5,500,000	0

TABLE 17

## State agency expenditures for R&amp;D and R&amp;D plant, by state, department or agency, and R&amp;D performer: FY 2021

(Dollars)

State and department or agency	R&D performers <sup>a</sup>			R&D plant <sup>b</sup>
	All	Intramural	Extramural	
Horse Racing Board	695,130	0	695,130	0
Housing and Community Development, Department of	150,000	0	150,000	0
Institute for Regenerative Medicine	95,739,916	0	95,739,916	0
Mental Health Services Oversight and Accountability Commission	2,500,000	0	2,500,000	0
Motor Vehicles, Department of	1,551,423	1,551,423	0	0
Parks And Recreation, Department of	1,500,000	0	1,500,000	0
Pesticide Regulation, Department of	11,642,098	9,087,241	2,554,857	0
Public Health, Department of	6,089,200	337,200	5,752,000	0
Public Utilities Commission, Executive Division	37,000,000	0	37,000,000	0
Rehabilitation, Department of	2,702,614	348,771	2,353,843	0
Resources Recycling and Recovery, Department of	155,635	0	155,635	0
Social Services, Department of	3,585,336	9,498	3,575,838	0
State Coastal Conservancy	835,489	0	835,489	0
State Water Resources Control Board	5,377,799	1,106,400	4,271,399	0
Toxic Substances Control, Department of	1,887,600	1,887,600	0	0
Transportation, Department of	47,716,505	15,762,848	31,953,657	0
Water Resources, Department of	14,331,563	1,365,722	12,965,841	0
Colorado	38,436,248	11,957,421	26,478,827	0
Agriculture, Department of	676,649	424,585	252,064	0
Economic Development and International Trade, Office of	21,331,814	0	21,331,814	0
Higher Education Competitive, Research Authority	1,748,478	0	1,748,478	0
Natural Resources, Department of	7,530,151	7,505,755	24,396	0
Public Health and Environment, Department of	2,591,744	2,384,904	206,840	0
Public Safety, Department of; Division of Criminal Justice	1,040,036	1,020,036	20,000	0
Transportation, Department of	3,274,866	622,141	2,652,725	0
Wine Industry Development Board	242,510	0	242,510	0
Connecticut	55,050,702	27,217,883	27,832,819	0
Agricultural Experiment Station	13,302,928	13,302,928	0	0
Energy and Environmental Protection, Department of	7,445,420	6,638,597	806,823	0
Innovation Inc.	23,315,658	0	23,315,658	0
Mental Health and Addiction Services, Department of	6,966,358	6,966,358	0	0
Public Health, Department of	20,967	0	20,967	0
Social Services, Department of	1,591,082	0	1,591,082	0
Transportation, Department of	2,408,289	310,000	2,098,289	0
Delaware	3,338,773	1,894,419	1,444,354	0
Geological Survey	1,945,219	1,894,419	50,800	0
Natural Resources and Environmental Control, Department of	257,515	0	257,515	0
Sustainable Energy Utility	46,054	0	46,054	0
Transportation, Department of	1,089,985	0	1,089,985	0
District of Columbia	8,128,666	3,705,656	4,423,010	0
Energy and Environment, Department of	207,000	0	207,000	0
Forensic Sciences, Department of	75,566	75,566	0	0
Health, Department of	5,942,318	2,502,492	3,439,826	0
Transportation, Department of	303,782	127,598	176,184	0
Water and Sewer Authority	1,600,000	1,000,000	600,000	0
Florida	178,360,429	50,793,339	127,567,090	2,646,068
Agriculture and Consumer Services, Department of	16,258,186	1,399,535	14,858,651	0
Business and Professional Regulation, Department of	100,000	0	100,000	0
Citrus, Department of	999,748	119,678	880,070	0

TABLE 17

## State agency expenditures for R&amp;D and R&amp;D plant, by state, department or agency, and R&amp;D performer: FY 2021

(Dollars)

State and department or agency	R&D performers <sup>a</sup>			R&D plant <sup>b</sup>
	All	Intramural	Extramural	
Environmental Protection, Department of	129,087	0	129,087	0
Fish and Wildlife Conservation Commission	57,203,692	47,842,060	9,361,632	2,646,068
Health, Department of	92,142,161	0	92,142,161	0
Space Florida	1,300,000	0	1,300,000	0
Transportation, Department of	10,227,555	1,432,066	8,795,489	0
Georgia	18,798,826	2,016,590	16,782,236	0
Natural Resources, Department of	818,245	171,752	646,493	0
Southern States Energy Board	11,557,770	1,844,838	9,712,932	0
Transportation, Department of	6,422,811	0	6,422,811	0
Hawaii	10,315,823	2,311,413	8,004,410	4,100,000
Agriculture, Department of	484,028	123,148	360,880	0
Business, Economic Development, and Tourism, Department of	2,538,265	2,188,265	350,000	0
Land and Natural Resources, Department of	280,000	0	280,000	0
Natural Energy Laboratory of Hawaii Authority	2,000,000	0	2,000,000	4,100,000
Transportation, Department of	5,013,530	0	5,013,530	0
Idaho	18,210,054	7,124,769	11,085,285	5,000
Agriculture, Department of	336,276	0	336,276	0
Alfalfa and Clover Seed Commission	2,300	0	2,300	0
Barley Commission	210,712	0	210,712	5,000
Bean Commission	40,640	0	40,640	0
Beef Council	123,053	0	123,053	0
Commerce, Department of	1,020,240	0	1,020,240	0
Dairy West	2,805,947	0	2,805,947	0
Environmental Quality, Department of	578,257	0	578,257	0
Fish and Game, Department of	8,895,129	6,988,949	1,906,180	0
Honey Commission	3,500	0	3,500	0
Mint Commission	14,867	14,867	0	0
Oilseed Commission	65,000	0	65,000	0
Pea and Lentil Commission	103,479	0	103,479	0
Potato Commission	747,788	0	747,788	0
Transportation Department	2,095,738	120,953	1,974,785	0
Wheat Commission	1,167,128	0	1,167,128	0
Illinois	16,213,542	554,067	15,659,475	0
Children and Family Services, Department of	2,468,113	0	2,468,113	0
Midwest Dairy Association, Illinois Division	19,400	0	19,400	0
Nutrient Research and Education Council	4,000,000	0	4,000,000	0
Public Health, Department of	295,040	0	295,040	0
Transportation, Department of	9,430,989	554,067	8,876,922	0
Indiana	10,485,205	470,344	10,014,861	0
Economic Development Corporation	1,424,123	0	1,424,123	0
Environmental Management, Department of	16,935	0	16,935	0
Natural Resources, Department of	1,086,728	416,747	669,981	0
St. Joseph River Basin Commission	32,490	0	32,490	0
Transportation, Department of	7,924,929	53,597	7,871,332	0
Iowa	10,579,028	3,091,936	7,487,092	0
Beef Industry Council	58,898	0	58,898	0
Human Rights, Criminal and Juvenile Justice Planning, Division of, Department of	472,395	472,395	0	0
Midwest Dairy Association, Iowa Division	111,550	0	111,550	0
Natural Resources, Department of	2,994,029	2,619,541	374,488	0

TABLE 17

## State agency expenditures for R&amp;D and R&amp;D plant, by state, department or agency, and R&amp;D performer: FY 2021

(Dollars)

State and department or agency	R&D performers <sup>a</sup>			R&D plant <sup>b</sup>
	All	Intramural	Extramural	
Transportation, Department of	6,942,156	0	6,942,156	0
Kansas	15,002,554	1,294,643	13,707,911	0
Corn Commission	654,979	0	654,979	0
Grain Sorghum Commission	277,300	0	277,300	0
Midwest Dairy Association, Kansas Division	14,550	0	14,550	0
Soybean Commission	1,200,000	0	1,200,000	0
State Board of Regents	998,754	5,489	993,265	0
Sunflower Commission	20,000	0	20,000	0
Transportation, Department of	3,237,535	968,014	2,269,521	0
Water Office	1,011,797	321,140	690,657	0
Wheat Commission	1,378,000	0	1,378,000	0
Wildlife and Parks, Department of	6,209,639	0	6,209,639	0
Kentucky	29,737,068	1,946,017	27,791,051	0
Behavioral Health, Developmental and Intellectual Disabilities	67,500	0	67,500	0
Economic Development, Cabinet for	3,048,739	0	3,048,739	0
Fish and Wildlife Resources, Department of	2,230,154	1,946,017	284,137	0
Horse Racing Commission	216,983	0	216,983	0
Nature Preserves, Office of Kentucky	175,935	0	175,935	0
Postsecondary Education, Council on	11,086,500	0	11,086,500	0
Public Health, Department for	3,561,572	0	3,561,572	0
Public Service Commission	21,000	0	21,000	0
Soybean Promotion Board	517,000	0	517,000	0
Transportation Cabinet	8,811,685	0	8,811,685	0
Louisiana	32,115,461	9,555,840	22,559,621	0
Agriculture and Forestry, Department of	4,946	0	4,946	0
Board of Regents	13,492,921	0	13,492,921	0
Coastal Protection and Restoration Authority	3,573,798	494,555	3,079,243	0
Transportation and Development, Department of	9,185,327	4,785,327	4,400,000	0
Wildlife and Fisheries, Department of	5,858,469	4,275,958	1,582,511	0
Maine	32,392,463	10,370,488	22,021,975	487,798
Agriculture, Conservation and Forestry, Department of	1,505,860	1,306,030	199,830	0
Inland Fisheries and Wildlife, Department of	1,080,841	763,201	317,640	0
Marine Resources, Department of	2,582,000	2,466,000	116,000	0
MDI Biological Laboratory, Center for Biomedical Innovation	8,048,966	5,335,257	2,713,709	487,798
Technology Institute	17,674,796	0	17,674,796	0
Transportation, Department of	1,500,000	500,000	1,000,000	0
Maryland	28,212,493	878,718	27,333,775	0
Health, Department of	13,500,000	0	13,500,000	0
Natural Resources, Department of	900,754	287,741	613,013	0
Technology Development Corporation	11,600,000	0	11,600,000	0
Transportation, Department of	2,211,739	590,977	1,620,762	0
Massachusetts	23,307,621	1,208,652	22,098,969	6,292,368
Clean Energy Technology Center	5,044,038	0	5,044,038	0
Environmental Protection, Department of	1,771,575	278,302	1,493,273	0
Fish and Game, Department of	915,233	604,975	310,258	0
Gaming Commission	1,480,178	81,600	1,398,578	0
Life Sciences Center	556,868	0	556,868	0
Massventures	3,942,167	0	3,942,167	0
Mental Health, Department of	2,579,520	43,775	2,535,745	0



TABLE 17

## State agency expenditures for R&amp;D and R&amp;D plant, by state, department or agency, and R&amp;D performer: FY 2021

(Dollars)

State and department or agency	R&D performers <sup>a</sup>			R&D plant <sup>b</sup>
	All	Intramural	Extramural	
Public Health, Department of	1,674,277	0	1,674,277	0
Technology Park Corporation	1,176,748	0	1,176,748	6,292,368
Transportation, Department of	3,767,017	0	3,767,017	0
Water Resources Authority	400,000	200,000	200,000	0
Michigan	29,718,391	237,018	29,481,373	0
Agriculture and Rural Development, Department of	1,656,683	0	1,656,683	0
Environmental, Great Lakes, and Energy, Department of	1,249,610	237,018	1,012,592	0
Licensing and Regulatory Affairs	20,000,000	0	20,000,000	0
Transportation, Department of	6,812,098	0	6,812,098	0
Minnesota	22,483,420	2,458,490	20,024,930	0
Agriculture, Department of	5,408,623	876,319	4,532,304	0
Midwest Dairy Association, Minnesota Division	213,400	0	213,400	0
Natural Resources, Department of	1,855,011	1,561,371	293,640	0
Pollution Control Agency	9,888	0	9,888	0
Transportation, Department of	14,996,498	20,800	14,975,698	0
Mississippi	11,143,362	2,005,582	9,137,780	0
Agriculture and Commerce, Department of	152,264	0	152,264	0
Environmental Quality, Department of	1,267,345	105,387	1,161,958	0
Gulf States Marine Fisheries Commission	1,527,915	0	1,527,915	0
Marine Resources, Department of	1,110,829	910,795	200,034	0
Transportation, Department of	5,542,522	218,157	5,324,365	0
Wildlife, Fisheries, and Parks, Department of	1,542,487	771,243	771,244	0
Missouri	14,009,154	6,455,476	7,553,678	0
Agriculture, Department of	273,268	0	273,268	0
Conservation, Department of	9,627,125	6,455,476	3,171,649	0
Mental Health, Department of	242,500	0	242,500	0
Natural Resources, Department of	453,962	0	453,962	0
Technology Corporation	654,232	0	654,232	0
Transportation, Department of	2,120,015	0	2,120,015	0
Wine and Grape Board	638,052	0	638,052	0
Montana	8,447,295	2,846,129	5,601,166	0
Agriculture, Department of	2,841,089	0	2,841,089	0
Environmental Quality, Department of	50,304	50,304	0	0
Fish, Wildlife and Parks, Department of	3,806,115	2,669,435	1,136,680	0
Natural Resources and Conservation, Department of	16,865	0	16,865	0
Transportation, Department of	1,732,922	126,390	1,606,532	0
Nebraska	31,337,947	2,128,727	29,209,220	0
Agriculture, Department of	797,149	0	797,149	0
Corn Board	1,201,594	0	1,201,594	0
Dry Bean Commission	265,487	0	265,487	0
Economic Development, Department of	3,242,710	0	3,242,710	0
Game and Parks Commission	5,125,851	2,037,727	3,088,124	0
Grain Sorghum Board	3,000	0	3,000	0
Health and Human Services, Department of	18,564,076	0	18,564,076	0
Midwest Dairy Association, Nebraska Division	29,100	0	29,100	0
Natural Resources, Department of	50,000	0	50,000	0
Transportation, Department of	1,825,480	91,000	1,734,480	0
Wheat Board	233,500	0	233,500	0
Nevada	4,222,929	237,064	3,985,865	0

TABLE 17

## State agency expenditures for R&amp;D and R&amp;D plant, by state, department or agency, and R&amp;D performer: FY 2021

(Dollars)

State and department or agency	R&D performers <sup>a</sup>			R&D plant <sup>b</sup>
	All	Intramural	Extramural	
Agriculture, Department of	237,064	237,064	0	0
Economic Development, Governor's office of	1,958,195	0	1,958,195	0
Transportation, Department of	2,027,670	0	2,027,670	0
<b>New Hampshire</b>	<b>8,675,207</b>	<b>27,186</b>	<b>8,648,021</b>	<b>0</b>
Agriculture, Markets and Food, Department of	175,563	0	175,563	0
Business and Economic Affairs, Department of	7,275,000	0	7,275,000	0
Environmental Services, Department of	505,937	0	505,937	0
Transportation, Department of	718,707	27,186	691,521	0
<b>New Jersey</b>	<b>12,864,404</b>	<b>3,006,539</b>	<b>9,857,865</b>	<b>0</b>
Children and Families, Department of	250,627	192,394	58,233	0
Community Affairs, Department of	5,000	5,000	0	0
Corrections, Department of	309,449	309,449	0	0
Environmental Protection, Department of	3,398,000	1,997,500	1,400,500	0
Health, Department of	318,305	0	318,305	0
Pinelands Commission	576,457	465,753	110,704	0
Secretary of Higher Education, Office of	2,500,000	0	2,500,000	0
State Parole Board, New Jersey	66,212	36,443	29,769	0
Transit, New Jersey	61,804	0	61,804	0
Transportation, Department of	5,378,550	0	5,378,550	0
<b>New Mexico</b>	<b>3,054,817</b>	<b>1,535,533</b>	<b>1,519,284</b>	<b>0</b>
Cultural Affairs, Department of	108,053	108,053	0	0
Game and Fish, Department of	1,000,000	500,000	500,000	0
Transportation, Department of	1,586,466	927,480	658,986	0
Western State Air Resources Council	360,298	0	360,298	0
<b>New York</b>	<b>417,246,309</b>	<b>259,432,614</b>	<b>157,813,695</b>	<b>2,523,050</b>
Agriculture and Markets, Department of	7,194,600	2,795,000	4,399,600	0
Economic Development, Department of	27,738,133	0	27,738,133	0
Energy Research and Development Authority	58,220,185	7,195,015	51,025,170	0
Environmental Conservation, Department of	11,777,525	4,383,537	7,393,988	0
Health, Department of	65,094,944	34,949,991	30,144,953	0
Mental Health, Office of	151,456,861	131,858,494	19,598,367	520,000
People with Developmental Disabilities, Office of	1,614,170	1,614,170	0	0
Power Authority	14,544,465	1,397,798	13,146,667	503,050
Roswell Park Comprehensive Cancer Center	63,867,651	63,867,651	0	1,500,000
State Museum	10,297,627	9,748,833	548,794	0
Thoroughbred Breeding and Development Fund Corp.	399,308	0	399,308	0
Transportation, Department of	5,040,840	1,622,125	3,418,715	0
<b>North Carolina</b>	<b>36,870,713</b>	<b>17,422,714</b>	<b>19,447,999</b>	<b>1,076,500</b>
Agriculture and Consumer Services, Department of	15,422,911	13,922,911	1,500,000	1,000,000
Biotechnology Center	2,693,795	0	2,693,795	0
Environmental Quality, Department of	3,275,158	1,223,587	2,051,571	0
Golden Leaf, The	0	0	0	76,500
Natural and Cultural Resources, Department of	1,951,431	1,546,672	404,759	0
Science Technology & Innovation, Office of	1,500,000	0	1,500,000	0
Transportation, Department of	11,886,050	729,544	11,156,506	0
Wine and Grape Growers Council	141,368	0	141,368	0
<b>North Dakota</b>	<b>35,139,613</b>	<b>294,748</b>	<b>34,844,865</b>	<b>0</b>
Agriculture, Department of	5,360,395	0	5,360,395	0
Dry Pea and Lentil Commission	253,958	0	253,958	0

TABLE 17

## State agency expenditures for R&amp;D and R&amp;D plant, by state, department or agency, and R&amp;D performer: FY 2021

(Dollars)

State and department or agency	R&D performers <sup>a</sup>			R&D plant <sup>b</sup>
	All	Intramural	Extramural	
Game and Fish, Department of	900,314	0	900,314	0
Historical Society of North Dakota	247,149	232,829	14,320	0
Industrial Commission	24,409,679	0	24,409,679	0
Midwest Dairy Association, North Dakota Division	4,850	0	4,850	0
Soybean Council	1,420,538	0	1,420,538	0
Transportation, Department of	1,204,774	61,919	1,142,855	0
Wheat Commission	1,337,956	0	1,337,956	0
Ohio	55,336,431	1,808,996	53,527,435	9,847
Development, Department of	43,878,812	0	43,878,812	0
Education, Department of	230,700	15,000	215,700	0
Mental Health and Addictions Services, Department of	2,060,000	1,030,000	1,030,000	0
Natural Resources, Department of	2,565,498	763,996	1,801,502	9,847
Rail Development Commission	79,156	0	79,156	0
Transportation, Department of	6,197,692	0	6,197,692	0
Water Development Authority	324,573	0	324,573	0
Oklahoma	55,989,692	2,575,950	53,413,742	0
Advancement of Science and Technology, Center for the	34,830,643	0	34,830,643	0
Agriculture, Food, and Forestry, Department of	327,515	0	327,515	0
Environmental Quality, Department of	217,645	217,645	0	0
Grand River Dam Authority	525,000	315,000	210,000	0
Health, Department of	1,344,978	670,578	674,400	0
Human Services, Department of	566,539	566,539	0	0
Midwest Dairy Association, Oklahoma Division	4,850	0	4,850	0
Tobacco Settlement Endowment Trust	11,931,000	0	11,931,000	0
Transportation, Department of	4,692,262	770,983	3,921,279	0
Wildlife Conservation, Department of	1,549,260	35,205	1,514,055	0
Oregon	37,419,218	16,083,800	21,335,418	2,700,000
Agriculture, Department of	205,647	0	205,647	0
Business Oregon	14,300,000	0	14,300,000	2,700,000
Fish and Wildlife, Department of	12,566,339	11,125,917	1,440,422	0
Forestry, Department of	700,000	350,000	350,000	0
Geology and Mineral Industries, Department of	1,210,168	1,210,168	0	0
Human Services, Department of	2,185,495	2,185,495	0	0
Transportation, Department of	3,638,363	128,939	3,509,424	0
Water Resources Department	1,551,042	1,072,711	478,331	0
Watershed Enhancement Board	1,062,164	10,570	1,051,594	0
Pennsylvania	93,621,093	8,172,000	85,449,093	0
Agriculture, Department of	2,461,164	0	2,461,164	0
Community and Economic Development, Department of	21,500,000	0	21,500,000	0
Conservation and Natural Resources, Department of	309,471	253,240	56,231	0
Environmental Protection, Department of	1,931,821	124,196	1,807,625	0
Fish and Boat Commission	259,114	231,314	27,800	0
Game Commission	7,513,056	7,358,250	154,806	0
Health, Department of	55,000,914	0	55,000,914	0
Susquehanna River Basin Commission	279,000	205,000	74,000	0
Transportation, Department of	4,366,553	0	4,366,553	0
Rhode Island	10,226,630	8,118,721	2,107,909	1,420,067
Commerce Corporation	1,127,624	0	1,127,624	0
Fish and Wildlife; Environmental Management, Department of	5,238,690	4,690,761	547,929	1,420,067

TABLE 17

## State agency expenditures for R&amp;D and R&amp;D plant, by state, department or agency, and R&amp;D performer: FY 2021

(Dollars)

State and department or agency	R&D performers <sup>a</sup>			R&D plant <sup>b</sup>
	All	Intramural	Extramural	
Marine Fisheries; Environmental Management, Department of	3,601,968	3,257,112	344,856	0
Narragansett Bay National Estuarine Research Reserve; Environmental Management, Department of	67,378	67,378	0	0
Transportation, Department of	87,500	0	87,500	0
Water Resources Board	103,470	103,470	0	0
South Carolina	44,557,581	27,709,617	16,847,964	400,000
Agriculture, Department of	1,119,867	0	1,119,867	0
Disabilities and Special Needs, Department of	9,437,880	0	9,437,880	400,000
Health and Environmental Control, Department of	1,314,349	1,204,217	110,132	0
Mental Health, Department of	53,424	53,424	0	0
Natural Resources, Department of	24,893,262	24,621,964	271,298	0
Public Service Authority	424,350	0	424,350	0
Research Authority	2,339,441	0	2,339,441	0
Sea Grant Consortium	2,328,658	1,822,502	506,156	0
Transportation, Department of	2,646,350	7,510	2,638,840	0
South Dakota	3,193,289	359,853	2,833,436	500,000
Corn Utilization Council	150,006	0	150,006	0
Midwest Dairy Association, South Dakota Division	63,050	0	63,050	0
Nutrient Research and Education Council	871,090	0	871,090	0
Oilseeds Council	278,954	0	278,954	0
Pulse Crop Council	4,063	0	4,063	0
Science and Technology Authority	1,968	0	1,968	0
Soybean Research and Promotion Council	342,368	11,255	331,113	500,000
Transportation, Department of	1,178,029	348,598	829,431	0
Weed and Pest Control Commission	43,411	0	43,411	0
Wheat Commission	260,350	0	260,350	0
Tennessee	10,287,206	1,289,255	8,997,951	0
Education, Department of	3,368,383	1,054,099	2,314,284	0
Environment and Conservation, Department of	235,156	235,156	0	0
Transportation, Department of	6,683,667	0	6,683,667	0
Texas	255,731,862	2,686,856	253,045,006	0
Agriculture, Department of	932,510	0	932,510	0
Alzheimer's Research and Care Consortium (TARCC)	4,615,313	0	4,615,313	0
Cancer Prevention and Research Institute	216,766,526	0	216,766,526	0
Environmental Quality, Commission on	1,922,455	41,548	1,880,907	0
Parks and Wildlife Department	6,215,323	2,139,214	4,076,109	0
State Health Services, Department of	1,602,005	506,094	1,095,911	0
Transportation, Department of	20,505,965	0	20,505,965	0
Water Development Board	3,171,765	0	3,171,765	0
Utah	8,316,189	5,326,711	2,989,478	1,000
Environmental Quality, Department of	780,433	75,954	704,479	0
Health, Department of	5,350	5,350	0	0
Natural Resources, Department of	4,215,230	4,215,230	0	0
Transportation, Department of	3,315,176	1,030,177	2,284,999	1,000
Vermont	1,535,157	596,129	939,028	0
Agriculture, Food, and Markets, Agency of	274,477	0	274,477	0
Human Services, Agency of	163,373	163,373	0	0
Transportation, Agency of	1,097,307	432,756	664,551	0
Virginia	44,913,546	16,624,998	28,288,548	788,372

TABLE 17

## State agency expenditures for R&amp;D and R&amp;D plant, by state, department or agency, and R&amp;D performer: FY 2021

(Dollars)

State and department or agency	R&D performers <sup>a</sup>			R&D plant <sup>b</sup>
	All	Intramural	Extramural	
Aging and Rehabilitative Services, Department of	128,788	10,076	118,712	0
Agriculture and Consumer Services, Department of	2,821,841	0	2,821,841	0
Commonwealth Health Research Board	1,566,854	0	1,566,854	0
Conservation and Recreation, Department of	467,900	441,900	26,000	0
Education, Department of	2,495,435	518,234	1,977,201	0
Energy, Department of	1,530,387	1,480,387	50,000	0
Environmental Quality, Department of	366,645	11,129	355,516	0
Forensic Science, Department of	1,337,377	1,337,377	0	41,985
Forestry, Department of	701,053	685,865	15,188	0
Foundation for Healthy Youth	787,149	0	787,149	0
Innovative Technology, Center for	11,596,571	992,151	10,604,420	0
Institute for Advanced Learning and Research	57,000	57,000	0	0
Marine Resources Commission	1,847,815	261,607	1,586,208	0
Natural History, Museum of	900,582	900,582	0	64,589
Social Services, Department of	800,000	800,000	0	0
Transportation, Department of	15,943,293	9,128,690	6,814,603	681,798
Wildlife Resources, Department of	1,564,856	0	1,564,856	0
Washington	56,690,210	21,349,303	35,340,907	6,309,062
Agriculture, Department of	3,498,238	0	3,498,238	0
Alfalfa Seed Commission	34,000	0	34,000	0
Commerce, Department of	11,485,246	0	11,485,246	6,309,062
Cranberry Commission	16,000	0	16,000	0
Ecology, Department of	1,398,475	1,082,202	316,273	0
Fish and Wildlife, Department of	11,181,950	11,177,207	4,743	0
Fruit Commission	134,538	0	134,538	0
Grain Commission	1,860,504	0	1,860,504	0
Health, Department of	1,233,000	1,172,000	61,000	0
Hop Commission	272,988	0	272,988	0
Labor and Industries, Department of	3,408,658	3,408,658	0	0
Mint Commission	27,171	0	27,171	0
Natural Resources, Department of	7,587,114	2,469,616	5,117,498	0
Oilseeds Commission	46,152	0	46,152	0
Pesticide Registration, Commission on	357,969	0	357,969	0
Potato Commission	837,892	0	837,892	0
Puget Sound Partnership	850,000	0	850,000	0
Pulse Crops Commission	238,186	0	238,186	0
Red Raspberry Commission	220,248	0	220,248	0
Seed Potato Commission	25,639	0	25,639	0
Transportation, Department of	7,528,900	1,742,600	5,786,300	0
Tree Fruit Research Commission	4,096,282	297,020	3,799,262	0
Turfgrass Seed Commission	107,060	0	107,060	0
Wine Commission	244,000	0	244,000	0
West Virginia	9,013,091	3,378,070	5,635,021	2,500
Agriculture, Department of	166,685	166,685	0	0
Geological and Economic Survey	1,611,208	1,253,631	357,577	0
Higher Education Policy Commission	2,924,776	157,078	2,767,698	0
Natural Resources, Department of	2,052,676	1,800,676	252,000	0
Transportation, Department of	2,257,746	0	2,257,746	2,500
Wisconsin	15,239,075	4,401,850	10,837,225	0

TABLE 17

**State agency expenditures for R&D and R&D plant, by state, department or agency, and R&D performer: FY 2021**

(Dollars)

State and department or agency	R&D performers <sup>a</sup>			R&D plant <sup>b</sup>
	All	Intramural	Extramural	
Agriculture, Trade and Consumer Protection, Department of	1,558,082	0	1,558,082	0
Economic Development Corporation	4,625,125	0	4,625,125	0
Natural Resources, Department of	6,879,700	4,192,800	2,686,900	0
Transportation, Department of	2,176,168	209,050	1,967,118	0
Wyoming	7,278,796	2,753,475	4,525,321	8,284
Agriculture, Department of	531,634	0	531,634	0
Business Council	1,544,835	0	1,544,835	0
Corrections, Department of	123,280	123,280	0	0
Energy Authority	413,533	413,533	0	8,284
Enhanced Oil Recovery Institute	1,126,393	593,746	532,647	0
Game and Fish Department	1,968,341	1,345,407	622,934	0
State Geological Survey	182,179	182,179	0	0
Transportation, Department of	1,105,147	95,330	1,009,817	0
Water Development Office	283,454	0	283,454	0

<sup>a</sup> Intramural performers include a department's or agency's own employees who perform R&D and services performed by others in support of an internal R&D project. Extramural performers are those outside the department or agency who perform R&D.

