

UNIVERSITY OF CALIFORNIA ANNUAL ACCOUNTABILITY REPORT

PART III. Universitywide Indicators with Campus Comparisons

Section 9. Research

Goals

UC is first and foremost a research university. Among California's public institutions, it is legally vested, via the Master Plan for Higher Education, with sole authority for doctoral education and the preparation of professionals.* It also is granted responsibility as the state's primary academic agency for research.

Further, the vision of the University embraced by the Regents' Committee on Long Range Planning is of a research-intensive institution which by 2025 has a marked increase in the multidisciplinary, cross-disciplinary, intercampus and global nature of its efforts. The first goal considered by the committee is unparalleled quality and breadth in the University's research-intensive academic programs.

Measures

This section is an initial step at presenting the scope, size and quality of the University's research endeavors. It shows UC's total research expenditures, including both direct and indirect costs associated with research carried out by UC campuses. These data were used because they conform to the definitions used in the National Science Foundation Research and Development Expenditures survey (which is a national benchmark), and because they portray the total cost of research conducted at UC.

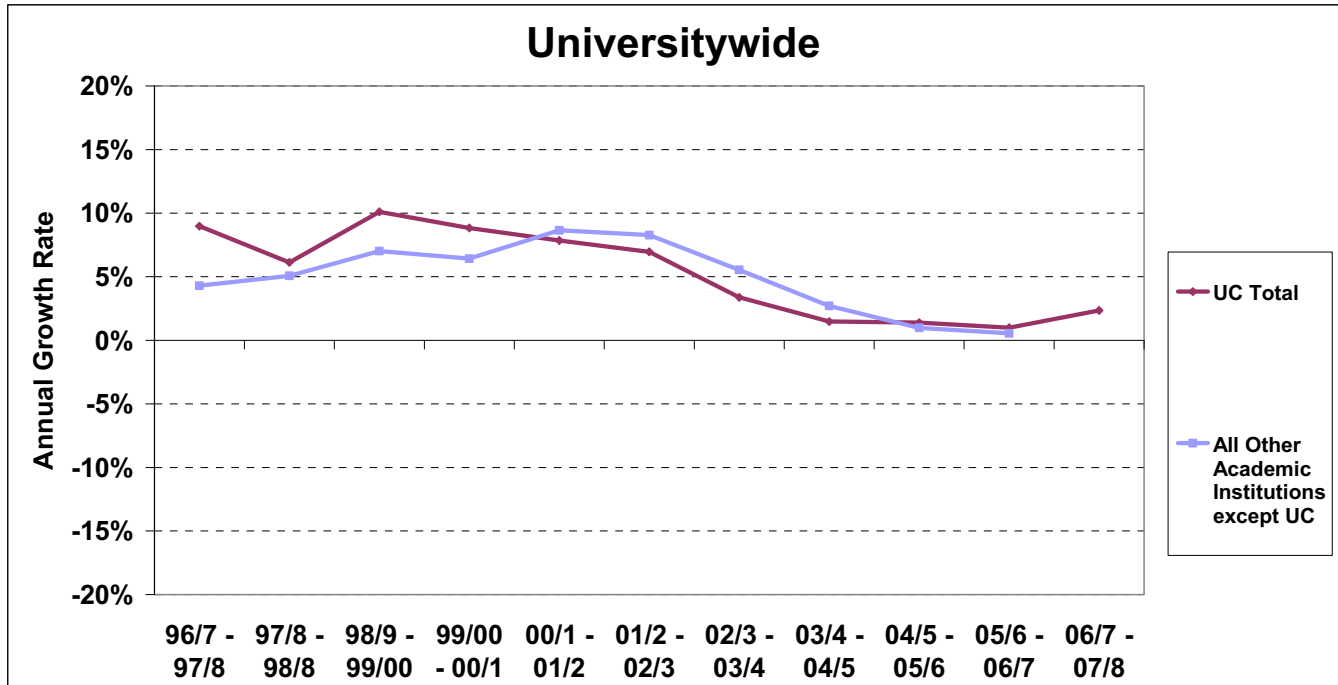
In addition, a second major measure of research output is the number of patents, inventions and licensing income resulting from UC research. Although these are currently widely used as indicators of research output, a national effort is under way to develop better metrics for demonstrating successful technology transfer outcomes that better reflect the important goal of fostering industry-university relationships.

The University is developing a detailed sub-report on Research, which will include additional metrics on research and technology transfer as they are developed.

*In 2006 the California Legislature authorized the California State University to offer the doctorate in education. All other doctoral education and degrees for professionals remain within the purview of the University of California.

Indicator 9.1

Total Research and Development Expenditures, 1996-97 to 2007-08

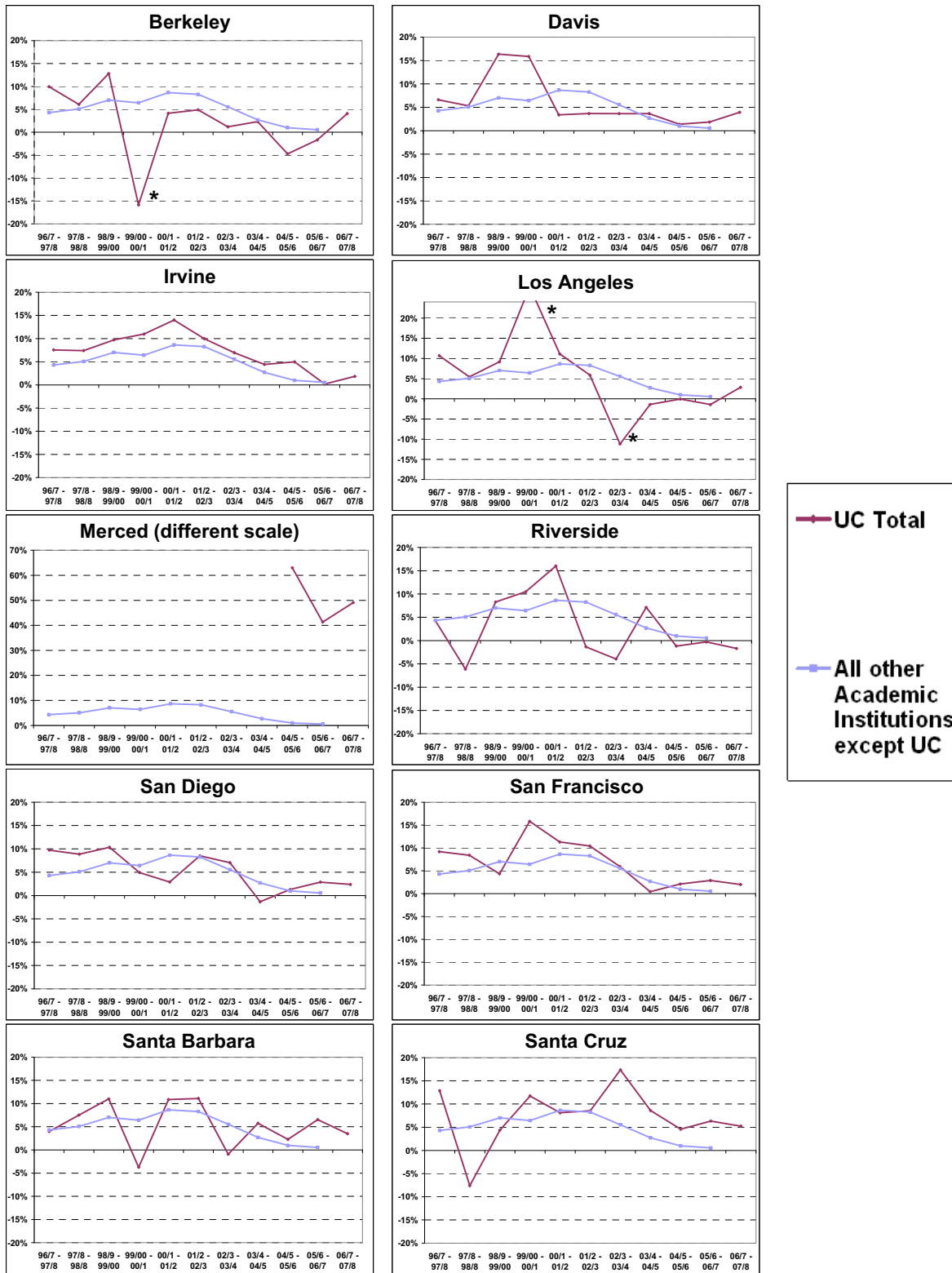


Source: National Science Foundation Research and Development Expenditures Survey.

