

**SEDWAY GROUP**

Real Estate and Urban Economics

**A STUDY OF THE ECONOMIC IMPACT OF  
THE UNIVERSITY OF CALIFORNIA, DAVIS**

**FISCAL YEAR 2001-2002**

**Prepared for:**

**UNIVERSITY OF CALIFORNIA, DAVIS**

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## **I. INTRODUCTION**

### **BACKGROUND**

Sedway Group was retained by the Davis Campus of the University of California to conduct a study of the economic impacts of UC Davis on the following: the City of Davis; Yolo County; the region surrounding Davis, including the counties of El Dorado, Placer, Sacramento, Solano, Sutter, Yolo, and Yuba (the “Davis-Sacramento Region”); and the State of California. This study focuses on the economic impact of UC Davis with some detail provided on the fiscal impact of the University. The purpose of this study is to provide the University with a better understanding of its relationship to the regional economy.

### **SCOPE OF WORK**

In undertaking this assignment, Sedway Group obtained information from the University, conducted independent research, and analyzed the impact of University operations and related University activities. UC Davis’s academic programs, alumni, faculty, research, employment, spending, students, and visitors were all examined in detail to create an overall picture of the University’s economic impact on the region. Financial data were gathered, including the University’s payroll, purchasing, and student spending. In addition, non-financial data were analyzed and integrated into the report, including UC Davis’s contribution to the regional workforce, business creation, research, and community development efforts. Sedway Group also obtained service impact information from the City of Davis as well as Yolo County. Finally, Sedway Group used the IMPLAN and RIMS II models to calculate the multiplier effects of UC Davis’s spending in the region.

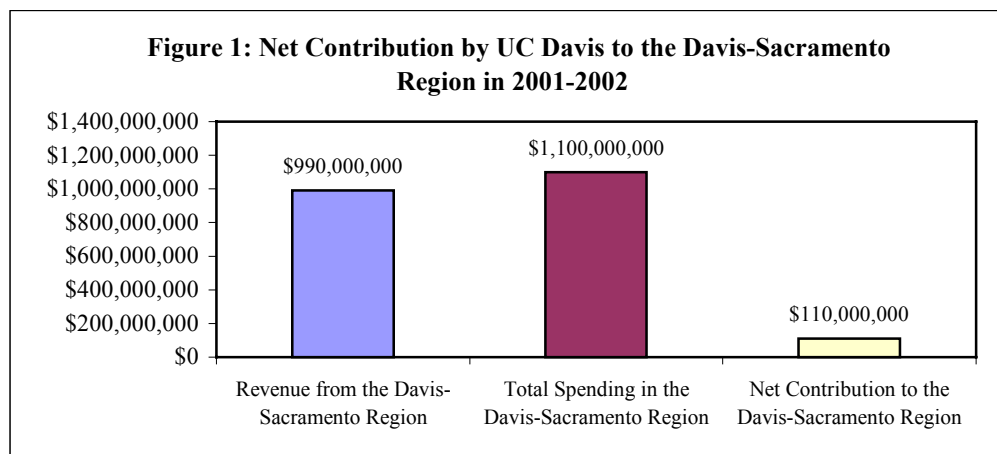
To the extent possible, all data were gathered for four geographic regions: the City of Davis, Yolo County, the Davis-Sacramento Region, and the State of California. The most recent fiscal year for which data were generally available was 2001-2002. Therefore, to the extent possible, all data collected and analyzed pertain to this period.

UC Davis is one of ten campuses in the University of California system. The University comprises nine major colleges, schools, and divisions, including the College of Agricultural and Environmental Sciences, the College of Engineering, the College of Letters and Science, the Graduate School of Management, the School of Education, the School of Law, the School of Medicine, the School of Veterinary Medicine, and the Division of Biological Sciences. The University is particularly well known for its School of Veterinary Medicine, which is the largest veterinary school in the nation and one of only three veterinary schools in the Pacific Northwest. Total UC Davis enrollment by headcount in 2001-2002 was 24,867 students.

## KEY FINDINGS

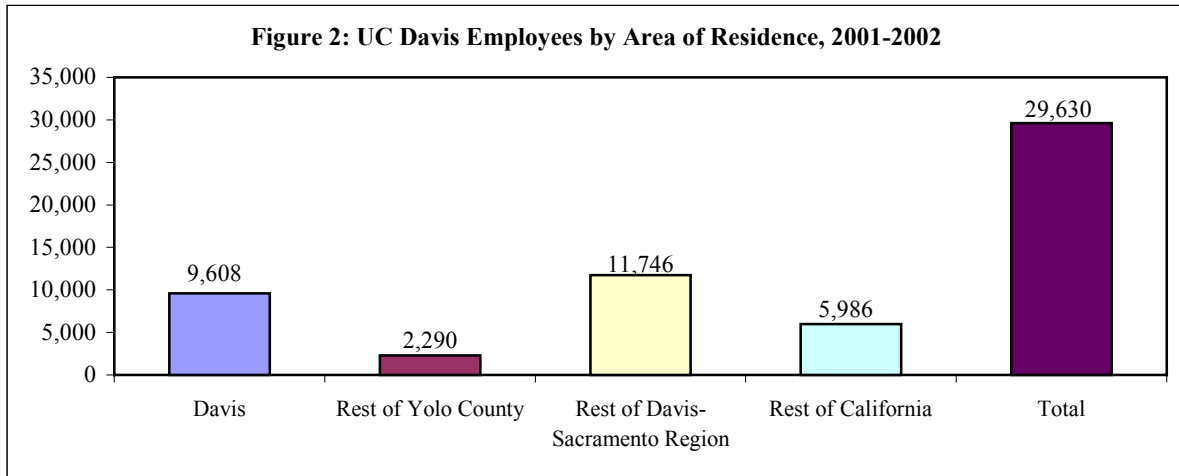
### University Purchasing and Payroll

Based on its spending alone, UC Davis is a major force in the Davis-Sacramento Region economy. In 2001-2002, UC Davis had total revenues of \$1.95 billion, of which approximately 49 percent came from outside the Davis-Sacramento Region. By contrast, 59 percent, or \$1.1 billion of University spending, stayed within the Davis-Sacramento Region. Since approximately \$990 million of the University's revenue came from local Davis-Sacramento Region sources, this means UC Davis made a net contribution of \$110 million to the Davis-Sacramento Region economy. Put another way, the University spent \$1.11 in the Davis-Sacramento Region for every dollar in revenue it received from the Davis-Sacramento Region. In addition, more than \$73 million was paid to the approximately 3,700 University of California system retirees living in the Davis-Sacramento Region. Figure 1 summarizes the net contribution by UC Davis to the Davis-Sacramento Region in 2001-2002.