<sup>b</sup> State R&D plant expenditures include acquisition of land, facilities, major equipment, and major building renovations intended primarily for R&D use.

<sup>c</sup> U.S. total reflects all 50 states and the District of Columbia.

**Source(s):**

National Center for Science and Engineering Statistics, Survey of State Government Research and Development, FY 2021.

TABLE 18

## State agency expenditures for R&amp;D for all performers, by state, department or agency, and source of funds: FY 2021

(Dollars)

State and department or agency	All R&D expenditures	Source of funds	
		Federal government	State and all others <sup>a</sup>
United States <sup>b</sup>	2,471,471,226	612,123,519	1,859,347,707
Alabama	29,812,345	6,067,898	23,744,447
Commerce, Department of	3,000,000	0	3,000,000
Conservation and Natural Resources, Department of; Wildlife and Freshwater Fisheries Division	2,300,326	1,911,978	388,348
Economic & Community Affairs, Department of	533,590	0	533,590
Education, Department of	13,196,000	247,000	12,949,000
Forensic Sciences, Department of	272,635	0	272,635
Geological Survey	2,690,719	1,060,928	1,629,791
Marine Environmental Science Consortium, Dauphin Island Sea Lab	1,175,774	889,691	286,083
Supercomputer Authority	4,432,300	0	4,432,300
Transportation, Department of	2,211,001	1,958,301	252,700
Alaska	19,671,388	11,068,861	8,602,527
Environmental Conservation, Department of	866,695	633,882	232,813
Housing Finance Corporation	500,000	0	500,000
Natural Resources, Department of; Division of Geological and Geophysical Surveys	9,086,400	2,149,354	6,937,046
Railroad Corporation	6,685,193	6,279,925	405,268
Seafood Marketing Institute	26,000	0	26,000
Transportation and Public Facilities, Department of	2,507,100	2,005,700	501,400
Arizona	15,011,508	5,070,319	9,941,189
Agriculture, Department of	1,167,546	1,011,009	156,537
Game and Fish Department	1,585,868	1,515,321	70,547
Health Services, Department of	8,467,153	0	8,467,153
Juvenile Corrections, Department of	610,954	0	610,954
Transportation, Department of	3,179,987	2,543,989	635,998
Arkansas	9,908,767	983,181	8,925,586
Agriculture, Department of	152,420	0	152,420
Beef Council	60,406	0	60,406
Corn and Grain Sorghum Promotion Board	992,000	0	992,000
Economic Development Commission	2,075,000	0	2,075,000
Game and Fish Commission	872,648	743,608	129,040
Midwest Dairy Association, Arkansas Division	9,700	0	9,700
Natural Heritage Commission	195,378	18,601	176,777
Rice Research and Promotion Board	2,775,000	0	2,775,000
Soybean Promotion Board	2,400,000	0	2,400,000
Transportation, Department of	276,215	220,972	55,243
Wheat Promotion Board	100,000	0	100,000
California	523,819,635	28,494,592	495,325,043
Air Resources Board	16,703,318	0	16,703,318
Children and Families Commission (First 5 California)	4,493,407	0	4,493,407
Conservation, Department of	1,508,933	280,000	1,228,933
Corrections and Rehabilitation, Department of	1,139,419	0	1,139,419
Covered California	3,793,141	0	3,793,141
Dairy Council	18,672	0	18,672
Delta Stewardship Council	4,093,320	685,670	3,407,650
Energy Commission	230,900,000	0	230,900,000
Environmental Health Hazard Assessment, Office of	17,522,940	0	17,522,940

TABLE 18

**State agency expenditures for R&D for all performers, by state, department or agency, and source of funds: FY 2021**

(Dollars)

State and department or agency	All R&D expenditures	Source of funds	
		Federal government	State and all others <sup>a</sup>
Food and Agriculture, Department of	4,686,177	54,964	4,631,213
Forestry and Fire Protection, Department of	5,500,000	0	5,500,000
Horse Racing Board	695,130	0	695,130
Housing and Community Development, Department of	150,000	0	150,000
Institute for Regenerative Medicine	95,739,916	0	95,739,916
Mental Health Services Oversight and Accountability Commission	2,500,000	0	2,500,000
Motor Vehicles, Department of	1,551,423	0	1,551,423
Parks And Recreation, Department of	1,500,000	0	1,500,000
Pesticide Regulation, Department of	11,642,098	190,006	11,452,092
Public Health, Department of	6,089,200	44,000	6,045,200
Public Utilities Commission, Executive Division	37,000,000	0	37,000,000
Rehabilitation, Department of	2,702,614	2,702,614	0
Resources Recycling and Recovery, Department of	155,635	0	155,635
Social Services, Department of	3,585,336	3,024,462	560,874
State Coastal Conservancy	835,489	154,340	681,149
State Water Resources Control Board	5,377,799	283,580	5,094,219
Toxic Substances Control, Department of	1,887,600	0	1,887,600
Transportation, Department of	47,716,505	21,074,351	26,642,154
Water Resources, Department of	14,331,563	605	14,330,958
Colorado	38,436,248	6,546,643	31,889,605
Agriculture, Department of	676,649	665,946	10,703
Economic Development and International Trade, Office of	21,331,814	0	21,331,814
Higher Education Competitive, Research Authority	1,748,478	0	1,748,478
Natural Resources, Department of	7,530,151	2,441,788	5,088,363
Public Health and Environment, Department of	2,591,744	43,144	2,548,600
Public Safety, Department of; Division of Criminal Justice	1,040,036	120,899	919,137
Transportation, Department of	3,274,866	3,274,866	0
Wine Industry Development Board	242,510	0	242,510
Connecticut	55,050,702	15,879,739	39,170,963
Agricultural Experiment Station	13,302,928	5,799,104	7,503,824
Energy and Environmental Protection, Department of	7,445,420	5,822,449	1,622,971
Innovation Inc.	23,315,658	0	23,315,658
Mental Health and Addiction Services, Department of	6,966,358	536,219	6,430,139
Public Health, Department of	20,967	20,967	0
Social Services, Department of	1,591,082	1,591,082	0
Transportation, Department of	2,408,289	2,109,918	298,371
Delaware	3,338,773	1,355,648	1,983,125
Geological Survey	1,945,219	307,938	1,637,281
Natural Resources and Environmental Control, Department of	257,515	205,974	51,541
Sustainable Energy Utility	46,054	0	46,054
Transportation, Department of	1,089,985	841,736	248,249
District of Columbia	8,128,666	6,245,794	1,882,872
Energy and Environment, Department of	207,000	207,000	0
Forensic Sciences, Department of	75,566	30,000	45,566
Health, Department of	5,942,318	5,765,769	176,549
Transportation, Department of	303,782	243,025	60,757
Water and Sewer Authority	1,600,000	0	1,600,000
Florida	178,360,429	25,068,596	153,291,833



TABLE 18

**State agency expenditures for R&D for all performers, by state, department or agency, and source of funds: FY 2021**

(Dollars)

State and department or agency	All R&D expenditures	Source of funds	
		Federal government	State and all others <sup>a</sup>
Agriculture and Consumer Services, Department of	16,258,186	5,271,571	10,986,615
Business and Professional Regulation, Department of	100,000	0	100,000
Citrus, Department of	999,748	0	999,748
Environmental Protection, Department of	129,087	129,087	0
Fish and Wildlife Conservation Commission	57,203,692	14,307,739	42,895,953
Health, Department of	92,142,161	0	92,142,161
Space Florida	1,300,000	0	1,300,000
Transportation, Department of	10,227,555	5,360,199	4,867,356
Georgia	18,798,826	17,725,257	1,073,569
Natural Resources, Department of	818,245	710,803	107,442
Southern States Energy Board	11,557,770	11,369,004	188,766
Transportation, Department of	6,422,811	5,645,450	777,361
Hawaii	10,315,823	8,334,826	1,980,997
Agriculture, Department of	484,028	484,028	0
Business, Economic Development, and Tourism, Department of	2,538,265	2,188,265	350,000
Land and Natural Resources, Department of	280,000	145,000	135,000
Natural Energy Laboratory of Hawaii Authority	2,000,000	2,000,000	0
Transportation, Department of	5,013,530	3,517,533	1,495,997
Idaho	18,210,054	9,698,956	8,511,098
Agriculture, Department of	336,276	336,276	0
Alfalfa and Clover Seed Commission	2,300	0	2,300
Barley Commission	210,712	0	210,712
Bean Commission	40,640	0	40,640
Beef Council	123,053	0	123,053
Commerce, Department of	1,020,240	0	1,020,240
Dairy West	2,805,947	0	2,805,947
Environmental Quality, Department of	578,257	115,127	463,130
Fish and Game, Department of	8,895,129	7,365,732	1,529,397
Honey Commission	3,500	0	3,500
Mint Commission	14,867	0	14,867
Oilseed Commission	65,000	0	65,000
Pea and Lentil Commission	103,479	0	103,479
Potato Commission	747,788	0	747,788
Transportation Department	2,095,738	1,881,821	213,917
Wheat Commission	1,167,128	0	1,167,128
Illinois	16,213,542	7,152,110	9,061,432
Children and Family Services, Department of	2,468,113	0	2,468,113
Midwest Dairy Association, Illinois Division	19,400	0	19,400
Nutrient Research and Education Council	4,000,000	0	4,000,000
Public Health, Department of	295,040	0	295,040
Transportation, Department of	9,430,989	7,152,110	2,278,879
Indiana	10,485,205	6,875,499	3,609,706
Economic Development Corporation	1,424,123	0	1,424,123
Environmental Management, Department of	16,935	16,935	0
Natural Resources, Department of	1,086,728	430,027	656,701
St. Joseph River Basin Commission	32,490	0	32,490
Transportation, Department of	7,924,929	6,428,537	1,496,392
Iowa	10,579,028	4,841,194	5,737,834

TABLE 18

**State agency expenditures for R&D for all performers, by state, department or agency, and source of funds: FY 2021**

(Dollars)

State and department or agency	All R&D expenditures	Source of funds	
		Federal government	State and all others <sup>a</sup>
Beef Industry Council	58,898	0	58,898
Human Rights, Criminal and Juvenile Justice Planning, Division of, Department of	472,395	166,799	305,596
Midwest Dairy Association, Iowa Division	111,550	0	111,550
Natural Resources, Department of	2,994,029	1,762,651	1,231,378
Transportation, Department of	6,942,156	2,911,744	4,030,412
<b>Kansas</b>	<b>15,002,554</b>	<b>8,343,437</b>	<b>6,659,117</b>
Corn Commission	654,979	0	654,979
Grain Sorghum Commission	277,300	0	277,300
Midwest Dairy Association, Kansas Division	14,550	0	14,550
Soybean Commission	1,200,000	0	1,200,000
State Board of Regents	998,754	0	998,754
Sunflower Commission	20,000	0	20,000
Transportation, Department of	3,237,535	2,177,974	1,059,561
Water Office	1,011,797	51,657	960,140
Wheat Commission	1,378,000	0	1,378,000
Wildlife and Parks, Department of	6,209,639	6,113,806	95,833
<b>Kentucky</b>	<b>29,737,068</b>	<b>7,548,030</b>	<b>22,189,038</b>
Behavioral Health, Developmental and Intellectual Disabilities	67,500	0	67,500
Economic Development, Cabinet for	3,048,739	0	3,048,739
Fish and Wildlife Resources, Department of	2,230,154	1,412,298	817,856
Horse Racing Commission	216,983	0	216,983
Nature Preserves, Office of Kentucky	175,935	0	175,935
Postsecondary Education, Council on	11,086,500	0	11,086,500
Public Health, Department for	3,561,572	0	3,561,572
Public Service Commission	21,000	0	21,000
Soybean Promotion Board	517,000	0	517,000
Transportation Cabinet	8,811,685	6,135,732	2,675,953
<b>Louisiana</b>	<b>32,115,461</b>	<b>19,523,775</b>	<b>12,591,686</b>
Agriculture and Forestry, Department of	4,946	0	4,946
Board of Regents	13,492,921	7,159,966	6,332,955
Coastal Protection and Restoration Authority	3,573,798	667,842	2,905,956
Transportation and Development, Department of	9,185,327	7,348,261	1,837,066
Wildlife and Fisheries, Department of	5,858,469	4,347,706	1,510,763
<b>Maine</b>	<b>32,392,463</b>	<b>12,263,843</b>	<b>20,128,620</b>
Agriculture, Conservation and Forestry, Department of	1,505,860	581,000	924,860
Inland Fisheries and Wildlife, Department of	1,080,841	847,899	232,942
Marine Resources, Department of	2,582,000	2,061,000	521,000
MDI Biological Laboratory, Center for Biomedical Innovation	8,048,966	7,573,944	475,022
Technology Institute	17,674,796	0	17,674,796
Transportation, Department of	1,500,000	1,200,000	300,000
<b>Maryland</b>	<b>28,212,493</b>	<b>2,005,962</b>	<b>26,206,531</b>
Health, Department of	13,500,000	0	13,500,000
Natural Resources, Department of	900,754	237,542	663,212
Technology Development Corporation	11,600,000	0	11,600,000
Transportation, Department of	2,211,739	1,768,420	443,319
<b>Massachusetts</b>	<b>23,307,621</b>	<b>6,047,993</b>	<b>17,259,628</b>
Clean Energy Technology Center	5,044,038	0	5,044,038

TABLE 18

## State agency expenditures for R&amp;D for all performers, by state, department or agency, and source of funds: FY 2021

(Dollars)

State and department or agency	All R&D expenditures	Source of funds	
		Federal government	State and all others <sup>a</sup>
Environmental Protection, Department of	1,771,575	22,369	1,749,206
Fish and Game, Department of	915,233	624,680	290,553
Gaming Commission	1,480,178	0	1,480,178
Life Sciences Center	556,868	0	556,868
Massventures	3,942,167	0	3,942,167
Mental Health, Department of	2,579,520	222,362	2,357,158
Public Health, Department of	1,674,277	1,386,798	287,479
Technology Park Corporation	1,176,748	608,078	568,670
Transportation, Department of	3,767,017	3,183,706	583,311
Water Resources Authority	400,000	0	400,000
<b>Michigan</b>	<b>29,718,391</b>	<b>6,912,826</b>	<b>22,805,565</b>
Agriculture and Rural Development, Department of	1,656,683	586,830	1,069,853
Environmental, Great Lakes, and Energy, Department of	1,249,610	387,235	862,375
Licensing and Regulatory Affairs	20,000,000	0	20,000,000
Transportation, Department of	6,812,098	5,938,761	873,337
<b>Minnesota</b>	<b>22,483,420</b>	<b>7,689,513</b>	<b>14,793,907</b>
Agriculture, Department of	5,408,623	700,652	4,707,971
Midwest Dairy Association, Minnesota Division	213,400	0	213,400
Natural Resources, Department of	1,855,011	1,224,022	630,989
Pollution Control Agency	9,888	0	9,888
Transportation, Department of	14,996,498	5,764,839	9,231,659
<b>Mississippi</b>	<b>11,143,362</b>	<b>9,061,908</b>	<b>2,081,454</b>
Agriculture and Commerce, Department of	152,264	152,264	0
Environmental Quality, Department of	1,267,345	1,267,345	0
Gulf States Marine Fisheries Commission	1,527,915	1,527,915	0
Marine Resources, Department of	1,110,829	164,760	946,069
Transportation, Department of	5,542,522	4,869,891	672,631
Wildlife, Fisheries, and Parks, Department of	1,542,487	1,079,733	462,754
<b>Missouri</b>	<b>14,009,154</b>	<b>4,240,386</b>	<b>9,768,768</b>
Agriculture, Department of	273,268	224,768	48,500
Conservation, Department of	9,627,125	2,077,905	7,549,220
Mental Health, Department of	242,500	0	242,500
Natural Resources, Department of	453,962	87,260	366,702
Technology Corporation	654,232	200,000	454,232
Transportation, Department of	2,120,015	1,650,453	469,562
Wine and Grape Board	638,052	0	638,052
<b>Montana</b>	<b>8,447,295</b>	<b>5,600,354</b>	<b>2,846,941</b>
Agriculture, Department of	2,841,089	1,215,922	1,625,167
Environmental Quality, Department of	50,304	9,304	41,000
Fish, Wildlife and Parks, Department of	3,806,115	3,103,574	702,541
Natural Resources and Conservation, Department of	16,865	0	16,865
Transportation, Department of	1,732,922	1,271,554	461,368
<b>Nebraska</b>	<b>31,337,947</b>	<b>6,288,269</b>	<b>25,049,678</b>
Agriculture, Department of	797,149	702,231	94,918
Corn Board	1,201,594	0	1,201,594
Dry Bean Commission	265,487	0	265,487
Economic Development, Department of	3,242,710	0	3,242,710
Game and Parks Commission	5,125,851	4,198,454	927,397

TABLE 18

**State agency expenditures for R&D for all performers, by state, department or agency, and source of funds: FY 2021**

(Dollars)

State and department or agency	All R&D expenditures	Source of funds	
		Federal government	State and all others <sup>a</sup>
Grain Sorghum Board	3,000	0	3,000
Health and Human Services, Department of	18,564,076	0	18,564,076
Midwest Dairy Association, Nebraska Division	29,100	0	29,100
Natural Resources, Department of	50,000	0	50,000
Transportation, Department of	1,825,480	1,387,584	437,896
Wheat Board	233,500	0	233,500
Nevada	4,222,929	2,001,509	2,221,420
Agriculture, Department of	237,064	177,064	60,000
Economic Development, Governor's office of	1,958,195	0	1,958,195
Transportation, Department of	2,027,670	1,824,445	203,225
New Hampshire	8,675,207	631,502	8,043,705
Agriculture, Markets and Food, Department of	175,563	56,536	119,027
Business and Economic Affairs, Department of	7,275,000	0	7,275,000
Environmental Services, Department of	505,937	0	505,937
Transportation, Department of	718,707	574,966	143,741
New Jersey	12,864,404	5,466,394	7,398,010
Children and Families, Department of	250,627	8,540	242,087
Community Affairs, Department of	5,000	0	5,000
Corrections, Department of	309,449	0	309,449
Environmental Protection, Department of	3,398,000	373,000	3,025,000
Health, Department of	318,305	0	318,305
Pinelands Commission	576,457	517,457	59,000
Secretary of Higher Education, Office of	2,500,000	0	2,500,000
State Parole Board, New Jersey	66,212	29,769	36,443
Transit, New Jersey	61,804	0	61,804
Transportation, Department of	5,378,550	4,537,628	840,922
New Mexico	3,054,817	2,152,671	902,146
Cultural Affairs, Department of	108,053	0	108,053
Game and Fish, Department of	1,000,000	500,000	500,000
Transportation, Department of	1,586,466	1,449,219	137,247
Western State Air Resources Council	360,298	203,452	156,846
New York	417,246,309	166,507,446	250,738,863
Agriculture and Markets, Department of	7,194,600	2,844,600	4,350,000
Economic Development, Department of	27,738,133	0	27,738,133
Energy Research and Development Authority	58,220,185	0	58,220,185
Environmental Conservation, Department of	11,777,525	1,853,286	9,924,239
Health, Department of	65,094,944	21,560,131	43,534,813
Mental Health, Office of	151,456,861	87,115,415	64,341,446
People with Developmental Disabilities, Office of	1,614,170	1,468,008	146,162
Power Authority	14,544,465	0	14,544,465
Roswell Park Comprehensive Cancer Center	63,867,651	46,823,504	17,044,147
State Museum	10,297,627	418,065	9,879,562
Thoroughbred Breeding and Development Fund Corp.	399,308	0	399,308
Transportation, Department of	5,040,840	4,424,437	616,403
North Carolina	36,870,713	11,005,615	25,865,098
Agriculture and Consumer Services, Department of	15,422,911	0	15,422,911
Biotechnology Center	2,693,795	0	2,693,795
Environmental Quality, Department of	3,275,158	1,288,170	1,986,988

TABLE 18

**State agency expenditures for R&D for all performers, by state, department or agency, and source of funds: FY 2021**

(Dollars)

State and department or agency	All R&D expenditures	Source of funds	
		Federal government	State and all others <sup>a</sup>
Natural and Cultural Resources, Department of	1,951,431	0	1,951,431
Science Technology & Innovation, Office of	1,500,000	0	1,500,000
Transportation, Department of	11,886,050	9,717,445	2,168,605
Wine and Grape Growers Council	141,368	0	141,368
North Dakota	35,139,613	6,863,870	28,275,743
Agriculture, Department of	5,360,395	4,990,802	369,593
Dry Pea and Lentil Commission	253,958	0	253,958
Game and Fish, Department of	900,314	719,787	180,527
Historical Society of North Dakota	247,149	81,615	165,534
Industrial Commission	24,409,679	0	24,409,679
Midwest Dairy Association, North Dakota Division	4,850	0	4,850
Soybean Council	1,420,538	0	1,420,538
Transportation, Department of	1,204,774	1,071,666	133,108
Wheat Commission	1,337,956	0	1,337,956
Ohio	55,336,431	8,732,356	46,604,075
Development, Department of	43,878,812	0	43,878,812
Education, Department of	230,700	215,700	15,000
Mental Health and Addictions Services, Department of	2,060,000	2,000,000	60,000
Natural Resources, Department of	2,565,498	1,522,100	1,043,398
Rail Development Commission	79,156	0	79,156
Transportation, Department of	6,197,692	4,994,556	1,203,136
Water Development Authority	324,573	0	324,573
Oklahoma	55,989,692	7,560,791	48,428,901
Advancement of Science and Technology, Center for the	34,830,643	0	34,830,643
Agriculture, Food, and Forestry, Department of	327,515	327,515	0
Environmental Quality, Department of	217,645	207,380	10,265
Grand River Dam Authority	525,000	0	525,000
Health, Department of	1,344,978	1,324,978	20,000
Human Services, Department of	566,539	466,122	100,417
Midwest Dairy Association, Oklahoma Division	4,850	0	4,850
Tobacco Settlement Endowment Trust	11,931,000	0	11,931,000
Transportation, Department of	4,692,262	3,753,809	938,453
Wildlife Conservation, Department of	1,549,260	1,480,987	68,273
Oregon	37,419,218	14,233,548	23,185,670
Agriculture, Department of	205,647	0	205,647
Business Oregon	14,300,000	0	14,300,000
Fish and Wildlife, Department of	12,566,339	9,095,199	3,471,140
Forestry, Department of	700,000	0	700,000
Geology and Mineral Industries, Department of	1,210,168	1,210,168	0
Human Services, Department of	2,185,495	932,330	1,253,165
Transportation, Department of	3,638,363	2,992,484	645,879
Water Resources Department	1,551,042	0	1,551,042
Watershed Enhancement Board	1,062,164	3,367	1,058,797
Pennsylvania	93,621,093	10,315,593	83,305,500
Agriculture, Department of	2,461,164	274,164	2,187,000
Community and Economic Development, Department of	21,500,000	0	21,500,000
Conservation and Natural Resources, Department of	309,471	0	309,471
Environmental Protection, Department of	1,931,821	278,352	1,653,469

TABLE 18

## State agency expenditures for R&amp;D for all performers, by state, department or agency, and source of funds: FY 2021

(Dollars)

State and department or agency	All R&D expenditures	Source of funds	
		Federal government	State and all others <sup>a</sup>
Fish and Boat Commission	259,114	106,143	152,971
Game Commission	7,513,056	5,057,881	2,455,175
Health, Department of	55,000,914	0	55,000,914
Susquehanna River Basin Commission	279,000	232,500	46,500
Transportation, Department of	4,366,553	4,366,553	0
Rhode Island	10,226,630	6,631,735	3,594,895
Commerce Corporation	1,127,624	0	1,127,624
Fish and Wildlife; Environmental Management, Department of	5,238,690	4,137,805	1,100,885
Marine Fisheries; Environmental Management, Department of	3,601,968	2,303,231	1,298,737
Narragansett Bay National Estuarine Research Reserve; Environmental Management, Department of	67,378	60,830	6,548
Transportation, Department of	87,500	70,000	17,500
Water Resources Board	103,470	59,869	43,601
South Carolina	44,557,581	27,721,413	16,836,168
Agriculture, Department of	1,119,867	248,039	871,828
Disabilities and Special Needs, Department of	9,437,880	4,903,580	4,534,300
Health and Environmental Control, Department of	1,314,349	1,314,349	0
Mental Health, Department of	53,424	0	53,424
Natural Resources, Department of	24,893,262	17,414,642	7,478,620
Public Service Authority	424,350	0	424,350
Research Authority	2,339,441	116,361	2,223,080
Sea Grant Consortium	2,328,658	1,613,370	715,288
Transportation, Department of	2,646,350	2,111,072	535,278
South Dakota	3,193,289	725,396	2,467,893
Corn Utilization Council	150,006	0	150,006
Midwest Dairy Association, South Dakota Division	63,050	0	63,050
Nutrient Research and Education Council	871,090	0	871,090
Oilseeds Council	278,954	0	278,954
Pulse Crop Council	4,063	0	4,063
Science and Technology Authority	1,968	1,968	0
Soybean Research and Promotion Council	342,368	0	342,368
Transportation, Department of	1,178,029	723,428	454,601
Weed and Pest Control Commission	43,411	0	43,411
Wheat Commission	260,350	0	260,350
Tennessee	10,287,206	7,551,808	2,735,398
Education, Department of	3,368,383	2,086,399	1,281,984
Environment and Conservation, Department of	235,156	118,476	116,680
Transportation, Department of	6,683,667	5,346,933	1,336,734
Texas	255,731,862	23,447,625	232,284,237
Agriculture, Department of	932,510	932,510	0
Alzheimer's Research and Care Consortium (TARCC)	4,615,313	0	4,615,313
Cancer Prevention and Research Institute	216,766,526	0	216,766,526
Environmental Quality, Commission on	1,922,455	584,503	1,337,952
Parks and Wildlife Department	6,215,323	4,378,230	1,837,093
State Health Services, Department of	1,602,005	1,131,209	470,796
Transportation, Department of	20,505,965	16,421,173	4,084,792
Water Development Board	3,171,765	0	3,171,765
Utah	8,316,189	1,701,485	6,614,704