- These charts show inflation-adjusted growth in expenditures for research and development (R&D) from year to year.
- The annual growth rate in total R&D expenditures at UC basically parallels that at other academic institutions.
- Although the growth rate in R&D expenditures rises and falls from year to year, in every year since 1996-97 it has been positive (above zero).

Note: Figures are in constant 2007-08 dollars, adjusted for inflation. Data include both direct and all indirect costs (without regard to the amount of indirect costs that were actually recovered). Direct costs are costs that can be identified with a particular sponsored research project relatively easily, such as the salary of the principal investigator. Indirect costs are referred to officially by the federal government as facilities and administrative (F&A) costs; they are sometimes simply called overhead. Data for all institutions were not available as of March 2009 when these charts were prepared. Audited Office of the President and campus financial schedules report direct research expenditures and do not include indirect costs.

9.1 (continued) Total Research and Development Expenditures, 1996-97 to 2007-08



* Prior to 2000-01, UCOP's R&D expenditures were included in Berkeley NSF totals. From 2000-01 to 2003-04 they were included in Los Angeles' NSF totals. Starting in 2003-04, they were reported separately for UCOP.

Indicator 9.2**Total Research and Development Expenditures, 1996-97 to 2007-08**

Academic Year	Universitywide Total (thousands)	All Academic Institutions (thousands)	UC Total as % of All Institutions
1996-97	2,698,662	31,327,897	8.6%
1997-98	2,940,680	32,800,157	9.0%
1998-99	3,120,720	34,495,255	9.0%
1999-00	3,436,174	37,010,346	9.3%
2000-01	3,739,877	39,470,238	9.5%
2001-02	4,033,325	42,855,971	9.4%
2002-03	4,314,090	46,347,619	9.3%
2003-04	4,459,840	48,818,398	9.1%
2004-05	4,525,526	50,083,847	9.0%
2005-06	4,588,204	50,592,701	9.1%
2006-07	4,634,028	50,889,237	9.1%
2007-08	4,742,949	-	-

Source: National Science Foundation Research and Development Expenditures Survey.

- Research expenditures at UC grew about two billion dollars in inflation-adjusted dollars between 1996-97 and 2007-08, increasing about 75 percent over that period.

Note: Figures are in constant 2007-08 dollars, adjusted for inflation. Data include both direct and all indirect costs. Data for all institutions were not available as of March 2009 when this table was prepared.

Indicator 9.3

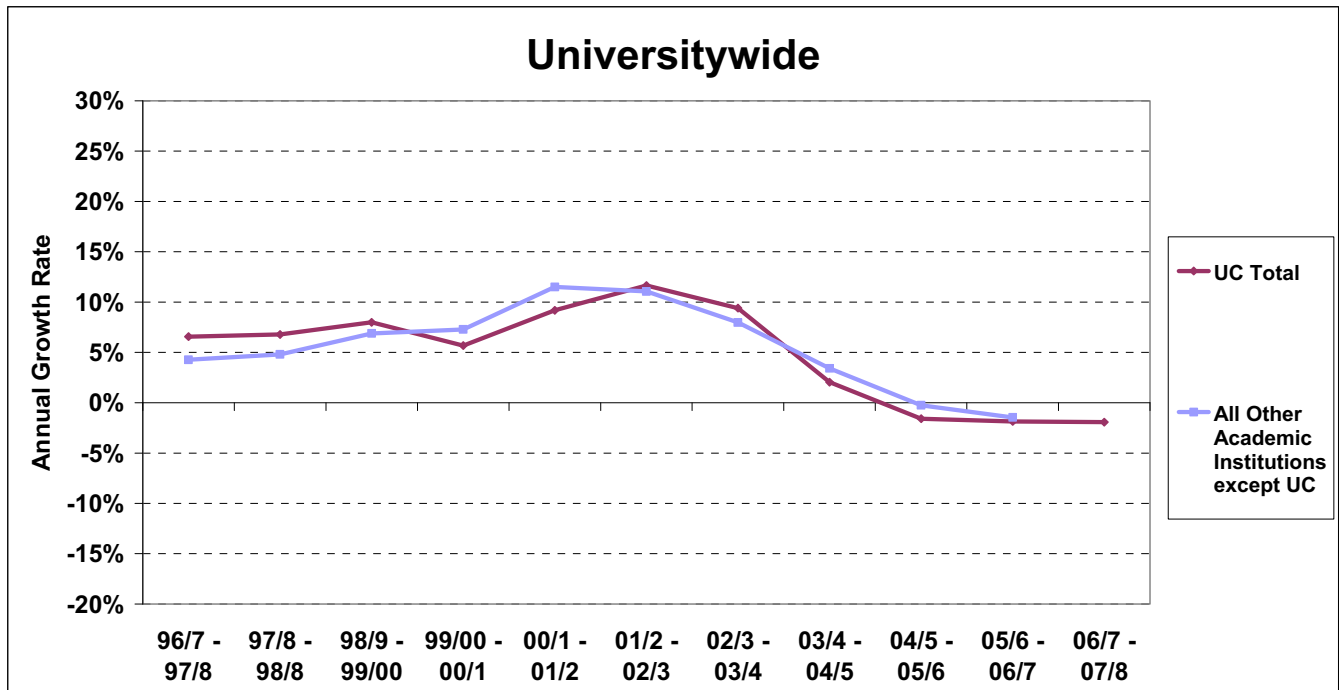
Rankings of Total NSF Research and Development Expenditures, 1996-97 to 2006-07

	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
Berkeley	11	6	7	7	12	13	14	13	15	19	20
Davis	24	21	23	17	15	14	18	17	17	16	16
Irvine	78	72	69	67	60	59	60	59	58	57	58
Los Angeles	8	3	4	4	2	2	2	2	4	3	4
Merced	-	-	-	-	-	-	-	-	329	295	270
Riverside	107	105	110	108	107	100	109	115	113	112	115
San Diego	7	7	6	6	6	7	7	7	6	7	6
San Francisco	14	11	10	9	7	6	6	5	5	5	2
Santa Barbara	88	88	90	88	91	91	93	96	97	98	89
Santa Cruz	128	121	130	128	129	128	131	124	123	121	117
U of Illinois	18	15	16	16	18	19	16	18	24	25	28
U of Michigan (all campuses)	2	2	2	3	4	3	3	3	2	4	5
SUNY at Buffalo	59	55	52	53	58	50	59	58	60	58	56
U of Virginia (all campuses)	77	71	57	58	78	69	67	67	69	72	75
Harvard	15	18	18	23	22	23	28	26	27	29	30
MIT	4	8	9	12	14	15	17	12	14	14	15
Stanford	6	9	8	8	8	8	8	8	7	8	10
Yale	26	27	27	29	29	30	30	29	30	27	31

Source: National Science Foundation Research and Development Expenditures Survey.