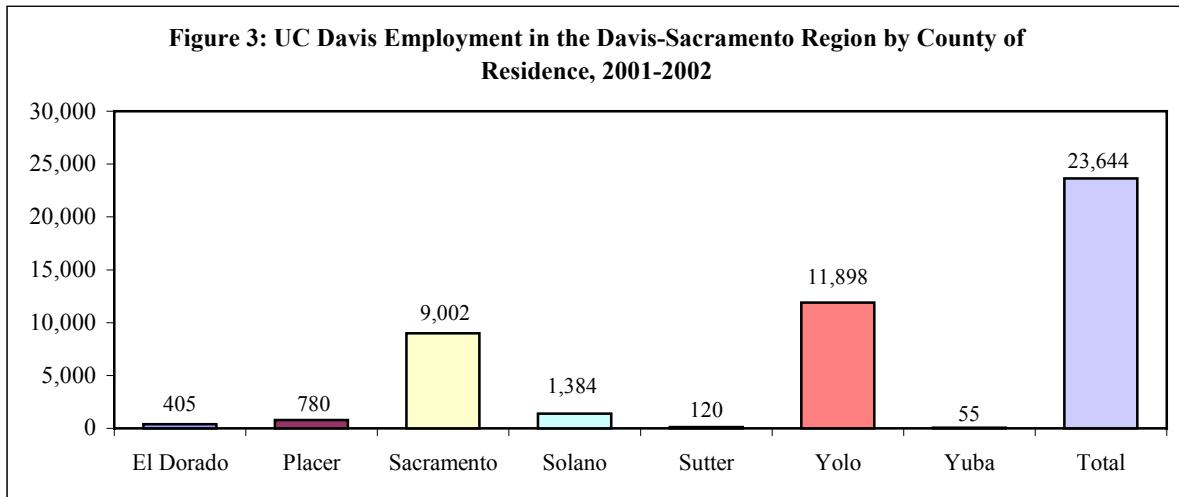


Sources: 2001-02 Annual Financial Report, UC Office of the President; Office of Accounting and Financial Services, UC Davis; Office of Advancement Services and University Relations, UC Davis; and Sedway Group.

The University is an important source of jobs for Davis-Sacramento Region residents. UC Davis employed approximately 20,845 non-student and 8,875 student employees in 2001-2002 and paid out approximately \$961 million in salaries and wages, 90 percent of which stayed in the Davis-Sacramento Region. Figures 2 and 3 summarize UC Davis employment by area in 2001-2002.

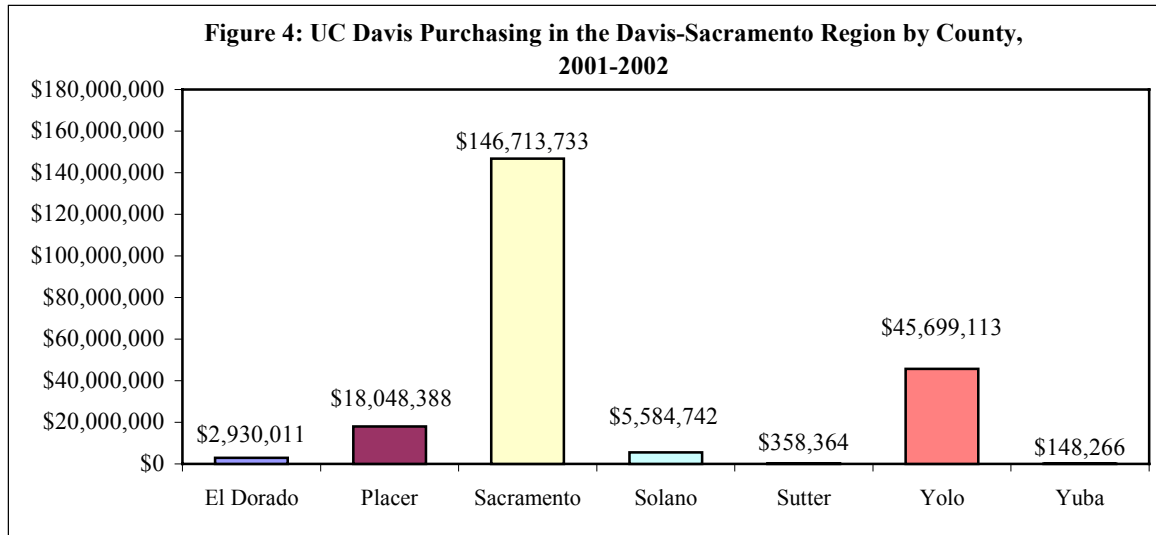


Sources: Payroll Department, UC Davis; and Sedway Group



Sources: Payroll Department, UC Davis; and Sedway Group

Of the \$865 million spent by the University on goods, services, and construction in 2001-2002, about \$29 million, or 3.4 percent, was spent in the City of Davis, approximately \$17 million, or 1.9 percent, was spent in the rest of Yolo County, and nearly \$174, million or 20.1 percent, was spent in the rest of the Davis-Sacramento Region. A total of nearly \$220 million of the University's total purchasing of goods, services, and construction, or 25 percent, was spent in the Davis-Sacramento Region. An additional \$353 million, or 40.8 percent, was paid to vendors in the remainder of the State of California. Figure 4 summarizes UC Davis purchasing by county within the Davis-Sacramento Region. For more information on UC Davis purchasing and payroll, please refer to page 13.



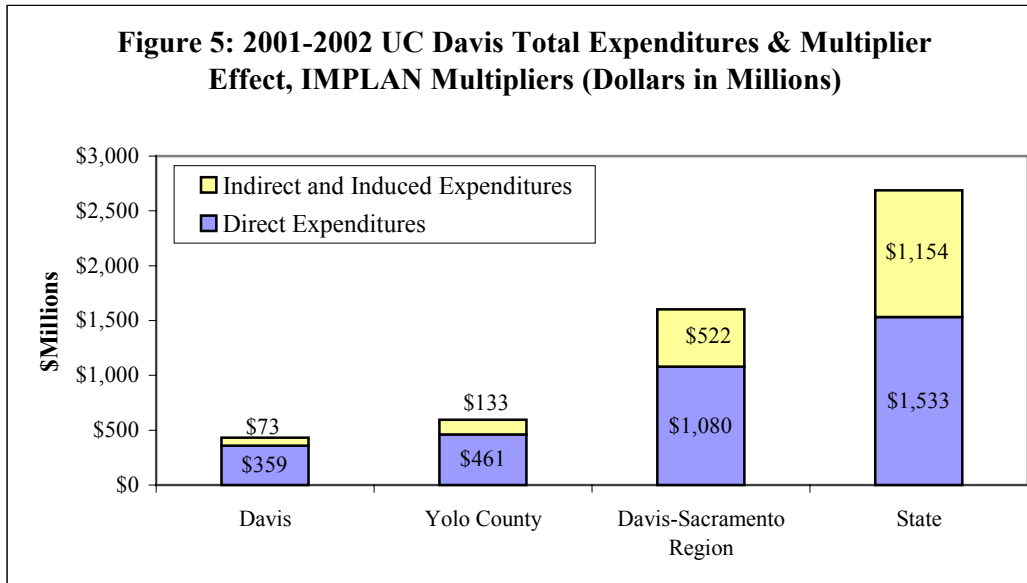
Sources: 2001-02 Annual Financial Report, UC Office of the President; Office of Accounting and Financial Services, UC Davis; Office of Advancement Services and University Relations, UC Davis; and Sedway Group.

