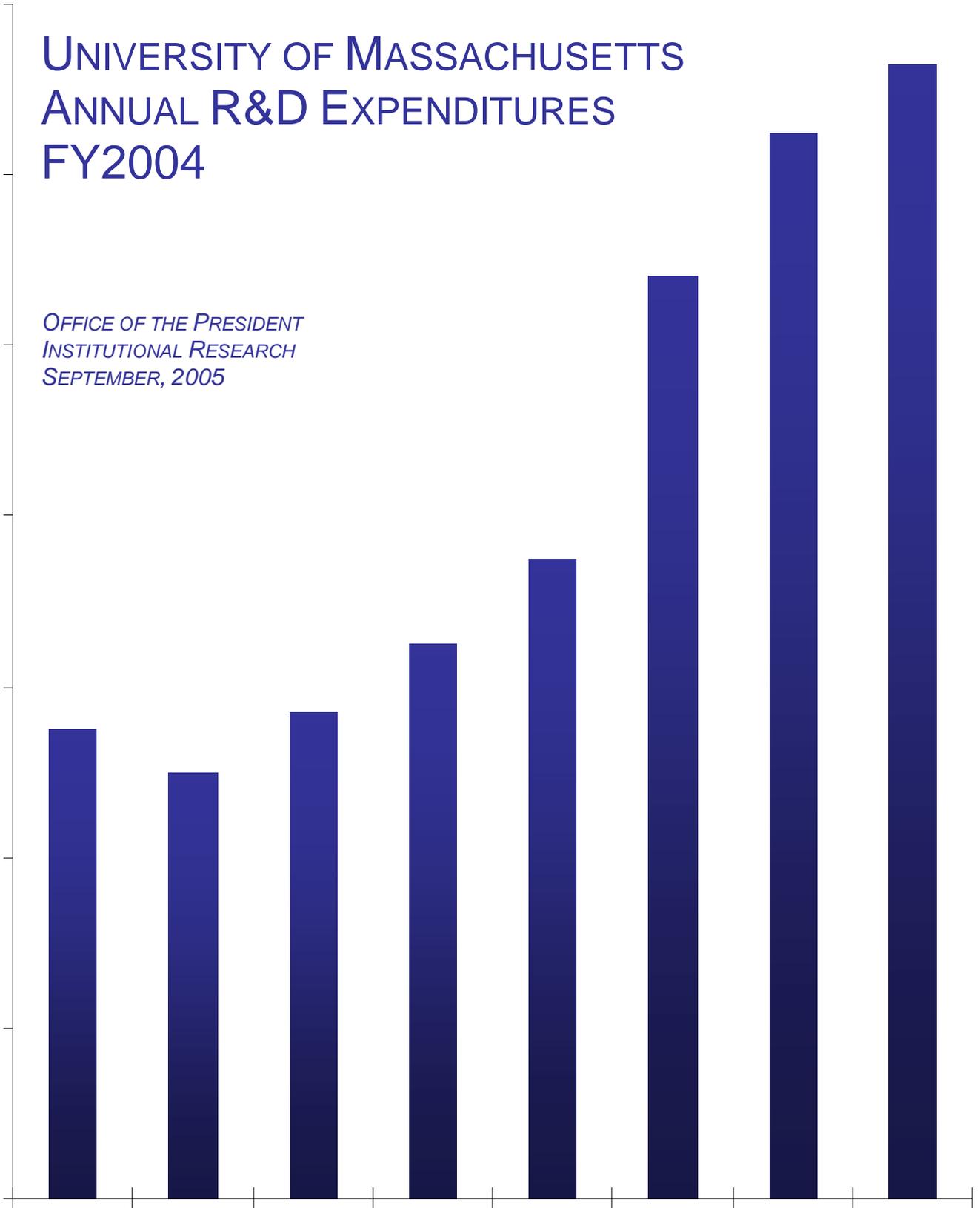


UNIVERSITY OF MASSACHUSETTS ANNUAL R&D EXPENDITURES FY2004

*OFFICE OF THE PRESIDENT
INSTITUTIONAL RESEARCH
SEPTEMBER, 2005*



The *FY2004 Annual R&D Expenditures* report presents information on the research and development expenditures at the University of Massachusetts system. It is based on data that our five campuses provide to the National Science Foundation (NSF) through its annual Survey of Research and Development Expenditures at Universities and Colleges. In addition to FY2004 data, this report also provides trend data in many cases. Selected NSF rankings of R&D expenditures are available in the appendices.

FY2004 highlights:

- Total FY2004 R&D spending was \$355 million, which represents a 9.6% increase from the FY2003 total of \$324 million.
- \$346 million (97%) of our R&D expenditures are in the sciences and engineering (S&E). In FY2004, S&E expenditures increased \$28 million, or 9%, over FY2003. The most dramatic growth in both dollar and percentage terms was at the Worcester campus (\$20 million, or 14%).
- In terms of funding sources for S&E research, 65% is from the federal government, 15% is from institutional sources, 10% is from state and local government, 4% is from industry and 6% is from other sources (e.g., private foundations).
- Most areas of funding showed growth, with the exception of state/local government and other sources. Industry sponsorship increased 18%, both federal funding and institutional funding grew by 11%, while state/local government funding and other sources decreased by 3% and 5% respectively.
- At \$212 million, life sciences constitute 60% of UMass' total R&D expenditures. The distribution of R&D expenditures by field is:

life sciences	59.7%	environmental sciences	4.3%
physical sciences	11.5%	non sciences/engineering	2.6%
engineering	9.7%	psychology	1.9%
computer sciences	4.7%	mathematical sciences	1.0%
social sciences	4.1%	other sciences	0.4%

- Within life sciences, biological sciences constitute more than a third (36%) of the expenditures, medical sciences another third (34%), and agricultural and other sciences the remaining 30%.

Barbara Velardi
Research Associate

Shu-Ling Chen
Director of Institutional Research

TOTAL R&D EXPENDITURES

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 - UMASS DARTMOUTH 4
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LIFE SCIENCES R&D EXPENDITURES

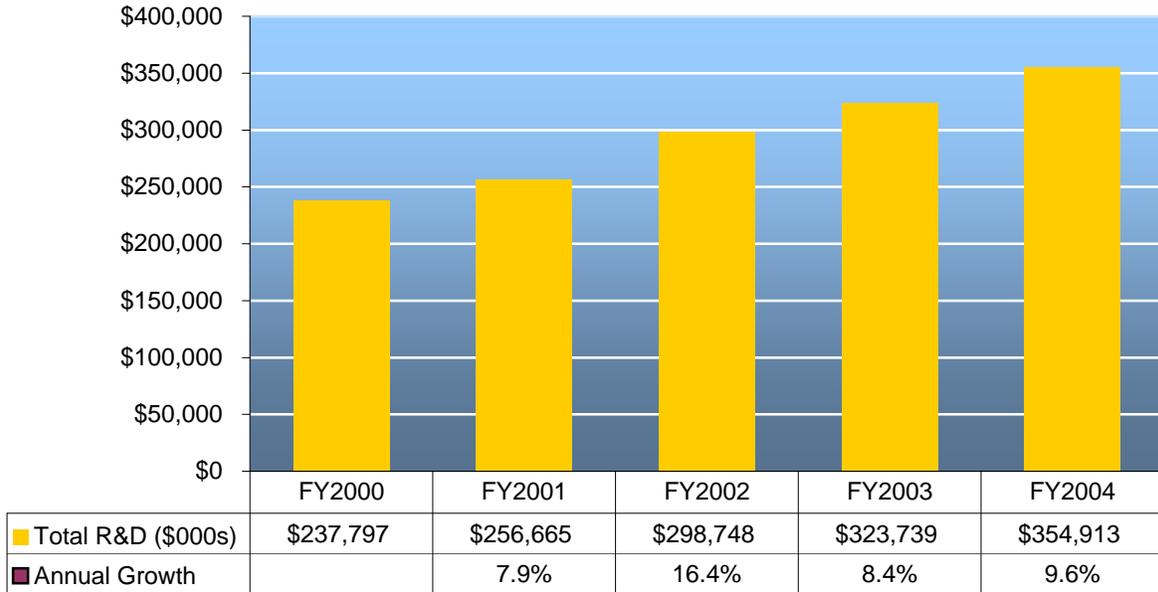
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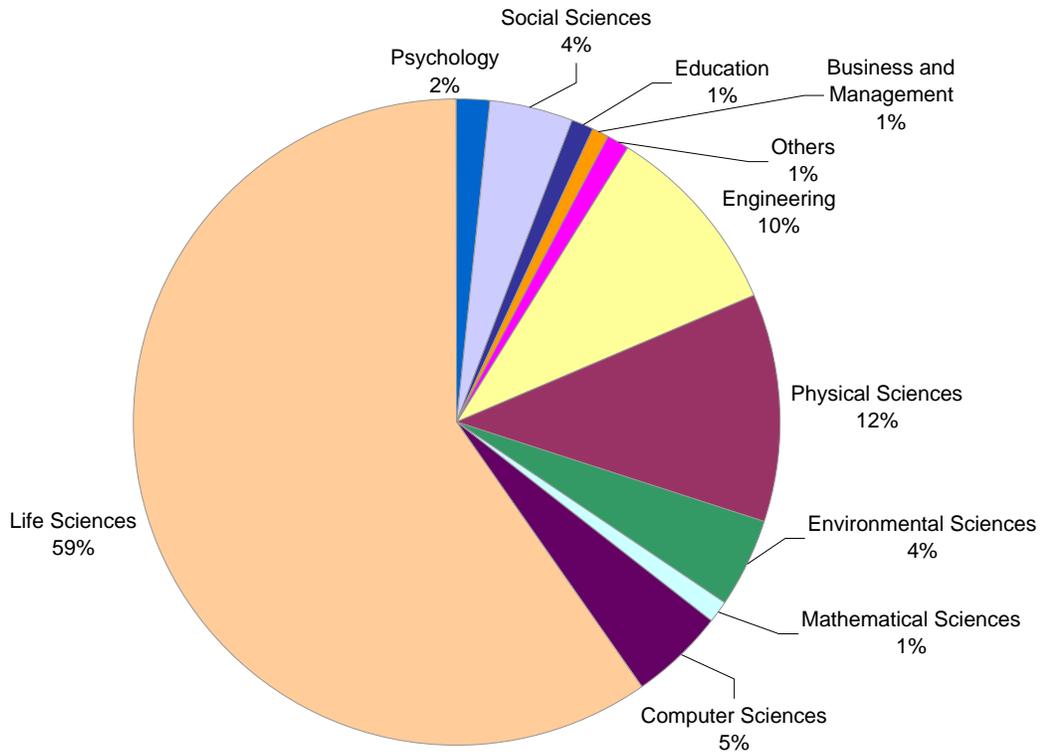
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UMASS System