Indicator 9.4

Federal Research and Development Expenditures, 1996-97 to 2007-08

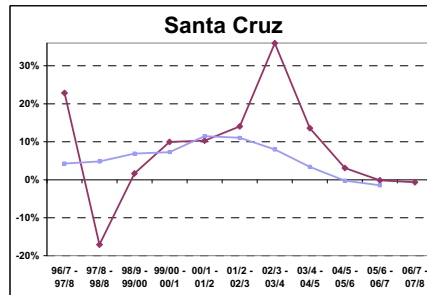
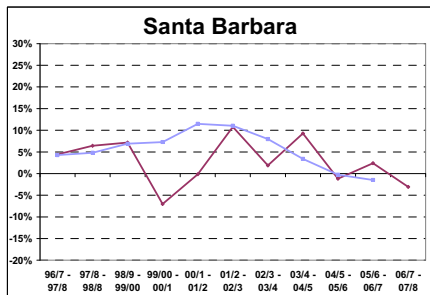
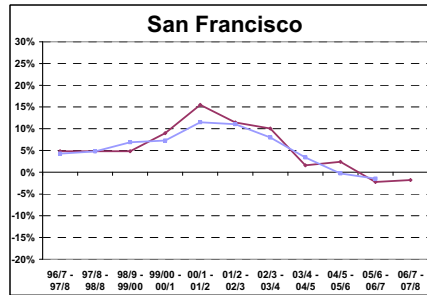
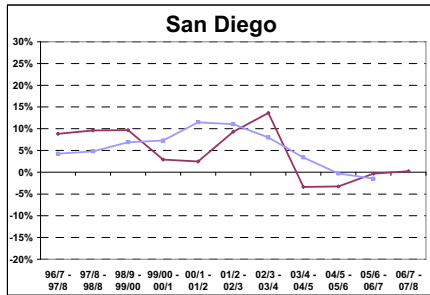
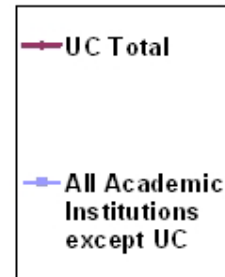
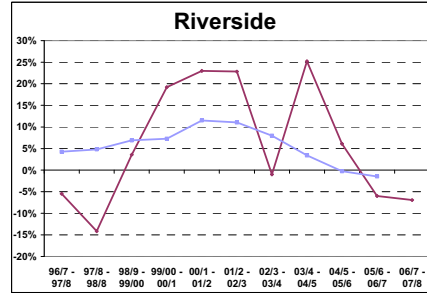
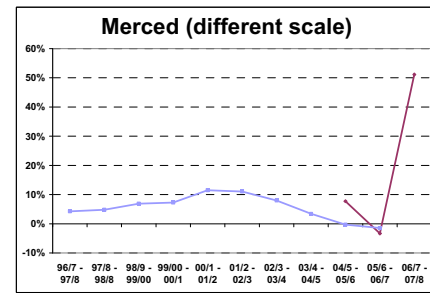
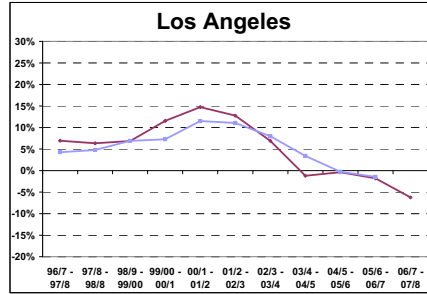
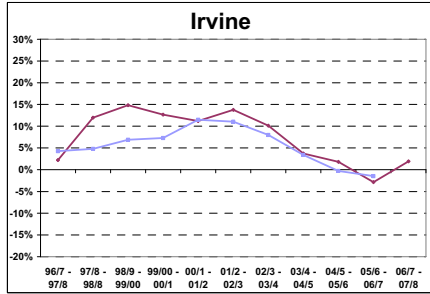
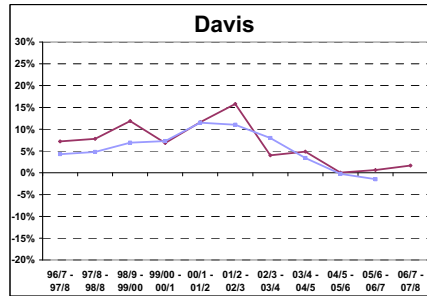
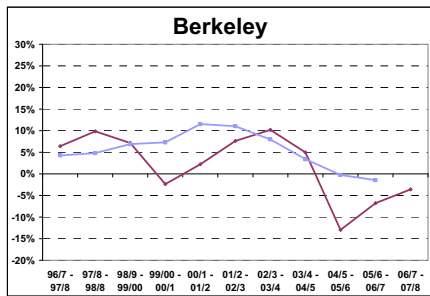


Source: National Science Foundation Research and Development Expenditures Survey.

- Changes in federal research and development (R&D) expenditures at UC closely track changes in federal R&D expenditures at all academic institutions.

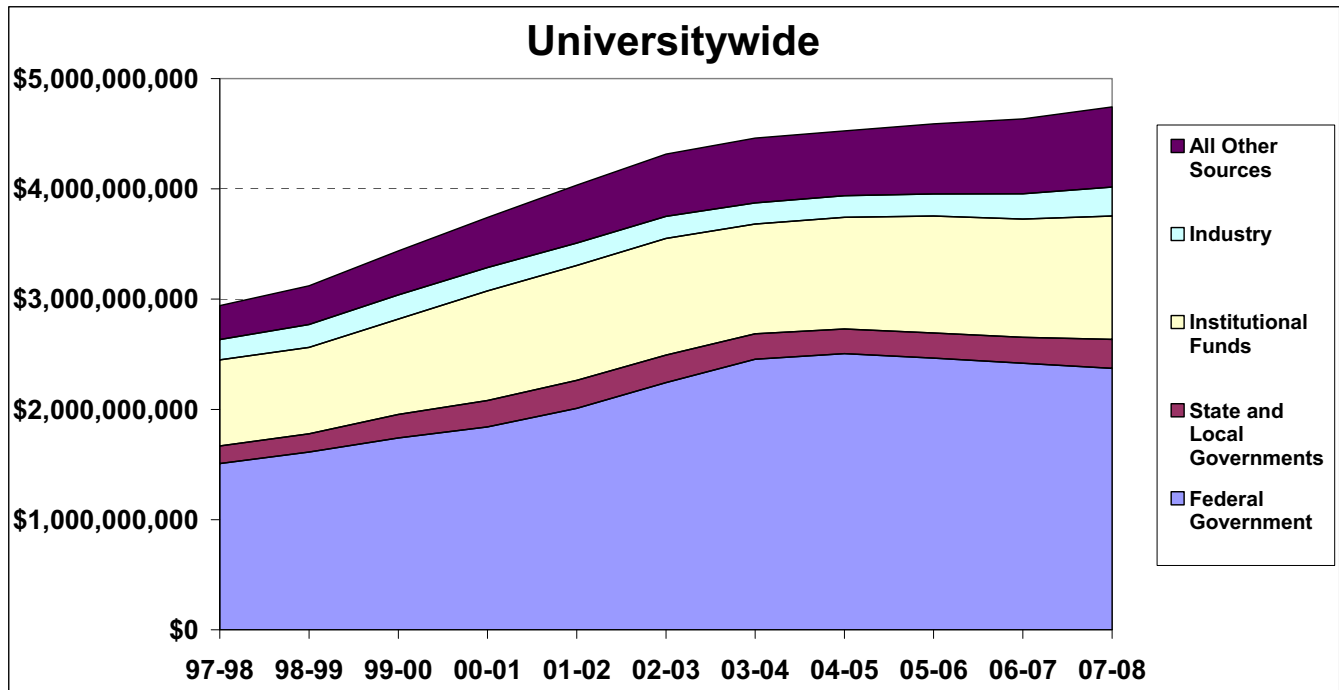
Note: Figures are in constant 2007-08 dollars, adjusted for inflation. Data include both direct and reimbursed indirect costs.