### University Students and Visitors

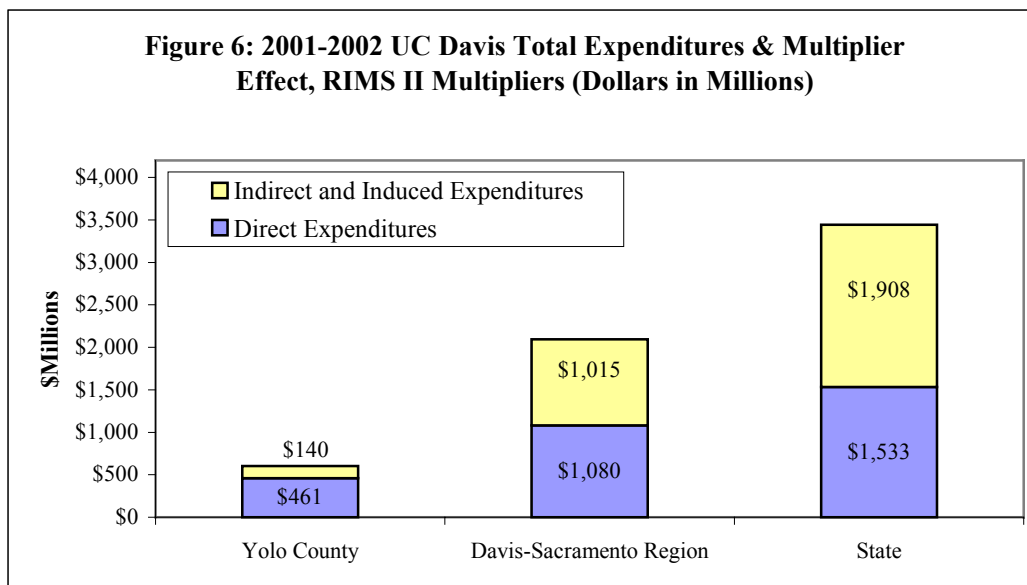
UC Davis students and visitors also make an important contribution to the region's economy. About 72 percent of UC Davis students lived in the City of Davis in 2001-2002 (this figure includes approximately 5,800 students who were accommodated on campus). The remainder lived elsewhere in Yolo County (2 percent), elsewhere in the Davis-Sacramento Region (10 percent), or outside the region (16 percent). Based on budget estimates from the University's Financial Aid Office, UC Davis students contributed more than \$90 million in expenditures in the City of Davis and a total of more than \$160 million in the Davis-Sacramento Region in 2001-2002. In addition, the University attracts thousands of visitors each year to academic, cultural, and athletic events. According to the University's Office of Campus Events and Visitor Services, the total number of visitors to UC Davis in 2001-2002 was nearly 1.8 million. Using conservative assumptions regarding the number of visitors to UC Davis that are day travelers, overnight travelers, and conference travelers, Sedway Group estimated that total UC Davis visitor contribution to the City of Davis during 2001-2002 was approximately \$36 million, or \$20 per visitor. For more detail on UC Davis students and visitors, please refer to page 45.

### Multiplier Effects

As summarized in Figures 5 and 6, the University's direct spending and employment generated millions of dollars of additional spending and thousands of additional jobs. Using multipliers from the IMPLAN model developed by the U.S. Department of Agriculture and the RIMS II model developed by the U.S. Bureau of Economic Analysis, Sedway Group calculated that UC Davis' direct expenditures of \$1.1 billion in the Davis-Sacramento Region in 2001-2002 generated between \$522 million and \$1.0 billion in additional indirect and induced spending, resulting in a total impact of between \$1.6 billion and \$2.1 billion. UC Davis spending also generated between 10,668 and 15,934 indirect and induced jobs in addition to 23,644 direct University employees in the Davis-Sacramento Region, for a total of between 34,312 and 39,578 jobs in the Davis-Sacramento Region.



Sources: Office of Accounting and Financial Services, UC Davis; Payroll Department, UC Davis; IMPLAN; and Sedway Group.



Sources: Office of Accounting and Financial Services, UC Davis; Payroll Department, UC Davis; RIMS II; and Sedway Group.

Direct spending by UC Davis students and UC Davis visitors also generated additional spending and jobs in the Region. Using multipliers from the IMPLAN and RIMS II models, students' and visitors' direct expenditures of \$198 million in the Davis-Sacramento Region in 2001-2002 generated between \$253 million and \$286 million in additional indirect and induced spending, resulting in a total impact of \$451 million to \$484 million. UC Davis student and visitor spending also generated between 2,500 and 3,500 indirect and induced jobs in the Davis-Sacramento Region.

Using multipliers from the IMPLAN and RIMS II models, direct expenditures of \$1.3 billion by UC Davis, its students, and its visitors in the Davis-Sacramento Region in 2001-2002 generated between \$775 million and \$1.3 billion in additional indirect and induced spending, resulting in a total impact of \$2.1 billion to



\$2.6 billion. Spending by the University, its students, and its visitors also generated between 13,200 and 19,400 indirect and induced jobs in addition to 23,644 direct University employees in the Davis-Sacramento Region, for a total of between 36,844 and 43,044 jobs in the Davis-Sacramento Region. For more detail on the University's multiplier effects, please refer to page 22.

### **Research at UC Davis**

Research is an important part of UC Davis's contribution to the economy of the Davis-Sacramento Region. Research funding at UC Davis totaled approximately \$357 million in 2001-2002, approximately 56 percent of which came from the federal government. In addition to being an important source of outside income for the region and a significant generator of jobs, the products of University research often have commercial application and lead to the creation of new enterprises. In 2001-2002, UC Davis filed 50 first and 41 secondary U.S. patent applications and had a portfolio of 324 active U.S. patents. For more information on UC Davis research, please refer to page 31.

### **UC Davis and the Regional Workforce**

UC Davis supplies many talented workers and entrepreneurs to the economy of the Davis-Sacramento Region and beyond. In 2001-2002, UC Davis enrolled 24,867 students and awarded 6,129 undergraduate and graduate degrees. With approximately 100 majors and 70 graduate programs in over 100 departments, it is the most comprehensive university in the Davis-Sacramento Region. Furthermore, the University acts as a magnet for the region, attracting talented students, many of who stay. Of the 155,881 total alumni who graduated from UC Davis, 34,537, or about 22 percent, lived in the Davis-Sacramento Region in 2003. By contrast, an average of 14.7 percent of new freshmen from academic year 2000 through academic year 2002 came to UC Davis from the Davis-Sacramento Region.

In 2001-2002, a total of 13,965 off-campus career jobs were listed at UC Davis through the Internship and Career Center and a total of 2,071 student interviews were scheduled with a total of 163 visiting companies. Additional recruiting efforts for full-time jobs as well as summer internships are conducted by the UC Davis Graduate School of Management. UC Davis alumni and faculty have also founded some noteworthy companies, both inside and outside the region, including BEA Systems, Calgene, and Reebok, among others.

UC Davis Extension provides professional education opportunities to the workforce within the Davis-Sacramento Region and beyond. UC Davis Extension offers specialized studies and certificate programs and professional degrees in partnership with campus departments, as well as unique programs that have gained regional, national, and international recognition. Of the 4,654 courses offered through UC Davis Extension in 2001-2002, 46 percent of courses were offered within the Davis-Sacramento Region. For more information on UC Davis and the regional workforce, please refer to page 38.

### **Cultural Programs, Community Service, and Volunteerism**

The University provides a variety of services to the surrounding community. UC Davis offers a wide range of cultural and recreational activities that are open to local residents including the Mondavi Center for the Performing Arts, several museums, the Craft Center, and various youth programs. In 2001-2002, approximately 4,147 UC Davis students enrolled in service-learning courses that required them to volunteer in the local community. The University sponsors education programs that include School/University Partnerships, Early Academic Outreach Program, and several unique University

programs such as the Animal Ambassadors Program and ArtsBridge. Finally, during 2001-2002, the UC Davis Human Corps Program had a total of 331 services organizations listed in the on-line Human Corps database and had over 539 e-mail and telephone contacts with potential volunteers and community service organizations. For more detail on UC Davis community service and volunteerism, please refer to page 51.