Total R&D Expenditures FY2000 – FY2004

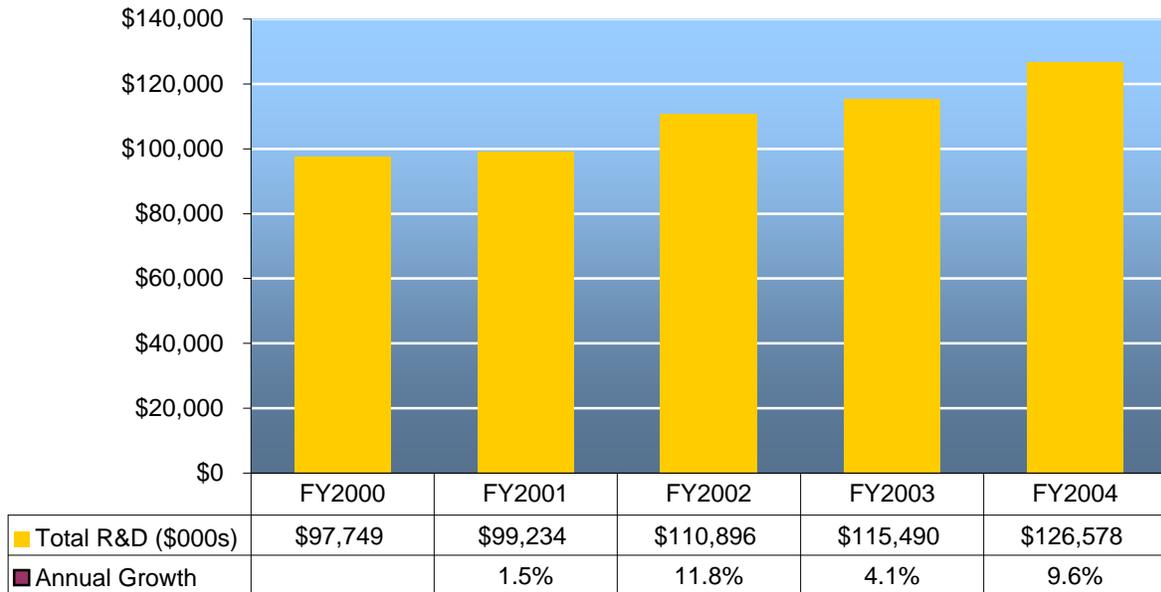


Total R&D Expenditures FY2004

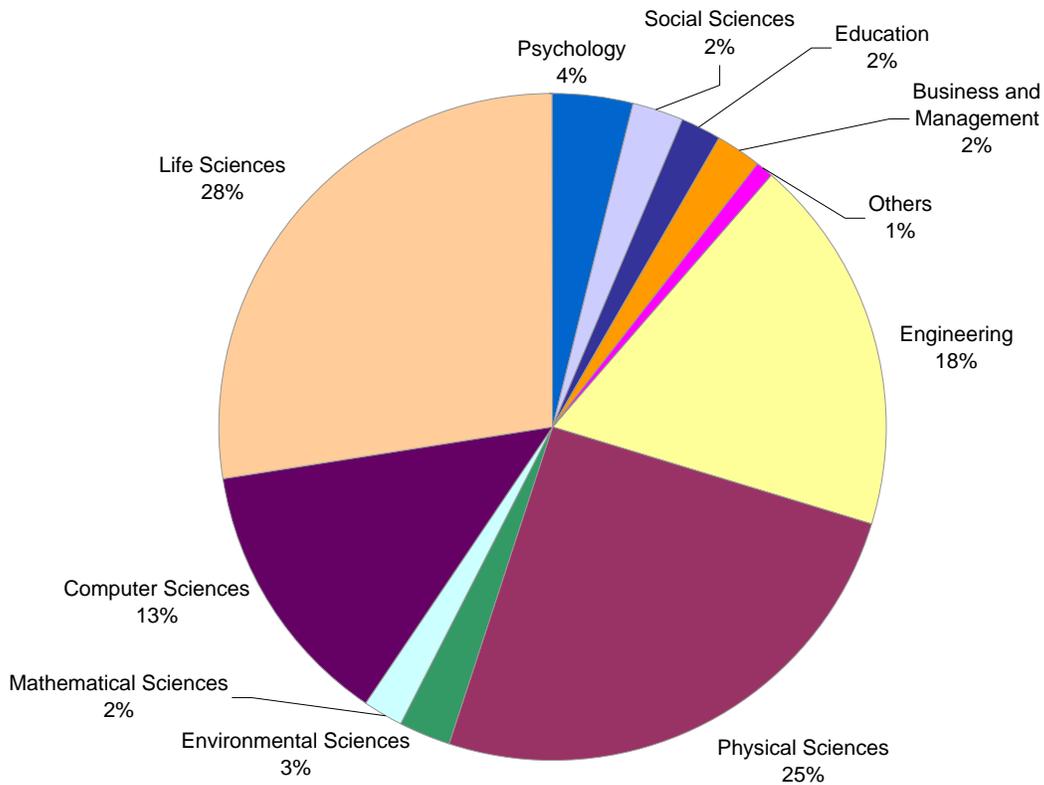


Amherst

Total R&D Expenditures FY2000 – FY2004

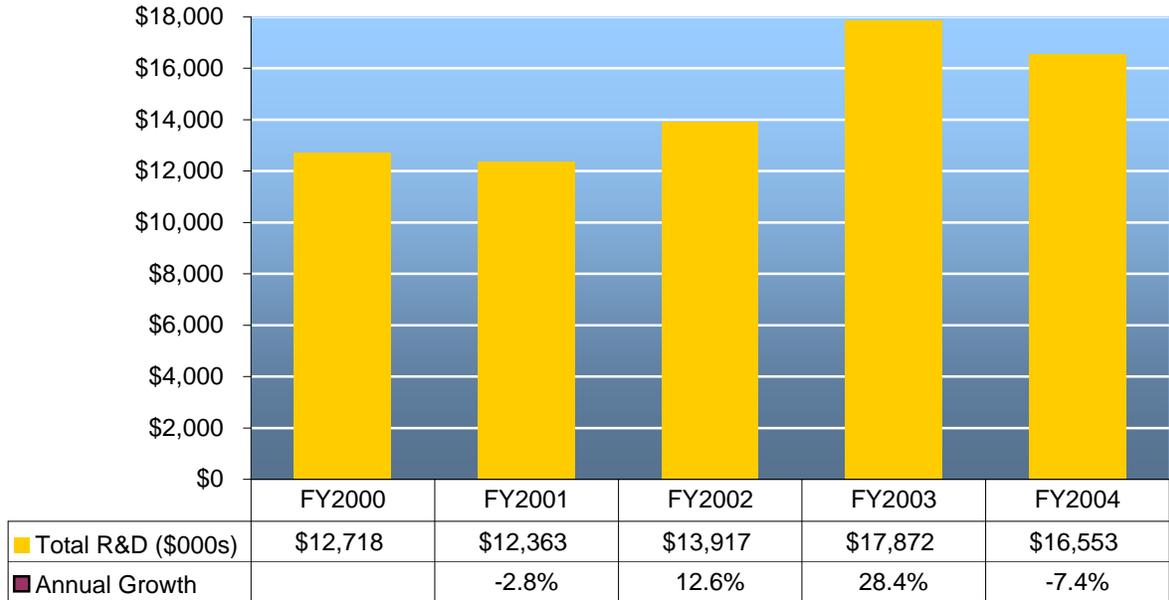


Total R&D Expenditures FY2004