9.4 (continued) Federal Research and Development Expenditures, 1996-97 to 2007-08



Indicator 9.5

Research and Development Expenditures by Source, 1997-98 to 2007-08

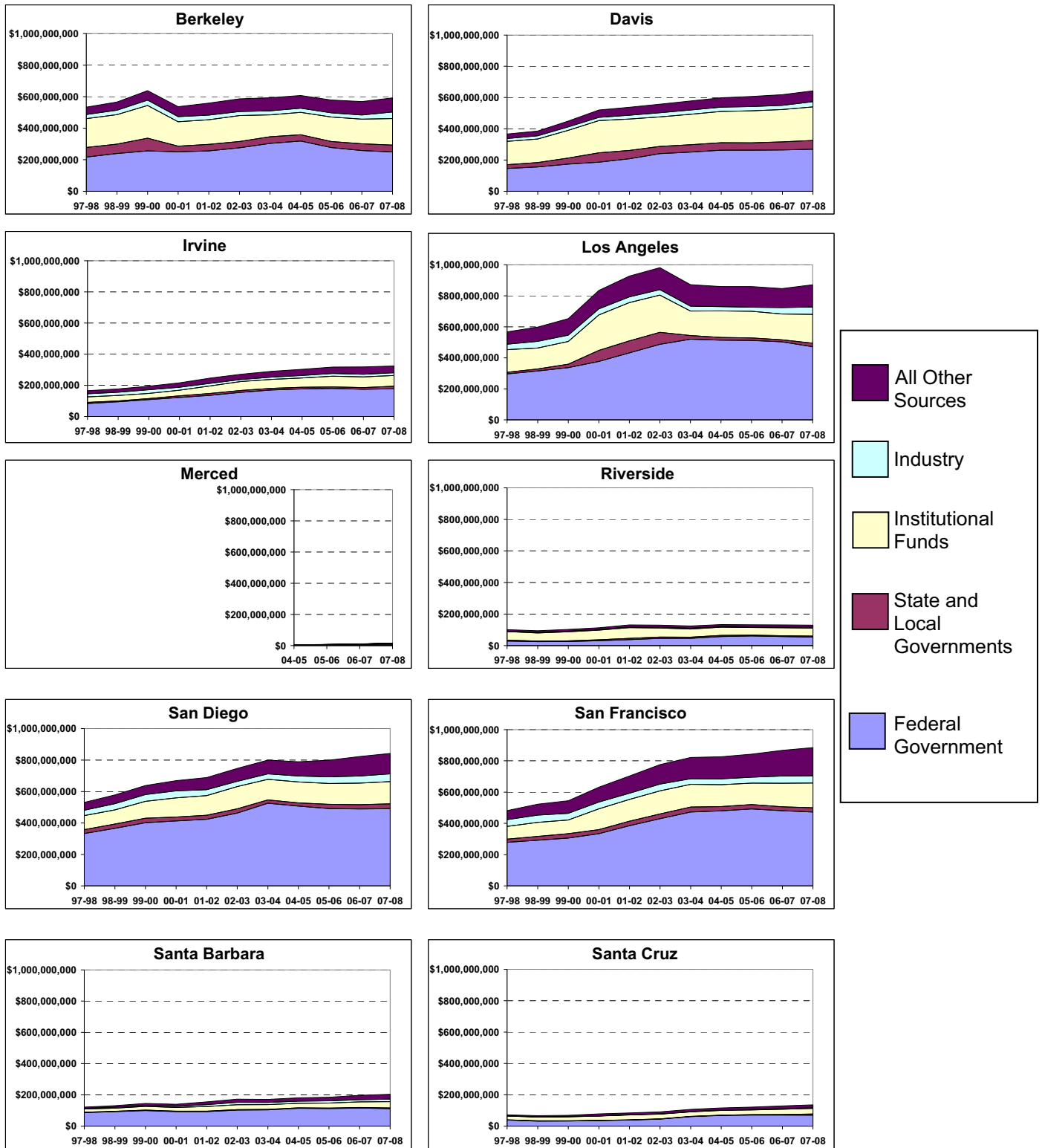


Source: National Science Foundation Research and Development Expenditures Survey.

- Funds from the federal government account for the majority of UC's research and development (R&D) expenditures.
- Institutional R&D expenditures come from a variety of sources, including state government appropriations, general-purpose awards from industry and foundations, endowment income and unreimbursed indirect costs.
- All other sources include awards from nonprofit foundations and voluntary health agencies as well as gifts from individuals that are restricted by the donor to research.

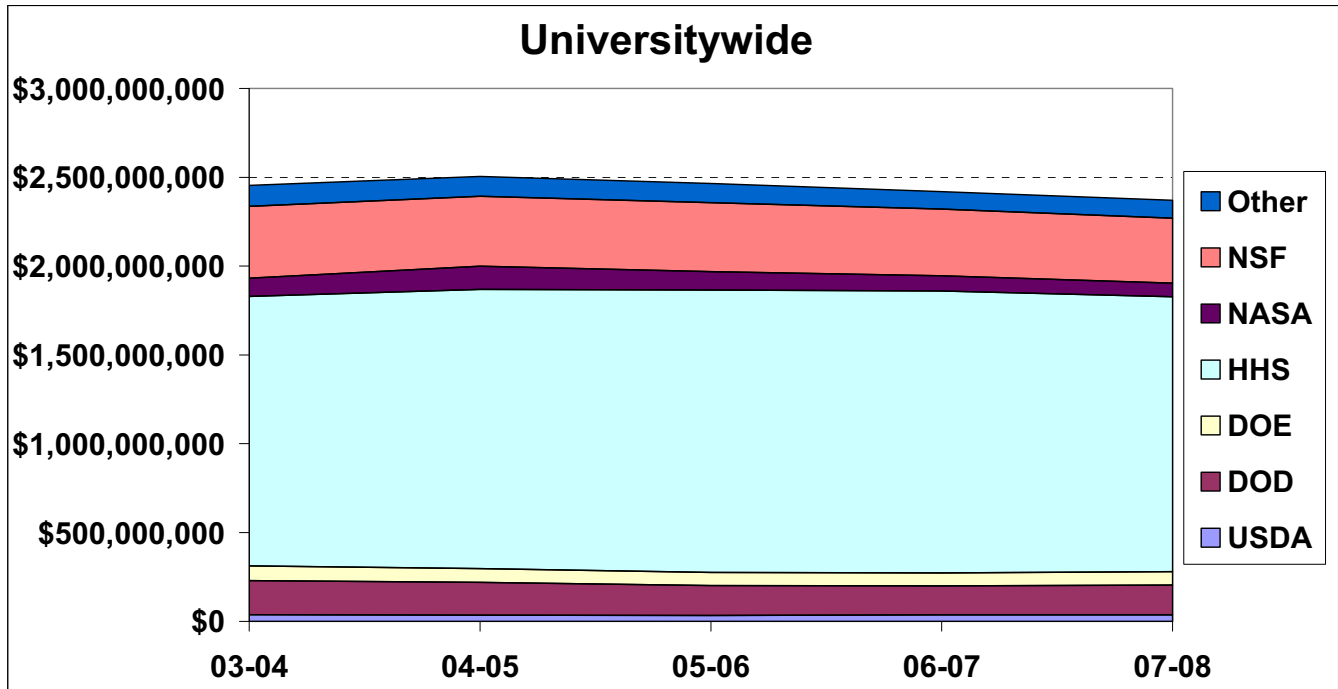
Note: Figures are in constant 2007-08 dollars, adjusted for inflation. Data include both direct and all indirect costs.