### **UC Davis Health System**

The UC Davis Health System is a fully integrated academic health system comprising the UC Davis School of Medicine, the UC Davis Medical Center, which is located in Sacramento, and a 550-physician medical group. The UC Davis School of Medicine continually ranks among the top medical schools in the country, according to *U.S. News & World Report's* annual list of Best Graduate Schools in America. The School of Medicine's primary care program was ranked 17<sup>th</sup> in the nation in the 2004 edition. In addition to receiving scholastic recognition, UC Davis medical students and faculty have a long-standing tradition of making contributions to the community through volunteerism. Approximately 85 percent of UC Davis medical students volunteer at various community clinics, which are staffed entirely by UC Davis faculty, undergraduate students, medical students, and community members.

The UC Davis Medical Center ranks among the nation's leading hospitals in cancer, hormonal disorders, otolaryngology, orthopedics, neurology, pulmonary disease, urology, digestive disorders, geriatrics, kidney disease, and rheumatology according to *U.S. News & World Report*. The Medical Center is the primary clinical education site for the UC Davis School of Medicine and is also the leading tertiary care referral center for 33 counties and approximately 5 million residents, covering more than 50,000 square miles. A few of the multidisciplinary programs offered through the Medical Center include the UC Davis Cancer Center, the UC Davis Children's Hospital (Sacramento's only comprehensive children's hospital), the UC Davis Transplant Center, and the UC Davis Trauma Center. The Medical Center's 528-bed, acute-care hospital and its affiliated outpatient centers host approximately one million patient visits annually. During 2001-2002, the Medical Center served approximately 960,000 patients. For more information on the UC Davis Health System, please refer to page 59.

### **Community Effects of the University**

Beyond its economic contributions to the surrounding communities of the City of Davis, the Davis-Sacramento Region, and the State of California, UC Davis affects those communities in other ways, such as losses from property tax exemptions, use of municipal and county services, traffic and parking impacts, local housing impacts, and taxable sales generated by the University. During 2001-2002, the estimated loss of potential property taxes for University-owned properties was approximately \$75,000 while the estimated loss of potential property taxes for University-leased properties was approximately \$125,000. The University itself provides a full range of typical public services including police, fire, electricity, wastewater, etc. but does have mutual/automatic aid agreements with the City of Davis for police and fire services. During 2001-2002, anecdotal information indicated that the University is a net provider of services to the City of Davis for these services. The presence of the University has impacted local traffic, parking, and housing conditions in the City of Davis. Traffic impacts have been partially mitigated by payment to the City for certain roadway improvements. In addition, the 2003 UC Davis Long Range Development Plan provides capacity for significant new housing on campus to alleviate housing demand in the City. UC Davis paid a total of \$1.9 million in sales taxes during 2001-2002 as a result of retail sales generated on the campus. Additional information on these community effects can be found on page 65.

## **University Development Case Studies**

The Colleges at La Rue and Aggie Village are two recent UC Davis developments that were analyzed to determine the direct fiscal impacts to governmental revenues and costs on the surrounding communities of the City of Davis and Yolo County. The Colleges at La Rue resulted in additional student residences in housing-constrained Davis and increased student expenditures in the Davis area, which resulted in additional sales tax revenue to the City of Davis and Yolo County. The development of the Colleges also resulted in foregone property taxes as a result of the tax-exempt status of the project, which was approximately \$17,600 in foregone revenue to Yolo County. The net impact to Yolo County attributable to the Colleges at La Rue development during 2001-2002 was estimated to be about (\$3,400).

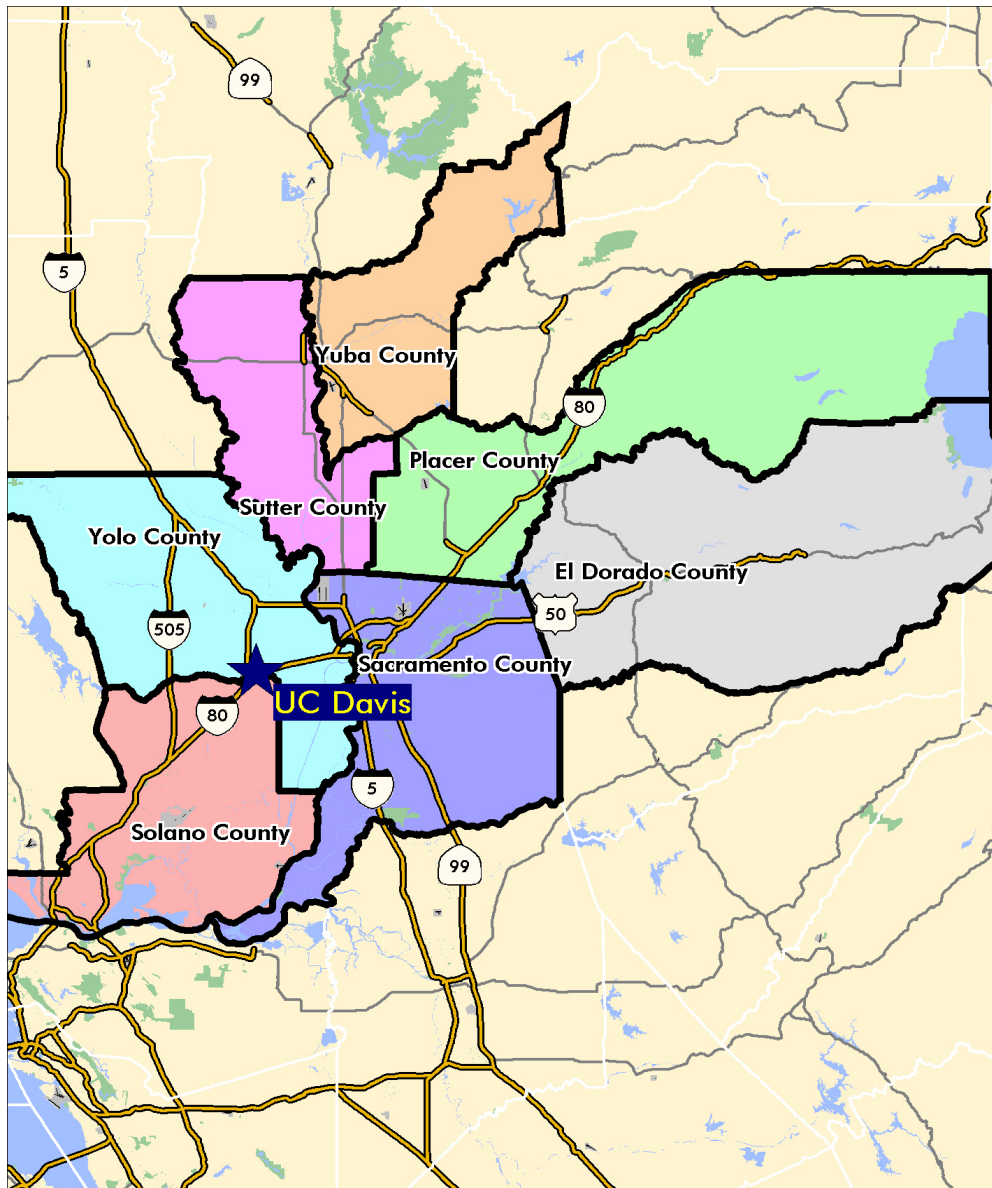
Aggie Village is a housing community developed to offer affordable homes to UC Davis faculty and staff, with a small commercial component as well. The net fiscal impact on the City of Davis for the residential portion of Aggie Village was estimated to be about \$6,000 in 2001-2002, while the net fiscal impact for the non-residential portion was approximately \$134,500, resulting in a net fiscal impact for the total project of about \$140,500. The net fiscal impact on Yolo County for the residential portion of Aggie Village was estimated at (\$1,800) in 2001-2002, while the net fiscal impact for the non-residential portion was \$62,700, resulting in a net fiscal impact for the total project of about \$60,900. For more detail on these case studies, please refer to page 70.