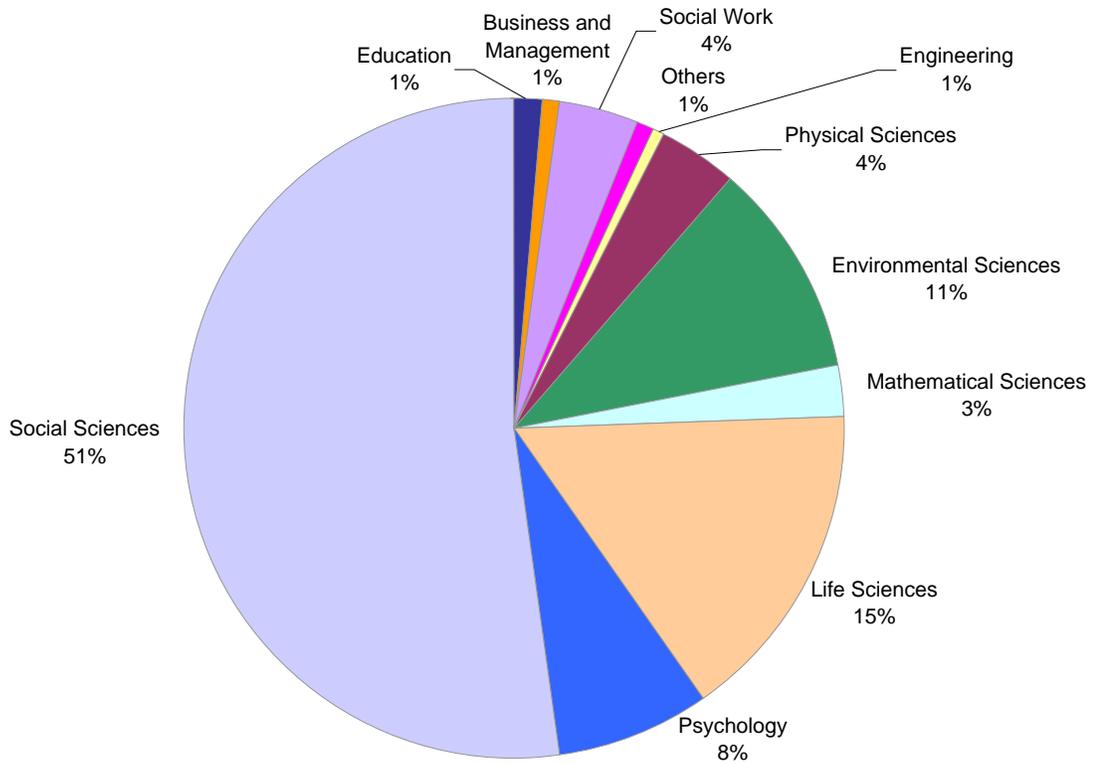


Boston

Total R&D Expenditures FY2000 – FY2004

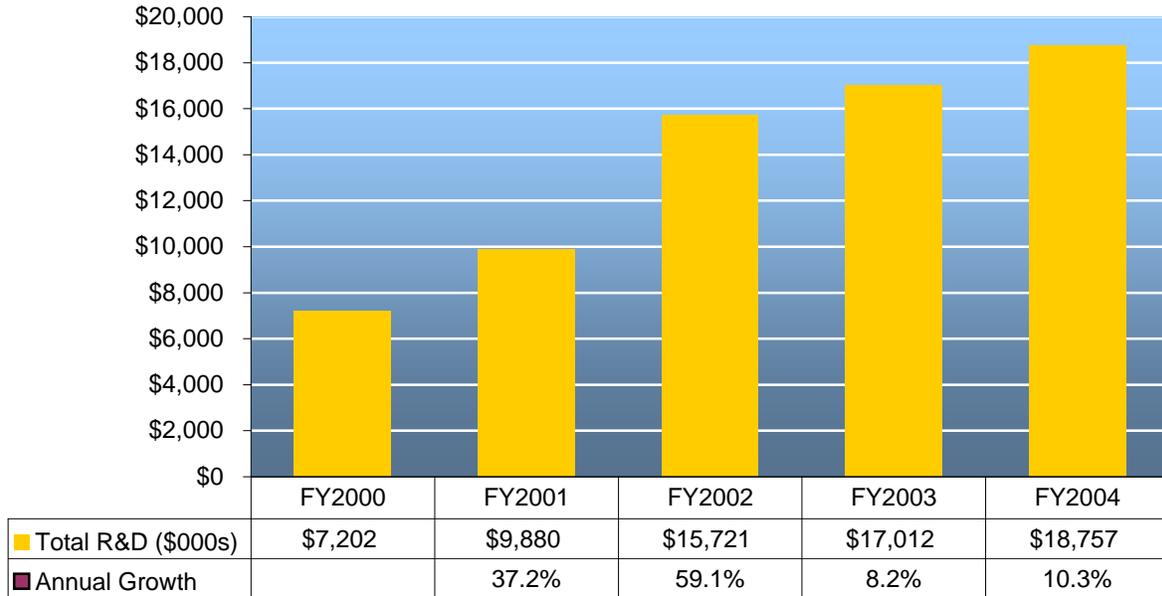


Total R&D Expenditures FY2004

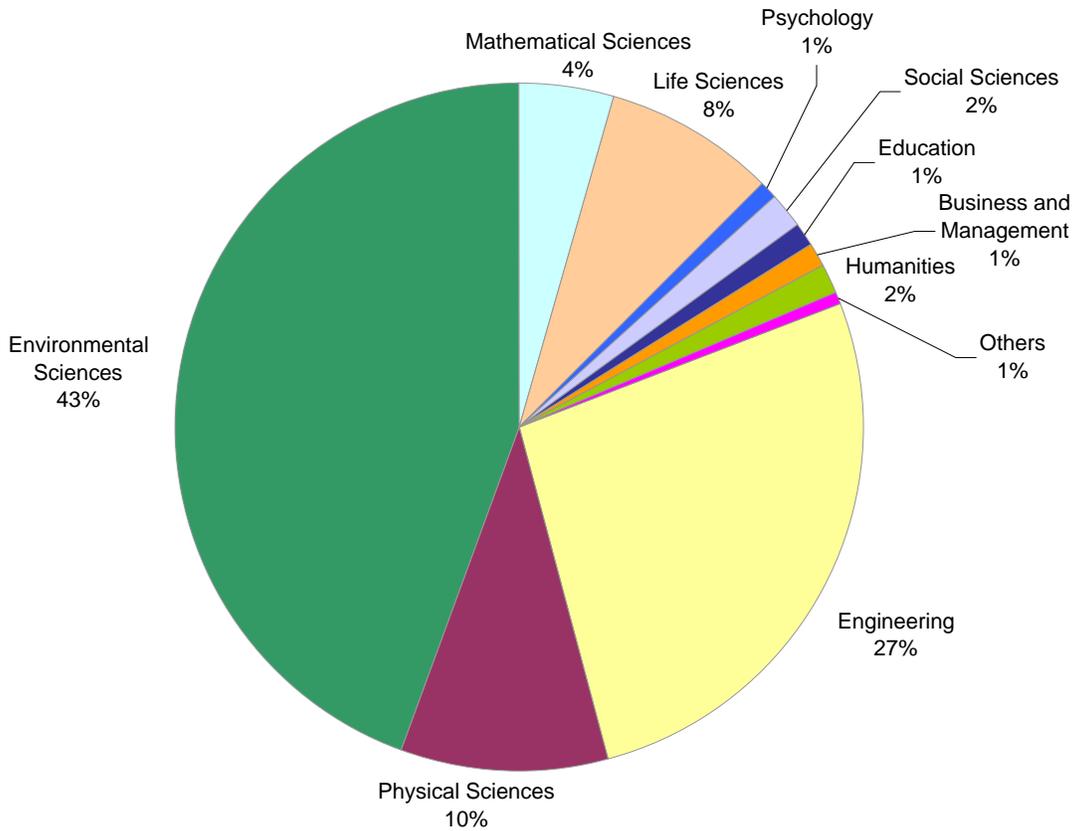


Dartmouth

Total R&D Expenditures FY2000 – FY2004

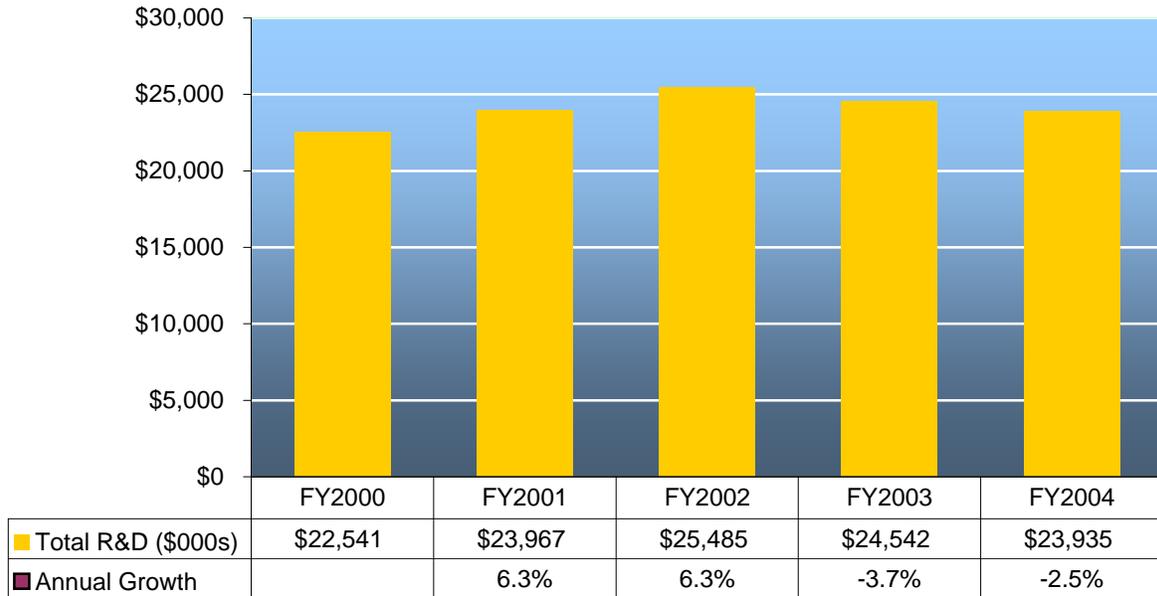