9.5 (continued) Research and Development Expenditures by Source, 1997-98 to 2007-08



Indicator 9.6

Federally Funded Research and Development Expenditures by Agency, 2003-04 to 2007-08



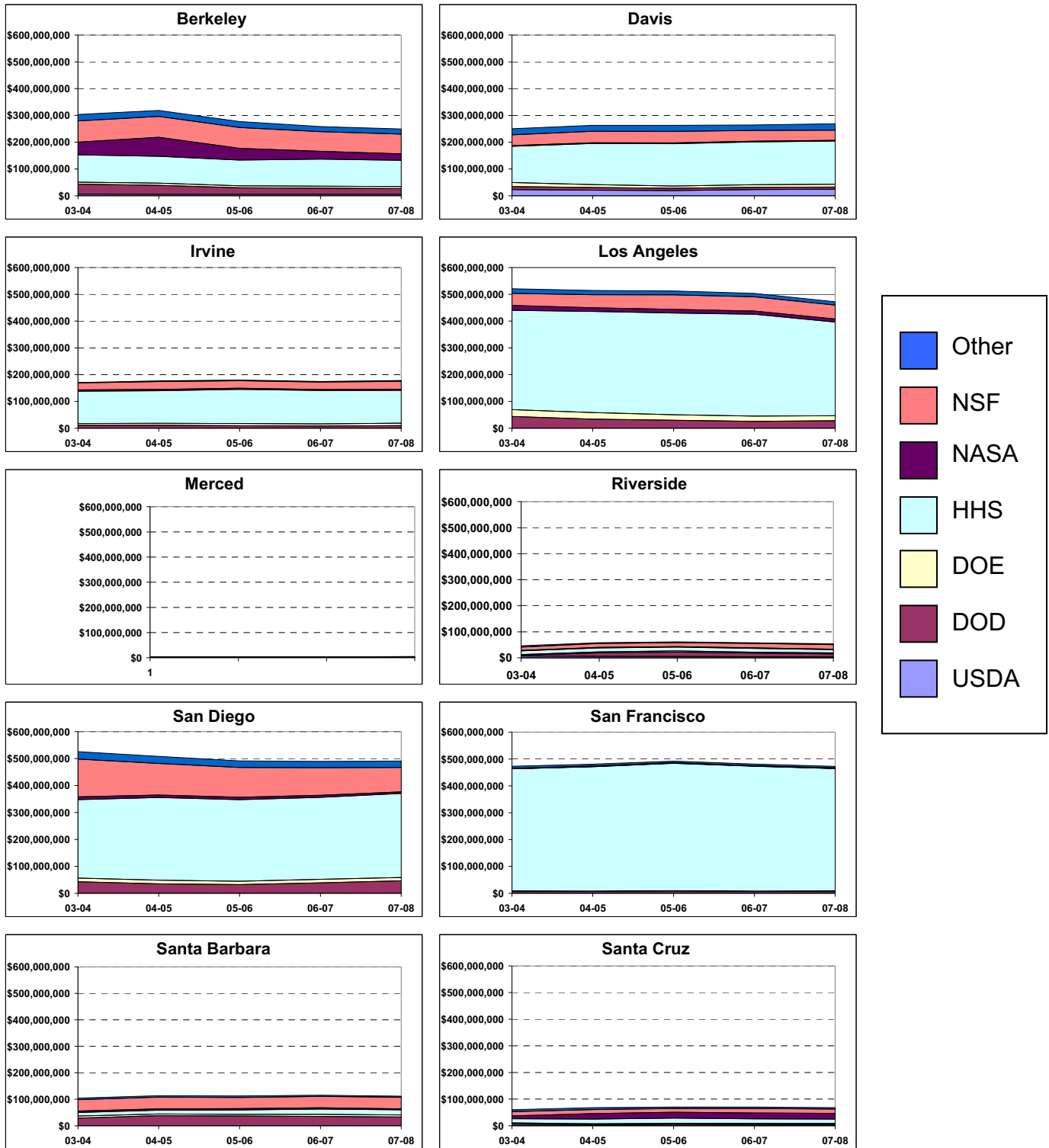
Source: National Science Foundation Research and Development Expenditures Survey.

- The majority of federal funds comes from Health and Human Services (HHS) and represents National Institutes of Health (NIH) funding.
- A large percentage of NIH funding goes to institutions with medical schools. Five UC campuses (Davis, Irvine, Los Angeles, San Diego and San Francisco) have medical schools.

Note: Figures are in constant 2007-08 dollars, adjusted for inflation. Agency data include direct costs and reimbursed indirect costs. NSF began collecting information by federal agency in 2003-04.

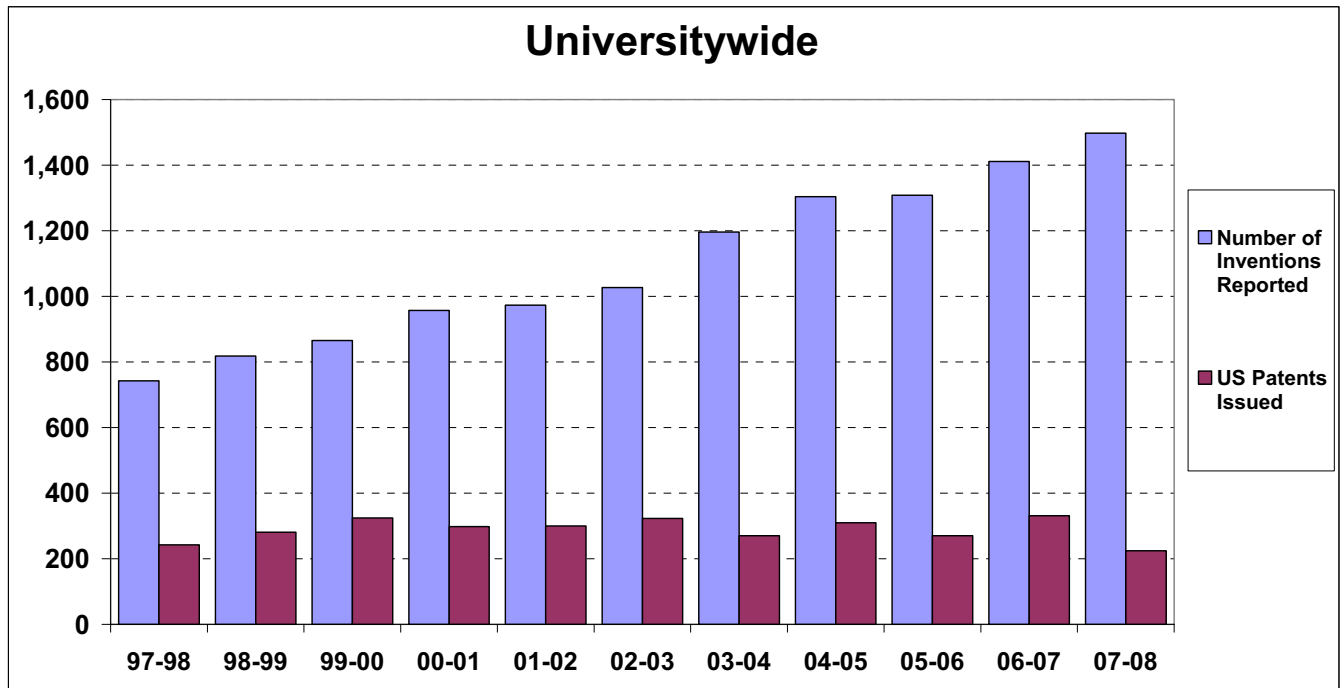
Key: NSF (National Science Foundation), NASA (National Aeronautics and Space Administration), HHS (Health and Human Services), DOE (Department of Energy), DOD (Department of Defense), USDA (United States Department of Agriculture).