TABLE 18

## State agency expenditures for R&amp;D for all performers, by state, department or agency, and source of funds: FY 2021

(Dollars)

State and department or agency	All R&D expenditures	Source of funds	
		Federal government	State and all others <sup>a</sup>
Environmental Quality, Department of	780,433	0	780,433
Health, Department of	5,350	150	5,200
Natural Resources, Department of	4,215,230	0	4,215,230
Transportation, Department of	3,315,176	1,701,335	1,613,841
Vermont	1,535,157	1,081,618	453,539
Agriculture, Food, and Markets, Agency of	274,477	0	274,477
Human Services, Agency of	163,373	163,373	0
Transportation, Agency of	1,097,307	918,245	179,062
Virginia	44,913,546	19,427,277	25,486,269
Aging and Rehabilitative Services, Department of	128,788	128,788	0
Agriculture and Consumer Services, Department of	2,821,841	913,514	1,908,327
Commonwealth Health Research Board	1,566,854	0	1,566,854
Conservation and Recreation, Department of	467,900	321,195	146,705
Education, Department of	2,495,435	2,055,700	439,735
Energy, Department of	1,530,387	654,826	875,561
Environmental Quality, Department of	366,645	268,504	98,141
Forensic Science, Department of	1,337,377	278,628	1,058,749
Forestry, Department of	701,053	529,587	171,466
Foundation for Healthy Youth	787,149	0	787,149
Innovative Technology, Center for	11,596,571	3,715,617	7,880,954
Institute for Advanced Learning and Research	57,000	0	57,000
Marine Resources Commission	1,847,815	1,620,709	227,106
Natural History, Museum of	900,582	0	900,582
Social Services, Department of	800,000	400,000	400,000
Transportation, Department of	15,943,293	7,652,026	8,291,267
Wildlife Resources, Department of	1,564,856	888,183	676,673
Washington	56,690,210	17,162,043	39,528,167
Agriculture, Department of	3,498,238	2,524,381	973,857
Alfalfa Seed Commission	34,000	0	34,000
Commerce, Department of	11,485,246	0	11,485,246
Cranberry Commission	16,000	0	16,000
Ecology, Department of	1,398,475	181,987	1,216,488
Fish and Wildlife, Department of	11,181,950	5,843,117	5,338,833
Fruit Commission	134,538	0	134,538
Grain Commission	1,860,504	0	1,860,504
Health, Department of	1,233,000	866,000	367,000
Hop Commission	272,988	0	272,988
Labor and Industries, Department of	3,408,658	662,381	2,746,277
Mint Commission	27,171	0	27,171
Natural Resources, Department of	7,587,114	570,918	7,016,196
Oilseeds Commission	46,152	0	46,152
Pesticide Registration, Commission on	357,969	0	357,969
Potato Commission	837,892	0	837,892
Puget Sound Partnership	850,000	0	850,000
Pulse Crops Commission	238,186	0	238,186
Red Raspberry Commission	220,248	52,248	168,000
Seed Potato Commission	25,639	0	25,639
Transportation, Department of	7,528,900	5,537,600	1,991,300

TABLE 18

**State agency expenditures for R&D for all performers, by state, department or agency, and source of funds: FY 2021**

(Dollars)

State and department or agency	All R&D expenditures	Source of funds	
		Federal government	State and all others <sup>a</sup>
Tree Fruit Research Commission	4,096,282	923,411	3,172,871
Turfgrass Seed Commission	107,060	0	107,060
Wine Commission	244,000	0	244,000
West Virginia	9,013,091	5,247,993	3,765,098
Agriculture, Department of	166,685	166,685	0
Geological and Economic Survey	1,611,208	245,035	1,366,173
Higher Education Policy Commission	2,924,776	1,588,952	1,335,824
Natural Resources, Department of	2,052,676	1,539,507	513,169
Transportation, Department of	2,257,746	1,707,814	549,932
Wisconsin	15,239,075	5,893,866	9,345,209
Agriculture, Trade and Consumer Protection, Department of	1,558,082	1,287,522	270,560
Economic Development Corporation	4,625,125	0	4,625,125
Natural Resources, Department of	6,879,700	2,812,900	4,066,800
Transportation, Department of	2,176,168	1,793,444	382,724
Wyoming	7,278,796	3,124,556	4,154,240
Agriculture, Department of	531,634	189,874	341,760
Business Council	1,544,835	0	1,544,835
Corrections, Department of	123,280	0	123,280
Energy Authority	413,533	0	413,533
Enhanced Oil Recovery Institute	1,126,393	492,847	633,546
Game and Fish Department	1,968,341	1,390,148	578,193
State Geological Survey	182,179	170,334	11,845
Transportation, Department of	1,105,147	881,353	223,794
Water Development Office	283,454	0	283,454

<sup>a</sup> State and all others category includes primarily other state governments and city, county, regional, township, or other local governments; it also includes nonprofit organizations and companies.

<sup>b</sup> U.S. total reflects all 50 states and the District of Columbia.

**Source(s):**

National Center for Science and Engineering Statistics, Survey of State Government Research and Development, FY 2021.



TABLE 19

## State agency expenditures for R&amp;D for intramural performers, by state, department or agency, and source of funds: FY 2021

(Dollars)

State and department or agency	R&D expenditures for intramural performers	Source of funds					
		Federal government	Own state government	Other nonfederal governments	Nonprofit organizations	Businesses and individuals	Higher education institutions
United States <sup>a</sup>	673,691,209	298,503,344	339,030,831	5,007,428	12,247,549	15,871,174	3,030,883
Alabama	17,295,499	2,700,032	14,369,750	138,647	87,070	0	0
Conservation and Natural Resources, Department of; Wildlife and Freshwater Fisheries Division	707,371	524,413	182,958	0	0	0	0
Education, Department of	12,449,000	225,000	12,224,000	0	0	0	0
Forensic Sciences, Department of	272,635	0	272,635	0	0	0	0
Geological Survey	2,690,719	1,060,928	1,504,211	38,510	87,070	0	0
Marine Environmental Science Consortium, Dauphin Island Sea Lab	1,175,774	889,691	185,946	100,137	0	0	0
Alaska	13,677,498	6,394,346	5,097,774	2,185,378	0	0	0
Environmental Conservation, Department of	38,918	13,049	25,869	0	0	0	0
Natural Resources, Department of; Division of Geological and Geophysical Surveys	9,086,400	2,149,354	4,751,668	2,185,378	0	0	0
Railroad Corporation	3,999,080	3,789,443	209,637	0	0	0	0
Transportation and Public Facilities, Department of	553,100	442,500	110,600	0	0	0	0
Arizona	3,522,494	2,549,694	952,253	0	20,547	0	0
Game and Fish Department	1,205,047	1,184,500	0	0	20,547	0	0
Juvenile Corrections, Department of	610,954	0	610,954	0	0	0	0
Transportation, Department of	1,706,493	1,365,194	341,299	0	0	0	0
Arkansas	170,429	38,919	131,510	0	0	0	0
Natural Heritage Commission	145,031	18,601	126,430	0	0	0	0
Transportation, Department of	25,398	20,318	5,080	0	0	0	0
California	81,309,690	3,696,424	77,406,561	206,705	0	0	0
Air Resources Board	9,600,011	0	9,600,011	0	0	0	0
Conservation, Department of	502,000	105,000	397,000	0	0	0	0
Energy Commission	23,000,000	0	23,000,000	0	0	0	0
Environmental Health Hazard Assessment, Office of	16,750,976	0	16,750,976	0	0	0	0
Motor Vehicles, Department of	1,551,423	0	1,344,718	206,705	0	0	0
Pesticide Regulation, Department of	9,087,241	0	9,087,241	0	0	0	0
Public Health, Department of	337,200	44,000	293,200	0	0	0	0
Rehabilitation, Department of	348,771	348,771	0	0	0	0	0

TABLE 19

## State agency expenditures for R&amp;D for intramural performers, by state, department or agency, and source of funds: FY 2021

(Dollars)

State and department or agency	R&D expenditures for intramural performers	Source of funds					
		Federal government	Own state government	Other nonfederal governments	Nonprofit organizations	Businesses and individuals	Higher education institutions
Social Services, Department of	9,498	0	9,498	0	0	0	0
State Water Resources Control Board	1,106,400	10,000	1,096,400	0	0	0	0
Toxic Substances Control, Department of	1,887,600	0	1,887,600	0	0	0	0
Transportation, Department of	15,762,848	3,188,048	12,574,800	0	0	0	0
Water Resources, Department of	1,365,722	605	1,365,117	0	0	0	0
Colorado	11,957,421	3,646,854	8,260,965	0	48,004	1,598	0
Agriculture, Department of	424,585	418,882	5,703	0	0	0	0
Natural Resources, Department of	7,505,755	2,441,788	5,014,365	0	48,004	1,598	0
Public Health and Environment, Department of	2,384,904	43,144	2,341,760	0	0	0	0
Public Safety, Department of; Division of Criminal Justice	1,020,036	120,899	899,137	0	0	0	0
Transportation, Department of	622,141	622,141	0	0	0	0	0
Connecticut	27,217,883	11,631,280	15,586,603	0	0	0	0
Agricultural Experiment Station	13,302,928	5,799,104	7,503,824	0	0	0	0
Energy and Environmental Protection, Department of	6,638,597	5,089,290	1,549,307	0	0	0	0
Mental Health and Addiction Services, Department of	6,966,358	536,219	6,430,139	0	0	0	0
Transportation, Department of	310,000	206,667	103,333	0	0	0	0
Delaware	1,894,419	307,938	1,586,481	0	0	0	0
Geological Survey	1,894,419	307,938	1,586,481	0	0	0	0
District of Columbia	3,705,656	2,474,200	1,154,586	0	40,683	0	36,187
Forensic Sciences, Department of	75,566	30,000	34,566	0	11,000	0	0
Health, Department of	2,502,492	2,342,122	94,500	0	29,683	0	36,187
Transportation, Department of	127,598	102,078	25,520	0	0	0	0
Water and Sewer Authority	1,000,000	0	1,000,000	0	0	0	0
Florida	50,793,339	14,207,726	32,005,707	267	97,679	3,512,563	969,397
Agriculture and Consumer Services, Department of	1,399,535	1,238,422	161,113	0	0	0	0
Citrus, Department of	119,678	0	119,678	0	0	0	0
Fish and Wildlife Conservation Commission	47,842,060	12,969,304	30,292,850	267	97,679	3,512,563	969,397
Transportation, Department of	1,432,066	0	1,432,066	0	0	0	0
Georgia	2,016,590	1,927,148	89,442	0	0	0	0

TABLE 19

## State agency expenditures for R&amp;D for intramural performers, by state, department or agency, and source of funds: FY 2021

(Dollars)

State and department or agency	R&D expenditures for intramural performers	Source of funds					
		Federal government	Own state government	Other nonfederal governments	Nonprofit organizations	Businesses and individuals	Higher education institutions
Natural Resources, Department of	171,752	82,310	89,442	0	0	0	0
Southern States Energy Board	1,844,838	1,844,838	0	0	0	0	0
Hawaii	2,311,413	2,311,413	0	0	0	0	0
Agriculture, Department of	123,148	123,148	0	0	0	0	0
Business, Economic Development, and Tourism, Department of	2,188,265	2,188,265	0	0	0	0	0
Idaho	7,124,769	5,868,974	1,001,191	18,610	52,346	183,648	0
Fish and Game, Department of	6,988,949	5,772,212	962,133	18,610	52,346	183,648	0
Mint Commission	14,867	0	14,867	0	0	0	0
Transportation Department	120,953	96,762	24,191	0	0	0	0
Illinois	554,067	0	554,067	0	0	0	0
Transportation, Department of	554,067	0	554,067	0	0	0	0
Indiana	470,344	200,428	269,916	0	0	0	0
Natural Resources, Department of	416,747	157,551	259,196	0	0	0	0
Transportation, Department of	53,597	42,877	10,720	0	0	0	0
Iowa	3,091,936	1,562,393	1,446,047	0	83,496	0	0
Human Rights, Criminal and Juvenile Justice Planning, Division of, Department of	472,395	166,799	222,100	0	83,496	0	0
Natural Resources, Department of	2,619,541	1,395,594	1,223,947	0	0	0	0
Kansas	1,294,643	826,068	439,040	0	0	0	29,535
State Board of Regents	5,489	0	5,489	0	0	0	0
Transportation, Department of	968,014	774,411	193,603	0	0	0	0
Water Office	321,140	51,657	239,948	0	0	0	29,535
Kentucky	1,946,017	1,191,485	754,532	0	0	0	0
Fish and Wildlife Resources, Department of	1,946,017	1,191,485	754,532	0	0	0	0
Louisiana	9,555,840	7,012,283	2,543,557	0	0	0	0
Coastal Protection and Restoration Authority	494,555	26,636	467,919	0	0	0	0
Transportation and Development, Department of	4,785,327	3,828,261	957,066	0	0	0	0
Wildlife and Fisheries, Department of	4,275,958	3,157,386	1,118,572	0	0	0	0
Maine	10,370,488	8,177,199	1,721,061	453,312	0	18,916	0
Agriculture, Conservation and Forestry, Department of	1,306,030	381,170	924,860	0	0	0	0
Inland Fisheries and Wildlife, Department of	763,201	590,794	153,491	0	0	18,916	0

TABLE 19

## State agency expenditures for R&amp;D for intramural performers, by state, department or agency, and source of funds: FY 2021

(Dollars)

State and department or agency	R&D expenditures for intramural performers	Source of funds					
		Federal government	Own state government	Other nonfederal governments	Nonprofit organizations	Businesses and individuals	Higher education institutions
Marine Resources, Department of	2,466,000	1,945,000	521,000	0	0	0	0
MDI Biological Laboratory, Center for Biomedical Innovation	5,335,257	4,860,235	21,710	453,312	0	0	0
Transportation, Department of	500,000	400,000	100,000	0	0	0	0
Maryland	878,718	654,603	224,115	0	0	0	0
Natural Resources, Department of	287,741	182,782	104,959	0	0	0	0
Transportation, Department of	590,977	471,821	119,156	0	0	0	0
Massachusetts	1,208,652	446,541	562,111	200,000	0	0	0
Environmental Protection, Department of	278,302	22,369	255,933	0	0	0	0
Fish and Game, Department of	604,975	424,172	180,803	0	0	0	0
Gaming Commission	81,600	0	81,600	0	0	0	0
Mental Health, Department of	43,775	0	43,775	0	0	0	0
Water Resources Authority	200,000	0	0	200,000	0	0	0
Michigan	237,018	0	237,018	0	0	0	0
Environmental, Great Lakes, and Energy, Department of	237,018	0	237,018	0	0	0	0
Minnesota	2,458,490	1,071,612	1,386,878	0	0	0	0
Agriculture, Department of	876,319	0	876,319	0	0	0	0
Natural Resources, Department of	1,561,371	1,071,612	489,759	0	0	0	0
Transportation, Department of	20,800	0	20,800	0	0	0	0
Mississippi	2,005,582	864,505	896,516	244,561	0	0	0
Environmental Quality, Department of	105,387	105,387	0	0	0	0	0
Marine Resources, Department of	910,795	83,292	582,942	244,561	0	0	0
Transportation, Department of	218,157	174,526	43,631	0	0	0	0
Wildlife, Fisheries, and Parks, Department of	771,243	501,300	269,943	0	0	0	0
Missouri	6,455,476	1,681,282	4,774,194	0	0	0	0
Conservation, Department of	6,455,476	1,681,282	4,774,194	0	0	0	0
Montana	2,846,129	2,092,027	674,111	0	79,991	0	0
Environmental Quality, Department of	50,304	9,304	41,000	0	0	0	0
Fish, Wildlife and Parks, Department of	2,669,435	1,981,611	607,833	0	79,991	0	0
Transportation, Department of	126,390	101,112	25,278	0	0	0	0
Nebraska	2,128,727	1,353,742	774,985	0	0	0	0

TABLE 19

## State agency expenditures for R&amp;D for intramural performers, by state, department or agency, and source of funds: FY 2021

(Dollars)

State and department or agency	R&D expenditures for intramural performers	Source of funds					
		Federal government	Own state government	Other nonfederal governments	Nonprofit organizations	Businesses and individuals	Higher education institutions
Game and Parks Commission	2,037,727	1,353,742	683,985	0	0	0	0
Transportation, Department of	91,000	0	91,000	0	0	0	0
Nevada	237,064	177,064	60,000	0	0	0	0
Agriculture, Department of	237,064	177,064	60,000	0	0	0	0
New Hampshire	27,186	21,749	5,437	0	0	0	0
Transportation, Department of	27,186	21,749	5,437	0	0	0	0
New Jersey	3,006,539	510,793	2,495,746	0	0	0	0
Children and Families, Department of	192,394	8,540	183,854	0	0	0	0
Community Affairs, Department of	5,000	0	5,000	0	0	0	0
Corrections, Department of	309,449	0	309,449	0	0	0	0
Environmental Protection, Department of	1,997,500	95,500	1,902,000	0	0	0	0
Pinelands Commission	465,753	406,753	59,000	0	0	0	0
State Parole Board, New Jersey	36,443	0	36,443	0	0	0	0
New Mexico	1,535,533	1,040,233	387,247	0	108,053	0	0
Cultural Affairs, Department of	108,053	0	0	0	108,053	0	0
Game and Fish, Department of	500,000	250,000	250,000	0	0	0	0
Transportation, Department of	927,480	790,233	137,247	0	0	0	0
New York	259,432,614	140,797,896	94,234,010	720,272	9,706,329	12,124,449	1,849,658
Agriculture and Markets, Department of	2,795,000	2,795,000	0	0	0	0	0
Energy Research and Development Authority	7,195,015	0	7,195,015	0	0	0	0
Environmental Conservation, Department of	4,383,537	1,256,046	3,127,491	0	0	0	0
Health, Department of	34,949,991	18,745,981	13,043,342	720,272	2,312,854	54,603	72,939
Mental Health, Office of	131,858,494	67,993,097	54,900,000	0	5,719,930	2,222,141	1,023,326
People with Developmental Disabilities, Office of	1,614,170	1,468,008	0	0	146,162	0	0
Power Authority	1,397,798	0	1,397,798	0	0	0	0
Roswell Park Comprehensive Cancer Center	63,867,651	46,823,504	4,915,666	0	1,527,383	9,847,705	753,393
State Museum	9,748,833	418,065	9,330,768	0	0	0	0
Transportation, Department of	1,622,125	1,298,195	323,930	0	0	0	0
North Carolina	17,422,714	1,368,548	16,054,166	0	0	0	0
Agriculture and Consumer Services, Department of	13,922,911	0	13,922,911	0	0	0	0

TABLE 19

## State agency expenditures for R&amp;D for intramural performers, by state, department or agency, and source of funds: FY 2021

(Dollars)

State and department or agency	R&D expenditures for intramural performers	Source of funds					
		Federal government	Own state government	Other nonfederal governments	Nonprofit organizations	Businesses and individuals	Higher education institutions
Environmental Quality, Department of	1,223,587	915,313	308,274	0	0	0	0
Natural and Cultural Resources, Department of	1,546,672	0	1,546,672	0	0	0	0
Transportation, Department of	729,544	453,235	276,309	0	0	0	0
North Dakota	294,748	116,830	177,918	0	0	0	0
Historical Society of North Dakota	232,829	67,295	165,534	0	0	0	0
Transportation, Department of	61,919	49,535	12,384	0	0	0	0
Ohio	1,808,996	1,311,922	497,074	0	0	0	0
Education, Department of	15,000	0	15,000	0	0	0	0
Mental Health and Addictions Services, Department of	1,030,000	1,000,000	30,000	0	0	0	0
Natural Resources, Department of	763,996	311,922	452,074	0	0	0	0
Oklahoma	2,575,950	1,965,050	590,900	20,000	0	0	0
Environmental Quality, Department of	217,645	207,380	10,265	0	0	0	0
Grand River Dam Authority	315,000	0	315,000	0	0	0	0
Health, Department of	670,578	650,578	0	20,000	0	0	0
Human Services, Department of	566,539	466,122	100,417	0	0	0	0
Transportation, Department of	770,983	616,786	154,197	0	0	0	0
Wildlife Conservation, Department of	35,205	24,184	11,021	0	0	0	0
Oregon	16,083,800	10,906,808	4,764,289	412,703	0	0	0
Fish and Wildlife, Department of	11,125,917	8,680,282	2,445,635	0	0	0	0
Forestry, Department of	350,000	0	350,000	0	0	0	0
Geology and Mineral Industries, Department of	1,210,168	1,210,168	0	0	0	0	0
Human Services, Department of	2,185,495	932,330	1,253,165	0	0	0	0
Transportation, Department of	128,939	80,661	48,278	0	0	0	0
Water Resources Department	1,072,711	0	660,008	412,703	0	0	0
Watershed Enhancement Board	10,570	3,367	7,203	0	0	0	0
Pennsylvania	8,172,000	5,445,889	2,685,937	35,000	3,240	0	1,934
Conservation and Natural Resources, Department of	253,240	0	250,000	0	3,240	0	0
Environmental Protection, Department of	124,196	124,196	0	0	0	0	0
Fish and Boat Commission	231,314	93,812	135,568	0	0	0	1,934
Game Commission	7,358,250	5,057,881	2,300,369	0	0	0	0

TABLE 19

## State agency expenditures for R&amp;D for intramural performers, by state, department or agency, and source of funds: FY 2021

(Dollars)

State and department or agency	R&D expenditures for intramural performers	Source of funds					
		Federal government	Own state government	Other nonfederal governments	Nonprofit organizations	Businesses and individuals	Higher education institutions
Susquehanna River Basin Commission	205,000	170,000	0	35,000	0	0	0
Rhode Island	8,118,721	5,668,950	2,449,771	0	0	0	0
Fish and Wildlife; Environmental Management, Department of	4,690,761	3,589,876	1,100,885	0	0	0	0
Marine Fisheries; Environmental Management, Department of	3,257,112	1,958,375	1,298,737	0	0	0	0
Narragansett Bay National Estuarine Research Reserve; Environmental Management, Department of	67,378	60,830	6,548	0	0	0	0
Water Resources Board	103,470	59,869	43,601	0	0	0	0
South Carolina	27,709,617	19,454,775	8,123,246	0	58,824	0	72,772
Health and Environmental Control, Department of	1,204,217	1,204,217	0	0	0	0	0
Mental Health, Department of	53,424	0	0	0	53,424	0	0
Natural Resources, Department of	24,621,964	17,143,344	7,444,508	0	0	0	34,112
Sea Grant Consortium	1,822,502	1,107,214	671,228	0	5,400	0	38,660
Transportation, Department of	7,510	0	7,510	0	0	0	0
South Dakota	359,853	179,763	180,090	0	0	0	0
Soybean Research and Promotion Council	11,255	0	11,255	0	0	0	0
Transportation, Department of	348,598	179,763	168,835	0	0	0	0
Tennessee	1,289,255	857,781	420,746	0	10,728	0	0
Education, Department of	1,054,099	739,305	304,066	0	10,728	0	0
Environment and Conservation, Department of	235,156	118,476	116,680	0	0	0	0
Texas	2,686,856	1,366,339	1,320,517	0	0	0	0
Environmental Quality, Commission on	41,548	0	41,548	0	0	0	0
Parks and Wildlife Department	2,139,214	1,331,041	808,173	0	0	0	0
State Health Services, Department of	506,094	35,298	470,796	0	0	0	0
Utah	5,326,711	211,570	5,115,141	0	0	0	0
Environmental Quality, Department of	75,954	0	75,954	0	0	0	0
Health, Department of	5,350	150	5,200	0	0	0	0
Natural Resources, Department of	4,215,230	0	4,215,230	0	0	0	0
Transportation, Department of	1,030,177	211,420	818,757	0	0	0	0

TABLE 19

## State agency expenditures for R&amp;D for intramural performers, by state, department or agency, and source of funds: FY 2021

(Dollars)

State and department or agency	R&D expenditures for intramural performers	Source of funds					
		Federal government	Own state government	Other nonfederal governments	Nonprofit organizations	Businesses and individuals	Higher education institutions
Vermont	596,129	546,844	49,285	0	0	0	0
Human Services, Agency of	163,373	163,373	0	0	0	0	0
Transportation, Agency of	432,756	383,471	49,285	0	0	0	0
Virginia	16,624,998	6,150,929	10,325,664	41,405	20,000	30,000	57,000
Aging and Rehabilitative Services, Department of	10,076	10,076	0	0	0	0	0
Conservation and Recreation, Department of	441,900	306,195	44,300	41,405	20,000	30,000	0
Education, Department of	518,234	216,984	301,250	0	0	0	0
Energy, Department of	1,480,387	604,826	875,561	0	0	0	0
Environmental Quality, Department of	11,129	8,347	2,782	0	0	0	0
Forensic Science, Department of	1,337,377	278,628	1,058,749	0	0	0	0
Forestry, Department of	685,865	514,399	171,466	0	0	0	0
Innovative Technology, Center for	992,151	400,765	591,386	0	0	0	0
Institute for Advanced Learning and Research	57,000	0	0	0	0	0	57,000
Marine Resources Commission	261,607	261,607	0	0	0	0	0
Natural History, Museum of	900,582	0	900,582	0	0	0	0
Social Services, Department of	800,000	400,000	400,000	0	0	0	0
Transportation, Department of	9,128,690	3,149,102	5,979,588	0	0	0	0
Washington	21,349,303	9,409,743	9,868,765	225,836	1,830,559	0	14,400
Ecology, Department of	1,082,202	181,987	877,815	0	8,000	0	14,400
Fish and Wildlife, Department of	11,177,207	5,839,604	3,540,273	0	1,797,330	0	0
Health, Department of	1,172,000	823,000	349,000	0	0	0	0
Labor and Industries, Department of	3,408,658	662,381	2,746,277	0	0	0	0
Natural Resources, Department of	2,469,616	500,265	1,718,286	225,836	25,229	0	0
Transportation, Department of	1,742,600	1,396,000	346,600	0	0	0	0
Tree Fruit Research Commission	297,020	6,506	290,514	0	0	0	0
West Virginia	3,378,070	1,919,073	1,458,997	0	0	0	0
Agriculture, Department of	166,685	166,685	0	0	0	0	0
Geological and Economic Survey	1,253,631	244,803	1,008,828	0	0	0	0
Higher Education Policy Commission	157,078	157,078	0	0	0	0	0
Natural Resources, Department of	1,800,676	1,350,507	450,169	0	0	0	0
Wisconsin	4,401,850	2,748,540	1,653,310	0	0	0	0



TABLE 19

**State agency expenditures for R&D for intramural performers, by state, department or agency, and source of funds: FY 2021**

(Dollars)

State and department or agency	R&D expenditures for intramural performers	Source of funds					
		Federal government	Own state government	Other nonfederal governments	Nonprofit organizations	Businesses and individuals	Higher education institutions
Natural Resources, Department of	4,192,800	2,581,300	1,611,500	0	0	0	0
Transportation, Department of	209,050	167,240	41,810	0	0	0	0
Wyoming	2,753,475	1,437,139	1,211,604	104,732	0	0	0
Corrections, Department of	123,280	0	123,280	0	0	0	0
Energy Authority	413,533	0	310,150	103,383	0	0	0
Enhanced Oil Recovery Institute	593,746	260,200	333,546	0	0	0	0
Game and Fish Department	1,345,407	930,341	413,717	1,349	0	0	0
State Geological Survey	182,179	170,334	11,845	0	0	0	0
Transportation, Department of	95,330	76,264	19,066	0	0	0	0

<sup>a</sup> U.S. total reflects all 50 states and the District of Columbia.**Note(s):**

Intramural performers include a department's or agency's own employees who perform R&D and services performed by others in support of an internal R&D project.