Total R&D Expenditures FY2004

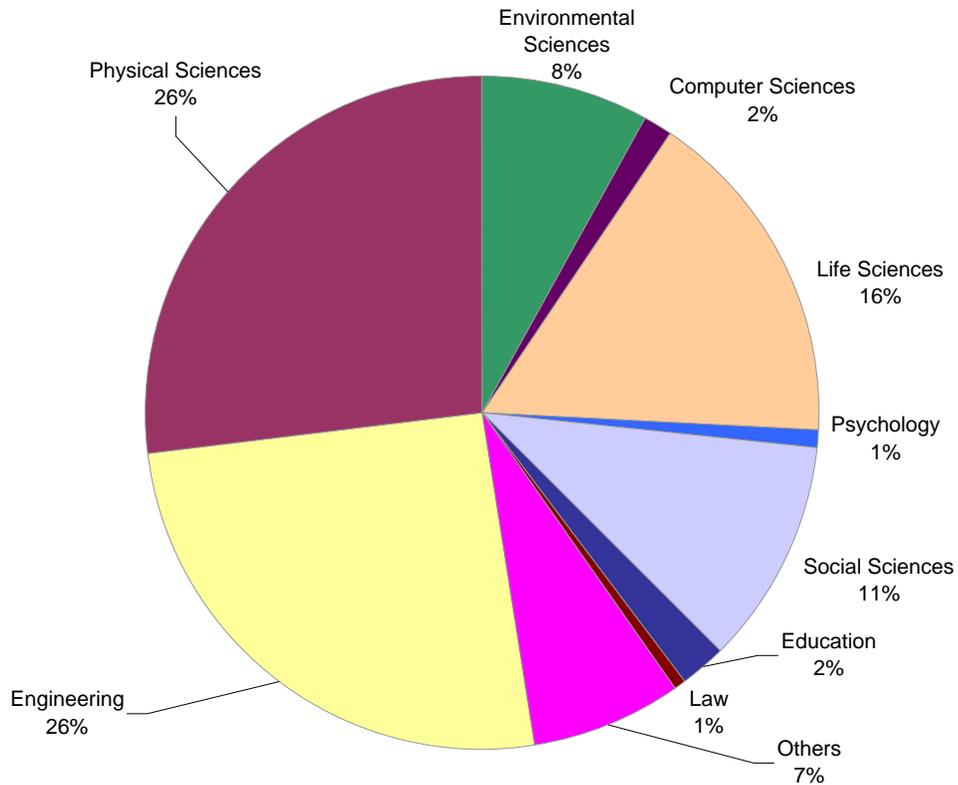


Lowell

Total R&D Expenditures FY2000 – FY2004

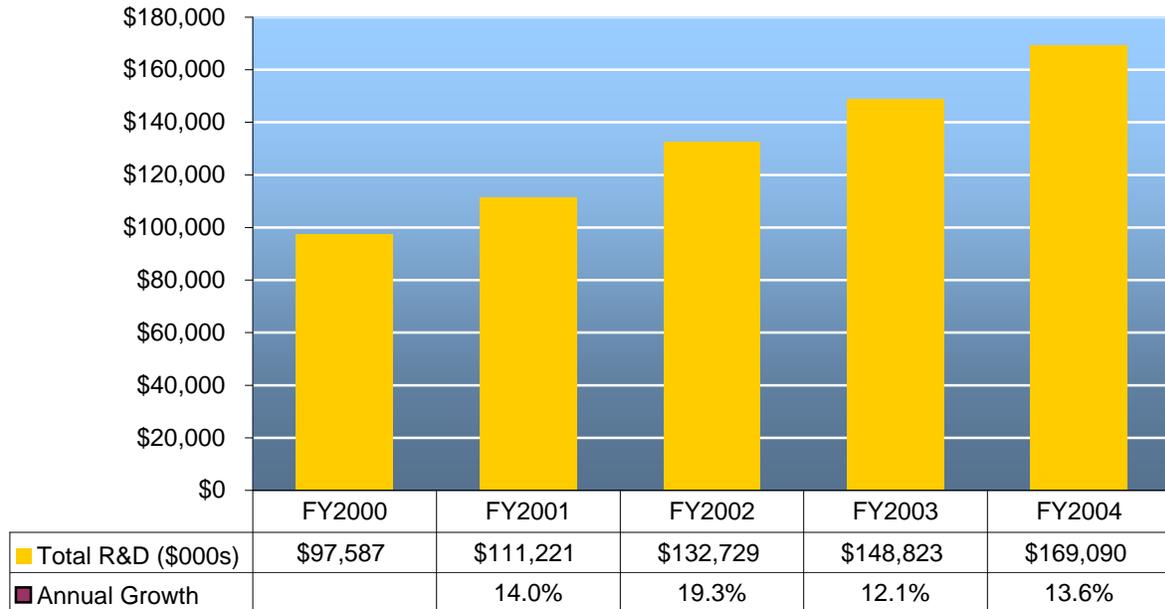


Total R&D Expenditures FY2004



Worcester

Total R&D Expenditures FY2000 – FY2004



All of Worcester's R&D expenditures are in the life sciences.