## II. THE REGIONAL FRAMEWORK

### THE REGIONAL ECONOMY

UC Davis is located in the Sacramento Region, which is home to over two million residents and includes six counties: El Dorado, Placer, Sacramento, Sutter, Yolo, and Yuba, as shown in Figure 7. For the purposes of this discussion, the Sacramento Region definition is different than the definition of the Davis-Sacramento Region, which includes all counties in the Sacramento Region with the addition of Solano County. The expanded area defined as the “region” for this study reflects the fact that part of the campus lies within Solano County, and the fact that many campus employees live in Solano County.

**FIGURE 7: MAP OF DAVIS-SACRAMENTO REGION**



The following table highlights some key measures of economic growth of the Sacramento Region from 1995 to 2002.

<b>TABLE 1: SACRAMENTO REGION ECONOMIC GROWTH</b>			
	<b>1995</b>	<b>2002</b>	<b>Annual Growth Rate</b>
Population	1,758,000	2,057,400	2.4%
Civilian Labor Force	857,400	1,018,800	2.7%
Employment	694,700	869,400	3.6%
Per Capita Income	\$23,212	\$31,660	5.2%
Taxable Sales, in billions	\$18.2	\$30.0	9.3%

Sources: Sacramento Regional Research Institute, April 2003; and Sedway Group.

The annual growth rate in population since 1995 has been approximately 2.4 percent, primarily due to migration from other California and U.S. urban areas. The population of the region is projected to be greater than 2.3 million by 2010 and will reach nearly 2.7 million by 2020.

According to the Sacramento Regional Research Institute, Placer County had the highest median household income (\$57,535) in the region in 2000, likely due to the newer housing being constructed there. Placer County was followed by El Dorado County (\$51,484), Sacramento County (\$43,816), Yolo County (\$40,769), Sutter County (\$38,375), and Yuba County (\$30,460). Farm employment plays a significant role in the economies of Sutter and Yuba counties, as evidenced by their lower household incomes.

The presence of the State capital in Sacramento contributes to the identity of the region as a center of government and in 2002, the government sector represented the largest share (27 percent) of the Sacramento Region's employment base, followed by the trade, transportation and utilities sector (17 percent) and the professional and business services sector (11 percent). The construction, information, and other services sectors experienced the largest percentage growth in employees between 1997 and 2002.

Behind the State of California government, which employs approximately 81,000 persons in the Davis-Sacramento Region, UC Davis is the Davis-Sacramento Region's largest employer. The top employers in the Davis-Sacramento Region are shown in Table 2.

**TABLE 2: TOP EMPLOYERS IN THE DAVIS-SACRAMENTO REGION, 2003**

<b>Rank</b>	<b>Employer</b>	<b>Employees<sup>(1)</sup></b>	<b>Product</b>
1	State of California	81,322	Government
2	<b>University of California Davis<sup>(2)</sup></b>	<b>28,847</b>	<b>Public University and Hospital</b>
3	Travis Air Force Base and Hospital	27,000	Military/Government
4	Sacramento County	14,222	Government
5	Hewlett Packard	8,000	Computers and Peripherals
6	City of Sacramento	5,000	Government
7	Intel	5,000	Semiconductors
8	California State University	3,324	Public University
9	Kaiser Foundation Hospital	3,023	General Medicine
10	McClatchy Co.	2,700	Newspaper Publishing
11	Kaiser Foundation Hospital	2,666	Intermediate Healthcare
12	Rideout Memorial Hospital/Fremont Medical Center	2,400	Intermediate Healthcare
13	Sutter Memorial Hospital	2,300	Intermediate Healthcare
14	Aerojet Fine Chemicals	1,700	Electronic Components
16	Heavenly Lake Tahoe	1,600	Miscellaneous Personal Services
17	Heavenly Ski Resort	1,600	Resort Hotel
18	Mercy San Juan Medical Center	1,600	Intermediate Healthcare
19	Mercy General Hospital	1,600	Intermediate Healthcare
20	Vision Service Plan	1,500	Insurance
21	Sutter Roseville Medical Center	1,500	Library
22	NEC Electronics	1,500	Semiconductors
23	Northbay Medical Center	1,400	Intermediate Healthcare
24	Sierra Community College District	1,400	Community College
25	Gen Corp	1,300	Search and Navigation Equipment

(1) Employee counts are headcount, not full time equivalent.

(2) Includes UC Davis Campus, UC Davis Medical Center, and the School of Medicine at the UC Davis Medical Center.

Sources: American Business Information; Dun & Bradstreet; UC Davis; California State Controller's Office; and Sedway Group

The regional economy remains in a state of economic downturn, much like the rest of California; however, the Sacramento Region is faring well relative to the Bay Area. The Sacramento Region, the Bay Area, and the State all experienced year-over-year employment declines in October 2003. The Sacramento Region's employment decline for October was -0.9 percent over the previous August. By comparison, the Bay Area experienced an employment decline of -2.6 percent and the State experienced a decline of -0.2 percent during the same time period.

A principle asset supporting the local economy is the affordability of housing in the region relative to the Bay Area. Accordingly, the Sacramento Region owes much of the robust expansion that it has enjoyed in recent years to the relocation and expansion of corporations based in the San Francisco Bay Area. Construction of new homes has helped to keep the Sacramento Region's economy afloat during this recent recession. New home sales in the Sacramento Region totaled 9,617 units during 2002. This new construction is occurring despite relatively flat employment growth in the region. In all likelihood, the housing market is being buoyed by the migration of residents from other areas to the Sacramento Region as a more affordable location.

In the near term, Sacramento's economy is at risk of slowing further before it improves. State hiring is expected to be nonexistent for one to two years. The State budget that was passed for 2003-2004 contains

funding cuts that will eliminate approximately 16,000 jobs statewide, of which approximately one-third could be located in the Sacramento Region. If the current budget remains unrevised and tax revenue does not increase over expectations in 2004-2005, another \$8 billion of accumulated deficit will still need to be addressed. The outlook, therefore, for the Sacramento Region includes no state government hiring in the near term with significant risks for further payroll cuts. Potential state budget cuts are also being felt through layoffs in healthcare, as local hospitals face cuts in Medi-Cal payments.

In the longer term, Sacramento is projected to be an above average performer economically. Sacramento has increasingly become Northern California's location for back-office financial services and for a variety of manufacturing, wholesaling, and transportation activities. Its relatively affordable housing, excellent freeway network, available land for development, and access to both the Bay Area and to mountain-based recreation provide considerable comparative advantages.