9.6 (continued) Federally Funded Research and Development Expenditures by Agency, 2003-04 to 2006-07



Indicator 9.7

Number of Patents and Inventions, 1997-98 to 2007-08

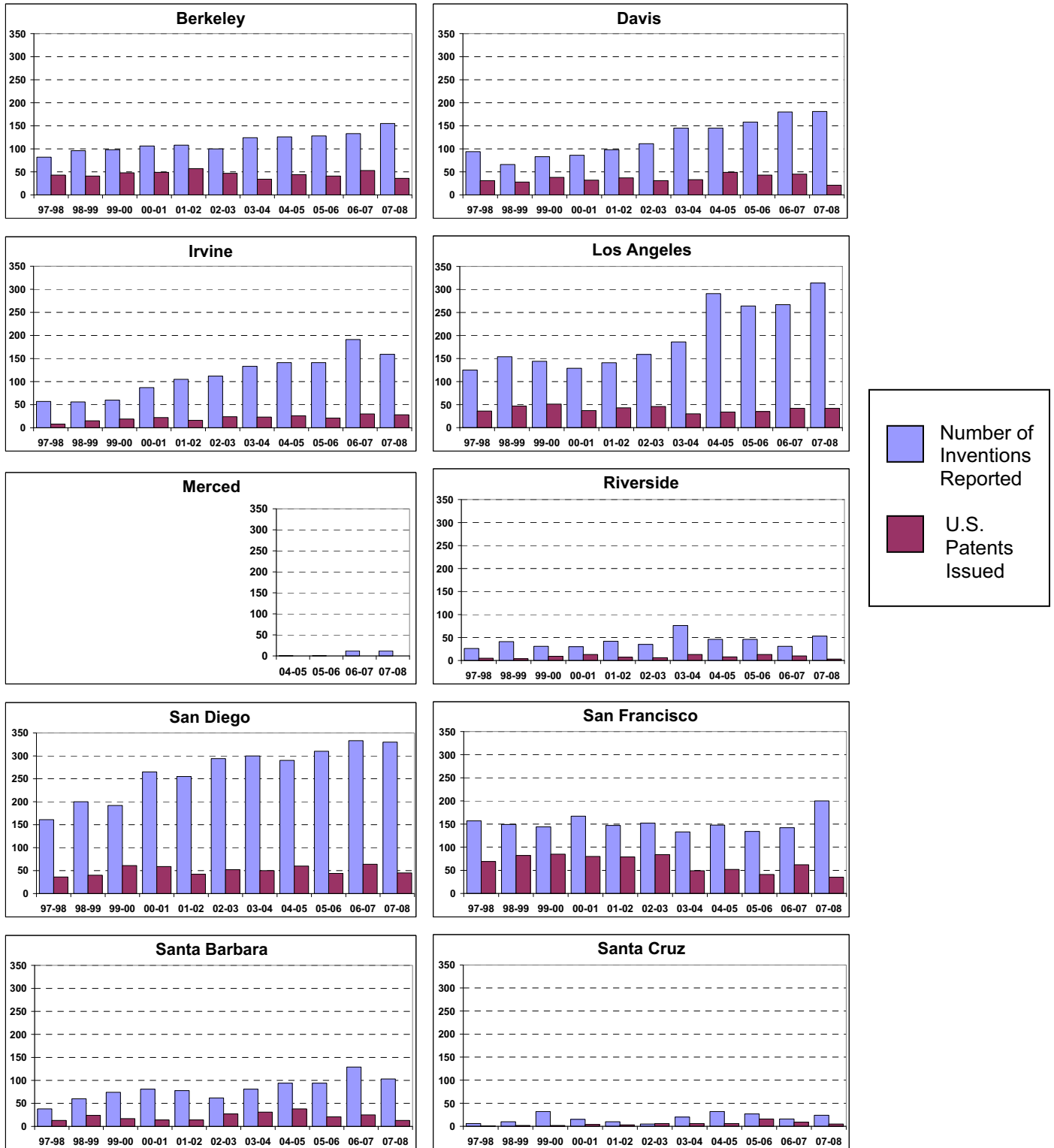


Source: UCOP Office of Technology Transfer Annual Reports.

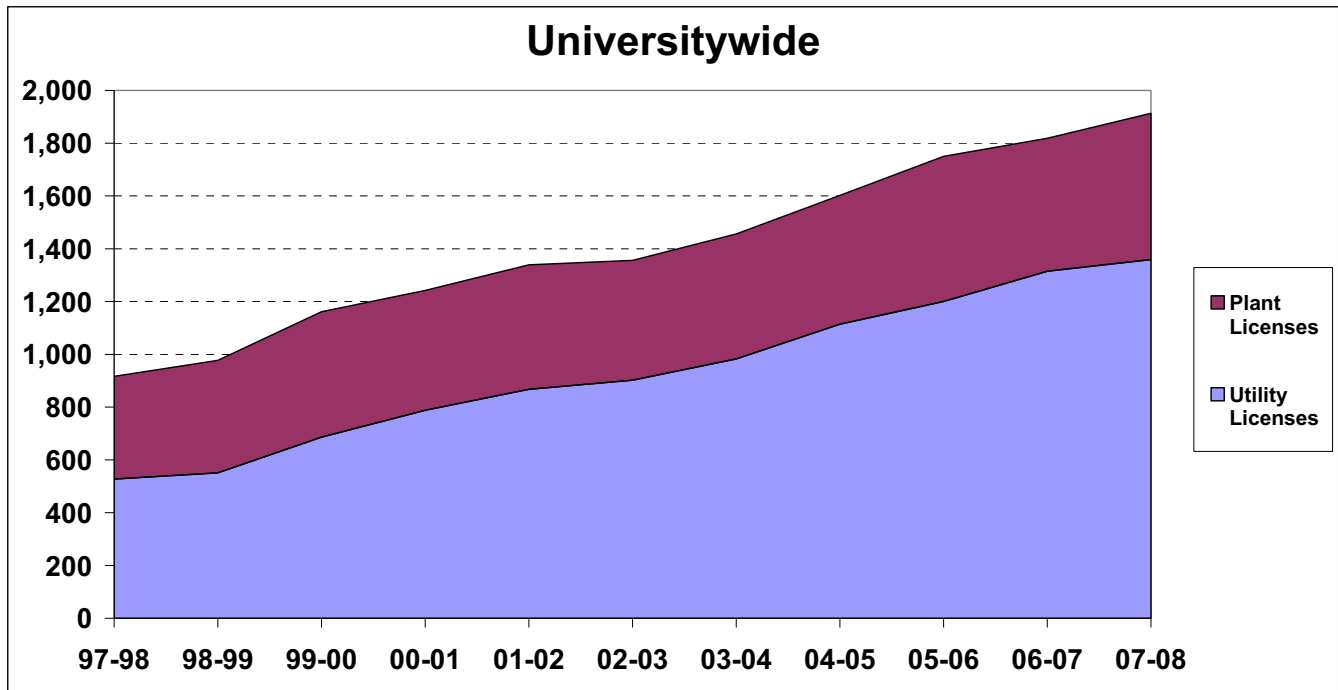
- UC research contributes to the economic prosperity of California. In fiscal year 2008, almost 1,500 new inventions were reported by researchers at UC campuses, more than four disclosures a day.
- Fifty-five new start-up companies were formed in 2008 based on technology from UC campuses. The majority of these were in the medical area.
- Four hundred and twenty four companies were started based on UC technology. Of these, approximately 30 are in the renewable/sustainable energy area.
- Inventions reported are those reported to each of the 10 campuses' technology transfer office. Foreign patents are not reported here.
- Additional information about UC's technology transfer programs is available at: www.ucop.edu/ott/genresources/documents/OTTRptFY08.pdf.