Total R&D Expenditures By Field FY2004

FIELD	UMA FY2004	% of UMA Total	% of Field	UMB FY2004	% of UMB Total	% of Field	UMD FY2004	% of UMD Total	% of Field	UML FY2004	% of UML Total	% of Field	UMW FY2004	% of UMW Total	% of Field	System FY2004	% of Total
Engineering (Total)	\$ 23,045	18.2%	67.2%	\$ 106	0.6%	0.3%	\$ 5,014	26.7%	14.6%	\$ 6,110	25.5%	17.8%	\$ -			\$ 34,275	9.7%
Aeronautical & Astronomical	\$ -			\$ -			\$ -			\$ -			\$ -			\$ -	
Bioengineering/Biomedical	\$ -			\$ -			\$ 21	0.1%	100.0%	\$ -			\$ -			\$ 21	0.01%
Chemical	\$ 3,656	2.9%	90.0%	\$ -			\$ -			\$ 407	1.7%	10.0%	\$ -			\$ 4,063	1.1%
Civil	\$ 6,028	4.8%	90.2%	\$ -			\$ 371	2.0%	5.6%	\$ 281	1.2%	4.2%	\$ -			\$ 6,680	1.9%
Electrical	\$ 9,171	7.2%	85.8%	\$ -			\$ 1,016	5.4%	9.5%	\$ 496	2.1%	4.6%	\$ -			\$ 10,683	3.0%
Mechanical	\$ 3,729	2.9%	72.9%	\$ -			\$ 280	1.5%	5.5%	\$ 1,107	4.6%	21.6%	\$ -			\$ 5,116	1.4%
Metallurgical & Materials	\$ -			\$ -			\$ 771	4.1%	60.3%	\$ 507	2.1%	39.7%	\$ -			\$ 1,278	0.4%
Other	\$ 461	0.4%	7.2%	\$ 106	0.6%	1.6%	\$ 2,555	13.6%	39.7%	\$ 3,312	13.8%	51.5%	\$ -			\$ 6,434	1.8%
Physical Sciences (Total)	\$ 32,108	25.4%	78.4%	\$ 614	3.7%	1.5%	\$ 1,791	9.5%	4.4%	\$ 6,436	26.9%	15.7%	\$ -			\$ 40,949	11.5%
Astronomy	\$ 8,822	7.0%	100.0%	\$ -			\$ -			\$ -			\$ -			\$ 8,822	2.5%
Chemistry	\$ 18,074	14.3%	86.8%	\$ 312	1.9%	1.5%	\$ 1,558	8.3%	7.5%	\$ 880	3.7%	4.2%	\$ -			\$ 20,824	5.9%
Physics	\$ 5,108	4.0%	45.6%	\$ 302	1.8%	2.7%	\$ 233	1.2%	2.1%	\$ 5,556	23.2%	49.6%	\$ -			\$ 11,199	3.2%
Other	\$ 104	0.1%	100.0%	\$ -			\$ -			\$ -			\$ -			\$ 104	0.0%
Environmental Sciences (Total)	\$ 3,387	2.7%	21.9%	\$ 1,757	10.6%	11.4%	\$ 8,345	44.5%	54.1%	\$ 1,949	8.1%	12.6%	\$ -			\$ 15,438	4.3%
Atmospheric	\$ -			\$ -			\$ -			\$ -			\$ -			\$ -	
Earth Sciences	\$ 2,868	2.3%	59.5%	\$ -			\$ -			\$ 1,949	8.1%	40.5%	\$ -			\$ 4,817	1.4%
Oceanography	\$ 1	0.0%	0.0%	\$ 380	2.3%	4.4%	\$ 8,345	44.5%	95.6%	\$ -			\$ -			\$ 8,726	2.5%
Other	\$ 518	0.4%	27.3%	\$ 1,377	8.3%	72.7%	\$ -			\$ -			\$ -			\$ 1,895	0.5%
Mathematical Sciences (Total)	\$ 2,362	1.9%	64.6%	\$ 430	2.6%	11.8%	\$ 833	4.4%	22.8%	\$ 30	0.1%	0.8%	\$ -			\$ 3,655	1.0%
Computer Sciences (Total)	\$ 16,312	12.9%	97.2%	\$ 44	0.3%	0.3%	\$ 72	0.4%	0.4%	\$ 361	1.5%	2.2%	\$ -			\$ 16,789	4.7%
Life Sciences (Total)	\$ 34,791	27.5%	16.4%	\$ 2,596	15.7%	1.2%	\$ 1,529	8.2%	0.7%	\$ 3,918	16.4%	1.8%	\$ 169,090	100.0%	79.8%	\$ 211,924	59.7%
Agricultural	\$ 15,321	12.1%	93.5%	\$ -			\$ 1,064	5.7%	6.5%	\$ -			\$ -			\$ 16,385	4.6%
Biological	\$ 16,148	12.8%	21.0%	\$ 1,485	9.0%	1.9%	\$ 169	0.9%	0.2%	\$ 1,200	5.0%	1.6%	\$ 57,951	34.3%	75.3%	\$ 76,953	21.7%
Medical	\$ 1,062	0.8%	1.5%	\$ -			\$ -			\$ 2,715	11.3%	3.7%	\$ 68,779	40.7%	94.8%	\$ 72,556	20.4%
Other	\$ 2,260	1.8%	4.9%	\$ 1,111	6.7%	2.4%	\$ 296	1.6%	0.6%	\$ 3	0.0%	0.01%	\$ 42,360	25.1%	92.0%	\$ 46,030	13.0%
Psychology (Total)	\$ 5,077	4.0%	76.1%	\$ 1,268	7.7%	19.0%	\$ 162	0.9%	2.4%	\$ 168	0.7%	2.5%	\$ -			\$ 6,675	1.9%
Social Sciences (Total)	\$ 3,010	2.4%	20.7%	\$ 8,630	52.1%	59.4%	\$ 299	1.6%	2.1%	\$ 2,582	10.8%	17.8%	\$ -			\$ 14,521	4.1%
Economics	\$ 1,056	0.8%	87.1%	\$ 13	0.1%	1.1%	\$ 71	0.4%	5.9%	\$ 72	0.3%	5.9%	\$ -			\$ 1,212	0.3%
Political Science	\$ 24	0.0%	9.2%	\$ 8	0.0%	3.1%	\$ 228	1.2%	87.7%	\$ -			\$ -			\$ 260	0.1%
Sociology	\$ 424	0.3%	51.1%	\$ 405	2.4%	48.9%	\$ -			\$ -			\$ -			\$ 829	0.2%
Other	\$ 1,506	1.2%	12.3%	\$ 8,204	49.6%	67.1%	\$ -			\$ 2,510	10.5%	20.5%	\$ -			\$ 12,220	3.4%
Other Sciences (Total)	\$ 696	0.5%	51.6%	\$ 15	0.1%	1.1%	\$ 29	0.2%	2.1%	\$ 609	2.5%	45.1%	\$ -			\$ 1,349	0.4%
TOTAL, SCI & ENG FIELDS	\$ 120,788	95.4%	35.0%	\$ 15,460	93.4%	4.5%	\$ 18,074	96.4%	5.2%	\$ 22,163	92.6%	6.4%	\$ 169,090	100.0%	48.9%	\$ 345,575	97.4%

Total R&D Expenditures By Field FY2004

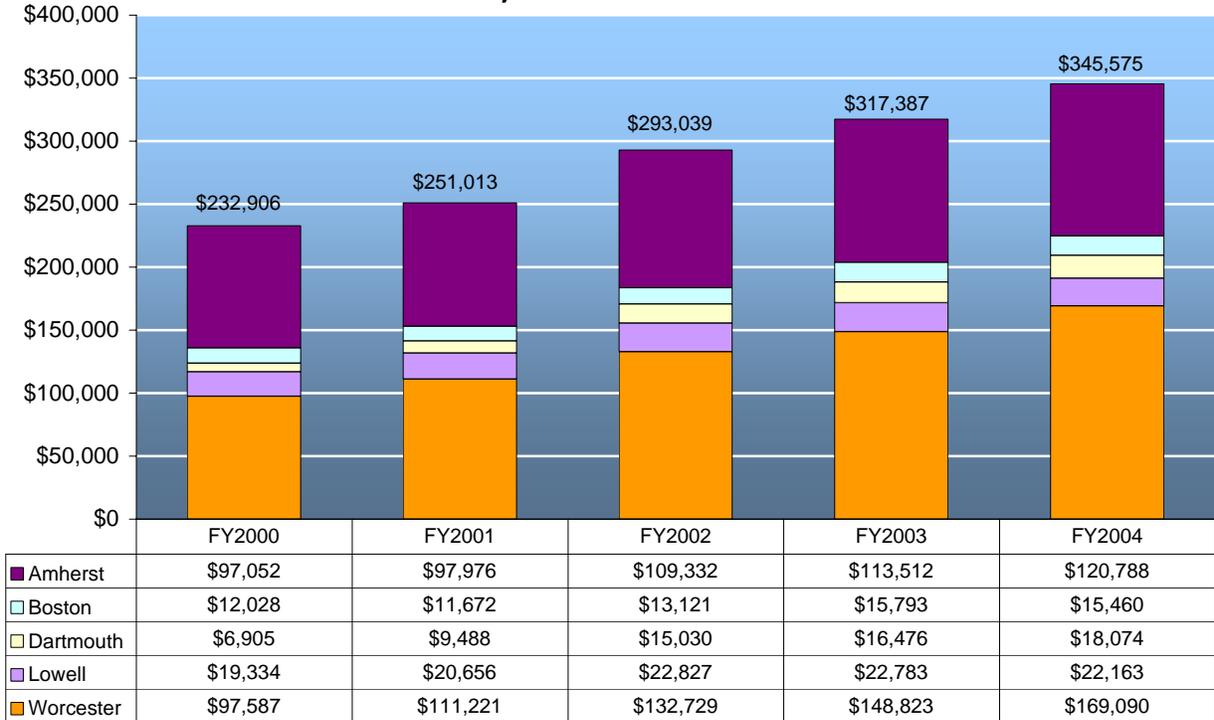
FIELD	UMA			UMB			UMD			UML			UMW			System	
	FY2004	% of Total	% of Field	FY2004	% of Total	% of Field	FY2004	% of Total	% of Field	FY2004	% of Total	% of Field	FY2004	% of Total	% of Field	FY2004	% of Total
Education	\$ 2,579	2.0%	73.3%	\$ 212	1.3%	6.0%	\$ 199	1.1%	5.7%	\$ 527	2.2%	15.0%	\$ -			\$ 3,517	1.0%
Law	\$ 136	0.1%	42.6%	\$ -			\$ -			\$ 183	0.8%	57.4%	\$ -			\$ 319	0.1%
Humanities	\$ 256	0.2%	42.7%	\$ 59	0.4%	9.8%	\$ 283	1.5%	47.2%	\$ 2	0.0%	0.3%	\$ -			\$ 600	0.2%
Visual and Performing Arts	\$ 136	0.1%	79.1%	\$ 9	0.1%	5.2%	\$ 1	0.0%	0.6%	\$ 26	0.11%	15.1%	\$ -			\$ 172	0.05%
Business and Management	\$ 2,683	2.1%	87.8%	\$ 162	1.0%	5.3%	\$ 200	1.1%	6.5%	\$ 12	0.1%	0.4%	\$ -			\$ 3,057	0.9%
Comm., Journalism & Library Sci	\$ -			\$ -			\$ -			\$ -			\$ -			\$ -	
Social Work	\$ -			\$ 651	3.9%	100.0%	\$ -			\$ -			\$ -			\$ 651	0.2%
Other Non-Science and Engin.	\$ -			\$ -			\$ -			\$ 1,022		100.0%	\$ -			\$ 1,022	0.3%
TOTAL, NON-SCI & ENG FIELDS	\$ 5,790	4.6%	62.0%	\$ 1,093	6.6%	11.7%	\$ 683	3.6%	7.3%	\$ 1,772	7.4%	19.0%	\$ -			\$ 9,338	2.6%
TOTAL, SCI & ENG FIELDS	\$ 120,788	95.4%	35.0%	\$ 15,460	93.4%	4.5%	\$ 18,074	96.4%	5.2%	\$ 22,163	92.6%	6.4%	\$ 169,090	100.0%	48.9%	\$ 345,575	97.4%
GRAND TOTAL	\$ 126,578		35.7%	\$ 16,553		4.7%	\$ 18,757		5.3%	\$ 23,935		6.7%	\$ 169,090		47.6%	\$ 354,913	100.0%

Source: Campus NSF surveys. All dollars are in thousands.