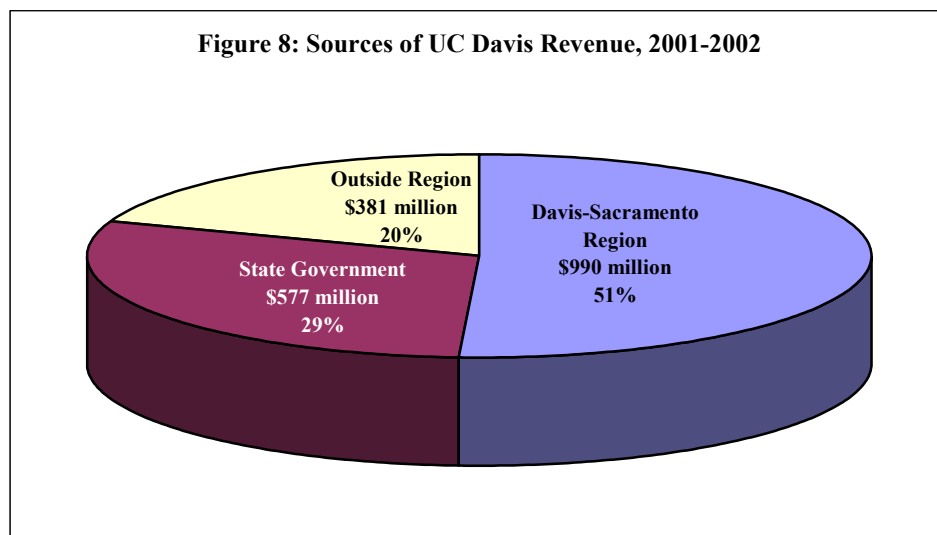
### III. UNIVERSITY PURCHASING AND PAYROLL

#### SOURCES OF UNIVERSITY REVENUE

UC Davis is a significant economic force in the Davis-Sacramento Region by virtue of its position as a major employer and a major purchaser of goods and services. The impact of the University on the local economy can be measured to some degree by the amount of revenue it collects from outside the region, revenue that is then used to finance spending on salaries and goods within the region. The more revenue UC Davis collects from outside the Davis-Sacramento Region, the more it benefits the local economy.

As Figure 8 shows, in 2001-2002, University revenues totaled \$1.95 billion, of which approximately 49 percent came from sources outside of the Davis-Sacramento Region. Although state government revenues geographically originate within the Davis-Sacramento Region (at the State capital of Sacramento), for purposes of this study, Sedway Group does not consider those revenues to be locally driven. In the absence of UC Davis in the Region, these state revenues would be redirected to a UC campus or campuses elsewhere in the state. Therefore, these revenues are viewed as an infusion of funds to the Region and are considered to be a revenue source that is outside of the Davis-Sacramento Region.

Local sales and services account for the largest share of UC Davis's general revenue, all of which are locally driven. UC Davis Medical Center is the largest contributor to local sales and services, accounting for 74 percent of those revenues. Revenues originating from outside the region include the state government, the federal government, private gifts and contracts, and tuition and fees. The federal government provides the majority of the University's research funding. A majority of UC Davis students come from outside the Davis-Sacramento Region and a portion pay out-of-state tuition. UC Davis Extension also accounts for tuition and fees originating outside of the Davis-Sacramento Region. A summary of UC Davis's revenues for 2001-2002 is included in Table 3, along with the estimated share of each source of revenue generated from outside the Davis-Sacramento Region.



Sources: 2001-02 Annual Financial Report, UC Office of the President; Office of Accounting and Financial Services, UC Davis; Office of Advancement Services and University Relations, UC Davis; and Sedway Group.



**TABLE 3: UC DAVIS SOURCES OF REVENUE, 2001-2002**

Source	Total Revenue <sup>(1)</sup>	Revenue from Outside Davis-Sacramento Region	Percent from Outside Davis-Sacramento Region
State Government	\$576,624,000	\$576,624,000	100%
Federal Government	208,005,000	208,005,000	100%
Local Government	6,067,000	2,669,000	44%
Tuition and Fees	121,291,000	88,051,000 <sup>(2)</sup>	73%
Private Gifts and Contracts <sup>(3)</sup>	87,976,000	82,196,000	93%
Local Sales and Services	947,280,000	0	0%
<b>Total</b>	<b>\$1,947,243,000</b>	<b>\$957,545,000</b>	<b>49%</b>

(1) Includes \$46.2 million in investment income, \$17.9 million of which was endowment income.

(2) Includes \$12 million in University Extension tuition, \$16.4 million in non-resident tuition, and 70% (students from outside the Davis-Sacramento Region) of regular session fees.

(3) An additional \$27,500,000 was reported by the UC Davis Office of Advancement Services and University Relations, which includes endowed gifts (reported only at UC System level), gifts-in-kind (not recorded as revenue), and gifts to the UC Davis Foundation (not included in financial reports). These figures are not reported by UC Davis as revenue but are noted here for information purposes only.

Sources: 2001-02 Annual Financial Report, UC Office of the President; Office of Accounting and Financial Services, UC Davis; Office of Advancement Services and University Relations, UC Davis; and Sedway Group.

## UC DAVIS SPENDING

As the remainder of this chapter will demonstrate, the majority of the University's spending was concentrated in the Davis-Sacramento Region. In 2001-2002, UC Davis spent more than \$1.8 billion on salaries and wages, goods and services, and construction. Approximately \$1.1 billion, or 59 percent, of this total was spent in the Davis-Sacramento Region, as shown in Table 4. Since approximately \$990 million of the University's revenue came from local sources, this means that UC Davis made a net contribution of approximately \$110 million to the local economy. Put another way, the University spent \$1.11 in the Davis-Sacramento Region for every dollar in revenue received from the Davis-Sacramento Region.

**TABLE 4: UC DAVIS SPENDING, 2001-2002**

Source	Total Spending	Spending Within Davis-Sacramento Region	Percent Spent in Davis-Sacramento Region
Salaries and Wages	\$960,617,000	\$860,679,000	90%
Goods, Services, & Construction	864,655,000	219,483,000	25%
<b>Total</b>	<b>\$1,825,272,000</b>	<b>\$1,080,162,000</b>	<b>59%</b>

Sources: 2001-02 Annual Financial Report, UC Office of the President; Office of Accounting and Financial Services, UC Davis; Payroll Department, UC Davis; and Sedway Group.

## EMPLOYMENT AND PAYROLL

### Total Employment and Payroll

In 2001-2002, UC Davis paid out approximately \$961 million in salaries and wages to approximately 20,845 non-student and 8,875 student employees. The payroll expenditures reported above are salaries and wages only. Retirement and health benefits are not included in the payroll analysis because they are centrally administered by the UC Office of the President. For information purposes only, UC Davis spent an additional \$217 million on benefits in 2001-2002, which is equal to 23 percent of salary and wage payments.

Student employees of the University included graduate teaching assistants, researchers, and work-study program participants. Based upon only the non-student employees, UC Davis had more employees than the next nine largest employers in the City of Davis combined, as shown in Table 5. The top ten employers in the City had a total of 22,043 employees, of which only 2,660 were non-UC Davis employees.

**TABLE 5: TOP EMPLOYERS IN THE CITY OF DAVIS, 2001**

Rank	Employer	Employees	Product
1	University of California, Davis Campus	19,383	Public University
2	Davis Joint Unified School District	800	Public School District
3	City of Davis	423	Municipal Government
4	Sutter Davis Hospital	385	Hospital
5	Safeway	260	Grocery Store
6	CA Natural Resources Conservation Service State Office	220	Conservation/Agricultural Research
7	Nugget Market	202	Grocery Store
8	PG&E	155	Utility
9	Davis Ace Hardware	110	Hardware Store
10	Z-World	105	Technology
	<b>Total</b>	<b>22,043</b>	
	<b>Total Non-UC Davis</b>	<b>2,660</b>	

Sources: UC Davis; City of Davis Chamber of Commerce; and Sedway Group

As shown previously, the University is the second largest employer in the region behind the State of California government. As one of the largest employers in the Davis-Sacramento Region, it is significant to note that employment at UC Davis is somewhat buffered from downturns in the local economy, as most of the jobs are funded from revenue sources outside of the Davis-Sacramento Region that are not market dependent.