Note: These are currently the most readily available and widely used indicators of research output related to technology transfer. There is an effort under way nationally and at UC to develop additional measures of technology transfer success that better reflect the important goal of fostering industry-university relationships. As alternate metrics are developed they will be included in future accountability reports.

9.7 (continued) Number of Patents and Inventions, 1997-98 to 2007-08



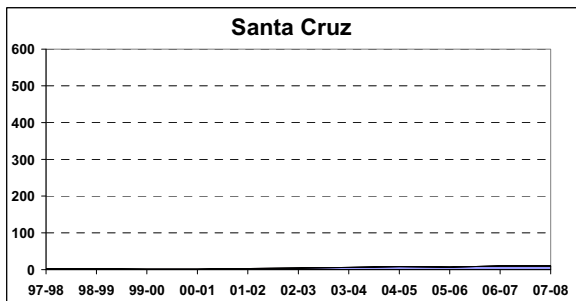
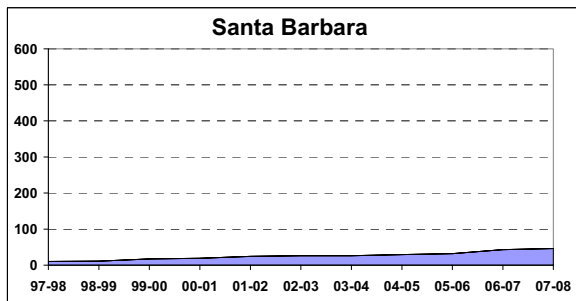
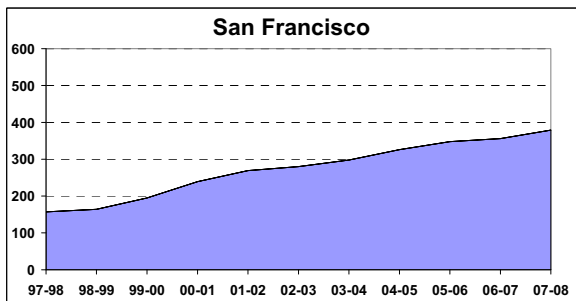
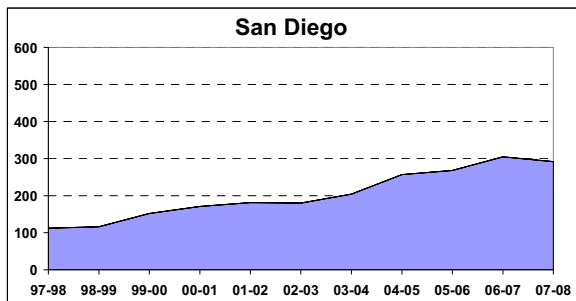
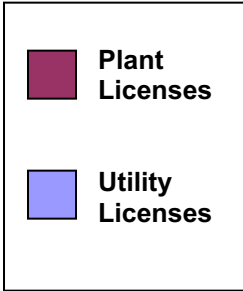
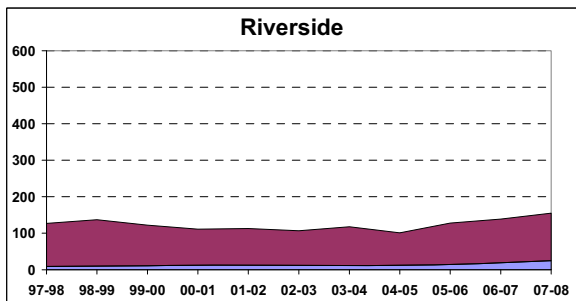
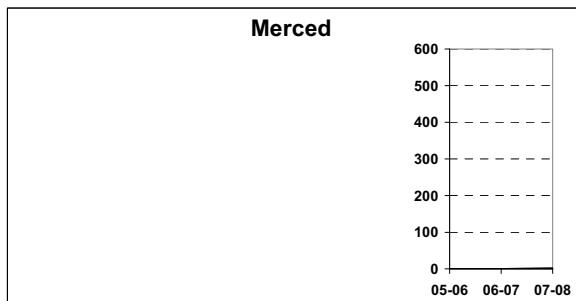
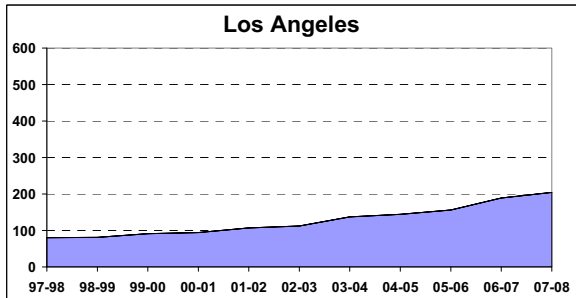
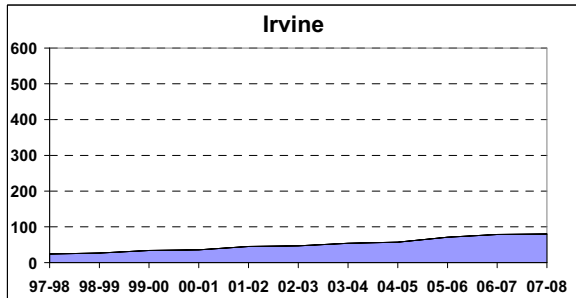
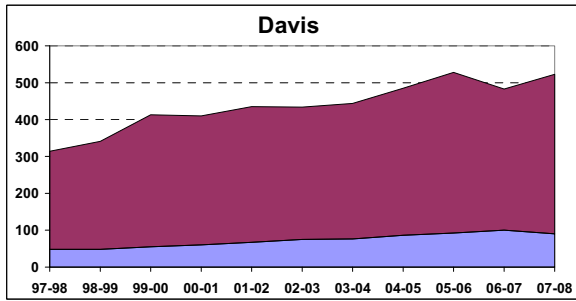
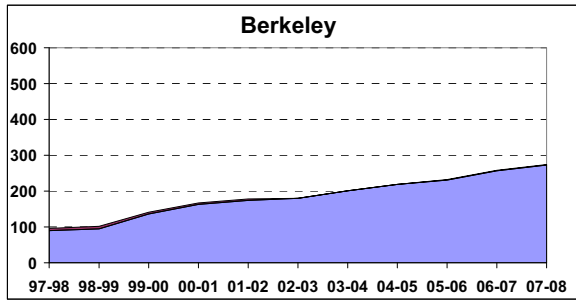
Indicator 9.8
Number of Active Licenses, 1997-98 to 2007-08