**Source(s):**

National Center for Science and Engineering Statistics, Survey of State Government Research and Development, FY 2021.

TABLE 20

## State agency expenditures for R&amp;D, by state, department or agency, and performer: FY 2021

(Dollars)

State and department or agency	All R&D expenditures	Intramural performers <sup>a</sup>	Extramural performers <sup>b</sup>			
			Total	Academic institutions	Companies and individuals <sup>c</sup>	Other <sup>d</sup>
United States <sup>e</sup>	2,471,471,226	673,691,209	1,797,780,017	960,494,009	508,757,034	328,528,974
Alabama	29,812,345	17,295,499	12,516,846	6,296,012	120,834	6,100,000
Commerce, Department of	3,000,000	0	3,000,000	1,000,000	0	2,000,000
Conservation and Natural Resources, Department of; Wildlife and Freshwater Fisheries Division	2,300,326	707,371	1,592,955	1,592,955	0	0
Economic & Community Affairs, Department of	533,590	0	533,590	412,756	120,834	0
Education, Department of	13,196,000	12,449,000	747,000	247,000	0	500,000
Forensic Sciences, Department of	272,635	272,635	0	0	0	0
Geological Survey	2,690,719	2,690,719	0	0	0	0
Marine Environmental Science Consortium, Dauphin Island Sea Lab	1,175,774	1,175,774	0	0	0	0
Supercomputer Authority	4,432,300	0	4,432,300	832,300	0	3,600,000
Transportation, Department of	2,211,001	0	2,211,001	2,211,001	0	0
Alaska	19,671,388	13,677,498	5,993,890	1,284,854	4,013,636	695,400
Environmental Conservation, Department of	866,695	38,918	827,777	86,454	741,323	0
Housing Finance Corporation	500,000	0	500,000	0	0	500,000
Natural Resources, Department of; Division of Geological and Geophysical Surveys	9,086,400	9,086,400	0	0	0	0
Railroad Corporation	6,685,193	3,999,080	2,686,113	0	2,686,113	0
Seafood Marketing Institute	26,000	0	26,000	26,000	0	0
Transportation and Public Facilities, Department of	2,507,100	553,100	1,954,000	1,172,400	586,200	195,400
Arizona	15,011,508	3,522,494	11,489,014	6,118,524	1,195,026	4,175,464
Agriculture, Department of	1,167,546	0	1,167,546	1,095,860	71,686	0
Game and Fish Department	1,585,868	1,205,047	380,821	371,021	0	9,800
Health Services, Department of	8,467,153	0	8,467,153	4,436,167	0	4,030,986
Juvenile Corrections, Department of	610,954	610,954	0	0	0	0
Transportation, Department of	3,179,987	1,706,493	1,473,494	215,476	1,123,340	134,678
Arkansas	9,908,767	170,429	9,738,338	7,506,063	603,235	1,629,040
Agriculture, Department of	152,420	0	152,420	152,420	0	0
Beef Council	60,406	0	60,406	60,406	0	0
Corn and Grain Sorghum Promotion Board	992,000	0	992,000	992,000	0	0
Economic Development Commission	2,075,000	0	2,075,000	0	575,000	1,500,000
Game and Fish Commission	872,648	0	872,648	743,608	0	129,040
Midwest Dairy Association, Arkansas Division	9,700	0	9,700	9,700	0	0
Natural Heritage Commission	195,378	145,031	50,347	22,112	28,235	0
Rice Research and Promotion Board	2,775,000	0	2,775,000	2,775,000	0	0
Soybean Promotion Board	2,400,000	0	2,400,000	2,400,000	0	0
Transportation, Department of	276,215	25,398	250,817	250,817	0	0
Wheat Promotion Board	100,000	0	100,000	100,000	0	0
California	523,819,635	81,309,690	442,509,945	145,143,314	197,745,251	99,621,380
Air Resources Board	16,703,318	9,600,011	7,103,307	5,770,995	910,949	421,363
Children and Families Commission (First 5 California)	4,493,407	0	4,493,407	1,862,907	0	2,630,500

TABLE 20

## State agency expenditures for R&amp;D, by state, department or agency, and performer: FY 2021

(Dollars)

State and department or agency	All R&D expenditures	Intramural performers <sup>a</sup>	Extramural performers <sup>b</sup>			
			Total	Academic institutions	Companies and individuals <sup>c</sup>	Other <sup>d</sup>
Conservation, Department of	1,508,933	502,000	1,006,933	625,420	335,000	46,513
Corrections and Rehabilitation, Department of	1,139,419	0	1,139,419	0	1,139,419	0
Covered California	3,793,141	0	3,793,141	0	3,793,141	0
Dairy Council	18,672	0	18,672	18,672	0	0
Delta Stewardship Council	4,093,320	0	4,093,320	2,846,849	354,446	892,025
Energy Commission	230,900,000	23,000,000	207,900,000	14,300,000	164,400,000	29,200,000
Environmental Health Hazard Assessment, Office of	17,522,940	16,750,976	771,964	727,499	44,465	0
Food and Agriculture, Department of	4,686,177	0	4,686,177	3,400,342	1,120,467	165,368
Forestry and Fire Protection, Department of	5,500,000	0	5,500,000	0	0	5,500,000
Horse Racing Board	695,130	0	695,130	695,130	0	0
Housing and Community Development, Department of	150,000	0	150,000	150,000	0	0
Institute for Regenerative Medicine	95,739,916	0	95,739,916	63,202,755	22,240,865	10,296,296
Mental Health Services Oversight and Accountability Commission	2,500,000	0	2,500,000	2,500,000	0	0
Motor Vehicles, Department of	1,551,423	1,551,423	0	0	0	0
Parks And Recreation, Department of	1,500,000	0	1,500,000	1,500,000	0	0
Pesticide Regulation, Department of	11,642,098	9,087,241	2,554,857	822,836	0	1,732,021
Public Health, Department of	6,089,200	337,200	5,752,000	5,752,000	0	0
Public Utilities Commission, Executive Division	37,000,000	0	37,000,000	0	0	37,000,000
Rehabilitation, Department of	2,702,614	348,771	2,353,843	1,086,548	0	1,267,295
Resources Recycling and Recovery, Department of	155,635	0	155,635	64,041	91,594	0
Social Services, Department of	3,585,336	9,498	3,575,838	3,575,838	0	0
State Coastal Conservancy	835,489	0	835,489	38,237	56,087	741,165
State Water Resources Control Board	5,377,799	1,106,400	4,271,399	2,014,248	502,001	1,755,150
Toxic Substances Control, Department of	1,887,600	1,887,600	0	0	0	0
Transportation, Department of	47,716,505	15,762,848	31,953,657	24,301,850	1,372,002	6,279,805
Water Resources, Department of	14,331,563	1,365,722	12,965,841	9,887,147	1,384,815	1,693,879
Colorado	38,436,248	11,957,421	26,478,827	7,509,337	16,891,409	2,078,081
Agriculture, Department of	676,649	424,585	252,064	247,064	0	5,000
Economic Development and International Trade, Office of	21,331,814	0	21,331,814	4,400,716	16,477,098	454,000
Higher Education Competitive, Research Authority	1,748,478	0	1,748,478	1,748,478	0	0
Natural Resources, Department of	7,530,151	7,505,755	24,396	19,396	0	5,000
Public Health and Environment, Department of	2,591,744	2,384,904	206,840	206,840	0	0
Public Safety, Department of; Division of Criminal Justice	1,040,036	1,020,036	20,000	0	20,000	0
Transportation, Department of	3,274,866	622,141	2,652,725	672,808	365,836	1,614,081
Wine Industry Development Board	242,510	0	242,510	214,035	28,475	0
Connecticut	55,050,702	27,217,883	27,832,819	4,179,932	22,529,787	1,123,100
Agricultural Experiment Station	13,302,928	13,302,928	0	0	0	0

TABLE 20

## State agency expenditures for R&amp;D, by state, department or agency, and performer: FY 2021

(Dollars)

State and department or agency	All R&D expenditures	Intramural performers <sup>a</sup>	Extramural performers <sup>b</sup>			
			Total	Academic institutions	Companies and individuals <sup>c</sup>	Other <sup>d</sup>
Energy and Environmental Protection, Department of	7,445,420	6,638,597	806,823	712,194	94,629	0
Innovation Inc.	23,315,658	0	23,315,658	880,500	22,435,158	0
Mental Health and Addiction Services, Department of	6,966,358	6,966,358	0	0	0	0
Public Health, Department of	20,967	0	20,967	20,967	0	0
Social Services, Department of	1,591,082	0	1,591,082	1,591,082	0	0
Transportation, Department of	2,408,289	310,000	2,098,289	975,189	0	1,123,100
Delaware	3,338,773	1,894,419	1,444,354	700,491	693,063	50,800
Geological Survey	1,945,219	1,894,419	50,800	0	0	50,800
Natural Resources and Environmental Control, Department of	257,515	0	257,515	257,515	0	0
Sustainable Energy Utility	46,054	0	46,054	12,100	33,954	0
Transportation, Department of	1,089,985	0	1,089,985	430,876	659,109	0
District of Columbia	8,128,666	3,705,656	4,423,010	746,489	3,481,521	195,000
Energy and Environment, Department of	207,000	0	207,000	0	12,000	195,000
Forensic Sciences, Department of	75,566	75,566	0	0	0	0
Health, Department of	5,942,318	2,502,492	3,439,826	0	3,439,826	0
Transportation, Department of	303,782	127,598	176,184	146,489	29,695	0
Water and Sewer Authority	1,600,000	1,000,000	600,000	600,000	0	0
Florida	178,360,429	50,793,339	127,567,090	73,276,602	3,326,524	50,963,964
Agriculture and Consumer Services, Department of	16,258,186	1,399,535	14,858,651	6,225,091	47,725	8,585,835
Business and Professional Regulation, Department of	100,000	0	100,000	100,000	0	0
Citrus, Department of	999,748	119,678	880,070	192,311	92,050	595,709
Environmental Protection, Department of	129,087	0	129,087	68,000	61,087	0
Fish and Wildlife Conservation Commission	57,203,692	47,842,060	9,361,632	2,706,542	1,500,662	5,154,428
Health, Department of	92,142,161	0	92,142,161	55,514,169	0	36,627,992
Space Florida	1,300,000	0	1,300,000	100,000	1,200,000	0
Transportation, Department of	10,227,555	1,432,066	8,795,489	8,370,489	425,000	0
Georgia	18,798,826	2,016,590	16,782,236	6,416,100	8,661,580	1,704,556
Natural Resources, Department of	818,245	171,752	646,493	646,493	0	0
Southern States Energy Board	11,557,770	1,844,838	9,712,932	882,802	8,661,580	168,550
Transportation, Department of	6,422,811	0	6,422,811	4,886,805	0	1,536,006
Hawaii	10,315,823	2,311,413	8,004,410	5,526,606	2,398,104	79,700
Agriculture, Department of	484,028	123,148	360,880	233,076	48,104	79,700
Business, Economic Development, and Tourism, Department of	2,538,265	2,188,265	350,000	0	350,000	0
Land and Natural Resources, Department of	280,000	0	280,000	280,000	0	0
Natural Energy Laboratory of Hawaii Authority	2,000,000	0	2,000,000	0	2,000,000	0
Transportation, Department of	5,013,530	0	5,013,530	5,013,530	0	0
Idaho	18,210,054	7,124,769	11,085,285	7,147,867	220,624	3,716,794
Agriculture, Department of	336,276	0	336,276	190,121	0	146,155
Alfalfa and Clover Seed Commission	2,300	0	2,300	2,300	0	0
Barley Commission	210,712	0	210,712	210,712	0	0

TABLE 20

## State agency expenditures for R&amp;D, by state, department or agency, and performer: FY 2021

(Dollars)

State and department or agency	All R&D expenditures	Intramural performers <sup>a</sup>	Extramural performers <sup>b</sup>			
			Total	Academic institutions	Companies and individuals <sup>c</sup>	Other <sup>d</sup>
Bean Commission	40,640	0	40,640	40,640	0	0
Beef Council	123,053	0	123,053	38,029	85,024	0
Commerce, Department of	1,020,240	0	1,020,240	1,020,240	0	0
Dairy West	2,805,947	0	2,805,947	2,166,524	0	639,423
Environmental Quality, Department of	578,257	0	578,257	0	0	578,257
Fish and Game, Department of	8,895,129	6,988,949	1,906,180	864,375	0	1,041,805
Honey Commission	3,500	0	3,500	3,500	0	0
Mint Commission	14,867	14,867	0	0	0	0
Oilseed Commission	65,000	0	65,000	65,000	0	0
Pea and Lentil Commission	103,479	0	103,479	103,479	0	0
Potato Commission	747,788	0	747,788	678,188	11,600	58,000
Transportation Department	2,095,738	120,953	1,974,785	597,631	124,000	1,253,154
Wheat Commission	1,167,128	0	1,167,128	1,167,128	0	0
Illinois	16,213,542	554,067	15,659,475	11,875,208	121,074	3,663,193
Children and Family Services, Department of	2,468,113	0	2,468,113	2,468,113	0	0
Midwest Dairy Association, Illinois Division	19,400	0	19,400	19,400	0	0
Nutrient Research and Education Council	4,000,000	0	4,000,000	4,000,000	0	0
Public Health, Department of	295,040	0	295,040	0	0	295,040
Transportation, Department of	9,430,989	554,067	8,876,922	5,387,695	121,074	3,368,153
Indiana	10,485,205	470,344	10,014,861	8,525,017	1,200,287	289,557
Economic Development Corporation	1,424,123	0	1,424,123	100,279	1,187,287	136,557
Environmental Management, Department of	16,935	0	16,935	9,967	0	6,968
Natural Resources, Department of	1,086,728	416,747	669,981	543,439	0	126,542
St. Joseph River Basin Commission	32,490	0	32,490	0	13,000	19,490
Transportation, Department of	7,924,929	53,597	7,871,332	7,871,332	0	0
Iowa	10,579,028	3,091,936	7,487,092	5,794,456	1,692,636	0
Beef Industry Council	58,898	0	58,898	58,898	0	0
Human Rights, Criminal and Juvenile Justice Planning, Division of, Department of	472,395	472,395	0	0	0	0
Midwest Dairy Association, Iowa Division	111,550	0	111,550	111,550	0	0
Natural Resources, Department of	2,994,029	2,619,541	374,488	374,488	0	0
Transportation, Department of	6,942,156	0	6,942,156	5,249,520	1,692,636	0
Kansas	15,002,554	1,294,643	13,707,911	11,810,839	120,579	1,776,493
Corn Commission	654,979	0	654,979	654,979	0	0
Grain Sorghum Commission	277,300	0	277,300	277,300	0	0
Midwest Dairy Association, Kansas Division	14,550	0	14,550	14,550	0	0
Soybean Commission	1,200,000	0	1,200,000	1,200,000	0	0
State Board of Regents	998,754	5,489	993,265	993,265	0	0
Sunflower Commission	20,000	0	20,000	10,000	0	10,000
Transportation, Department of	3,237,535	968,014	2,269,521	790,879	75,079	1,403,563
Water Office	1,011,797	321,140	690,657	327,727	0	362,930
Wheat Commission	1,378,000	0	1,378,000	1,332,500	45,500	0
Wildlife and Parks, Department of	6,209,639	0	6,209,639	6,209,639	0	0

TABLE 20

## State agency expenditures for R&amp;D, by state, department or agency, and performer: FY 2021

(Dollars)

State and department or agency	All R&D expenditures	Intramural performers <sup>a</sup>	Extramural performers <sup>b</sup>			
			Total	Academic institutions	Companies and individuals <sup>c</sup>	Other <sup>d</sup>
Kentucky	29,737,068	1,946,017	27,791,051	24,466,657	1,620,813	1,703,581
Behavioral Health, Developmental and Intellectual Disabilities	67,500	0	67,500	0	0	67,500
Economic Development, Cabinet for	3,048,739	0	3,048,739	1,648,739	1,400,000	0
Fish and Wildlife Resources, Department of	2,230,154	1,946,017	284,137	63,324	220,813	0
Horse Racing Commission	216,983	0	216,983	216,983	0	0
Nature Preserves, Office of Kentucky	175,935	0	175,935	38,969	0	136,966
Postsecondary Education, Council on	11,086,500	0	11,086,500	11,086,500	0	0
Public Health, Department for	3,561,572	0	3,561,572	3,561,572	0	0
Public Service Commission	21,000	0	21,000	0	0	21,000
Soybean Promotion Board	517,000	0	517,000	517,000	0	0
Transportation Cabinet	8,811,685	0	8,811,685	7,333,570	0	1,478,115
Louisiana	32,115,461	9,555,840	22,559,621	19,669,638	2,739,815	150,168
Agriculture and Forestry, Department of	4,946	0	4,946	4,946	0	0
Board of Regents	13,492,921	0	13,492,921	13,492,921	0	0
Coastal Protection and Restoration Authority	3,573,798	494,555	3,079,243	589,260	2,339,815	150,168
Transportation and Development, Department of	9,185,327	4,785,327	4,400,000	4,000,000	400,000	0
Wildlife and Fisheries, Department of	5,858,469	4,275,958	1,582,511	1,582,511	0	0
Maine	32,392,463	10,370,488	22,021,975	4,227,168	12,753,922	5,040,885
Agriculture, Conservation and Forestry, Department of	1,505,860	1,306,030	199,830	0	199,830	0
Inland Fisheries and Wildlife, Department of	1,080,841	763,201	317,640	317,640	0	0
Marine Resources, Department of	2,582,000	2,466,000	116,000	0	116,000	0
MDI Biological Laboratory, Center for Biomedical Innovation	8,048,966	5,335,257	2,713,709	2,421,622	0	292,087
Technology Institute	17,674,796	0	17,674,796	1,137,906	11,788,092	4,748,798
Transportation, Department of	1,500,000	500,000	1,000,000	350,000	650,000	0
Maryland	28,212,493	878,718	27,333,775	20,033,775	7,300,000	0
Health, Department of	13,500,000	0	13,500,000	13,500,000	0	0
Natural Resources, Department of	900,754	287,741	613,013	613,013	0	0
Technology Development Corporation	11,600,000	0	11,600,000	4,300,000	7,300,000	0
Transportation, Department of	2,211,739	590,977	1,620,762	1,620,762	0	0
Massachusetts	23,307,621	1,208,652	22,098,969	9,104,127	10,426,055	2,568,787
Clean Energy Technology Center	5,044,038	0	5,044,038	1,110,714	3,933,324	0
Environmental Protection, Department of	1,771,575	278,302	1,493,273	829,988	661,061	2,224
Fish and Game, Department of	915,233	604,975	310,258	85,038	0	225,220
Gaming Commission	1,480,178	81,600	1,398,578	1,120,785	99,707	178,086
Life Sciences Center	556,868	0	556,868	0	556,868	0
Massventures	3,942,167	0	3,942,167	0	3,942,167	0
Mental Health, Department of	2,579,520	43,775	2,535,745	963,000	963,000	609,745
Public Health, Department of	1,674,277	0	1,674,277	1,483,901	169,928	20,448
Technology Park Corporation	1,176,748	0	1,176,748	614,145	60,000	502,603
Transportation, Department of	3,767,017	0	3,767,017	2,696,556	40,000	1,030,461
Water Resources Authority	400,000	200,000	200,000	200,000	0	0
Michigan	29,718,391	237,018	29,481,373	11,424,715	1,648,966	16,407,692

TABLE 20

## State agency expenditures for R&amp;D, by state, department or agency, and performer: FY 2021

(Dollars)

State and department or agency	All R&D expenditures	Intramural performers <sup>a</sup>	Extramural performers <sup>b</sup>			
			Total	Academic institutions	Companies and individuals <sup>c</sup>	Other <sup>d</sup>
Agriculture and Rural Development, Department of	1,656,683	0	1,656,683	1,257,423	350,974	48,286
Environmental, Great Lakes, and Energy, Department of	1,249,610	237,018	1,012,592	795,120	217,472	0
Licensing and Regulatory Affairs	20,000,000	0	20,000,000	7,020,950	0	12,979,050
Transportation, Department of	6,812,098	0	6,812,098	2,351,222	1,080,520	3,380,356
Minnesota	22,483,420	2,458,490	20,024,930	13,942,965	3,148,933	2,933,032
Agriculture, Department of	5,408,623	876,319	4,532,304	3,567,644	161,623	803,037
Midwest Dairy Association, Minnesota Division	213,400	0	213,400	213,400	0	0
Natural Resources, Department of	1,855,011	1,561,371	293,640	269,905	23,735	0
Pollution Control Agency	9,888	0	9,888	8,078	1,810	0
Transportation, Department of	14,996,498	20,800	14,975,698	9,883,938	2,961,765	2,129,995
Mississippi	11,143,362	2,005,582	9,137,780	4,863,478	1,937,313	2,336,989
Agriculture and Commerce, Department of	152,264	0	152,264	152,264	0	0
Environmental Quality, Department of	1,267,345	105,387	1,161,958	1,161,958	0	0
Gulf States Marine Fisheries Commission	1,527,915	0	1,527,915	1,435,294	0	92,621
Marine Resources, Department of	1,110,829	910,795	200,034	200,034	0	0
Transportation, Department of	5,542,522	218,157	5,324,365	1,207,684	1,937,313	2,179,368
Wildlife, Fisheries, and Parks, Department of	1,542,487	771,243	771,244	706,244	0	65,000
Missouri	14,009,154	6,455,476	7,553,678	5,045,066	1,522,155	986,457
Agriculture, Department of	273,268	0	273,268	192,624	80,644	0
Conservation, Department of	9,627,125	6,455,476	3,171,649	2,476,223	0	695,426
Mental Health, Department of	242,500	0	242,500	242,500	0	0
Natural Resources, Department of	453,962	0	453,962	270,880	0	183,082
Technology Corporation	654,232	0	654,232	0	546,283	107,949
Transportation, Department of	2,120,015	0	2,120,015	1,224,787	895,228	0
Wine and Grape Board	638,052	0	638,052	638,052	0	0
Montana	8,447,295	2,846,129	5,601,166	3,567,797	73,279	1,960,090
Agriculture, Department of	2,841,089	0	2,841,089	2,841,089	0	0
Environmental Quality, Department of	50,304	50,304	0	0	0	0
Fish, Wildlife and Parks, Department of	3,806,115	2,669,435	1,136,680	0	0	1,136,680
Natural Resources and Conservation, Department of	16,865	0	16,865	0	16,865	0
Transportation, Department of	1,732,922	126,390	1,606,532	726,708	56,414	823,410
Nebraska	31,337,947	2,128,727	29,209,220	27,130,891	1,782,200	296,129
Agriculture, Department of	797,149	0	797,149	738,711	0	58,438
Corn Board	1,201,594	0	1,201,594	1,051,594	0	150,000
Dry Bean Commission	265,487	0	265,487	265,487	0	0
Economic Development, Department of	3,242,710	0	3,242,710	1,510,510	1,732,200	0
Game and Parks Commission	5,125,851	2,037,727	3,088,124	3,088,124	0	0
Grain Sorghum Board	3,000	0	3,000	3,000	0	0
Health and Human Services, Department of	18,564,076	0	18,564,076	18,564,076	0	0
Midwest Dairy Association, Nebraska Division	29,100	0	29,100	29,100	0	0
Natural Resources, Department of	50,000	0	50,000	0	50,000	0

TABLE 20

## State agency expenditures for R&amp;D, by state, department or agency, and performer: FY 2021

(Dollars)

State and department or agency	All R&D expenditures	Intramural performers <sup>a</sup>	Extramural performers <sup>b</sup>			
			Total	Academic institutions	Companies and individuals <sup>c</sup>	Other <sup>d</sup>
Transportation, Department of	1,825,480	91,000	1,734,480	1,646,789	0	87,691
Wheat Board	233,500	0	233,500	233,500	0	0
Nevada	4,222,929	237,064	3,985,865	2,739,972	245,979	999,914
Agriculture, Department of	237,064	237,064	0	0	0	0
Economic Development, Governor's office of	1,958,195	0	1,958,195	1,958,195	0	0
Transportation, Department of	2,027,670	0	2,027,670	781,777	245,979	999,914
New Hampshire	8,675,207	27,186	8,648,021	660,646	7,019,291	968,084
Agriculture, Markets and Food, Department of	175,563	0	175,563	138,600	0	36,963
Business and Economic Affairs, Department of	7,275,000	0	7,275,000	275,000	7,000,000	0
Environmental Services, Department of	505,937	0	505,937	85,937	0	420,000
Transportation, Department of	718,707	27,186	691,521	161,109	19,291	511,121
New Jersey	12,864,404	3,006,539	9,857,865	7,921,273	667,386	1,269,206
Children and Families, Department of	250,627	192,394	58,233	0	58,233	0
Community Affairs, Department of	5,000	5,000	0	0	0	0
Corrections, Department of	309,449	309,449	0	0	0	0
Environmental Protection, Department of	3,398,000	1,997,500	1,400,500	1,117,500	233,000	50,000
Health, Department of	318,305	0	318,305	204,341	0	113,964
Pinelands Commission	576,457	465,753	110,704	0	110,704	0
Secretary of Higher Education, Office of	2,500,000	0	2,500,000	2,000,000	0	500,000
State Parole Board, New Jersey	66,212	36,443	29,769	0	29,769	0
Transit, New Jersey	61,804	0	61,804	61,804	0	0
Transportation, Department of	5,378,550	0	5,378,550	4,537,628	235,680	605,242
New Mexico	3,054,817	1,535,533	1,519,284	1,158,986	360,298	0
Cultural Affairs, Department of	108,053	108,053	0	0	0	0
Game and Fish, Department of	1,000,000	500,000	500,000	500,000	0	0
Transportation, Department of	1,586,466	927,480	658,986	658,986	0	0
Western State Air Resources Council	360,298	0	360,298	0	360,298	0
New York	417,246,309	259,432,614	157,813,695	90,758,427	35,387,607	31,667,661
Agriculture and Markets, Department of	7,194,600	2,795,000	4,399,600	4,399,600	0	0
Economic Development, Department of	27,738,133	0	27,738,133	27,738,133	0	0
Energy Research and Development Authority	58,220,185	7,195,015	51,025,170	8,516,426	29,298,629	13,210,115
Environmental Conservation, Department of	11,777,525	4,383,537	7,393,988	7,362,249	25,025	6,714
Health, Department of	65,094,944	34,949,991	30,144,953	21,019,301	3,548,469	5,577,183
Mental Health, Office of	151,456,861	131,858,494	19,598,367	19,122,318	392,733	83,316
People with Developmental Disabilities, Office of	1,614,170	1,614,170	0	0	0	0
Power Authority	14,544,465	1,397,798	13,146,667	356,334	0	12,790,333
Roswell Park Comprehensive Cancer Center	63,867,651	63,867,651	0	0	0	0
State Museum	10,297,627	9,748,833	548,794	548,794	0	0
Thoroughbred Breeding and Development Fund Corp.	399,308	0	399,308	399,308	0	0
Transportation, Department of	5,040,840	1,622,125	3,418,715	1,295,964	2,122,751	0
North Carolina	36,870,713	17,422,714	19,447,999	16,999,276	2,213,000	235,723