### Employment and Payroll by Area

Table 6 shows the location of residence of UC Davis's regular and student employees in 2001-2002. A total of 9,608, or about 32 percent, lived in the City of Davis. This indicates that approximately 29 percent of the total employed residents in the City of Davis (33,545) in 2001-2002 were UC Davis employees. A total of 2,290 University employees, approximately 8 percent, lived elsewhere in Yolo County. Another 11,746, approximately 40 percent, lived elsewhere in the Davis-Sacramento Region and 5,986, or approximately 20 percent, lived elsewhere in California.

**TABLE 6: UC DAVIS EMPLOYEES AND TOTAL PAYROLL BY AREA OF RESIDENCE, 2001-2002**

Employee Type	Davis		Rest of Yolo County		Rest of Region		Rest of California		Total	
	FT <sup>(1)</sup>	PT <sup>(2)</sup>	FT	PT	FT	PT	FT	PT	FT	PT
Academic										
Faculty	858	428	88	38	304	167	150	127	1,400	760
Staff	875	1,081	63	74	250	255	335	391	1,523	1,801
Students	218	1,767	16	85	349	344	31	537	614	2,733
Subtotal	1,951	3,276	167	197	903	766	516	1,055	3,537	5,294
Payroll	\$213,697,799		\$20,216,131		\$84,004,853		\$53,781,429		\$371,700,212	
Administrative										
Management	22	4	2	1	7	2	0	1	31	8
Staff	2,051	742	1,431	410	6,774	2,582	717	615	10,973	4,349
Students	0	1,562	0	82	0	712	0	3,082	0	5,438
Subtotal	2,073	2,308	1,433	493	6,781	3,296	717	3,698	11,004	9,795
Payroll	\$116,201,015		\$65,579,664		\$360,979,294		\$46,156,724		\$588,916,697	
TOTAL	9,608		2,290		11,746		5,986		29,630	
Total Payroll	\$329,898,814		\$85,795,795		\$444,984,147		\$99,938,153		\$960,616,909	

(1) FT is full-time employees (51 percent time or more) who receive benefits.

(2) PT is part-time employees (less than 51 percent time) who do not receive benefits.

Sources: Payroll Department, UC Davis; and Sedway Group

Approximately 90 percent of the salaries and wages paid by UC Davis in 2001-2002 went to Davis-Sacramento Region residents (\$861 million). Approximately \$330 million, or about 34 percent, went to employees living in the City of Davis. About \$531 million, or 55 percent, went to employees living elsewhere in the Davis-Sacramento Region. About \$100 million, or just over 10 percent, was paid to employees living outside of the Davis-Sacramento Region and within California.

It should be noted that the percentage breakdown of student employees by residence does not tie to the analysis of UC Davis students by residential location in Chapter VII. According to the figures in Table 6 above, approximately 40 percent of student employees live in the City of Davis, 2 percent live in the rest of Yolo County, 16 percent live in the rest of the Davis-Sacramento Region, and 42 percent live in the rest of California. As shown in Figure 23 on page 44 in Chapter VII, 72 percent of UC Davis students live in Davis and only 16 percent live outside of the Davis-Sacramento Region. This discrepancy is likely due to the students having addresses on file with the payroll office that are “permanent” addresses as opposed to “school” addresses (where they live while attending school). As a result of this discrepancy, the payroll impacts to the Davis-Sacramento Region as a whole are likely understated in Table 6 above.

**TABLE 7: UC DAVIS EMPLOYEES AND TOTAL PAYROLL  
IN THE DAVIS-SACRAMENTO REGION, 2001-2002**

	<b>El Dorado County</b>	<b>Placer County</b>	<b>Sacramento County</b>	<b>Solano County</b>	<b>Sutter County</b>	<b>Yolo County</b>	<b>Yuba County</b>
<b>Academic</b>							
Faculty	14	23	379	52	1	1,412	2
Staff	17	22	392	59	7	2,093	8
Students	12	29	587	59	3	2,086	3
<b>Subtotal</b>	<b>43</b>	<b>74</b>	<b>1,358</b>	<b>170</b>	<b>11</b>	<b>5,591</b>	<b>13</b>
<b>Payroll</b>	<b>\$2,833,181</b>	<b>\$3,850,423</b>	<b>\$69,906,900</b>	<b>\$6,615,106</b>	<b>\$377,563</b>	<b>\$233,913,930</b>	<b>\$421,679</b>
<b>Administrative</b>							
Management	0	1	7	1	0	29	0
Staff	315	657	7,210	1,051	86	4,634	37
Students	47	48	427	162	23	1,644	5
<b>Subtotal</b>	<b>362</b>	<b>706</b>	<b>7,644</b>	<b>1,214</b>	<b>109</b>	<b>6,307</b>	<b>42</b>
<b>Payroll</b>	<b>\$15,309,938</b>	<b>\$30,735,668</b>	<b>\$272,207,957</b>	<b>\$38,121,843</b>	<b>\$3,402,630</b>	<b>\$181,780,679</b>	<b>\$1,201,259</b>
<b>TOTAL</b>	<b>405</b>	<b>780</b>	<b>9,002</b>	<b>1,384</b>	<b>120</b>	<b>11,898</b>	<b>55</b>
<b>Total Payroll</b>	<b>\$18,143,119</b>	<b>\$34,586,091</b>	<b>\$342,114,857</b>	<b>\$44,736,949</b>	<b>\$3,780,193</b>	<b>\$415,694,609</b>	<b>\$1,622,938</b>

(1) Employee counts are inclusive of full-time and part-time employees.  
Sources: Payroll Department, UC Davis; and Sedway Group

As shown in Table 7, the vast majority (50 percent) of UC Davis employees who reside within the Davis-Sacramento Region live in Yolo County. Yolo County is followed by Sacramento County (38 percent) and Solano County (six percent). The remaining counties all represent less than three percent of the Region's employees.

## UNIVERSITY OF CALIFORNIA SYSTEM RETIREES IN THE DAVIS-SACRAMENTO REGION

Retirement benefits for the entire UC system are administered by the Office of the President in Oakland. Thus the following information relates to systemwide retirees, some of which may have retired from campuses other than UC Davis. According to data from the UC Office of the President, in January 2003 there were approximately 3,700 University of California system retirees living in the Davis-Sacramento Region, or about 11 percent of all UC system retirees. Of these, about 1,200, or 32 percent, lived in the City of Davis and 430, or about 12 percent, lived elsewhere in Yolo County. Total annual payments to retirees in the Davis-Sacramento Region during the year were more than \$73 million, with about \$35 million going to retirees in the City of Davis and \$8 million going to retirees elsewhere in Yolo County.

To analyze the direct economic effects of University of California system retirees on the City of Davis and the Davis-Sacramento Region during the 2001-2002 fiscal year, Sedway Group reduced the January 2003 figures by the annual cost-of-living-adjustment of 2 percent, which is generally awarded to retirement plan members. Thus, total annual payments to retirees in the Davis-Sacramento Region during the 2001-2002 year were estimated at more than \$71 million, with about \$34 million going to retirees in the City of Davis and \$8 million going to retirees elsewhere in Yolo County.

## PURCHASING

### Goods and Services

In 2001-2002, UC Davis purchased more than \$693 million worth of goods and services (excluding capital expenditures). These items included everything from cleaning services to screen printing to utilities. Table 8 lists some examples of state/national, Davis-Sacramento Region, and City of Davis suppliers to the University.