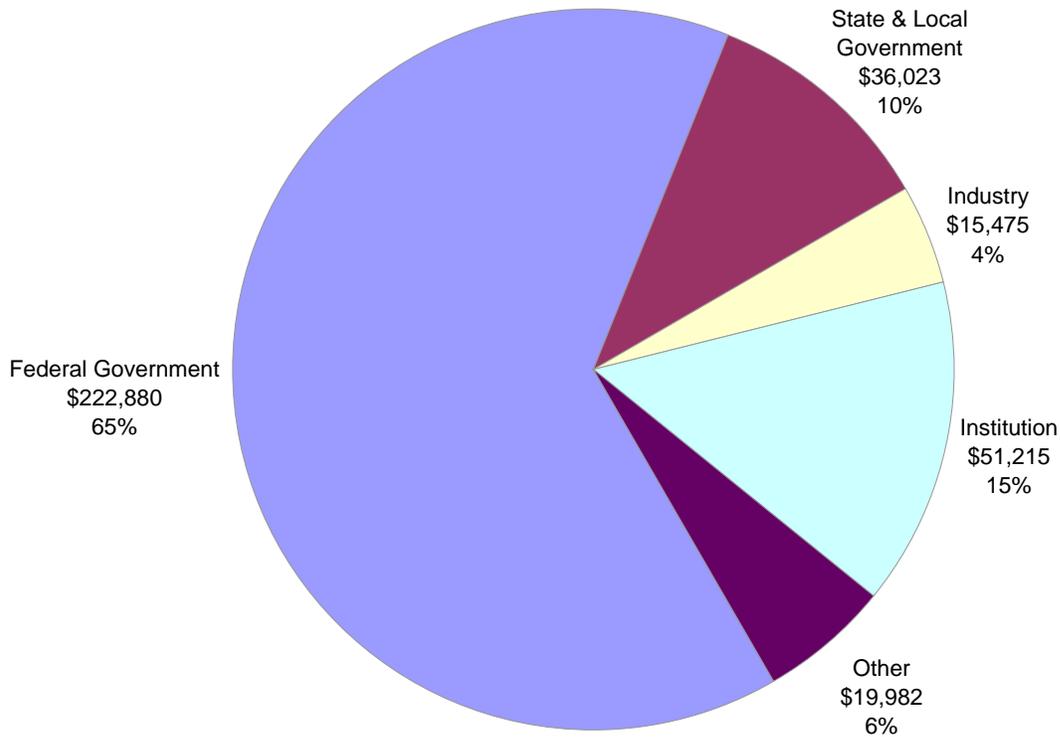
Note: % of Total is the percentage each field represents of total campus or system R&D expenditures in all fields.

% of Field is the percentage of the UMass system's expenditures in a particular field represented by that campus.

Science and Engineering R&D Expenditures UMASS System FY2000 – FY2004



Science and Engineering R&D Expenditures by Source of Funds FY2004 UMASS System



Source: Campus NSF surveys. All dollars are in thousands.

**Science and Engineering R&D Expenditures by Source
FY1994 – FY2004**

	Total R&D Expenditures														
	FY94	FY95	FY96	FY97	FY98	FY99	FY00	FY01	FY02	FY03	FY04	10-Year Change FY94 - FY04		1-Year Change FY03 - FY04	
												\$	%	\$	%
Amherst	\$65,344	\$66,082	\$73,678	\$85,811	\$89,970	\$86,576	\$97,052	\$97,976	\$109,332	\$113,512	\$120,788	\$55,444	84.8%	\$7,276	6.4%
Boston	\$10,962	\$9,146	\$10,898	\$11,194	\$11,491	\$11,132	\$12,028	\$11,672	\$13,121	\$15,793	\$15,460	\$4,498	41.0%	-\$333	-2.1%
Dartmouth	\$3,134	\$3,709	\$4,092	\$4,197	\$4,902	\$5,820	\$6,905	\$9,488	\$15,030	\$16,476	\$18,074	\$14,940	476.7%	\$1,598	9.7%
Lowell	\$15,155	\$15,505	\$17,834	\$18,328	\$19,372	\$19,413	\$19,334	\$20,656	\$22,827	\$22,783	\$22,163	\$7,008	46.2%	-\$620	-2.7%
Worcester	\$61,790	\$62,441	\$63,341	\$71,346	\$82,950	\$83,040	\$97,587	\$111,221	\$132,729	\$148,823	\$169,090	\$107,300	173.7%	\$20,267	13.6%
System	\$156,385	\$156,883	\$169,843	\$190,876	\$208,685	\$205,981	\$232,906	\$251,013	\$293,039	\$317,387	\$345,575	\$189,190	121.0%	\$28,188	8.9%

	Federal R&D Expenditures														
	FY94	FY95	FY96	FY97	FY98	FY99	FY00	FY01	FY02	FY03	FY04	10-Year Change FY94 - FY04		1-Year Change FY03 - FY04	
												\$	%	\$	%
Amherst	\$32,730	\$32,126	\$37,969	\$40,925	\$43,196	\$39,877	\$44,697	\$49,576	\$54,770	\$60,845	\$65,452	\$32,722	100.0%	\$4,607	7.6%
Boston	\$2,382	\$2,454	\$2,706	\$3,075	\$3,160	\$2,951	\$3,378	\$2,546	\$4,837	\$5,579	\$5,412	\$3,030	127.2%	-\$167	-3.0%
Dartmouth	\$2,771	\$3,221	\$3,433	\$2,884	\$3,731	\$3,983	\$3,228	\$4,928	\$7,142	\$8,718	\$9,199	\$6,428	232.0%	\$481	5.5%
Lowell	\$7,281	\$8,097	\$10,257	\$11,560	\$12,259	\$10,354	\$9,905	\$11,196	\$14,932	\$15,821	\$16,655	\$9,374	128.7%	\$834	5.3%
Worcester	\$34,923	\$36,970	\$40,198	\$43,350	\$53,766	\$55,516	\$64,212	\$79,453	\$93,992	\$109,082	\$126,162	\$91,239	261.3%	\$17,080	15.7%
System	\$80,087	\$82,868	\$94,563	\$101,794	\$116,112	\$112,681	\$125,420	\$147,699	\$175,673	\$200,045	\$222,880	\$142,793	178.3%	\$22,835	11.4%

	State & Local Government R&D Expenditures														
	FY94	FY95	FY96	FY97	FY98	FY99	FY00	FY01	FY02	FY03	FY04	10-Year Change FY94 - FY04		1-Year Change FY03 - FY04	
												\$	%	\$	%
Amherst	\$5,060	\$5,776	\$5,933	\$6,546	\$7,072	\$6,354	\$6,961	\$3,969	\$4,185	\$3,842	\$3,597	-\$1,463	-28.9%	-\$245	-6.4%
Boston	\$2,542	\$1,659	\$2,405	\$1,705	\$1,351	\$1,261	\$1,211	\$1,447	\$1,112	\$1,291	\$1,001	-\$1,541	-60.6%	-\$290	-22.5%
Dartmouth	\$178	\$203	\$272	\$526	\$325	\$343	\$1,343	\$2,632	\$4,124	\$4,228	\$4,027	\$3,849	2162.4%	-\$201	-4.8%
Lowell	\$499	\$555	\$638	\$697	\$530	\$1,156	\$599	\$962	\$854	\$677	\$380	-\$119	-23.8%	-\$297	-43.9%
Worcester	\$220	\$109	\$11,912	\$14,747	\$15,811	\$18,308	\$23,474	\$22,088	\$27,891	\$26,976	\$27,018	\$26,798	12180.9%	\$42	0.2%
System	\$8,499	\$8,302	\$21,160	\$24,221	\$25,089	\$27,422	\$33,588	\$31,098	\$38,166	\$37,014	\$36,023	\$27,524	323.8%	-\$991	-2.7%

**Science and Engineering R&D Expenditures by Source
FY1994 to FY2004**

	Industry-Sponsored R&D Expenditures														
	FY94	FY95	FY96	FY97	FY98	FY99	FY00	FY01	FY02	FY03	FY04	10-Year Change FY94 - FY04		1-Year Change FY03 - FY04	
												\$	%	\$	%
Amherst	\$4,868	\$4,760	\$5,738	\$5,778	\$6,236	\$5,796	\$5,535	\$6,181	\$5,417	\$3,838	\$4,914	\$46	0.9%	\$1,076	28.0%
Boston	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	-	-	-	-
Dartmouth	\$118	\$248	\$325	\$412	\$831	\$771	\$652	\$517	\$2,120	\$0	\$753	\$635	538.1%	\$753	-
Lowell	\$3,695	\$3,599	\$5,779	\$4,920	\$5,099	\$6,234	\$7,204	\$6,911	\$5,294	\$4,920	\$3,904	\$209	5.7%	-\$1,016	-20.7%
Worcester	\$3,776	\$2,492	\$1,146	\$2,129	\$2,631	\$4,265	\$3,467	\$3,317	\$3,275	\$4,397	\$5,904	\$2,128	56.4%	\$1,507	34.3%
System	\$12,457	\$11,099	\$12,988	\$13,239	\$14,797	\$17,066	\$16,858	\$16,926	\$16,106	\$13,155	\$15,475	\$3,018	24.2%	\$2,320	17.6%