TABLE 20

## State agency expenditures for R&amp;D, by state, department or agency, and performer: FY 2021

(Dollars)

State and department or agency	All R&D expenditures	Intramural performers <sup>a</sup>	Extramural performers <sup>b</sup>			
			Total	Academic institutions	Companies and individuals <sup>c</sup>	Other <sup>d</sup>
Agriculture and Consumer Services, Department of	15,422,911	13,922,911	1,500,000	1,300,000	200,000	0
Biotechnology Center	2,693,795	0	2,693,795	2,693,795	0	0
Environmental Quality, Department of	3,275,158	1,223,587	2,051,571	1,547,414	459,987	44,170
Natural and Cultural Resources, Department of	1,951,431	1,546,672	404,759	213,206	0	191,553
Science Technology & Innovation, Office of	1,500,000	0	1,500,000	0	1,500,000	0
Transportation, Department of	11,886,050	729,544	11,156,506	11,156,506	0	0
Wine and Grape Growers Council	141,368	0	141,368	88,355	53,013	0
North Dakota	35,139,613	294,748	34,844,865	9,364,150	24,151,033	1,329,682
Agriculture, Department of	5,360,395	0	5,360,395	58,694	5,301,701	0
Dry Pea and Lentil Commission	253,958	0	253,958	253,958	0	0
Game and Fish, Department of	900,314	0	900,314	896,042	4,272	0
Historical Society of North Dakota	247,149	232,829	14,320	14,320	0	0
Industrial Commission	24,409,679	0	24,409,679	5,433,264	18,824,025	152,390
Midwest Dairy Association, North Dakota Division	4,850	0	4,850	4,850	0	0
Soybean Council	1,420,538	0	1,420,538	1,251,303	17,735	151,500
Transportation, Department of	1,204,774	61,919	1,142,855	213,763	3,300	925,792
Wheat Commission	1,337,956	0	1,337,956	1,237,956	0	100,000
Ohio	55,336,431	1,808,996	53,527,435	11,159,815	41,045,337	1,322,283
Development, Department of	43,878,812	0	43,878,812	4,787,494	39,091,318	0
Education, Department of	230,700	15,000	215,700	215,700	0	0
Mental Health and Addictions Services, Department of	2,060,000	1,030,000	1,030,000	0	0	1,030,000
Natural Resources, Department of	2,565,498	763,996	1,801,502	1,801,502	0	0
Rail Development Commission	79,156	0	79,156	0	79,156	0
Transportation, Department of	6,197,692	0	6,197,692	4,210,119	1,874,863	112,710
Water Development Authority	324,573	0	324,573	145,000	0	179,573
Oklahoma	55,989,692	2,575,950	53,413,742	19,467,169	1,341,409	32,605,164
Advancement of Science and Technology, Center for the	34,830,643	0	34,830,643	5,390,570	1,341,409	28,098,664
Agriculture, Food, and Forestry, Department of	327,515	0	327,515	327,515	0	0
Environmental Quality, Department of	217,645	217,645	0	0	0	0
Grand River Dam Authority	525,000	315,000	210,000	210,000	0	0
Health, Department of	1,344,978	670,578	674,400	674,400	0	0
Human Services, Department of	566,539	566,539	0	0	0	0
Midwest Dairy Association, Oklahoma Division	4,850	0	4,850	4,850	0	0
Tobacco Settlement Endowment Trust	11,931,000	0	11,931,000	9,021,000	0	2,910,000
Transportation, Department of	4,692,262	770,983	3,921,279	2,324,779	0	1,596,500
Wildlife Conservation, Department of	1,549,260	35,205	1,514,055	1,514,055	0	0
Oregon	37,419,218	16,083,800	21,335,418	10,698,041	9,330,937	1,306,440
Agriculture, Department of	205,647	0	205,647	203,647	2,000	0
Business Oregon	14,300,000	0	14,300,000	5,700,000	8,600,000	0
Fish and Wildlife, Department of	12,566,339	11,125,917	1,440,422	1,430,182	0	10,240
Forestry, Department of	700,000	350,000	350,000	50,000	150,000	150,000

TABLE 20

## State agency expenditures for R&amp;D, by state, department or agency, and performer: FY 2021

(Dollars)

State and department or agency	All R&D expenditures	Intramural performers <sup>a</sup>	Extramural performers <sup>b</sup>			
			Total	Academic institutions	Companies and individuals <sup>c</sup>	Other <sup>d</sup>
Geology and Mineral Industries, Department of	1,210,168	1,210,168	0	0	0	0
Human Services, Department of	2,185,495	2,185,495	0	0	0	0
Transportation, Department of	3,638,363	128,939	3,509,424	3,274,879	100,606	133,939
Water Resources Department	1,551,042	1,072,711	478,331	0	478,331	0
Watershed Enhancement Board	1,062,164	10,570	1,051,594	39,333	0	1,012,261
Pennsylvania	93,621,093	8,172,000	85,449,093	46,056,993	21,579,000	17,813,100
Agriculture, Department of	2,461,164	0	2,461,164	2,340,497	0	120,667
Community and Economic Development, Department of	21,500,000	0	21,500,000	4,500,000	17,000,000	0
Conservation and Natural Resources, Department of	309,471	253,240	56,231	0	0	56,231
Environmental Protection, Department of	1,931,821	124,196	1,807,625	886,151	780,000	141,474
Fish and Boat Commission	259,114	231,314	27,800	27,800	0	0
Game Commission	7,513,056	7,358,250	154,806	154,806	0	0
Health, Department of	55,000,914	0	55,000,914	33,771,186	3,750,000	17,479,728
Susquehanna River Basin Commission	279,000	205,000	74,000	10,000	49,000	15,000
Transportation, Department of	4,366,553	0	4,366,553	4,366,553	0	0
Rhode Island	10,226,630	8,118,721	2,107,909	529,672	1,190,412	387,825
Commerce Corporation	1,127,624	0	1,127,624	0	1,127,624	0
Fish and Wildlife; Environmental Management, Department of	5,238,690	4,690,761	547,929	361,650	0	186,279
Marine Fisheries; Environmental Management, Department of	3,601,968	3,257,112	344,856	168,022	15,288	161,546
Narragansett Bay National Estuarine Research Reserve; Environmental Management, Department of	67,378	67,378	0	0	0	0
Transportation, Department of	87,500	0	87,500	0	47,500	40,000
Water Resources Board	103,470	103,470	0	0	0	0
South Carolina	44,557,581	27,709,617	16,847,964	5,856,144	395,148	10,596,672
Agriculture, Department of	1,119,867	0	1,119,867	1,119,867	0	0
Disabilities and Special Needs, Department of	9,437,880	0	9,437,880	0	0	9,437,880
Health and Environmental Control, Department of	1,314,349	1,204,217	110,132	23,127	0	87,005
Mental Health, Department of	53,424	53,424	0	0	0	0
Natural Resources, Department of	24,893,262	24,621,964	271,298	242,854	0	28,444
Public Service Authority	424,350	0	424,350	30,000	0	394,350
Research Authority	2,339,441	0	2,339,441	1,944,293	395,148	0
Sea Grant Consortium	2,328,658	1,822,502	506,156	328,014	0	178,142
Transportation, Department of	2,646,350	7,510	2,638,840	2,167,989	0	470,851
South Dakota	3,193,289	359,853	2,833,436	2,051,503	361,252	420,681
Corn Utilization Council	150,006	0	150,006	150,006	0	0
Midwest Dairy Association, South Dakota Division	63,050	0	63,050	63,050	0	0
Nutrient Research and Education Council	871,090	0	871,090	871,090	0	0
Oilseeds Council	278,954	0	278,954	73,240	0	205,714
Pulse Crop Council	4,063	0	4,063	4,063	0	0

TABLE 20

## State agency expenditures for R&amp;D, by state, department or agency, and performer: FY 2021

(Dollars)

State and department or agency	All R&D expenditures	Intramural performers <sup>a</sup>	Extramural performers <sup>b</sup>			
			Total	Academic institutions	Companies and individuals <sup>c</sup>	Other <sup>d</sup>
Science and Technology Authority	1,968	0	1,968	1,968	0	0
Soybean Research and Promotion Council	342,368	11,255	331,113	229,613	0	101,500
Transportation, Department of	1,178,029	348,598	829,431	354,712	361,252	113,467
Weed and Pest Control Commission	43,411	0	43,411	43,411	0	0
Wheat Commission	260,350	0	260,350	260,350	0	0
Tennessee	10,287,206	1,289,255	8,997,951	8,495,132	0	502,819
Education, Department of	3,368,383	1,054,099	2,314,284	1,811,465	0	502,819
Environment and Conservation, Department of	235,156	235,156	0	0	0	0
Transportation, Department of	6,683,667	0	6,683,667	6,683,667	0	0
Texas	255,731,862	2,686,856	253,045,006	225,812,226	26,198,074	1,034,706
Agriculture, Department of	932,510	0	932,510	621,000	0	311,510
Alzheimer's Research and Care Consortium (TARCC)	4,615,313	0	4,615,313	4,615,313	0	0
Cancer Prevention and Research Institute	216,766,526	0	216,766,526	194,059,028	22,707,498	0
Environmental Quality, Commission on	1,922,455	41,548	1,880,907	1,325,907	555,000	0
Parks and Wildlife Department	6,215,323	2,139,214	4,076,109	3,589,102	0	487,007
State Health Services, Department of	1,602,005	506,094	1,095,911	1,095,911	0	0
Transportation, Department of	20,505,965	0	20,505,965	20,505,965	0	0
Water Development Board	3,171,765	0	3,171,765	0	2,935,576	236,189
Utah	8,316,189	5,326,711	2,989,478	2,121,462	868,016	0
Environmental Quality, Department of	780,433	75,954	704,479	704,479	0	0
Health, Department of	5,350	5,350	0	0	0	0
Natural Resources, Department of	4,215,230	4,215,230	0	0	0	0
Transportation, Department of	3,315,176	1,030,177	2,284,999	1,416,983	868,016	0
Vermont	1,535,157	596,129	939,028	699,418	225,598	14,012
Agriculture, Food, and Markets, Agency of	274,477	0	274,477	53,263	221,214	0
Human Services, Agency of	163,373	163,373	0	0	0	0
Transportation, Agency of	1,097,307	432,756	664,551	646,155	4,384	14,012
Virginia	44,913,546	16,624,998	28,288,548	19,365,935	7,888,755	1,033,858
Aging and Rehabilitative Services, Department of	128,788	10,076	118,712	118,712	0	0
Agriculture and Consumer Services, Department of	2,821,841	0	2,821,841	2,360,192	0	461,649
Commonwealth Health Research Board	1,566,854	0	1,566,854	1,566,854	0	0
Conservation and Recreation, Department of	467,900	441,900	26,000	5,000	21,000	0
Education, Department of	2,495,435	518,234	1,977,201	1,977,201	0	0
Energy, Department of	1,530,387	1,480,387	50,000	25,000	25,000	0
Environmental Quality, Department of	366,645	11,129	355,516	56,690	0	298,826
Forensic Science, Department of	1,337,377	1,337,377	0	0	0	0
Forestry, Department of	701,053	685,865	15,188	15,188	0	0
Foundation for Healthy Youth	787,149	0	787,149	787,149	0	0
Innovative Technology, Center for	11,596,571	992,151	10,604,420	2,738,620	7,785,812	79,988
Institute for Advanced Learning and Research	57,000	57,000	0	0	0	0
Marine Resources Commission	1,847,815	261,607	1,586,208	1,586,208	0	0

TABLE 20

## State agency expenditures for R&amp;D, by state, department or agency, and performer: FY 2021

(Dollars)

State and department or agency	All R&D expenditures	Intramural performers <sup>a</sup>	Extramural performers <sup>b</sup>			
			Total	Academic institutions	Companies and individuals <sup>c</sup>	Other <sup>d</sup>
Natural History, Museum of	900,582	900,582	0	0	0	0
Social Services, Department of	800,000	800,000	0	0	0	0
Transportation, Department of	15,943,293	9,128,690	6,814,603	6,814,603	0	0
Wildlife Resources, Department of	1,564,856	0	1,564,856	1,314,518	56,943	193,395
Washington	56,690,210	21,349,303	35,340,907	14,258,527	8,756,002	12,326,378
Agriculture, Department of	3,498,238	0	3,498,238	2,049,577	557,182	891,479
Alfalfa Seed Commission	34,000	0	34,000	34,000	0	0
Commerce, Department of	11,485,246	0	11,485,246	261,085	1,648,718	9,575,443
Cranberry Commission	16,000	0	16,000	16,000	0	0
Ecology, Department of	1,398,475	1,082,202	316,273	316,273	0	0
Fish and Wildlife, Department of	11,181,950	11,177,207	4,743	0	0	4,743
Fruit Commission	134,538	0	134,538	75,146	14,600	44,792
Grain Commission	1,860,504	0	1,860,504	1,860,504	0	0
Health, Department of	1,233,000	1,172,000	61,000	61,000	0	0
Hop Commission	272,988	0	272,988	146,988	126,000	0
Labor and Industries, Department of	3,408,658	3,408,658	0	0	0	0
Mint Commission	27,171	0	27,171	27,171	0	0
Natural Resources, Department of	7,587,114	2,469,616	5,117,498	380,319	3,908,094	829,085
Oilseeds Commission	46,152	0	46,152	40,652	5,500	0
Pesticide Registration, Commission on	357,969	0	357,969	357,969	0	0
Potato Commission	837,892	0	837,892	659,138	57,000	121,754
Puget Sound Partnership	850,000	0	850,000	73,061	52,296	724,643
Pulse Crops Commission	238,186	0	238,186	238,186	0	0
Red Raspberry Commission	220,248	0	220,248	162,902	57,346	0
Seed Potato Commission	25,639	0	25,639	0	0	25,639
Transportation, Department of	7,528,900	1,742,600	5,786,300	4,955,500	722,000	108,800
Tree Fruit Research Commission	4,096,282	297,020	3,799,262	2,220,346	1,578,916	0
Turfgrass Seed Commission	107,060	0	107,060	107,060	0	0
Wine Commission	244,000	0	244,000	215,650	28,350	0
West Virginia	9,013,091	3,378,070	5,635,021	5,397,789	237,232	0
Agriculture, Department of	166,685	166,685	0	0	0	0
Geological and Economic Survey	1,611,208	1,253,631	357,577	357,345	232	0
Higher Education Policy Commission	2,924,776	157,078	2,767,698	2,767,698	0	0
Natural Resources, Department of	2,052,676	1,800,676	252,000	15,000	237,000	0
Transportation, Department of	2,257,746	0	2,257,746	2,257,746	0	0
Wisconsin	15,239,075	4,401,850	10,837,225	4,404,511	6,126,721	305,993
Agriculture, Trade and Consumer Protection, Department of	1,558,082	0	1,558,082	961,511	463,578	132,993
Economic Development Corporation	4,625,125	0	4,625,125	0	4,625,125	0
Natural Resources, Department of	6,879,700	4,192,800	2,686,900	2,245,500	318,400	123,000
Transportation, Department of	2,176,168	209,050	1,967,118	1,197,500	719,618	50,000
Wyoming	7,278,796	2,753,475	4,525,321	1,182,954	3,199,926	142,441
Agriculture, Department of	531,634	0	531,634	263,228	125,965	142,441
Business Council	1,544,835	0	1,544,835	0	1,544,835	0
Corrections, Department of	123,280	123,280	0	0	0	0
Energy Authority	413,533	413,533	0	0	0	0
Enhanced Oil Recovery Institute	1,126,393	593,746	532,647	33,628	499,019	0
Game and Fish Department	1,968,341	1,345,407	622,934	588,819	34,115	0

TABLE 20

**State agency expenditures for R&D, by state, department or agency, and performer: FY 2021**

(Dollars)

State and department or agency	All R&D expenditures	Intramural performers <sup>a</sup>	Extramural performers <sup>b</sup>			
			Total	Academic institutions	Companies and individuals <sup>c</sup>	Other <sup>d</sup>
State Geological Survey	182,179	182,179	0	0	0	0
Transportation, Department of	1,105,147	95,330	1,009,817	13,825	995,992	0
Water Development Office	283,454	0	283,454	283,454	0	0

<sup>a</sup> Intramural performers include a department's or agency's own employees who perform R&D and services performed by others in support of an internal R&D project.

<sup>b</sup> Extramural performers are those outside the department or agency who perform R&D.

<sup>c</sup> Companies and individuals include individuals under contract for research projects.

<sup>d</sup> Other extramural performers include nonprofit organizations, including foundations; federal government departments and agencies; other departments or agencies within the state; other state governments; county, city, special district, or regional local governments.

<sup>e</sup> U.S. total reflects all 50 states and the District of Columbia.

**Source(s):**

National Center for Science and Engineering Statistics, Survey of State Government Research and Development, FY 2021.

TABLE 21

## State agency expenditures for R&amp;D, by state, department or agency, and function of R&amp;D: FY 2021

(Dollars)

State and department or agency	All R&D expenditures	Agriculture	Energy	Environment and natural resources	Health	Transportation	Other <sup>a</sup>
United States <sup>b</sup>	2,471,471,226	119,859,705	410,687,147	428,535,361	1,030,394,740	300,352,569	181,641,704
Alabama	29,812,345	104,373	178,809	6,080,232	2,163,596	2,211,001	19,074,334
Commerce, Department of	3,000,000	0	0	0	2,000,000	0	1,000,000
Conservation and Natural Resources, Department of; Wildlife and Freshwater Fisheries Division	2,300,326	0	0	2,300,326	0	0	0
Economic & Community Affairs, Department of	533,590	104,373	0	92,222	163,596	0	173,399
Education, Department of	13,196,000	0	0	0	0	0	13,196,000
Forensic Sciences, Department of	272,635	0	0	0	0	0	272,635
Geological Survey	2,690,719	0	178,809	2,511,910	0	0	0
Marine Environmental Science Consortium, Dauphin Island Sea Lab	1,175,774	0	0	1,175,774	0	0	0
Supercomputer Authority	4,432,300	0	0	0	0	0	4,432,300
Transportation, Department of	2,211,001	0	0	0	0	2,211,001	0
Alaska	19,671,388	26,000	500,000	9,713,200	866,695	8,565,493	0
Environmental Conservation, Department of	866,695	0	0	0	866,695	0	0
Housing Finance Corporation	500,000	0	500,000	0	0	0	0
Natural Resources, Department of; Division of Geological and Geophysical Surveys	9,086,400	0	0	9,086,400	0	0	0
Railroad Corporation	6,685,193	0	0	0	0	6,685,193	0
Seafood Marketing Institute	26,000	26,000	0	0	0	0	0
Transportation and Public Facilities, Department of	2,507,100	0	0	626,800	0	1,880,300	0
Arizona	15,011,508	1,071,301	0	1,682,113	8,467,153	3,179,987	610,954
Agriculture, Department of	1,167,546	1,071,301	0	96,245	0	0	0
Game and Fish Department	1,585,868	0	0	1,585,868	0	0	0
Health Services, Department of	8,467,153	0	0	0	8,467,153	0	0
Juvenile Corrections, Department of	610,954	0	0	0	0	0	610,954
Transportation, Department of	3,179,987	0	0	0	0	3,179,987	0
Arkansas	9,908,767	6,614,526	50,000	1,143,026	200,000	376,215	1,525,000
Agriculture, Department of	152,420	152,420	0	0	0	0	0
Beef Council	60,406	60,406	0	0	0	0	0
Corn and Grain Sorghum Promotion Board	992,000	992,000	0	0	0	0	0
Economic Development Commission	2,075,000	125,000	50,000	75,000	200,000	100,000	1,525,000
Game and Fish Commission	872,648	0	0	872,648	0	0	0
Midwest Dairy Association, Arkansas Division	9,700	9,700	0	0	0	0	0
Natural Heritage Commission	195,378	0	0	195,378	0	0	0
Rice Research and Promotion Board	2,775,000	2,775,000	0	0	0	0	0
Soybean Promotion Board	2,400,000	2,400,000	0	0	0	0	0

TABLE 21

## State agency expenditures for R&amp;D, by state, department or agency, and function of R&amp;D: FY 2021

(Dollars)

State and department or agency	All R&D expenditures	Agriculture	Energy	Environment and natural resources	Health	Transportation	Other <sup>a</sup>
Transportation, Department of	276,215	0	0	0	0	276,215	0
Wheat Promotion Board	100,000	100,000	0	0	0	0	0
California	523,819,635	6,934,080	267,900,000	46,696,431	142,503,729	47,716,505	12,068,890
Air Resources Board	16,703,318	0	0	16,703,318	0	0	0
Children and Families Commission (First 5 California)	4,493,407	0	0	0	2,039,477	0	2,453,930
Conservation, Department of	1,508,933	0	0	825,000	0	0	683,933
Corrections and Rehabilitation, Department of	1,139,419	0	0	0	0	0	1,139,419
Covered California	3,793,141	0	0	0	3,793,141	0	0
Dairy Council	18,672	0	0	0	18,672	0	0
Delta Stewardship Council	4,093,320	0	0	4,093,320	0	0	0
Energy Commission	230,900,000	0	230,900,000	0	0	0	0
Environmental Health Hazard Assessment, Office of	17,522,940	0	0	0	17,522,940	0	0
Food and Agriculture, Department of	4,686,177	4,686,177	0	0	0	0	0
Forestry and Fire Protection, Department of	5,500,000	0	0	500,000	5,000,000	0	0
Horse Racing Board	695,130	695,130	0	0	0	0	0
Housing and Community Development, Department of	150,000	0	0	0	0	0	150,000
Institute for Regenerative Medicine	95,739,916	0	0	0	95,739,916	0	0
Mental Health Services Oversight and Accountability Commission	2,500,000	0	0	0	2,500,000	0	0
Motor Vehicles, Department of	1,551,423	0	0	0	1,551,423	0	0
Parks And Recreation, Department of	1,500,000	0	0	1,500,000	0	0	0
Pesticide Regulation, Department of	11,642,098	1,552,773	0	1,742,665	8,346,660	0	0
Public Health, Department of	6,089,200	0	0	97,700	5,991,500	0	0
Public Utilities Commission, Executive Division	37,000,000	0	37,000,000	0	0	0	0
Rehabilitation, Department of	2,702,614	0	0	0	0	0	2,702,614
Resources Recycling and Recovery, Department of	155,635	0	0	155,635	0	0	0
Social Services, Department of	3,585,336	0	0	0	0	0	3,585,336
State Coastal Conservancy	835,489	0	0	835,489	0	0	0
State Water Resources Control Board	5,377,799	0	0	5,377,799	0	0	0
Toxic Substances Control, Department of	1,887,600	0	0	1,887,600	0	0	0
Transportation, Department of	47,716,505	0	0	0	0	47,716,505	0
Water Resources, Department of	14,331,563	0	0	12,977,905	0	0	1,353,658
Colorado	38,436,248	2,739,142	2,846,991	11,287,126	9,548,470	3,791,995	8,222,524
Agriculture, Department of	676,649	278,421	0	0	398,228	0	0
Economic Development and International Trade, Office of	21,331,814	2,226,686	2,846,991	419,200	8,943,402	500,000	6,395,535

TABLE 21

## State agency expenditures for R&amp;D, by state, department or agency, and function of R&amp;D: FY 2021

(Dollars)

State and department or agency	All R&D expenditures	Agriculture	Energy	Environment and natural resources	Health	Transportation	Other <sup>a</sup>
Higher Education Competitive, Research Authority	1,748,478	0	0	970,000	0	0	778,478
Natural Resources, Department of	7,530,151	0	0	7,513,022	0	17,129	0
Public Health and Environment, Department of	2,591,744	0	0	2,384,904	206,840	0	0
Public Safety, Department of; Division of Criminal Justice	1,040,036	0	0	0	0	0	1,040,036
Transportation, Department of	3,274,866	0	0	0	0	3,274,866	0
Wine Industry Development Board	242,510	234,035	0	0	0	0	8,475
Connecticut	55,050,702	4,142,888	3,627,099	11,706,792	27,271,532	2,408,289	5,894,102
Agricultural Experiment Station	13,302,928	4,142,888	0	4,261,372	4,898,668	0	0
Energy and Environmental Protection, Department of	7,445,420	0	0	7,445,420	0	0	0
Innovation Inc.	23,315,658	0	3,627,099	0	13,794,457	0	5,894,102
Mental Health and Addiction Services, Department of	6,966,358	0	0	0	6,966,358	0	0
Public Health, Department of	20,967	0	0	0	20,967	0	0
Social Services, Department of	1,591,082	0	0	0	1,591,082	0	0
Transportation, Department of	2,408,289	0	0	0	0	2,408,289	0
Delaware	3,338,773	0	46,054	2,125,080	0	1,167,639	0
Geological Survey	1,945,219	0	0	1,867,565	0	77,654	0
Natural Resources and Environmental Control, Department of	257,515	0	0	257,515	0	0	0
Sustainable Energy Utility	46,054	0	46,054	0	0	0	0
Transportation, Department of	1,089,985	0	0	0	0	1,089,985	0
District of Columbia	8,128,666	0	0	1,821,400	5,983,318	289,382	34,566
Energy and Environment, Department of	207,000	0	0	207,000	0	0	0
Forensic Sciences, Department of	75,566	0	0	0	41,000	0	34,566
Health, Department of	5,942,318	0	0	0	5,942,318	0	0
Transportation, Department of	303,782	0	0	14,400	0	289,382	0
Water and Sewer Authority	1,600,000	0	0	1,600,000	0	0	0
Florida	178,360,429	15,279,858	554,984	57,586,211	93,311,821	11,527,555	100,000
Agriculture and Consumer Services, Department of	16,258,186	14,684,149	554,984	253,432	765,621	0	0
Business and Professional Regulation, Department of	100,000	0	0	0	0	0	100,000
Citrus, Department of	999,748	595,709	0	0	404,039	0	0
Environmental Protection, Department of	129,087	0	0	129,087	0	0	0
Fish and Wildlife Conservation Commission	57,203,692	0	0	57,203,692	0	0	0
Health, Department of	92,142,161	0	0	0	92,142,161	0	0
Space Florida	1,300,000	0	0	0	0	1,300,000	0
Transportation, Department of	10,227,555	0	0	0	0	10,227,555	0
Georgia	18,798,826	0	9,067,079	3,132,706	0	6,599,041	0