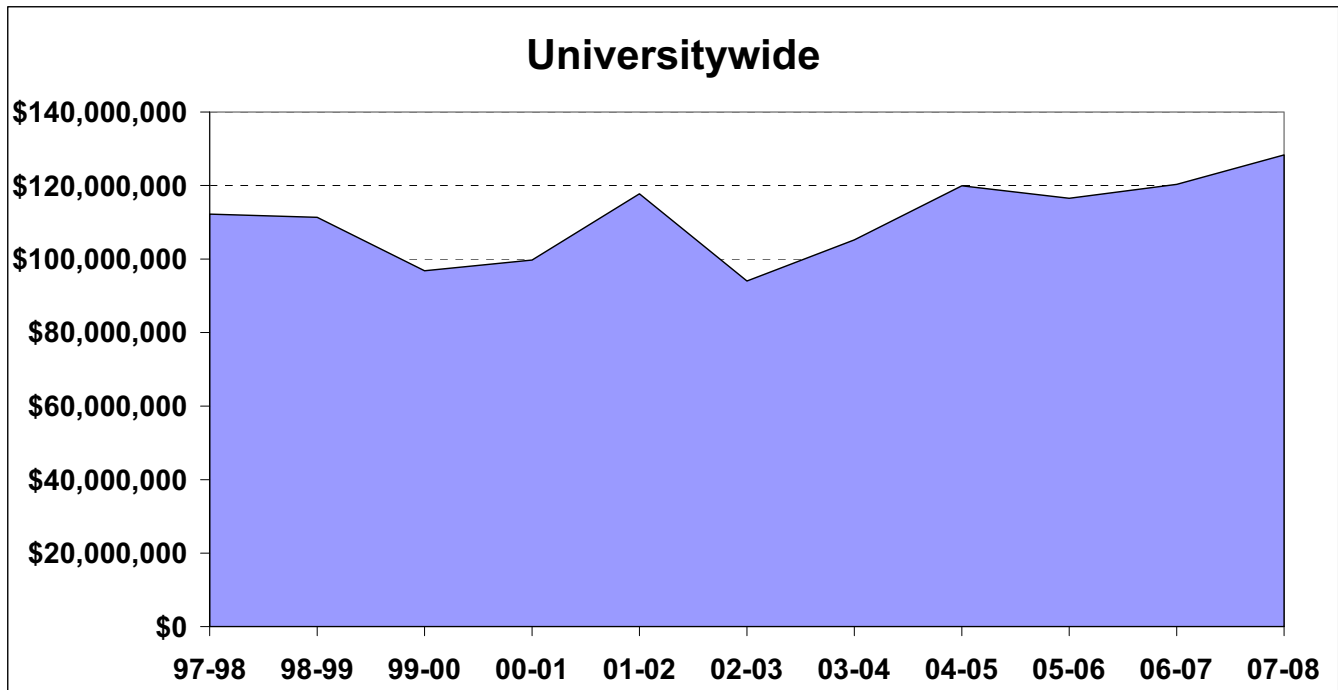
Source: UCOP Office of Technology Transfer.

- A license agreement grants a licensee access to a university’s invention in exchange for the licensee’s commitment to further develop and commercialize the invention. Utility licenses cover processes, machines, manufactured items and compositions of matter. Plant licenses cover sexually and asexually reproduced plant varieties.
- The graphs show the number of licenses in effect at the end of each fiscal year. Each year new agreements are added to the portfolio and some expire or are terminated. In general, the total number of agreements continues to rise each year due to an increase in activity with industry.
- Examples of commercialized products arising from UC inventions include Hepatitis-B vaccines, implants for the treatment for intracranial aneurysms, the nicotine patch, diagnostics for human cancer, AIDS virus diagnostics, web browser applets and plug-ins and several internationally distributed varieties of strawberries.

9.8 (continued) Number of Active Licenses, 1997-98 to 2007-08



Indicator 9.9
Licensing Income, 1997-98 to 2007-08

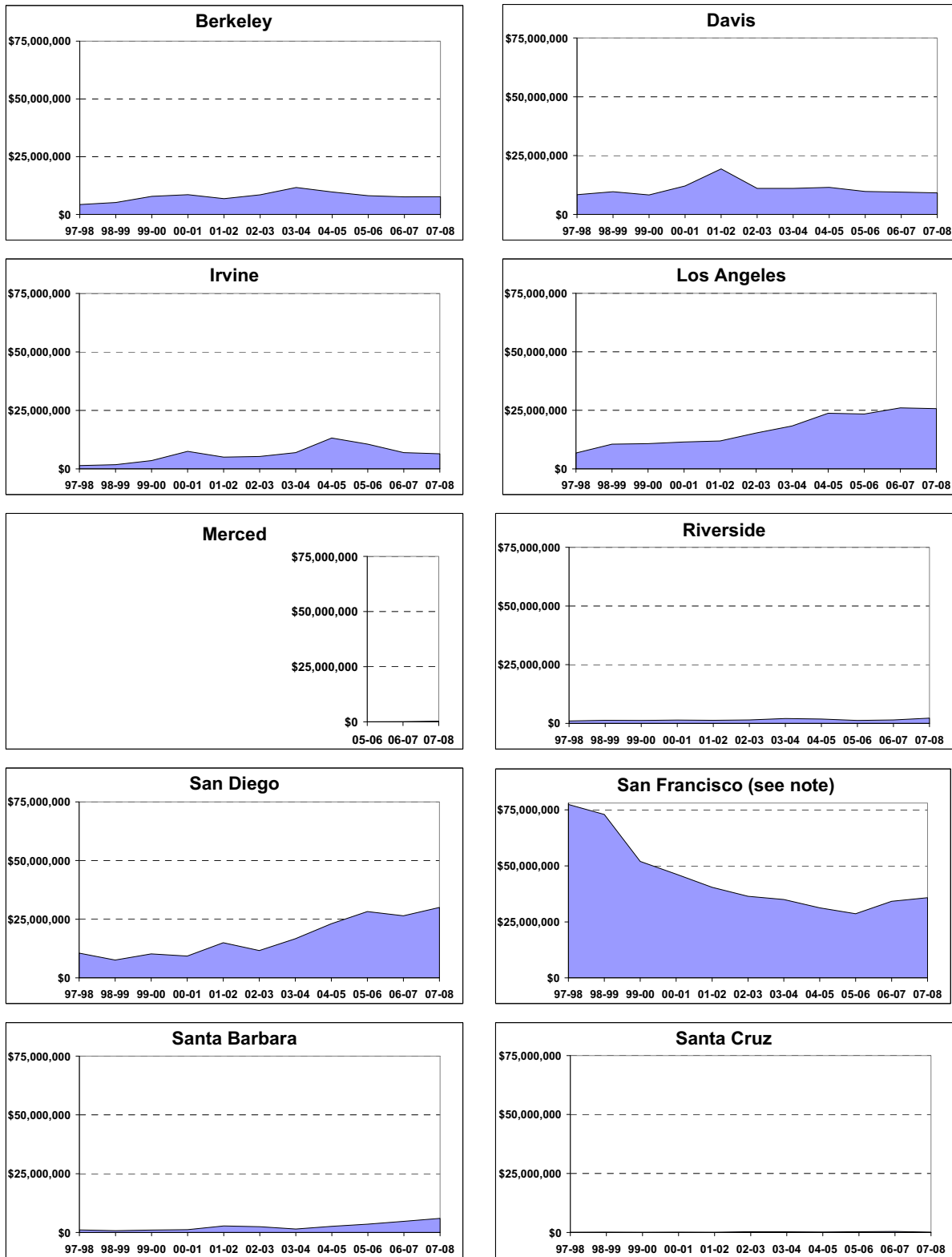


Source: UCOP Office of Technology Transfer Annual Reports.

- Income from the 25 top-earning inventions accounted for approximately 75 percent of total royalty and fee income.
- By the end of fiscal year 2008, UC held equity in 102 companies acquired under licenses and other agreements involving UC technologies.

Note: Figures are in constant 2007-08 dollars, adjusted for inflation. Total licensing income for fiscal year 2008 does not include upfront payments and reimbursements of \$42.6 million from the settlement of litigation. In fiscal year 2006, the University received a \$100 million payment as a partial settlement of a patent infringement suit involving bovine growth hormone patents. In fiscal year 2000, the University received a \$200 million payment as settlement for a long-standing infringement suit involving the University's human growth hormone patent. Because of the unique nature and magnitude of these settlements, monies attributable to them are excluded from the Universitywide and San Francisco campus trend data shown here.

9.9 (continued) Licensing Income, 1997-98 to 2007-08



Note: San Francisco's drop in licensing income since 1997-98 is due in part to the expiration of patents covering the Hepatitis B vaccine, Human Growth Hormone and Gene Splicing inventions.