	Institutional R&D Expenditures														
	FY94	FY95	FY96	FY97	FY98	FY99	FY00	FY01	FY02	FY03	FY04	10-Year Change FY94 - FY04		1-Year Change FY03 - FY04	
												\$	%	\$	%
Amherst	\$16,715	\$17,326	\$17,503	\$26,022	\$26,967	\$27,796	\$31,879	\$29,538	\$35,959	\$36,490	\$38,932	\$22,217	132.9%	\$2,442	6.7%
Boston	\$3,705	\$3,359	\$3,691	\$4,000	\$4,005	\$3,997	\$4,371	\$4,663	\$4,494	\$5,815	\$5,861	\$2,156	58.2%	\$46	0.8%
Dartmouth	\$4	\$37	\$62	\$375	\$15	\$723	\$1,677	\$1,411	\$1,644	\$2,585	\$4,092	\$4,088	102200.0%	\$1,507	58.3%
Lowell	\$2,568	\$1,821	\$1,160	\$1,151	\$1,484	\$1,669	\$1,626	\$1,587	\$1,747	\$1,365	\$1,224	-\$1,344	-52.3%	-\$141	-10.3%
Worcester	\$18,055	\$18,116	\$6,264	\$6,485	\$6,495	\$0	\$0	\$0	\$0	\$0	\$1,106	-\$16,949	-93.9%	\$1,106	-
System	\$41,047	\$40,659	\$28,680	\$38,033	\$38,966	\$34,185	\$39,553	\$37,199	\$43,844	\$46,255	\$51,215	\$10,168	24.8%	\$4,960	10.7%

	Other R&D Expenditures														
	FY94	FY95	FY96	FY97	FY98	FY99	FY00	FY01	FY02	FY03	FY04	10-Year Change FY94 - FY04		1-Year Change FY03 - FY04	
												\$	%	\$	%
Amherst	\$5,971	\$6,094	\$6,535	\$6,540	\$6,499	\$6,753	\$7,980	\$8,712	\$9,001	\$8,503	\$7,893	\$1,922	32.2%	-\$610	-7.2%
Boston	\$2,333	\$1,674	\$2,096	\$2,414	\$2,975	\$2,923	\$3,098	\$3,016	\$2,678	\$3,108	\$3,186	\$853	36.6%	\$78	2.5%
Dartmouth	\$63	\$0	\$0	\$0	\$0	\$0	\$5	\$0	\$0	\$945	\$3	-\$60	-95.2%	-\$942	-99.7%
Lowell	\$1,112	\$1,433	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	-\$1,112	-	-	-
Worcester	\$4,816	\$4,754	\$3,821	\$4,635	\$4,247	\$4,951	\$6,434	\$6,383	\$7,571	\$8,368	\$8,900	\$4,084	84.8%	\$532	6.4%
System	\$14,295	\$13,955	\$12,452	\$13,589	\$13,721	\$14,627	\$17,517	\$18,111	\$19,250	\$20,924	\$19,982	\$5,687	39.8%	-\$942	-4.5%

Source: Campus NSF surveys. All dollars are in thousands.

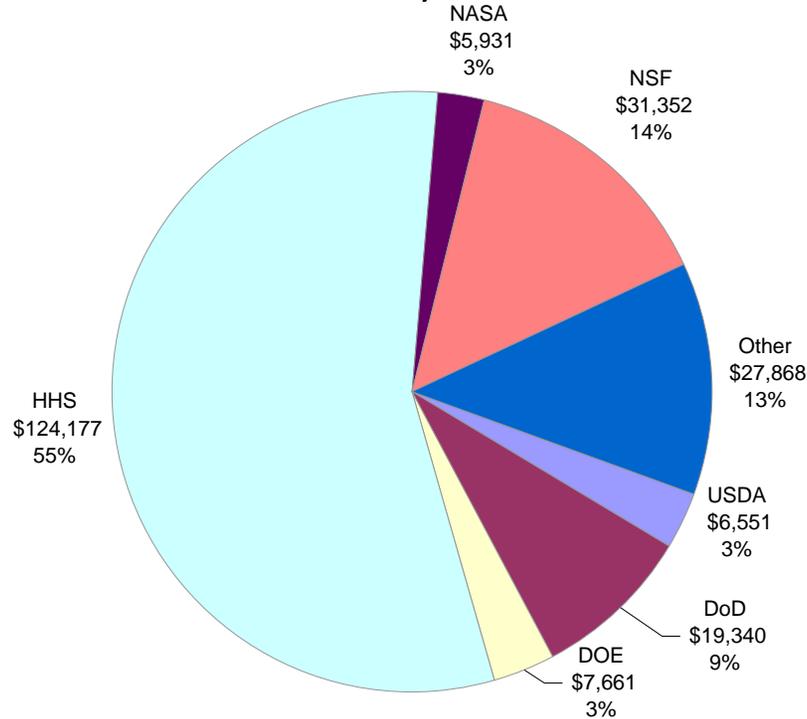
Science and Engineering R&D Expenditures
Percent Basic Research FY2004

FY04 Basic Research as a % of:		
	Federal R&D	Total R&D
Amherst	70%	70%
Boston	0%	0%
Dartmouth	31%	31%
Lowell	80%	80%
Worcester	60%	45%

Source: Campus NSF surveys.

Science and Engineering R&D Expenditures by Federal Government Agency Sources FY2004

UMASS System

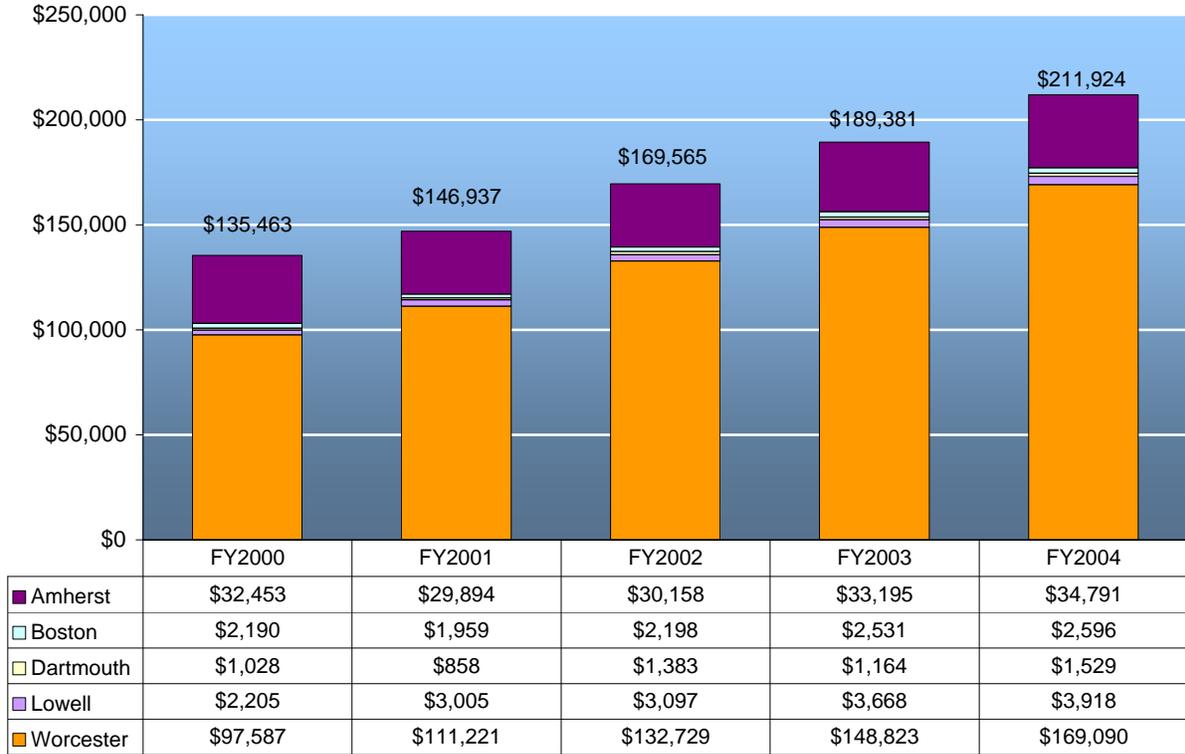


	Total Federal \$	USDA	% of Campus Total	DoD	% of Campus Total	DOE	% of Campus Total	HHS	% of Campus Total	NASA	% of Campus Total	NSF	% of Campus Total	Other	% of Campus Total
Amherst	\$ 65,452	\$ 5,497	8.4%	\$ 9,904	15.1%	\$ 6,911	10.6%	\$ 12,318	18.8%	\$ 2,964	4.5%	\$ 25,523	39.0%	\$ 2,335	3.6%
Boston	\$ 5,412	\$ 10	0.2%	\$ 416	7.7%	\$ 111	2.1%	\$ 2,478	45.8%	\$ 7	0.1%	\$ 1,354	25.0%	\$ 1,036	19.1%
Dartmouth	\$ 9,199	\$ 959	10.4%	\$ 1,563	17.0%	\$ 23	0.3%	\$ 131	1.4%	\$ 1,573	17.1%	\$ 2,100	22.8%	\$ 2,850	31.0%
Lowell	\$ 16,655	\$ -	0.0%	\$ 5,554	33.3%	\$ 519	3.1%	\$ 4,922	29.6%	\$ 886	5.3%	\$ 1,941	11.7%	\$ 2,833	17.0%
Worcester	\$ 126,162	\$ 85	0.1%	\$ 1,903	1.5%	\$ 97	0.1%	\$ 104,328	82.7%	\$ 501	0.4%	\$ 434	0.3%	\$ 18,814	14.9%
System	\$ 222,880	\$ 6,551	2.9%	\$ 19,340	8.7%	\$ 7,661	3.4%	\$ 124,177	55.7%	\$ 5,931	2.7%	\$ 31,352	14.1%	\$ 27,868	12.5%