TABLE 21

## State agency expenditures for R&amp;D, by state, department or agency, and function of R&amp;D: FY 2021

(Dollars)

State and department or agency	All R&D expenditures	Agriculture	Energy	Environment and natural resources	Health	Transportation	Other <sup>a</sup>
Natural Resources, Department of	818,245	0	0	818,245	0	0	0
Southern States Energy Board	11,557,770	0	9,067,079	2,314,461	0	176,230	0
Transportation, Department of	6,422,811	0	0	0	0	6,422,811	0
Hawaii	10,315,823	524,528	4,216,265	320,500	37,500	5,013,530	203,500
Agriculture, Department of	484,028	484,028	0	0	0	0	0
Business, Economic Development, and Tourism, Department of	2,538,265	40,500	2,216,265	40,500	37,500	0	203,500
Land and Natural Resources, Department of	280,000	0	0	280,000	0	0	0
Natural Energy Laboratory of Hawaii Authority	2,000,000	0	2,000,000	0	0	0	0
Transportation, Department of	5,013,530	0	0	0	0	5,013,530	0
Idaho	18,210,054	6,008,990	206,624	9,473,386	0	2,144,749	376,305
Agriculture, Department of	336,276	336,276	0	0	0	0	0
Alfalfa and Clover Seed Commission	2,300	2,300	0	0	0	0	0
Barley Commission	210,712	210,712	0	0	0	0	0
Bean Commission	40,640	40,640	0	0	0	0	0
Beef Council	123,053	123,053	0	0	0	0	0
Commerce, Department of	1,020,240	388,300	206,624	0	0	49,011	376,305
Dairy West	2,805,947	2,805,947	0	0	0	0	0
Environmental Quality, Department of	578,257	0	0	578,257	0	0	0
Fish and Game, Department of	8,895,129	0	0	8,895,129	0	0	0
Honey Commission	3,500	3,500	0	0	0	0	0
Mint Commission	14,867	14,867	0	0	0	0	0
Oilseed Commission	65,000	65,000	0	0	0	0	0
Pea and Lentil Commission	103,479	103,479	0	0	0	0	0
Potato Commission	747,788	747,788	0	0	0	0	0
Transportation Department	2,095,738	0	0	0	0	2,095,738	0
Wheat Commission	1,167,128	1,167,128	0	0	0	0	0
Illinois	16,213,542	2,019,400	0	2,000,000	295,040	9,430,989	2,468,113
Children and Family Services, Department of	2,468,113	0	0	0	0	0	2,468,113
Midwest Dairy Association, Illinois Division	19,400	19,400	0	0	0	0	0
Nutrient Research and Education Council	4,000,000	2,000,000	0	2,000,000	0	0	0
Public Health, Department of	295,040	0	0	0	295,040	0	0
Transportation, Department of	9,430,989	0	0	0	0	9,430,989	0
Indiana	10,485,205	500,279	24,787	720,153	300,000	8,261,486	678,500
Economic Development Corporation	1,424,123	100,279	24,787	0	300,000	336,557	662,500
Environmental Management, Department of	16,935	0	0	16,935	0	0	0
Natural Resources, Department of	1,086,728	400,000	0	686,728	0	0	0
St. Joseph River Basin Commission	32,490	0	0	16,490	0	0	16,000

TABLE 21

## State agency expenditures for R&amp;D, by state, department or agency, and function of R&amp;D: FY 2021

(Dollars)

State and department or agency	All R&D expenditures	Agriculture	Energy	Environment and natural resources	Health	Transportation	Other <sup>a</sup>
Transportation, Department of Iowa	7,924,929	0	0	0	0	7,924,929	0
Iowa	10,579,028	170,448	0	2,994,029	0	6,942,156	472,395
Beef Industry Council	58,898	58,898	0	0	0	0	0
Human Rights, Criminal and Juvenile Justice Planning, Division of, Department of	472,395	0	0	0	0	0	472,395
Midwest Dairy Association, Iowa Division	111,550	111,550	0	0	0	0	0
Natural Resources, Department of	2,994,029	0	0	2,994,029	0	0	0
Transportation, Department of Kansas	6,942,156	0	0	0	0	6,942,156	0
Kansas	15,002,554	3,548,954	0	7,217,311	0	3,237,535	998,754
Corn Commission	654,979	654,979	0	0	0	0	0
Grain Sorghum Commission	277,300	277,300	0	0	0	0	0
Midwest Dairy Association, Kansas Division	14,550	14,550	0	0	0	0	0
Soybean Commission	1,200,000	1,200,000	0	0	0	0	0
State Board of Regents	998,754	0	0	0	0	0	998,754
Sunflower Commission	20,000	20,000	0	0	0	0	0
Transportation, Department of Water Office	3,237,535	0	0	0	0	3,237,535	0
Water Office	1,011,797	4,125	0	1,007,672	0	0	0
Wheat Commission	1,378,000	1,378,000	0	0	0	0	0
Wildlife and Parks, Department of Kentucky	6,209,639	0	0	6,209,639	0	0	0
Kentucky	29,737,068	517,000	386,000	2,406,089	16,082,555	8,931,685	1,413,739
Behavioral Health, Developmental and Intellectual Disabilities	67,500	0	0	0	67,500	0	0
Economic Development, Cabinet for	3,048,739	0	365,000	0	1,150,000	120,000	1,413,739
Fish and Wildlife Resources, Department of	2,230,154	0	0	2,230,154	0	0	0
Horse Racing Commission	216,983	0	0	0	216,983	0	0
Nature Preserves, Office of Kentucky	175,935	0	0	175,935	0	0	0
Postsecondary Education, Council on	11,086,500	0	0	0	11,086,500	0	0
Public Health, Department for	3,561,572	0	0	0	3,561,572	0	0
Public Service Commission	21,000	0	21,000	0	0	0	0
Soybean Promotion Board	517,000	517,000	0	0	0	0	0
Transportation Cabinet	8,811,685	0	0	0	0	8,811,685	0
Louisiana	32,115,461	274,427	1,936,715	10,483,689	1,160,113	9,185,327	9,075,190
Agriculture and Forestry, Department of	4,946	4,946	0	0	0	0	0
Board of Regents	13,492,921	269,481	1,936,715	1,051,422	1,160,113	0	9,075,190
Coastal Protection and Restoration Authority	3,573,798	0	0	3,573,798	0	0	0
Transportation and Development, Department of	9,185,327	0	0	0	0	9,185,327	0
Wildlife and Fisheries, Department of	5,858,469	0	0	5,858,469	0	0	0
Maine	32,392,463	1,891,592	31,830	7,542,075	12,612,119	1,500,000	8,814,847

TABLE 21

## State agency expenditures for R&amp;D, by state, department or agency, and function of R&amp;D: FY 2021

(Dollars)

State and department or agency	All R&D expenditures	Agriculture	Energy	Environment and natural resources	Health	Transportation	Other <sup>a</sup>
Agriculture, Conservation and Forestry, Department of	1,505,860	84,910	31,830	1,389,120	0	0	0
Inland Fisheries and Wildlife, Department of	1,080,841	0	0	1,080,841	0	0	0
Marine Resources, Department of	2,582,000	0	0	2,582,000	0	0	0
MDI Biological Laboratory, Center for Biomedical Innovation	8,048,966	0	0	0	8,048,966	0	0
Technology Institute	17,674,796	1,806,682	0	2,490,114	4,563,153	0	8,814,847
Transportation, Department of	1,500,000	0	0	0	0	1,500,000	0
Maryland	28,212,493	0	0	900,754	25,100,000	2,211,739	0
Health, Department of	13,500,000	0	0	0	13,500,000	0	0
Natural Resources, Department of	900,754	0	0	900,754	0	0	0
Technology Development Corporation	11,600,000	0	0	0	11,600,000	0	0
Transportation, Department of	2,211,739	0	0	0	0	2,211,739	0
Massachusetts	23,307,621	0	5,044,038	2,752,268	6,574,962	3,767,017	5,169,336
Clean Energy Technology Center	5,044,038	0	5,044,038	0	0	0	0
Environmental Protection, Department of	1,771,575	0	0	1,771,575	0	0	0
Fish and Game, Department of	915,233	0	0	915,233	0	0	0
Gaming Commission	1,480,178	0	0	0	1,467,766	0	12,412
Life Sciences Center	556,868	0	0	0	556,868	0	0
Massventures	3,942,167	0	0	0	0	0	3,942,167
Mental Health, Department of	2,579,520	0	0	0	2,579,520	0	0
Public Health, Department of	1,674,277	0	0	0	1,674,277	0	0
Technology Park Corporation	1,176,748	0	0	65,460	296,531	0	814,757
Transportation, Department of	3,767,017	0	0	0	0	3,767,017	0
Water Resources Authority	400,000	0	0	0	0	0	400,000
Michigan	29,718,391	1,216,089	0	1,690,204	20,000,000	6,812,098	0
Agriculture and Rural Development, Department of	1,656,683	1,216,089	0	440,594	0	0	0
Environmental, Great Lakes, and Energy, Department of	1,249,610	0	0	1,249,610	0	0	0
Licensing and Regulatory Affairs	20,000,000	0	0	0	20,000,000	0	0
Transportation, Department of	6,812,098	0	0	0	0	6,812,098	0
Minnesota	22,483,420	4,789,550	0	3,612,375	0	14,081,495	0
Agriculture, Department of	5,408,623	4,576,150	0	832,473	0	0	0
Midwest Dairy Association, Minnesota Division	213,400	213,400	0	0	0	0	0
Natural Resources, Department of	1,855,011	0	0	1,855,011	0	0	0
Pollution Control Agency	9,888	0	0	9,888	0	0	0
Transportation, Department of	14,996,498	0	0	915,003	0	14,081,495	0
Mississippi	11,143,362	1,564,195	0	4,036,645	0	5,542,522	0
Agriculture and Commerce, Department of	152,264	152,264	0	0	0	0	0

TABLE 21

## State agency expenditures for R&amp;D, by state, department or agency, and function of R&amp;D: FY 2021

(Dollars)

State and department or agency	All R&D expenditures	Agriculture	Energy	Environment and natural resources	Health	Transportation	Other <sup>a</sup>
Environmental Quality, Department of	1,267,345	0	0	1,267,345	0	0	0
Gulf States Marine Fisheries Commission	1,527,915	1,411,931	0	115,984	0	0	0
Marine Resources, Department of	1,110,829	0	0	1,110,829	0	0	0
Transportation, Department of	5,542,522	0	0	0	0	5,542,522	0
Wildlife, Fisheries, and Parks, Department of	1,542,487	0	0	1,542,487	0	0	0
Missouri	14,009,154	1,185,569	0	10,111,070	592,500	2,120,015	0
Agriculture, Department of	273,268	243,285	0	29,983	0	0	0
Conservation, Department of	9,627,125	0	0	9,627,125	0	0	0
Mental Health, Department of	242,500	0	0	0	242,500	0	0
Natural Resources, Department of	453,962	0	0	453,962	0	0	0
Technology Corporation	654,232	304,232	0	0	350,000	0	0
Transportation, Department of	2,120,015	0	0	0	0	2,120,015	0
Wine and Grape Board	638,052	638,052	0	0	0	0	0
Montana	8,447,295	2,841,089	0	3,873,284	0	1,732,922	0
Agriculture, Department of	2,841,089	2,841,089	0	0	0	0	0
Environmental Quality, Department of	50,304	0	0	50,304	0	0	0
Fish, Wildlife and Parks, Department of	3,806,115	0	0	3,806,115	0	0	0
Natural Resources and Conservation, Department of	16,865	0	0	16,865	0	0	0
Transportation, Department of	1,732,922	0	0	0	0	1,732,922	0
Nebraska	31,337,947	3,234,030	350,000	5,465,378	19,480,431	1,735,953	1,072,155
Agriculture, Department of	797,149	797,149	0	0	0	0	0
Corn Board	1,201,594	1,201,594	0	0	0	0	0
Dry Bean Commission	265,487	265,487	0	0	0	0	0
Economic Development, Department of	3,242,710	704,200	350,000	200,000	916,355	0	1,072,155
Game and Parks Commission	5,125,851	0	0	5,125,851	0	0	0
Grain Sorghum Board	3,000	3,000	0	0	0	0	0
Health and Human Services, Department of	18,564,076	0	0	0	18,564,076	0	0
Midwest Dairy Association, Nebraska Division	29,100	29,100	0	0	0	0	0
Natural Resources, Department of	50,000	0	0	50,000	0	0	0
Transportation, Department of	1,825,480	0	0	89,527	0	1,735,953	0
Wheat Board	233,500	233,500	0	0	0	0	0
Nevada	4,222,929	237,064	0	439,233	0	1,588,437	1,958,195
Agriculture, Department of	237,064	237,064	0	0	0	0	0
Economic Development, Governor's office of	1,958,195	0	0	0	0	0	1,958,195
Transportation, Department of	2,027,670	0	0	439,233	0	1,588,437	0
New Hampshire	8,675,207	160,563	15,000	593,070	0	605,207	7,301,367
Agriculture, Markets and Food, Department of	175,563	160,563	15,000	0	0	0	0

TABLE 21

## State agency expenditures for R&amp;D, by state, department or agency, and function of R&amp;D: FY 2021

(Dollars)

State and department or agency	All R&D expenditures	Agriculture	Energy	Environment and natural resources	Health	Transportation	Other <sup>a</sup>
Business and Economic Affairs, Department of	7,275,000	0	0	0	0	0	7,275,000
Environmental Services, Department of	505,937	0	0	505,937	0	0	0
Transportation, Department of	718,707	0	0	87,133	0	605,207	26,367
New Jersey	12,864,404	0	0	2,940,457	1,352,305	5,440,354	3,131,288
Children and Families, Department of	250,627	0	0	0	0	0	250,627
Community Affairs, Department of	5,000	0	0	0	0	0	5,000
Corrections, Department of	309,449	0	0	0	0	0	309,449
Environmental Protection, Department of	3,398,000	0	0	2,364,000	1,034,000	0	0
Health, Department of	318,305	0	0	0	318,305	0	0
Pinelands Commission	576,457	0	0	576,457	0	0	0
Secretary of Higher Education, Office of	2,500,000	0	0	0	0	0	2,500,000
State Parole Board, New Jersey	66,212	0	0	0	0	0	66,212
Transit, New Jersey	61,804	0	0	0	0	61,804	0
Transportation, Department of	5,378,550	0	0	0	0	5,378,550	0
New Mexico	3,054,817	0	79,323	1,550,674	0	1,316,767	108,053
Cultural Affairs, Department of	108,053	0	0	0	0	0	108,053
Game and Fish, Department of	1,000,000	0	0	1,000,000	0	0	0
Transportation, Department of	1,586,466	0	79,323	190,376	0	1,316,767	0
Western State Air Resources Council	360,298	0	0	360,298	0	0	0
New York	417,246,309	8,731,413	60,426,855	31,482,716	289,740,653	11,189,625	15,675,047
Agriculture and Markets, Department of	7,194,600	6,994,600	0	200,000	0	0	0
Economic Development, Department of	27,738,133	798,457	5,933,712	860,963	4,910,217	0	15,234,784
Energy Research and Development Authority	58,220,185	0	42,007,561	5,172,200	5,050,368	5,990,056	0
Environmental Conservation, Department of	11,777,525	0	0	11,777,525	0	0	0
Health, Department of	65,094,944	324,923	0	1,949,535	62,820,486	0	0
Mental Health, Office of	151,456,861	0	0	0	151,456,861	0	0
People with Developmental Disabilities, Office of	1,614,170	0	0	0	1,564,170	0	50,000
Power Authority	14,544,465	214,125	12,485,582	1,224,866	70,900	158,729	390,263
Roswell Park Comprehensive Cancer Center	63,867,651	0	0	0	63,867,651	0	0
State Museum	10,297,627	0	0	10,297,627	0	0	0
Thoroughbred Breeding and Development Fund Corp.	399,308	399,308	0	0	0	0	0
Transportation, Department of	5,040,840	0	0	0	0	5,040,840	0
North Carolina	36,870,713	14,123,005	1,574,989	5,733,496	3,665,704	10,882,065	891,454
Agriculture and Consumer Services, Department of	15,422,911	13,922,911	1,500,000	0	0	0	0
Biotechnology Center	2,693,795	0	0	0	2,693,795	0	0

TABLE 21

## State agency expenditures for R&amp;D, by state, department or agency, and function of R&amp;D: FY 2021

(Dollars)

State and department or agency	All R&D expenditures	Agriculture	Energy	Environment and natural resources	Health	Transportation	Other <sup>a</sup>
Environmental Quality, Department of	3,275,158	0	0	2,778,080	0	0	497,078
Natural and Cultural Resources, Department of	1,951,431	0	0	1,951,431	0	0	0
Science Technology & Innovation, Office of	1,500,000	145,830	74,989	0	971,909	0	307,272
Transportation, Department of	11,886,050	0	0	1,003,985	0	10,882,065	0
Wine and Grape Growers Council	141,368	54,264	0	0	0	0	87,104
North Dakota	35,139,613	3,177,142	24,409,679	918,049	5,182,820	1,204,774	247,149
Agriculture, Department of	5,360,395	177,575	0	0	5,182,820	0	0
Dry Pea and Lentil Commission	253,958	253,958	0	0	0	0	0
Game and Fish, Department of	900,314	0	0	900,314	0	0	0
Historical Society of North Dakota	247,149	0	0	0	0	0	247,149
Industrial Commission	24,409,679	0	24,409,679	0	0	0	0
Midwest Dairy Association, North Dakota Division	4,850	4,850	0	0	0	0	0
Soybean Council	1,420,538	1,402,803	0	17,735	0	0	0
Transportation, Department of	1,204,774	0	0	0	0	1,204,774	0
Wheat Commission	1,337,956	1,337,956	0	0	0	0	0
Ohio	55,336,431	0	8,291,260	31,774,578	2,141,824	6,276,848	6,851,921
Development, Department of	43,878,812	0	8,263,705	28,912,062	81,824	0	6,621,221
Education, Department of	230,700	0	0	0	0	0	230,700
Mental Health and Addictions Services, Department of	2,060,000	0	0	0	2,060,000	0	0
Natural Resources, Department of	2,565,498	0	27,555	2,537,943	0	0	0
Rail Development Commission	79,156	0	0	0	0	79,156	0
Transportation, Department of	6,197,692	0	0	0	0	6,197,692	0
Water Development Authority	324,573	0	0	324,573	0	0	0
Oklahoma	55,989,692	1,329,150	550,284	2,291,905	17,077,727	4,963,501	29,777,125
Advancement of Science and Technology, Center for the	34,830,643	996,785	550,284	0	3,801,749	271,239	29,210,586
Agriculture, Food, and Forestry, Department of	327,515	327,515	0	0	0	0	0
Environmental Quality, Department of	217,645	0	0	217,645	0	0	0
Grand River Dam Authority	525,000	0	0	525,000	0	0	0
Health, Department of	1,344,978	0	0	0	1,344,978	0	0
Human Services, Department of	566,539	0	0	0	0	0	566,539
Midwest Dairy Association, Oklahoma Division	4,850	4,850	0	0	0	0	0
Tobacco Settlement Endowment Trust	11,931,000	0	0	0	11,931,000	0	0
Transportation, Department of	4,692,262	0	0	0	0	4,692,262	0
Wildlife Conservation, Department of	1,549,260	0	0	1,549,260	0	0	0
Oregon	37,419,218	205,647	2,400,000	17,198,988	5,127,824	3,638,363	8,848,396
Agriculture, Department of	205,647	205,647	0	0	0	0	0

TABLE 21

## State agency expenditures for R&amp;D, by state, department or agency, and function of R&amp;D: FY 2021

(Dollars)

State and department or agency	All R&D expenditures	Agriculture	Energy	Environment and natural resources	Health	Transportation	Other <sup>a</sup>
Business Oregon	14,300,000	0	2,400,000	0	4,800,000	0	7,100,000
Fish and Wildlife, Department of	12,566,339	0	0	12,566,339	0	0	0
Forestry, Department of	700,000	0	0	700,000	0	0	0
Geology and Mineral Industries, Department of	1,210,168	0	0	1,210,168	0	0	0
Human Services, Department of	2,185,495	0	0	109,275	327,824	0	1,748,396
Transportation, Department of	3,638,363	0	0	0	0	3,638,363	0
Water Resources Department	1,551,042	0	0	1,551,042	0	0	0
Watershed Enhancement Board	1,062,164	0	0	1,062,164	0	0	0
Pennsylvania	93,621,093	2,601,164	1,009,207	10,393,255	72,166,914	5,576,553	1,874,000
Agriculture, Department of	2,461,164	2,461,164	0	0	0	0	0
Community and Economic Development, Department of	21,500,000	140,000	900,000	210,000	17,166,000	1,210,000	1,874,000
Conservation and Natural Resources, Department of	309,471	0	0	309,471	0	0	0
Environmental Protection, Department of	1,931,821	0	109,207	1,822,614	0	0	0
Fish and Boat Commission	259,114	0	0	259,114	0	0	0
Game Commission	7,513,056	0	0	7,513,056	0	0	0
Health, Department of	55,000,914	0	0	0	55,000,914	0	0
Susquehanna River Basin Commission	279,000	0	0	279,000	0	0	0
Transportation, Department of	4,366,553	0	0	0	0	4,366,553	0
Rhode Island	10,226,630	53,000	0	9,014,506	411,325	185,472	562,327
Commerce Corporation	1,127,624	53,000	0	3,000	411,325	97,972	562,327
Fish and Wildlife; Environmental Management, Department of	5,238,690	0	0	5,238,690	0	0	0
Marine Fisheries; Environmental Management, Department of	3,601,968	0	0	3,601,968	0	0	0
Narragansett Bay National Estuarine Research Reserve; Environmental Management, Department of	67,378	0	0	67,378	0	0	0
Transportation, Department of	87,500	0	0	0	0	87,500	0
Water Resources Board	103,470	0	0	103,470	0	0	0
South Carolina	44,557,581	1,839,876	474,350	27,217,435	10,768,594	2,646,350	1,610,976
Agriculture, Department of	1,119,867	1,051,746	50,000	0	0	0	18,121
Disabilities and Special Needs, Department of	9,437,880	0	0	0	9,437,880	0	0
Health and Environmental Control, Department of	1,314,349	644,045	0	0	670,304	0	0
Mental Health, Department of	53,424	0	0	0	53,424	0	0
Natural Resources, Department of	24,893,262	0	0	24,893,262	0	0	0
Public Service Authority	424,350	0	424,350	0	0	0	0
Research Authority	2,339,441	75,000	0	65,000	606,986	0	1,592,455
Sea Grant Consortium	2,328,658	69,085	0	2,259,173	0	0	400

TABLE 21

## State agency expenditures for R&amp;D, by state, department or agency, and function of R&amp;D: FY 2021

(Dollars)

State and department or agency	All R&D expenditures	Agriculture	Energy	Environment and natural resources	Health	Transportation	Other <sup>a</sup>
Transportation, Department of	2,646,350	0	0	0	0	2,646,350	0
South Dakota	3,193,289	2,013,292	1,968	0	0	1,178,029	0
Corn Utilization Council	150,006	150,006	0	0	0	0	0
Midwest Dairy Association, South Dakota Division	63,050	63,050	0	0	0	0	0
Nutrient Research and Education Council	871,090	871,090	0	0	0	0	0
Oilseeds Council	278,954	278,954	0	0	0	0	0
Pulse Crop Council	4,063	4,063	0	0	0	0	0
Science and Technology Authority	1,968	0	1,968	0	0	0	0
Soybean Research and Promotion Council	342,368	342,368	0	0	0	0	0
Transportation, Department of	1,178,029	0	0	0	0	1,178,029	0
Weed and Pest Control Commission	43,411	43,411	0	0	0	0	0
Wheat Commission	260,350	260,350	0	0	0	0	0
Tennessee	10,287,206	0	0	233,025	0	6,683,667	3,370,514
Education, Department of	3,368,383	0	0	0	0	0	3,368,383
Environment and Conservation, Department of	235,156	0	0	233,025	0	0	2,131
Transportation, Department of	6,683,667	0	0	0	0	6,683,667	0
Texas	255,731,862	932,510	0	11,309,543	222,983,844	20,505,965	0
Agriculture, Department of	932,510	932,510	0	0	0	0	0
Alzheimer's Research and Care Consortium (TARCC)	4,615,313	0	0	0	4,615,313	0	0
Cancer Prevention and Research Institute	216,766,526	0	0	0	216,766,526	0	0
Environmental Quality, Commission on	1,922,455	0	0	1,922,455	0	0	0
Parks and Wildlife Department	6,215,323	0	0	6,215,323	0	0	0
State Health Services, Department of	1,602,005	0	0	0	1,602,005	0	0
Transportation, Department of	20,505,965	0	0	0	0	20,505,965	0
Water Development Board	3,171,765	0	0	3,171,765	0	0	0
Utah	8,316,189	0	0	4,995,663	5,350	3,315,176	0
Environmental Quality, Department of	780,433	0	0	780,433	0	0	0
Health, Department of	5,350	0	0	0	5,350	0	0
Natural Resources, Department of	4,215,230	0	0	4,215,230	0	0	0
Transportation, Department of	3,315,176	0	0	0	0	3,315,176	0
Vermont	1,535,157	0	0	274,477	163,373	1,097,307	0
Agriculture, Food, and Markets, Agency of	274,477	0	0	274,477	0	0	0
Human Services, Agency of	163,373	0	0	0	163,373	0	0
Transportation, Agency of	1,097,307	0	0	0	0	1,097,307	0
Virginia	44,913,546	3,118,841	409,898	8,065,546	4,132,097	18,505,828	10,681,336
Aging and Rehabilitative Services, Department of	128,788	0	0	0	128,788	0	0



TABLE 21

## State agency expenditures for R&amp;D, by state, department or agency, and function of R&amp;D: FY 2021

(Dollars)

State and department or agency	All R&D expenditures	Agriculture	Energy	Environment and natural resources	Health	Transportation	Other <sup>a</sup>
Agriculture and Consumer Services, Department of	2,821,841	2,821,841	0	0	0	0	0
Commonwealth Health Research Board	1,566,854	0	0	0	1,566,854	0	0
Conservation and Recreation, Department of	467,900	0	0	467,900	0	0	0
Education, Department of	2,495,435	0	0	0	0	0	2,495,435
Energy, Department of	1,530,387	0	0	1,530,387	0	0	0
Environmental Quality, Department of	366,645	0	0	366,645	0	0	0
Forensic Science, Department of	1,337,377	0	0	0	0	0	1,337,377
Forestry, Department of	701,053	0	0	701,053	0	0	0
Foundation for Healthy Youth	787,149	0	0	0	787,149	0	0
Innovative Technology, Center for	11,596,571	240,000	409,898	686,308	1,649,306	2,562,535	6,048,524
Institute for Advanced Learning and Research	57,000	57,000	0	0	0	0	0
Marine Resources Commission	1,847,815	0	0	1,847,815	0	0	0
Natural History, Museum of	900,582	0	0	900,582	0	0	0
Social Services, Department of	800,000	0	0	0	0	0	800,000
Transportation, Department of	15,943,293	0	0	0	0	15,943,293	0
Wildlife Resources, Department of	1,564,856	0	0	1,564,856	0	0	0
Washington	56,690,210	11,882,329	11,573,426	20,929,359	1,367,538	7,528,900	3,408,658
Agriculture, Department of	3,498,238	3,498,238	0	0	0	0	0
Alfalfa Seed Commission	34,000	34,000	0	0	0	0	0
Commerce, Department of	11,485,246	0	11,485,246	0	0	0	0
Cranberry Commission	16,000	16,000	0	0	0	0	0
Ecology, Department of	1,398,475	0	0	1,398,475	0	0	0
Fish and Wildlife, Department of	11,181,950	0	0	11,181,950	0	0	0
Fruit Commission	134,538	0	0	0	134,538	0	0
Grain Commission	1,860,504	1,860,504	0	0	0	0	0
Health, Department of	1,233,000	0	0	0	1,233,000	0	0
Hop Commission	272,988	272,988	0	0	0	0	0
Labor and Industries, Department of	3,408,658	0	0	0	0	0	3,408,658
Mint Commission	27,171	27,171	0	0	0	0	0
Natural Resources, Department of	7,587,114	0	88,180	7,498,934	0	0	0
Oilseeds Commission	46,152	46,152	0	0	0	0	0
Pesticide Registration, Commission on	357,969	357,969	0	0	0	0	0
Potato Commission	837,892	837,892	0	0	0	0	0
Puget Sound Partnership	850,000	0	0	850,000	0	0	0
Pulse Crops Commission	238,186	238,186	0	0	0	0	0
Red Raspberry Commission	220,248	220,248	0	0	0	0	0
Seed Potato Commission	25,639	25,639	0	0	0	0	0
Transportation, Department of	7,528,900	0	0	0	0	7,528,900	0

TABLE 21

## State agency expenditures for R&amp;D, by state, department or agency, and function of R&amp;D: FY 2021

(Dollars)

State and department or agency	All R&D expenditures	Agriculture	Energy	Environment and natural resources	Health	Transportation	Other <sup>a</sup>
Tree Fruit Research Commission	4,096,282	4,096,282	0	0	0	0	0
Turfgrass Seed Commission	107,060	107,060	0	0	0	0	0
Wine Commission	244,000	244,000	0	0	0	0	0
West Virginia	9,013,091	166,685	872,617	3,183,300	293,814	2,257,746	2,238,929
Agriculture, Department of	166,685	166,685	0	0	0	0	0
Geological and Economic Survey	1,611,208	0	579,494	299,971	0	0	731,743
Higher Education Policy Commission	2,924,776	0	293,123	830,653	293,814	0	1,507,186
Natural Resources, Department of	2,052,676	0	0	2,052,676	0	0	0
Transportation, Department of	2,257,746	0	0	0	0	2,257,746	0
Wisconsin	15,239,075	1,558,082	0	6,879,700	1,000,000	2,176,168	3,625,125
Agriculture, Trade and Consumer Protection, Department of	1,558,082	1,558,082	0	0	0	0	0
Economic Development Corporation	4,625,125	0	0	0	1,000,000	0	3,625,125
Natural Resources, Department of	6,879,700	0	0	6,879,700	0	0	0
Transportation, Department of	2,176,168	0	0	0	0	2,176,168	0
Wyoming	7,278,796	531,634	1,631,016	2,542,859	261,500	1,105,147	1,206,640
Agriculture, Department of	531,634	531,634	0	0	0	0	0
Business Council	1,544,835	0	0	199,975	199,860	0	1,145,000
Corrections, Department of	123,280	0	0	0	61,640	0	61,640
Energy Authority	413,533	0	413,533	0	0	0	0
Enhanced Oil Recovery Institute	1,126,393	0	1,126,393	0	0	0	0
Game and Fish Department	1,968,341	0	0	1,968,341	0	0	0
State Geological Survey	182,179	0	91,090	91,089	0	0	0
Transportation, Department of	1,105,147	0	0	0	0	1,105,147	0
Water Development Office	283,454	0	0	283,454	0	0	0

<sup>a</sup> Other functions include, but are not limited to, corrections, criminal justice, education, forensic science, labor, public safety, and social services.

<sup>b</sup> U.S. total reflects all 50 states and the District of Columbia.

**Source(s):**

National Center for Science and Engineering Statistics, Survey of State Government Research and Development, FY 2021.

TABLE 22

## State government R&amp;D intramural personnel, by state, headcount, and full-time equivalent: FY 2021

(Number)

State	R&D personnel headcount				R&D personnel full-time equivalents			
	Total	Researchers <sup>a</sup>	Technicians	Support staff	Total	Researchers <sup>a</sup>	Technicians	Support staff
United States <sup>b</sup>	9,132	4,854	2,981	1,297	6,387.5	3,532.8	1,949.0	905.7
Alabama	154	105	33	16	85.0	62.3	12.3	10.4
Alaska	74	50	13	11	58.0	41.5	10.0	6.5
Arizona	45	24	14	7	39.4	20.5	12.0	6.9
Arkansas	11	7	2	2	3.0	2.6	0.2	0.2
California	571	446	13	112	464.6	377.7	6.3	80.6
Colorado	85	67	5	13	65.0	52.3	4.3	8.4
Connecticut	212	156	40	16	170.4	120.9	36.0	13.5
Delaware	18	13	2	3	18.0	13.0	2.0	3.0
District of Columbia	61	30	18	13	49.5	29.5	7.2	12.8
Florida	808	609	68	131	722.1	553.9	46.9	121.3
Georgia	14	5	5	4	7.7	3.0	2.9	1.8
Hawaii	15	7	2	6	5.9	2.3	0.4	3.2
Idaho	105	33	68	4	82.0	23.6	56.4	2.0
Illinois	9	5	2	2	6.4	3.8	1.8	0.8
Indiana	44	22	15	7	15.8	11.5	3.0	1.3
Iowa	40	22	18	0	8.3	6.7	1.6	0.0
Kansas	27	16	5	6	21.1	11.1	5.0	5.0
Kentucky	48	24	20	4	20.4	10.2	8.3	1.9
Louisiana	218	124	61	33	85.3	60.9	16.5	7.9
Maine	166	68	47	51	141.3	54.3	44.5	42.5
Maryland	23	16	6	1	18.0	13.0	3.0	2.0
Massachusetts	100	44	48	8	18.4	10.3	6.0	2.1
Michigan	6	4	1	1	1.6	1.0	0.2	0.4
Minnesota	104	60	23	21	89.0	54.9	16.2	17.9
Mississippi	141	39	90	12	43.0	15.4	22.3	5.3
Missouri	228	77	143	8	112.9	59.6	50.9	2.4
Montana	55	24	28	3	11.8	5.2	5.4	1.2
Nebraska	51	17	30	4	35.2	17.5	16.2	1.5
Nevada	3	1	2	0	1.5	0.5	0.0	1.0
New Hampshire	16	2	3	11	2.2	2.0	0.1	0.1
New Jersey	48	45	0	3	18.9	16.1	0.0	2.8
New Mexico	11	4	4	3	10.7	3.7	4.0	3.0
New York	2,942	1,347	1,184	411	2,335.9	1,028.3	937.1	370.5
North Carolina	240	108	100	32	205.9	89.9	90.0	26.0
North Dakota	16	15	1	0	7.7	7.4	0.3	0.0
Ohio	51	20	23	8	33.9	19.9	10.7	3.3
Oklahoma	54	36	13	5	20.2	12.1	5.5	2.6
Oregon	252	85	142	25	146.5	68.6	67.3	10.6
Pennsylvania	202	95	96	11	125.2	44.9	75.9	4.4
Rhode Island	79	59	10	10	57.5	45.0	4.5	8.0
South Carolina	365	190	138	37	286.2	170.2	85.6	30.4
South Dakota	14	7	0	7	8.5	7.0	0.0	1.5
Tennessee	19	15	0	4	16.3	14.3	0.0	2.0
Texas	59	40	5	14	36.3	23.7	6.0	6.6
Utah	72	49	12	11	40.8	31.8	7.0	2.0
Vermont	9	3	5	1	3.2	2.4	0.7	0.1
Virginia	182	103	46	33	131.6	85.5	31.1	15.0
Washington	629	372	147	110	233.5	143.0	58.0	32.5

TABLE 22

**State government R&D intramural personnel, by state, headcount, and full-time equivalent: FY 2021**

(Number)

State	R&D personnel headcount				R&D personnel full-time equivalents			
	Total	Researchers <sup>a</sup>	Technicians	Support staff	Total	Researchers <sup>a</sup>	Technicians	Support staff
West Virginia	122	44	55	23	84.0	44.0	30.0	10.0
Wisconsin	92	26	62	4	24.1	18.5	1.6	4.0
Wyoming	222	74	113	35	157.8	15.5	135.8	6.5

<sup>a</sup> Researchers include R&D scientists and engineers and their managers.<sup>b</sup> U.S. total reflects all 50 states and the District of Columbia.**Source(s):**

National Center for Science and Engineering Statistics, Survey of State Government Research and Development, FY 2021.

TABLE 23

**State agency R&D intramural personnel, by state, department or agency, headcount, and full-time equivalent: FY 2021**

(Number)

State and department or agency	R&D personnel headcount				R&D personnel full-time equivalents			
	Total	Researchers <sup>a</sup>	Technicians	Support staff	Total	Researchers <sup>a</sup>	Technicians	Support staff
United States <sup>b</sup>	9,132	4,854	2,981	1,297	6,387.5	3,532.8	1,949.0	905.7
Alabama	154	105	33	16	85.0	62.3	12.3	10.4
Conservation and Natural Resources, Department of; Wildlife and Freshwater Fisheries Division	11	6	4	1	5.5	3.0	2.0	0.5
Education, Department of	62	62	0	0	25.0	25.0	0.0	0.0
Forensic Sciences, Department of	2	2	0	0	2.0	2.0	0.0	0.0
Geological Survey	37	30	4	3	34.5	29.3	3.3	1.9
Marine Environmental Science Consortium, Dauphin Island Sea Lab	42	5	25	12	18.0	3.0	7.0	8.0
Alaska	74	50	13	11	58.0	41.5	10.0	6.5
Environmental Conservation, Department of	5	1	0	4	0.7	0.5	0.0	0.2
Natural Resources, Department of; Division of Geological and Geophysical Surveys	48	35	8	5	48.0	35.0	8.0	5.0
Railroad Corporation	16	10	5	1	8.0	5.0	2.0	1.0
Transportation and Public Facilities, Department of	5	4	0	1	1.3	1.0	0.0	0.3
Arizona	45	24	14	7	39.4	20.5	12.0	6.9
Game and Fish Department	26	16	8	2	20.4	12.5	6.0	1.9
Juvenile Corrections, Department of	7	4	2	1	7.0	4.0	2.0	1.0
Transportation, Department of	12	4	4	4	12.0	4.0	4.0	4.0
Arkansas	11	7	2	2	3.0	2.6	0.2	0.2
Natural Heritage Commission	2	2	0	0	2.0	2.0	0.0	0.0
Transportation, Department of	9	5	2	2	1.0	0.6	0.2	0.2
California	571	446	13	112	464.6	377.7	6.3	80.6
Air Resources Board	64	49	5	10	62.4	49.0	3.6	9.8
Conservation, Department of	10	8	1	1	2.8	2.7	0.1	0.0
Energy Commission	99	90	0	9	99.0	90.0	0.0	9.0
Environmental Health Hazard Assessment, Office of	123	88	0	35	121.0	87.4	0.0	33.6
Motor Vehicles, Department of	17	14	0	3	15.1	12.1	0.0	3.0
Pesticide Regulation, Department of	95	85	0	10	60.2	55.7	0.0	4.5
Public Health, Department of	10	6	0	4	5.7	2.3	0.0	3.4
Rehabilitation, Department of	3	0	0	3	2.3	0.0	0.0	2.3
Social Services, Department of	5	5	0	0	4.3	4.3	0.0	0.0
State Water Resources Control Board	15	15	0	0	6.1	6.1	0.0	0.0
Toxic Substances Control, Department of	12	12	0	0	3.1	3.1	0.0	0.0
Transportation, Department of	81	64	2	15	80.0	63.5	1.5	15.0
Water Resources, Department of	37	10	5	22	2.6	1.5	1.1	0.0
Colorado	85	67	5	13	65.0	52.3	4.3	8.4
Agriculture, Department of	6	1	0	5	5.2	0.3	0.0	4.9
Natural Resources, Department of	52	42	5	5	35.2	30.4	4.3	0.5
Public Health and Environment, Department of	11	11	0	0	10.6	10.6	0.0	0.0
Public Safety, Department of; Division of Criminal Justice	11	9	0	2	9.0	7.0	0.0	2.0
Transportation, Department of	5	4	0	1	5.0	4.0	0.0	1.0
Connecticut	212	156	40	16	170.4	120.9	36.0	13.5
Agricultural Experiment Station	101	57	32	12	101.0	57.0	32.0	12.0

TABLE 23

## State agency R&amp;D intramural personnel, by state, department or agency, headcount, and full-time equivalent: FY 2021

(Number)

State and department or agency	R&D personnel headcount				R&D personnel full-time equivalents			
	Total	Researchers <sup>a</sup>	Technicians	Support staff	Total	Researchers <sup>a</sup>	Technicians	Support staff
Energy and Environmental Protection, Department of	55	47	8	0	27.0	23.0	4.0	0.0
Mental Health and Addiction Services, Department of	47	46	0	1	38.9	37.9	0.0	1.0
Transportation, Department of	9	6	0	3	3.5	3.0	0.0	0.5
Delaware	18	13	2	3	18.0	13.0	2.0	3.0
Geological Survey	18	13	2	3	18.0	13.0	2.0	3.0
District of Columbia	61	30	18	13	49.5	29.5	7.2	12.8
Forensic Sciences, Department of	11	11	0	0	11.0	11.0	0.0	0.0
Health, Department of	30	15	2	13	30.0	15.5	1.7	12.8
Transportation, Department of	2	1	1	0	1.5	1.0	0.5	0.0
Water and Sewer Authority	18	3	15	0	7.0	2.0	5.0	0.0
Florida	808	609	68	131	722.1	553.9	46.9	121.3
Agriculture and Consumer Services, Department of	13	5	0	8	13.0	5.0	0.0	8.0
Citrus, Department of	2	1	1	0	1.5	0.0	0.5	1.0
Fish and Wildlife Conservation Commission	781	599	60	122	697.9	545.8	40.6	111.5
Transportation, Department of	12	4	7	1	9.7	3.1	5.8	0.8
Georgia	14	5	5	4	7.7	3.0	2.9	1.8
Natural Resources, Department of	5	2	3	0	2.4	1.5	0.9	0.0
Southern States Energy Board	9	3	2	4	5.3	1.5	2.0	1.8
Hawaii	15	7	2	6	5.9	2.3	0.4	3.2
Agriculture, Department of	13	7	2	4	3.9	2.3	0.4	1.2
Business, Economic Development, and Tourism, Department of	2	0	0	2	2.0	0.0	0.0	2.0
Idaho	105	33	68	4	82.0	23.6	56.4	2.0
Fish and Game, Department of	99	30	66	3	76.0	20.6	54.4	1.0
Mint Commission	5	3	2	0	5.0	3.0	2.0	0.0
Transportation Department	1	0	0	1	1.0	0.0	0.0	1.0
Illinois	9	5	2	2	6.4	3.8	1.8	0.8
Transportation, Department of	9	5	2	2	6.4	3.8	1.8	0.8
Indiana	44	22	15	7	15.8	11.5	3.0	1.3
Natural Resources, Department of	16	12	3	1	1.5	1.5	0.0	0.0
Transportation, Department of	28	10	12	6	14.3	10.0	3.0	1.3
Iowa	40	22	18	0	8.3	6.7	1.6	0.0
Human Rights, Criminal and Juvenile Justice Planning, Division of, Department of	4	4	0	0	4.0	4.0	0.0	0.0
Natural Resources, Department of	36	18	18	0	4.3	2.7	1.6	0.0
Kansas	27	16	5	6	21.1	11.1	5.0	5.0
State Board of Regents	2	2	0	0	0.1	0.1	0.0	0.0
Transportation, Department of	18	9	5	4	18.0	9.0	5.0	4.0
Water Office	7	5	0	2	3.0	2.0	0.0	1.0
Kentucky	48	24	20	4	20.4	10.2	8.3	1.9
Fish and Wildlife Resources, Department of	48	24	20	4	20.4	10.2	8.3	1.9
Louisiana	218	124	61	33	85.3	60.9	16.5	7.9
Coastal Protection and Restoration Authority	11	7	0	4	7.5	6.5	0.0	1.0
Transportation and Development, Department of	38	23	12	3	38.0	23.0	12.0	3.0
Wildlife and Fisheries, Department of	169	94	49	26	39.8	31.4	4.5	3.9

TABLE 23

## State agency R&amp;D intramural personnel, by state, department or agency, headcount, and full-time equivalent: FY 2021

(Number)

State and department or agency	R&D personnel headcount				R&D personnel full-time equivalents			
	Total	Researchers <sup>a</sup>	Technicians	Support staff	Total	Researchers <sup>a</sup>	Technicians	Support staff
Maine	166	68	47	51	141.3	54.3	44.5	42.5
Agriculture, Conservation and Forestry, Department of	11	7	2	2	10.0	7.0	2.0	1.0
Inland Fisheries and Wildlife, Department of	35	15	15	5	27.0	8.0	16.0	3.0
Marine Resources, Department of	37	25	8	4	27.3	18.8	6.0	2.5
MDI Biological Laboratory, Center for Biomedical Innovation	80	19	21	40	74.0	18.5	19.5	36.0
Transportation, Department of	3	2	1	0	3.0	2.0	1.0	0.0
Maryland	23	16	6	1	18.0	13.0	3.0	2.0
Natural Resources, Department of	16	16	0	0	13.0	13.0	0.0	0.0
Transportation, Department of	7	0	6	1	5.0	0.0	3.0	2.0
Massachusetts	100	44	48	8	18.4	10.3	6.0	2.1
Environmental Protection, Department of	32	12	16	4	6.0	3.0	2.0	1.0
Fish and Game, Department of	63	28	31	4	10.2	5.4	3.7	1.1
Gaming Commission	2	2	0	0	1.5	1.5	0.0	0.0
Mental Health, Department of	1	1	0	0	0.1	0.1	0.0	0.0
Water Resources Authority	2	1	1	0	0.6	0.3	0.3	0.0
Michigan	6	4	1	1	1.6	1.0	0.2	0.4
Environmental, Great Lakes, and Energy, Department of	6	4	1	1	1.6	1.0	0.2	0.4
Minnesota	104	60	23	21	89.0	54.9	16.2	17.9
Agriculture, Department of	23	9	10	4	8.5	3.9	3.2	1.4
Natural Resources, Department of	63	47	10	6	63.0	47.0	10.0	6.0
Transportation, Department of	18	4	3	11	17.5	4.0	3.0	10.5
Mississippi	141	39	90	12	43.0	15.4	22.3	5.3
Environmental Quality, Department of	10	3	0	7	0.4	0.1	0.0	0.3
Marine Resources, Department of	11	4	7	0	3.5	2.0	1.5	0.0
Transportation, Department of	7	2	0	5	7.0	2.0	0.0	5.0
Wildlife, Fisheries, and Parks, Department of	113	30	83	0	32.1	11.3	20.8	0.0
Missouri	228	77	143	8	112.9	59.6	50.9	2.4
Conservation, Department of	228	77	143	8	112.9	59.6	50.9	2.4
Montana	55	24	28	3	11.8	5.2	5.4	1.2
Environmental Quality, Department of	4	2	2	0	1.4	1.0	0.2	0.2
Fish, Wildlife and Parks, Department of	50	21	26	3	9.4	3.2	5.2	1.0
Transportation, Department of	1	1	0	0	1.0	1.0	0.0	0.0
Nebraska	51	17	30	4	35.2	17.5	16.2	1.5
Game and Parks Commission	41	15	22	4	33.5	16.0	16.0	1.5
Transportation, Department of	10	2	8	0	1.7	1.5	0.2	0.0
Nevada	3	1	2	0	1.5	0.5	0.0	1.0
Agriculture, Department of	3	1	2	0	1.5	0.5	0.0	1.0
New Hampshire	16	2	3	11	2.2	2.0	0.1	0.1
Transportation, Department of	16	2	3	11	2.2	2.0	0.1	0.1
New Jersey	48	45	0	3	18.9	16.1	0.0	2.8
Children and Families, Department of	15	15	0	0	2.0	2.0	0.0	0.0
Community Affairs, Department of	2	2	0	0	0.1	0.1	0.0	0.0
Corrections, Department of	3	3	0	0	3.0	3.0	0.0	0.0
Environmental Protection, Department of	20	19	0	1	10.3	10.0	0.0	0.3
Pinelands Commission	5	5	0	0	1.0	0.0	0.0	1.0
State Parole Board, New Jersey	3	1	0	2	2.5	1.0	0.0	1.5

TABLE 23

## State agency R&amp;D intramural personnel, by state, department or agency, headcount, and full-time equivalent: FY 2021

(Number)

State and department or agency	R&D personnel headcount				R&D personnel full-time equivalents			
	Total	Researchers <sup>a</sup>	Technicians	Support staff	Total	Researchers <sup>a</sup>	Technicians	Support staff
New Mexico	11	4	4	3	10.7	3.7	4.0	3.0
Cultural Affairs, Department of	1	1	0	0	0.7	0.7	0.0	0.0
Game and Fish, Department of	4	1	2	1	4.0	1.0	2.0	1.0
Transportation, Department of	6	2	2	2	6.0	2.0	2.0	2.0
New York	2,942	1,347	1,184	411	2,335.9	1,028.3	937.1	370.5
Agriculture and Markets, Department of	23	18	5	0	11.7	7.7	4.0	0.0
Energy Research and Development Authority	35	22	0	13	28.5	22.0	0.0	6.5
Environmental Conservation, Department of	60	41	15	4	44.5	33.5	9.0	2.0
Health, Department of	364	232	83	49	265.4	179.3	43.4	42.7
Mental Health, Office of	1,353	578	587	188	998.0	367.0	458.0	173.0
People with Developmental Disabilities, Office of	31	11	14	6	16.0	6.0	7.0	3.0
Power Authority	10	9	0	1	10.0	9.0	0.0	1.0
Roswell Park Comprehensive Cancer Center	986	416	428	142	882.9	383.8	364.8	134.3
State Museum	75	17	52	6	73.9	17.0	50.9	6.0
Transportation, Department of	5	3	0	2	5.0	3.0	0.0	2.0
North Carolina	240	108	100	32	205.9	89.9	90.0	26.0
Agriculture and Consumer Services, Department of	159	62	81	16	159.0	62.0	81.0	16.0
Environmental Quality, Department of	39	18	12	9	23.8	12.3	5.5	6.0
Natural and Cultural Resources, Department of	36	23	7	6	17.1	10.6	3.5	3.0
Transportation, Department of	6	5	0	1	6.0	5.0	0.0	1.0
North Dakota	16	15	1	0	7.7	7.4	0.3	0.0
Historical Society of North Dakota	10	10	0	0	4.9	4.9	0.0	0.0
Transportation, Department of	6	5	1	0	2.8	2.5	0.3	0.0
Ohio	51	20	23	8	33.9	19.9	10.7	3.3
Education, Department of	1	1	0	0	0.1	0.1	0.0	0.0
Mental Health and Addictions Services, Department of	21	13	8	0	21.0	13.0	8.0	0.0
Natural Resources, Department of	29	6	15	8	12.8	6.8	2.7	3.3
Oklahoma	54	36	13	5	20.2	12.1	5.5	2.6
Environmental Quality, Department of	20	20	0	0	1.5	1.5	0.0	0.0
Grand River Dam Authority	9	4	4	1	3.3	2.3	1.0	0.0
Health, Department of	16	7	7	2	7.4	3.3	3.5	0.6
Human Services, Department of	2	0	1	1	1.0	0.0	0.0	1.0
Transportation, Department of	6	4	1	1	6.0	4.0	1.0	1.0
Wildlife Conservation, Department of	1	1	0	0	1.0	1.0	0.0	0.0
Oregon	252	85	142	25	146.5	68.6	67.3	10.6
Fish and Wildlife, Department of	175	42	123	10	92.5	30.5	57.8	4.2
Forestry, Department of	20	5	10	5	8.5	5.0	2.5	1.0
Geology and Mineral Industries, Department of	16	11	2	3	6.4	6.1	0.0	0.3
Human Services, Department of	21	11	7	3	21.0	11.0	7.0	3.0
Transportation, Department of	10	8	0	2	10.0	8.0	0.0	2.0
Water Resources Department	8	8	0	0	8.0	8.0	0.0	0.0
Watershed Enhancement Board	2	0	0	2	0.1	0.0	0.0	0.1
Pennsylvania	202	95	96	11	125.2	44.9	75.9	4.4



TABLE 23

**State agency R&D intramural personnel, by state, department or agency, headcount, and full-time equivalent: FY 2021**

(Number)