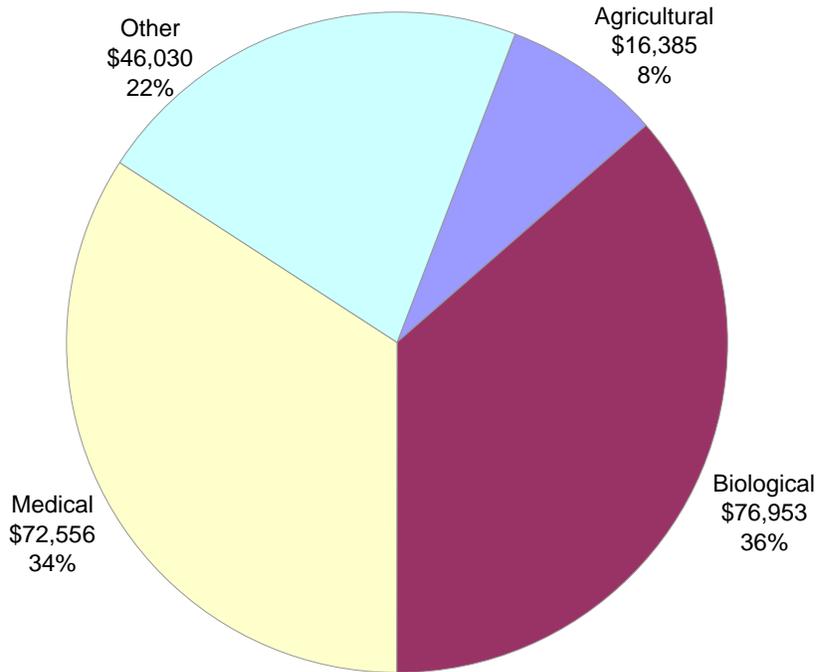
Source: Campus NSF surveys. All dollars are in thousands.

Note: HHS includes NIH

Life Sciences R&D Expenditures UMASS System FY2000 – FY2004



Life Sciences R&D Expenditures by Field FY2004 UMASS System



Source: Campus NSF surveys. All dollars are in thousands.

**Life Sciences R&D Expenditures by Field
FY1994 to FY2004**

	Life Sciences R&D Expenditures														
	FY1994	FY1995	FY1996	FY1997	FY1998	FY1999	FY2000	FY2001	FY2002	FY2003	FY2004	10-Year Change FY94 - FY04		1-Year Change FY03 - FY04	
												\$	%	\$	%
Amherst	\$17,229	\$18,640	\$20,387	\$23,134	\$26,555	\$26,596	\$32,453	\$29,894	\$30,158	\$33,195	\$34,791	\$ 17,562	101.9%	\$ 1,596	4.8%
Boston	\$1,574	\$1,757	\$2,616	\$2,394	\$2,306	\$2,422	\$2,190	\$1,959	\$2,198	\$2,531	\$2,596	\$ 1,022	64.9%	\$ 65	2.6%
Dartmouth	\$891	\$935	\$1,094	\$1,081	\$851	\$1,085	\$1,028	\$858	\$1,383	\$1,164	\$1,529	\$ 638	71.6%	\$ 365	31.4%
Lowell	\$2,471	\$2,032	\$2,550	\$1,693	\$931	\$1,384	\$2,205	\$3,005	\$3,097	\$3,668	\$3,918	\$ 1,447	58.6%	\$ 250	6.8%
Worcester	\$61,790	\$62,441	\$63,341	\$71,346	\$82,950	\$83,040	\$97,587	\$111,221	\$132,729	\$148,823	\$169,090	\$ 107,300	173.7%	\$ 20,267	13.6%
System	\$83,955	\$85,805	\$89,988	\$99,648	\$113,593	\$114,527	\$135,463	\$146,937	\$169,565	\$189,381	\$211,924	\$ 127,969	152.4%	\$ 22,543	11.9%

	Agricultural														
	FY94	FY95	FY96	FY97	FY98	FY99	FY00	FY01	FY02	FY03	FY04	10-Year Change FY94 - FY04		1-Year Change FY03 - FY04	
												\$	%	\$	%
Amherst	\$9,190	\$10,276	\$12,667	\$12,689	\$16,364	\$16,051	\$13,932	\$11,275	\$11,073	\$10,762	\$15,321	\$6,131	66.7%	\$4,559	42.4%
Boston	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	-	-	-	-
Dartmouth	\$664	\$627	\$739	\$824	\$688	\$865	\$835	\$659	\$956	\$617	\$1,064	\$400	60.2%	\$447	72.4%
Lowell	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	-	-	-	-
Worcester	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	-	-	-	-
System	\$9,854	\$10,903	\$13,406	\$13,513	\$17,052	\$16,916	\$14,767	\$11,934	\$12,029	\$11,379	\$16,385	\$6,531	66.3%	\$5,006	44.0%

	Biological														
	FY94	FY95	FY96	FY97	FY98	FY99	FY00	FY01	FY02	FY03	FY04	10-Year Change FY94 - FY04		1-Year Change FY03 - FY04	
												\$	%	\$	%
Amherst	\$6,014	\$6,218	\$5,493	\$7,387	\$7,256	\$7,831	\$15,612	\$15,453	\$15,949	\$20,073	\$16,148	\$10,134	168.5%	-\$3,925	-19.6%
Boston	\$1,331	\$1,487	\$1,681	\$1,524	\$1,264	\$1,150	\$1,115	\$994	\$1,060	\$1,350	\$1,485	\$154	11.6%	\$135	10.0%
Dartmouth	\$159	\$105	\$182	\$127	\$135	\$205	\$169	\$191	\$413	\$258	\$169	\$10	6.3%	-\$89	-34.5%
Lowell	\$958	\$1,012	\$979	\$636	\$487	\$675	\$622	\$745	\$658	\$970	\$1,200	\$242	25.3%	\$230	23.7%
Worcester	\$19,398	\$19,740	\$18,338	\$21,357	\$29,038	\$30,079	\$32,296	\$35,724	\$44,810	\$50,967	\$57,951	\$38,553	198.7%	\$6,984	13.7%
System	\$27,860	\$28,562	\$26,673	\$31,031	\$38,180	\$39,940	\$49,814	\$53,107	\$62,890	\$73,618	\$76,953	\$49,093	176.2%	\$3,335	4.5%

**Life Sciences R&D Expenditures by Field
FY1994 to FY2004**

	Medical														
	FY94	FY95	FY96	FY97	FY98	FY99	FY00	FY01	FY02	FY03	FY04	10-Year Change FY94 - FY04		1-Year Change FY03 - FY04	
												\$	%	\$	%
Amherst	\$0	\$0	\$0	\$0	\$0	\$0	\$450	\$617	\$905	\$884	\$1,062	\$1,062	-	\$178	20.1%
Boston	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	-	-	-	-
Dartmouth	\$68	\$0	\$173	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	-\$68	-	-	-
Lowell	\$767	\$687	\$591	\$405	\$387	\$481	\$1,475	\$1,955	\$2,266	\$2,681	\$2,715	\$1,948	254.0%	\$34	1.3%
Worcester	\$22,740	\$22,911	\$25,196	\$27,134	\$29,843	\$31,531	\$40,328	\$44,349	\$51,616	\$56,548	\$68,779	\$46,039	202.5%	\$12,231	21.6%
System	\$23,575	\$23,598	\$25,960	\$27,539	\$30,230	\$32,012	\$42,253	\$46,921	\$54,787	\$60,113	\$72,556	\$48,981	207.8%	\$12,443	20.7%

	Other Life Sciences														
	FY94	FY95	FY96	FY97	FY98	FY99	FY00	FY01	FY02	FY03	FY04	10-Year Change FY94 - FY04		1-Year Change FY03 - FY04	
												\$	%	\$	%
Amherst	\$2,025	\$2,146	\$2,227	\$3,058	\$2,935	\$2,714	\$2,459	\$2,549	\$2,231	\$1,476	\$2,260	\$235	11.6%	\$784	53.1%
Boston	\$243	\$270	\$935	\$870	\$1,042	\$1,272	\$1,075	\$965	\$1,138	\$1,181	\$1,111	\$868	357.2%	-\$70	-5.9%
Dartmouth	\$0	\$203	\$0	\$130	\$28	\$15	\$24	\$8	\$14	\$289	\$296	\$296	-	\$7	2.4%
Lowell	\$746	\$333	\$980	\$652	\$57	\$228	\$108	\$305	\$173	\$17	\$3	-\$743	-99.6%	-\$14	-82.4%
Worcester	\$19,652	\$19,790	\$19,807	\$22,855	\$24,069	\$21,430	\$24,963	\$31,148	\$36,303	\$41,308	\$42,360	\$22,708	115.6%	\$1,052	2.5%
System	\$22,666	\$22,742	\$23,949	\$27,565	\$28,131	\$25,659	\$28,629	\$34,975	\$39,859	\$44,271	\$46,030	\$23,364	103.1%	\$1,759	4.0%

Source: Campus NSF surveys and WebCASPAR. All dollars are in thousands.