State and department or agency	R&D personnel headcount				R&D personnel full-time equivalents			
	Total	Researchers <sup>a</sup>	Technicians	Support staff	Total	Researchers <sup>a</sup>	Technicians	Support staff
Conservation and Natural Resources, Department of	6	4	1	1	2.8	1.1	0.7	1.0
Environmental Protection, Department of	3	3	0	0	0.2	0.0	0.0	0.2
Fish and Boat Commission	39	33	6	0	2.0	1.3	0.7	0.0
Game Commission	135	47	85	3	118.0	41.0	74.0	3.0
Susquehanna River Basin Commission	19	8	4	7	2.2	1.5	0.5	0.2
Rhode Island	79	59	10	10	57.5	45.0	4.5	8.0
Fish and Wildlife; Environmental Management, Department of	48	36	5	7	31.0	26.0	0.0	5.0
Marine Fisheries; Environmental Management, Department of	26	21	2	3	22.0	17.0	2.0	3.0
Narragansett Bay National Estuarine Research Reserve; Environmental Management, Department of	3	1	2	0	2.5	1.0	1.5	0.0
Water Resources Board	2	1	1	0	2.0	1.0	1.0	0.0
South Carolina	365	190	138	37	286.2	170.2	85.6	30.4
Health and Environmental Control, Department of	14	11	2	1	7.7	7.0	0.6	0.1
Mental Health, Department of	2	1	0	1	2.0	1.0	0.0	1.0
Natural Resources, Department of	311	154	131	26	255.0	149.0	85.0	21.0
Sea Grant Consortium	24	12	5	7	19.0	12.0	0.0	7.0
Transportation, Department of	14	12	0	2	2.5	1.2	0.0	1.3
South Dakota	14	7	0	7	8.5	7.0	0.0	1.5
Soybean Research and Promotion Council	6	0	0	6	0.5	0.0	0.0	0.5
Transportation, Department of	8	7	0	1	8.0	7.0	0.0	1.0
Tennessee	19	15	0	4	16.3	14.3	0.0	2.0
Education, Department of	8	7	0	1	8.0	7.0	0.0	1.0
Environment and Conservation, Department of	11	8	0	3	8.3	7.3	0.0	1.0
Texas	59	40	5	14	36.3	23.7	6.0	6.6
Environmental Quality, Commission on	2	0	0	2	0.5	0.0	0.0	0.5
Parks and Wildlife Department	32	22	5	5	24.3	15.5	5.0	3.8
State Health Services, Department of	25	18	0	7	11.5	8.2	1.0	2.3
Utah	72	49	12	11	40.8	31.8	7.0	2.0
Environmental Quality, Department of	3	3	0	0	0.8	0.8	0.0	0.0
Health, Department of	2	2	0	0	2.0	2.0	0.0	0.0
Natural Resources, Department of	60	40	10	10	31.0	25.0	5.0	1.0
Transportation, Department of	7	4	2	1	7.0	4.0	2.0	1.0
Vermont	9	3	5	1	3.2	2.4	0.7	0.1
Human Services, Agency of	4	1	3	0	1.3	0.7	0.6	0.0
Transportation, Agency of	5	2	2	1	1.9	1.7	0.1	0.1
Virginia	182	103	46	33	131.6	85.5	31.1	15.0
Conservation and Recreation, Department of	33	20	13	0	24.8	15.0	9.8	0.0
Education, Department of	5	3	1	1	2.2	1.6	0.3	0.3
Energy, Department of	18	14	3	1	18.0	14.0	3.0	1.0
Environmental Quality, Department of	3	3	0	0	0.1	0.1	0.0	0.0
Forensic Science, Department of	9	7	2	0	7.0	6.0	1.0	0.0
Forestry, Department of	7	1	6	0	7.0	1.0	6.0	0.0
Innovative Technology, Center for	10	2	0	8	7.2	1.0	0.0	6.2
Institute for Advanced Learning and Research	2	2	0	0	1.0	1.0	0.0	0.0

TABLE 23

**State agency R&D intramural personnel, by state, department or agency, headcount, and full-time equivalent: FY 2021**

(Number)

State and department or agency	R&D personnel headcount				R&D personnel full-time equivalents			
	Total	Researchers <sup>a</sup>	Technicians	Support staff	Total	Researchers <sup>a</sup>	Technicians	Support staff
Marine Resources Commission	2	1	1	0	2.0	1.0	1.0	0.0
Natural History, Museum of	9	5	3	1	8.5	6.0	2.0	0.5
Social Services, Department of	13	10	3	0	10.0	7.0	3.0	0.0
Transportation, Department of	71	35	14	22	43.8	31.8	5.0	7.0
Washington	629	372	147	110	233.5	143.0	58.0	32.5
Ecology, Department of	40	19	20	1	10.0	5.3	4.2	0.5
Fish and Wildlife, Department of	449	276	87	86	124.3	78.8	32.9	12.6
Health, Department of	14	10	2	2	8.1	5.6	1.1	1.4
Labor and Industries, Department of	28	24	0	4	28.0	24.0	0.0	4.0
Natural Resources, Department of	71	37	25	9	42.1	23.3	12.8	6.0
Transportation, Department of	15	3	7	5	11.0	3.0	3.0	5.0
Tree Fruit Research Commission	12	3	6	3	10.0	3.0	4.0	3.0
West Virginia	122	44	55	23	84.0	44.0	30.0	10.0
Agriculture, Department of	5	2	0	3	2.8	2.0	0.0	0.8
Geological and Economic Survey	34	24	5	5	34.0	24.0	5.0	5.0
Higher Education Policy Commission	3	0	0	3	1.2	0.0	0.0	1.2
Natural Resources, Department of	80	18	50	12	46.0	18.0	25.0	3.0
Wisconsin	92	26	62	4	24.1	18.5	1.6	4.0
Natural Resources, Department of	33	26	7	0	18.9	18.5	0.4	0.0
Transportation, Department of	59	0	55	4	5.2	0.0	1.2	4.0
Wyoming	222	74	113	35	157.8	15.5	135.8	6.5
Corrections, Department of	1	1	0	0	0.5	0.5	0.0	0.0
Energy Authority	3	0	0	3	3.0	0.0	0.0	3.0
Enhanced Oil Recovery Institute	13	7	3	3	5.5	3.0	1.0	1.5
Game and Fish Department	175	54	94	27	128.0	0.0	128.0	0.0
State Geological Survey	20	12	6	2	20.0	12.0	6.0	2.0
Transportation, Department of	10	0	10	0	0.8	0.0	0.8	0.0

<sup>a</sup> Researchers include R&D scientists and engineers and their managers.<sup>b</sup> U.S. total reflects all 50 states and the District of Columbia.**Source(s):**

National Center for Science and Engineering Statistics, Survey of State Government Research and Development, FY 2021.

## Technical Notes

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### Survey Overview (FY 2021 survey cycle)

*Purpose.* The Survey of State Government Research and Development is the only source for comprehensive uniform statistics regarding the extent of R&D activity performed and funded by departments and agencies in each of the nation's 50 state governments, the government of the District of Columbia, and the government of Puerto Rico.

*Data collection authority.* The information is solicited under the National Science Foundation (NSF) Act of 1950, as amended; the America COMPETES Reauthorization Act of 2010; and Title 13, United States Code, § 8(b). It is collected under Office of Management and Budget control number 0607-0933, expiration date 31 July 2023.

*Survey contractor.* The Census Bureau, under NSF interagency agreement number NCSE-2114762, collected, processed, and tabulated the statistics in this report.

*Survey sponsor.* The National Center for Science and Engineering Statistics (NCSES) within NSF.

### Key Survey Information

*Frequency.* Annual.

*Initial survey year.* 2006.

*Reference period.* State government fiscal years ending in 2021.

*Response unit.* State government departments, agencies, commissions, public authorities, institutions, and other entities that operate separately or somewhat autonomously from the central state government—but where the state government maintains administrative or fiscal control over their activities—with the capacity to perform or fund R&D; units are collectively referred to as *agencies*.

*Sample or census.* Census.

*Population size.* The population comprised 498 agencies from the 50 state governments, the District of Columbia, and Puerto Rico with the capacity to perform or fund R&D during FY 2021. This year, agencies that reported \$0 R&D the last three survey cycles were marked as inactive for this survey cycle. These will be reactivated for the FY 2023 survey cycle.

*Sample size.* Not applicable.

### Survey Design

*Target population.* State government departments, agencies, commissions, public authorities, institutions, and other entities that operate separately or somewhat autonomously from the central state government but where the state government maintains administrative or fiscal control over their activities, as defined by the Census Bureau's [Government Finance and Employment Classification Manual](#) (see chapter 1), and that funded or performed R&D for state government FY 2021. Several industry-specific state commissions, which are generally chartered by state legislatures but are administered independently, are considered state agencies and are included in the survey's population. State-run colleges and universities, which are canvassed as part of NCSES's Higher Education Research and Development (HERD) Survey, are excluded from the survey frame. State-run laboratories or experiment stations controlled by state universities are also excluded from the respondent universe, as are any entities determined to be nonprofit or private, as defined by the Census Bureau government classification criteria. However, because agricultural experiment stations in Connecticut are legally organized as a state government-dependent agency and because they are not affiliated with any university system, they are included in the survey's population.

*Sampling frame.* The total universe includes all state government-dependent units, including those for the District of Columbia and Puerto Rico, with the capacity to perform and fund R&D, identified with the aid of a state coordinator who is appointed by the governor of each state.

*Sample design.* The Survey of State Government Research and Development is a census. For the FY 2021 survey, state coordinators were provided with a list of agencies that were previously identified from the FY 2020 survey cycle as having the potential to perform or fund R&D. In addition, these lists included agencies identified from a systematic review of state session laws and additional review of agencies reporting to the Census Bureau's [Census of Governments](#) program by Census Bureau and NCSSES staff. Coordinators were asked to review this list and add agencies that they believed were involved with R&D and were not already identified. State coordinators also adjusted the agency universe to remove agencies that have never had any qualifying R&D to report to NCSSES, to add any agencies that were missing or could have R&D to report, to address organizational changes within their respective states since the previous survey, and to provide updated agency contact information.

## Data Collection and Processing Methods

*Data collection.* For FY 2021, due to the continued COVID pandemic, letters were not mailed to the office of each state governor, to the governor of Puerto Rico, or to the mayor of the District of Columbia, asking them to appoint a state coordinator who would provide updates to the universe of state government-dependent agencies that had the capacity to perform or fund R&D during FY 2021 (see "Appendix"). Instead, e-mails were sent to the chief of staff for all governors asking them to appoint a state coordinator. Census Bureau staff also reached out to prior state coordinators asking if they would be willing to continue to serve as the coordinators for 2021. On a flow basis, state coordinators were sent a spreadsheet of agencies and contacts that were surveyed for the FY 2020 Survey of State Government Research and Development and asked to add agencies that might have some R&D, remove agencies from the survey universe that no longer perform or fund R&D or have been reorganized, and update agency points of contact. Once the state coordinators completed updates to the list of active agencies to be surveyed, they then sent introductory e-mails to the agency respondents stating that respondents would be receiving an e-mail with instructions and the survey form to be completed and e-mailed back to the Census Bureau. The state coordinators sent the updated spreadsheet of agencies and contacts back to the Census Bureau. After receiving the list of updated agencies, agencies identified as having the potential to perform or fund R&D were then e-mailed the survey form. Upon completion by all agencies within a state, the state coordinators were provided with a spreadsheet of agency responses to review the survey results before they were provided to NCSSES for final analysis and dissemination.

*Mode.* State agencies were e-mailed a fillable form with auto summations and edits built in and were asked to complete the form. State coordinators were given a spreadsheet of potential state agencies and contact information to review and revise as necessary to add agencies to be surveyed, remove others from the survey as inactive, or make corrections to agency points of contact.

*Response rates.* Response rates were calculated for the FY 2021 Survey of State Government Research and Development and are available in [table A-1](#).

All 50 state governments and the District of Columbia participated in the survey. A total of 35 of 52 state coordinators updated their spreadsheet. However, only 10 of 52 state coordinators officially responded to verify the final aggregate data for their states. For those agencies that did not have a coordinator appointed, final aggregate data files were sent to staff at NCSSES for review. Some or all agencies submitted data in those states where the coordinator did not verify data officially. A coordinator was not appointed in Colorado, Delaware, New York, Pennsylvania, and Rhode Island. Historically, NCSSES has partnered with the Puerto Rico Institute of Statistics to collect information on R&D spending from Puerto Rico agencies. The Institute conducts its own survey of R&D activities in the territory and uses the NCSSES survey questions for

its collections of government agencies and provides the results to NCSES. Although the governor's office did appoint a coordinator for this year's survey, they were unable to collect the data on behalf of NCSES in time for this survey cycle. Even though NCSES communicated with Puerto Rico this year, no data were received for FY 2021 from the 17 agencies in Puerto Rico that previously provided data to NCSES in previous years.

The final agency response was 476 of 498 agencies (95.6%). If agencies were unable to answer the survey request, staff from the Census Bureau and NCSES compiled R&D estimates from publicly available financial statements in lieu of a direct response when such materials were available. This includes data for the following state agency: Massachusetts Massventures.

In addition to the 17 agencies in Puerto Rico, the following agencies did not respond to the survey and as a result may contribute to an undercount in their states' public expenditures for R&D activities:

- California Arts Council
- Minnesota Department of Public Safety
- Ohio Industrial Commission

Of the 476 agencies that responded, 399 (83.8%) reported having some R&D activity in FY 2021.

*Data editing.* Initial agency data submissions were received via fillable forms e-mailed to the Census Bureau analyst. Basic logical edit checks, review of respondent comments, and comparisons of data from previous surveys allowed Census Bureau and NCSES staff to detect data errors and work with respondents to correct them. Census Bureau and NCSES staff also conducted follow-up calls to agencies with major data changes in R&D between FY 2020 and FY 2021 to ensure the accuracy of the survey data. Major data changes are dependent on the state and type of agency. After all the agencies in a state submitted responses, a spreadsheet of aggregated agency data was sent to the coordinators. They were asked to perform a final verification of aggregated agency data.

*Imputation.* Data was imputed for three agencies. Kentucky Department of Fish and Wildlife Resources was imputed using a ratio of historic state data. New Mexico Department of Game and Fish was imputed by bringing forward prior-year data based on historic reporting pattern. Tennessee Department of Education was imputed using a ratio of historic Department of Education data. The reported total for Midwest Dairy was broken out across the divisions in Arkansas, Illinois, Iowa, Kansas, Minnesota, Nebraska, North Dakota, Oklahoma, and South Dakota based on percentages each division contributed as per the annual report. All state and national totals are aggregates of reported agency data. Each state government's organizational structure, laws, and delegation of powers within its purview are unique. There are no universally applied methods of imputation that can be used across all state government agencies and still account for these structural differences. This is consistent with basic statistical methods used by the Census Bureau's Census of Governments, Survey of State Government Finance. Therefore, R&D expenditures may be underestimated in states where agencies failed to respond. When imputation methods are needed, they are handled on an individual state-by-state basis. When agency financial reports were publicly available, some agency research expenditures were compiled from these reports by staff at the Census Bureau and NCSES.

*Weighting.* Not applicable.

*Variance estimation.* Not applicable.

## Survey Quality Measures

*Sampling error.* Not applicable.

*Coverage error.* In addition to a Census Bureau review of state session laws to identify agencies with the capacity to fund R&D, NCSSES utilizes the expertise of an appointed state coordinator to assist in identifying state government agencies that have the capacity to perform or fund R&D. State coordinators are also offered the opportunity to review survey responses from their respective state agencies before results are finalized for data release. In cases where the state coordinator refused to cooperate or where some agencies failed to respond to the survey, it is possible there may be an undercount of state government R&D activities. The undercount may occur despite efforts by NCSSES and Census Bureau staff to conduct additional queries and outreach with state agencies that did not appoint a state coordinator. In other instances, the appointed state coordinator could misinterpret the survey definition and examples of qualifying R&D activities and thus fail to identify all state government-dependent units with the capacity to perform or fund R&D.

*Nonresponse error.* Of the 498 agencies in the survey universe, 476 (95.6%) responded to the survey. Of the 476 respondents, 399 (83.8%) reported having R&D activities in FY 2021. A mathematical statistical method was used to impute three nonresponding larger agencies known to have R&D in the past, namely the Kentucky Department of Fish and Wildlife Resources, New Mexico Department Game and Fish, and the Tennessee Department of Education. The agency in Tennessee was imputed despite having responded due to some reporting discrepancies. No other imputation was used for the other nonresponding agencies because the other agencies historically have reported not having R&D.

*Measurement error.* The most common form of nonsampling error in the Survey of State Government Research and Development is in respondents' interpretation of the survey definition of qualifying R&D activities. To mitigate any potential misinterpretations, several steps were taken. NCSSES provided a series of examples specific to the types of activities performed or funded by state government agencies in the survey questionnaire's definitions and examples. All responses, including the initial agency data submissions and final state coordinator verifications, were received via e-mail or phone. Census Bureau staff performed basic logical edit checks and reviewed respondent comments, allowing staff to detect errors and work with state respondents to correct them. Despite these efforts, some of the data reported could include expenditures for non-R&D activities, such as non-R&D salaries, commercialization, environmental testing, or routine survey or monitoring work. Similarly, some state data may also exclude minor R&D expenditure amounts from agencies not surveyed.

## Data Comparability

State government R&D totals can display considerable volatility between survey cycles. For example, state agency expenditures are influenced by several national and state-specific factors, and large changes (either increases or decreases) are not unusual, especially for discretionary spending items such as R&D. States often will create special funds to support specific research activities for a limited time. These funds may have a one-time appropriation from the legislature and expire within 2–5 fiscal years; state agencies obligate those funds for specific R&D projects, depending on availability and expiration of funding authority, as well as other program-specific and administrative considerations. Data reported are agency direct expenditures for R&D in a given fiscal year, not obligations. As such, in the case of multiyear grants to extramural performers, an agency's expenditures for that fiscal year may be greater than its obligations because expenditures may include spending from the previous year's appropriations, depending on the specific budget authority granted by the legislature. It is likely that some portion of the reported changes reflects measurement and coverage errors. In the case of R&D funds for extramural performers, some agencies were able to report only multiyear obligations rather than single-year expenditures.

The survey asked about state agencies' expenditures for R&D at the end of FY 2021. Most states and Puerto Rico have a fiscal year that begins 1 July and ends the following 30 June. For example, FY 2021 is the state fiscal period beginning on 1 July 2020 and ending on 30 June 2021. There are, however, five exceptions to the 30 June fiscal year end: New York (ends 31 March), Texas (ends 31 August), and Alabama, the District of Columbia, and Michigan (end 30 September). For comparability, all states, the District of Columbia, and Puerto Rico are surveyed at the same time.

A state's R&D priorities may be shaped by the state's unique legislative and budgeting processes. State budget practices vary considerably due to both political and historical reasons. Nineteen states enact biennial budgets. Of these states, Montana, Nevada, North Dakota, and Texas have both biennial legislative sessions and biennial budgets. The remaining 15 states of Connecticut, Hawaii, Indiana, Kentucky, Maine, Minnesota, Nebraska, New Hampshire, North Carolina, Ohio, Oregon, Virginia, Washington, Wisconsin, and Wyoming hold annual legislative sessions but maintain biennial budgeting. Only North Dakota and Wyoming enact consolidated 2-year budgets; other biennial budget states enact two annual budgets at one time. As such, the nature of a state's budget priorities for R&D may be determined on a biennial basis in some states; in others, however, it may be determined on an annual basis. In states with biennial budgets, the legislatures will often make supplemental appropriations to the second-year budget, which may result in further changes to the initial funding priorities.

The data exclude R&D expenditures by state governments that did not flow through state agencies' budgets. The state totals do not include direct appropriations from state legislatures to colleges and universities. Higher education institutions' expenditures from state government appropriations are available from NCSSES's HERD Survey (<https://www.nsf.gov/statistics/srvyherd/>). For FY 2021, state government agencies reported \$960 million in expenditures used to support R&D performance by academic institutions. A major factor for the difference between totals reported in NCSSES's HERD Survey and the Survey of State Government Research and Development is direct appropriations to state-run universities are included in the former but not in the latter. Another likely factor is the exclusion of R&D at agricultural experiment stations from the state survey totals because they are generally associated with land-grant colleges and universities and are canvassed on the HERD Survey.

Direct comparison of state agency expenditures should also be viewed with caution because state governments often reorganize departments and agencies such that some divisions and offices that were part of one agency may be moved to another agency. In other instances, entire departments may be reorganized into newly created departments. Although the FY 2021 Survey of State Government Research and Development encountered several instances of these organizational changes in several states, the survey itself is not designed to measure specific changes in state government organization. To account for these and other changes in the data, Census Bureau and NCSSES staff conducted follow-up calls for agencies with major data changes depending on the type of agency and state, between FY 2020 and FY 2021, to ensure the accuracy of the survey data.

Data specific to state government agencies were first released with the FY 2009 survey results and are also included in the FY 2021 data tables. Specific agency-level data for FY 2006 and FY 2007 are not available.

The current Survey of State Government Research and Development has been conducted for FY 2006, FY 2007, FY 2009, FYs 2010–11, FYs 2012–13, FYs 2014–15, FY 2016, FY 2017, FY 2018, FY 2019, FY 2020, and FY 2021. (No survey was conducted for state governments for FY 2008.) Data presented in trend tables in this report are from the most recently completed survey cycle. References to prior-year data should be restricted to those published in this report for two reasons: (1) when completing the current year's survey, survey respondents may revise their prior year's data, and (2) NCSSES reviews data for prior years for consistency with current-year responses and, if necessary, may revise these data in consultation with respondents.

NCSSES has collected state government R&D data for FY 1964, FY 1965, FY 1967, FY 1968, FY 1972, FY 1973, and FY 1977 in collaboration with the Census Bureau's Census of Governments and related programs. For FY 1987, FY 1988, and FY 1995, data collections of state government R&D were conducted by nonfederal organizations that were supported by NSF grants. As a result of differences in the survey populations, in definitions of covered R&D activities, and in collection methods over time, the results of these historical surveys are not comparable with the statistics collected for the FY 2006 and subsequent Surveys of State Government Research and Development.

*Changes in survey coverage and population.* Each year, state coordinators update the universe of agencies most likely to have funded or performed R&D based on changes in funding authority, organization changes within the government, or other initiatives by the legislature. No survey was conducted for state governments for FY 2008. Beginning with the FY 2009 survey cycle, state coordinators were no longer able to overwrite the aggregate R&D data reported by state agencies to correct or modify the state total. Any changes or revisions were now required to be made at the state government agency level.

*Changes in questionnaire.*

- FY 2009. The FY 2009 questionnaire was the first to collect state government R&D activities by governmental functions of agriculture, environment and natural resources, health, transportation, and other.
- FYs 2010 and 2011. The survey was reorganized as a biennial survey and collected 2 fiscal years of data on one questionnaire. In addition, the energy category was added to the list of specific government functions of R&D.
- FYs 2012 and 2013. A minor change to the instructions in question 1 for extramural performers was made from “R&D done for your department/agency” to “R&D funded by your department/agency” to ensure that all R&D-related projects that the agency funds regardless of the end result (i.e., grants) were properly included.
- FYs 2014 and 2015. The survey was revised to collect additional details about R&D funding and performance to better align with the Organisation for Economic Co-operation and Development (OECD) *2002 Frascati Manual*, the most recent edition available at survey launch. These changes include source of funds for extramural R&D performance supported by federal funds, state funds, or other funds. For all federal funds received for both intramural and extramural R&D, respondents were asked how much was received from specific federal agencies. For intramural R&D performance, respondents were asked how much of federal, state, and other funding was classified as basic research, applied research, or experimental development.
- FY 2016. Survey reporting period changed from a biennial to annual survey. Questions remained the same with some minor additions to examples and wording changes. A remarks box was added for respondents to provide comments.
- FY 2017. The “other” category for Internal Sources of R&D was split into multiple categories: nonfederal government funds, nonprofit organizations, businesses, and higher education institutions.
- FY 2018. No changes were made.
- FY 2019. A question asking about the amount of time it takes to complete survey. This question was added for administrative purposes.
- FY 2020. Two new questions were added asking for the number of intramural R&D personnel and the full-time equivalents for researchers, technicians, and support staff. Data from these new questions are not available this year.
- FY 2021. The survey was restructured to group related questions together. For example, questions on expenditures for R&D performed internally by type of R&D, internal R&D employees, and internal full-time equivalent R&D personnel were moved to follow the internal R&D expenditures question. Similarly, questions on expenditures for R&D performed externally and expenditures for R&D performed externally by type of entity were moved to follow the internal R&D questions. All questions asking for crosscuts on the total R&D expenditures were moved to follow both internal and external R&D-related questions.

*Changes in reporting procedures or classification.*

- FY 2018. Online reporting was replaced with a fillable PDF with automated summations and edits built into the survey instrument.
- FYs 2019–21. No changes were made.



## Definitions

*Applied research.* Original investigation undertaken in order to acquire new knowledge. It is, however, directed primarily toward a specific, practical aim or objective.

*Basic research.* Experimental or theoretical work undertaken primarily to acquire new knowledge of the underlying foundations of phenomena and observable facts, without any particular application or use in view.

*Construction and acquisition of facilities used primarily for R&D.* Includes the acquisition of, construction of, and major repairs or alterations to structures, works, equipment, facilities, or land for use in R&D activities. Construction and acquisition of land and facilities used primarily for R&D includes major costs for construction and purchase of buildings to be primarily used as R&D facilities.

*Experimental development.* Systematic work, drawing on knowledge gained from research and practical experience and producing additional knowledge, which is directed to producing new products or processes or to improving existing products or processes.

*Performers, extramural.* Those outside the department or agency who perform R&D under the administrative oversight or control of that department or agency. This may include projects for the department or agency as well as the department's or agency's extramural research programs. Extramural performers include the following:

- *Academic institutions.* Public or private universities and colleges.
- *Companies and individuals.* Performers under contract for research projects or that received grants for research projects.
- *Other.* Nonprofit organizations, including foundations; federal government departments and agencies; other departments or agencies within the state; other state governments; county, city, special district, or regional local governments.

*Performers, intramural.* Department's or agency's own employees who perform R&D, which includes R&D performed by those employees and services performed by others in support of an internal R&D project (e.g., laboratory testing).

*Research and development.* Comprise creative and systematic work undertaken in order to increase the stock of knowledge—including knowledge of humankind, culture, and society—and to devise new applications of available knowledge. Sources and examples of R&D funding include the following:

- *Federal government.* Grants, contracts, awards, and appropriations from the U.S. government.
- *State.* Appropriations from the state legislature, agricultural commodity assessments, bond funds, general funds, restricted funds, revenue funds, state grants, tobacco settlement funds, lottery proceeds, funds from other agencies within the state, and revenue from charges, fees, or fines.
- *Nonprofit organizations.* Includes funding from foundations.
- *Nonfederal government.* Funding from other state governments, county, city, regional, or other local governments.
- *Businesses.* Grants and contracts from companies.
- *Higher education institutions.* Funding from public or private universities and colleges.
- *R&D employee count.*
  - *Researchers.* For example, biologists, psychologists, research scientists and engineers, primary investigators, and R&D managers.
  - *Technicians.* Equivalent staff includes wildlife technicians, lab technicians, and field staff.

- *Support staff.* For example, accountants, facilities management, grant specialist, and clerical staff.
- *Full-time equivalent R&D personnel.* Calculated as the total working hours spent working on R&D during your state government's fiscal year divided by the number of hours representing a full-time schedule within the same period.

## Technical Tables

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Table	Title
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<a href="#">A-1</a>	Final response rates and agencies reporting R&D to the survey: FY 2021
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TABLE A-1

**Final response rates and agencies reporting R&D to the survey: FY 2021**

(Number and percent)

Agencies selected	Agencies surveyed	Responses		R&D reported	
		Agencies	Percent	Agencies	Percent
All agencies	498	476	95.6	399	83.8

**Source(s):**

National Center for Science and Engineering Statistics, Survey of State Government Research and Development, FY 2021.

## Acknowledgments and Suggested Citation

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## Contact Us

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### Report Author

Christopher V. Pece  
Survey Manager  
NCSES  
Tel: (703) 292-7788  
E-mail: [cpece@nsf.gov](mailto:cpece@nsf.gov)

### NCSES

National Center for Science and Engineering Statistics  
Directorate for Social, Behavioral and Economic Sciences  
National Science Foundation  
2415 Eisenhower Avenue, Suite W14200  
Alexandria, VA 22314  
Tel: (703) 292-8780  
FIRS: (800) 877-8339  
TDD: (800) 281-8749  
E-mail [ncsesweb@nsf.gov](mailto:ncsesweb@nsf.gov)