<b>TABLE 8: EXAMPLES OF MAJOR UC DAVIS SUPPLIERS</b>					
<b>State/National</b>		<b>Davis-Sacramento Region</b>		<b>City of Davis</b>	
<b>Company</b>	<b>Industry</b>	<b>Company</b>	<b>Industry</b>	<b>Company</b>	<b>Industry</b>
Pacific Gas & Electric	Utility	Howard S. Wright Construction Co.	Building Contractors	Davis Seven (Interland Corp.)	Real Estate Development
Sodexo Marriott Services	Vending Services	Department of General Services	Government	West Davis Associates	Real Estate Developer
Bank of America	Financial Services	Lawson Mechanical Contractors	Petrochemical Contractors	The Screaming Squeegee	Silk Screen Services
Wells Fargo Bank	Financial Services	Brown Construction, Inc.	Building Contractors	Swift Jeep Chrysler	Automobile Dealer

Sources: Office of Accounting and Financial Services, UC Davis; and Sedway Group.

As shown in Table 9, the vast majority of vendors with whom UC Davis did business in 2001-2002 received less than \$50,000 over the course of the year. This indicates that the University's goods and services expenditures were distributed amongst many vendors, thus dispersing revenue in the Davis-Sacramento Region and beyond. Approximately 50 percent of the vendors from whom UC Davis purchased goods and services received less than \$20,000 in 2001-2002. Another 32 percent received between \$20,000 and \$49,999. Less than 2 percent received more than \$500,000 and less than 1 percent received more than \$1,000,000.

<b>TABLE 9: UC DAVIS PAYMENTS TO VENDORS BY AMOUNT, 2001-2002</b>		
<b>Amount Received</b>	<b>Number of Companies</b>	<b>Percent of Total</b>
\$10,000 – \$19,999	3,364	50%
\$20,000 – \$49,999	2,171	32%
\$50,000 – \$99,999	638	9%
\$100,000 – \$499,999	491	7%
\$500,000 – \$999,999	70	1%
\$1,000,000 – \$4,999,999	14	<1%
\$5,000,000 +	0	0%
<b>Total</b>	<b>6,748</b>	<b>100%</b>

Sources: Office of Accounting and Financial Services, UC Davis; and Sedway Group.

## Construction

In addition to the goods and services expenditures previously discussed, UC Davis spent over \$171 million on capital expenditures in 2001-2002. The University's capital expenditures have steadily increased in recent years, as shown in Table 10.

<b>TABLE 10: UC DAVIS TOTAL CAPITAL EXPENDITURES BY FISCAL YEAR</b>				
	<b>2002-2003</b>	<b>2001-2002</b>	<b>2000-2001</b>	<b>1999-2000</b>
Campus	\$168,899,000	\$118,037,000	\$85,940,000	\$71,301,000
Medical Center	\$60,628,000	\$53,542,000	\$42,233,000	\$30,917,000
<b>Total</b>	<b>\$229,527,000</b>	<b>\$171,579,000</b>	<b>\$128,173,000</b>	<b>\$102,218,000</b>

Sources: Office of Accounting and Financial Services, UC Davis; and Sedway Group.

Out of the over \$171 million in capital expenditures spent by the University in 2001-2002, more than \$10.3 million, or about 6 percent, went to vendors classified as small business enterprises. Another \$2.5 million, or 1 percent, went to businesses owned by women and other disadvantaged groups. Thus, \$12.8 million, or 7 percent of capital expenditures by UC Davis in 2001-2002, went to small businesses and businesses owned by women and other disadvantaged groups. The University was unable to classify the vendors receiving approximately 43 percent of expenditures; therefore, these figures are likely an under-representation of the allocations to small and disadvantaged business groups.

In addition to the \$171 million spent by UC Davis on capital expenditures during 2001-2002, the University had 124 active campus-related capital projects with a total value of over \$719 million in 2002 and many other campus projects in the planning stages. The total value of all campus-related projects under construction or in planning in 2002 was \$727 million. UC Davis also had 67 active Medical Center-related capital projects with a total value of nearly \$170 million in 2002 and many other Medical Center projects in the planning stages. The total value of all Medical Center-related projects under construction or in planning in 2002 was over \$178 million.

The following highlights a few major projects that were under construction during 2001-2002:

- **Robert and Margrit Mondavi Center for the Arts Performance Hall**

Total Project Budget: \$57,091,000

Construction Schedule: February 2000 to October 2002

This facility has two primary performance venues: 1) an 1,800-seat main performance hall; and 2) a smaller studio theater to accommodate a variety of functions as well as special events for up to 250 people. Both venues are served by performance and production support space and public and reception areas. The Center for the Arts Performance Hall is the cornerstone and first step of a long-range plan for a Center for the Arts that includes a Performance Hall, a Visual Arts Center, and a Recital Hall. The Performance Hall serves a variety of campus and community uses.

- **Plant and Environmental Sciences Replacement Facility**

Total Project Budget: \$39,610,000

Construction Schedule: June 1999 to March 2002

The Plant and Environmental Sciences Replacement Facility will provide a modern instruction, laboratory, and support building to accommodate programs in the plant and environmental sciences. The building will include teaching laboratories and support space, research laboratories and support space, and academic and administrative office space.

- **Genome and Biomedical Sciences Facility**

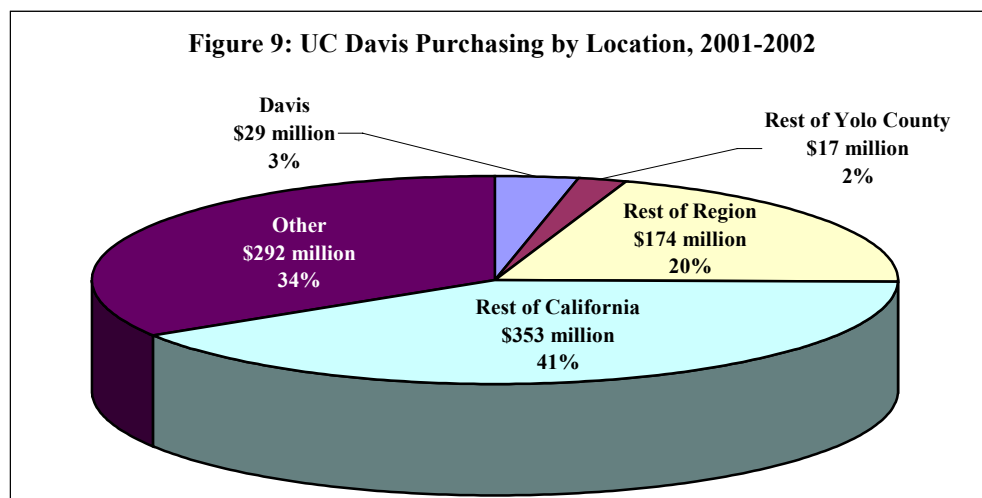
Total Project Budget: \$95,050,000

Construction Schedule: January 2002 to January 2004

This facility will provide modern laboratory research space. The six-story building will include laboratory, support, and office space for three research programs and a vivarium. The research components include programs within the School of Medicine, the campus-wide Genomics Initiative, and the Division of Biomedical Engineering of the College of Engineering. The Genome and Biomedical Sciences Facility will consolidate emerging research programs in genomics, medicine, agriculture, veterinary medicine, and biomedical engineering. The project also includes the construction of a pedestrian plaza adjacent to the new building and a new 200-space parking lot to accommodate the users of the facility.

### Location of Purchasing

UC Davis spent a total of approximately \$865 million in 2001-2002 on goods, services, and construction. About \$29 million of this amount, or 3.4 percent, was paid to vendors located in the City of Davis. Another \$190 million, or about 22 percent, was paid to vendors in the Davis-Sacramento Region, excluding Davis. Approximately \$353 million, or 41 percent, was paid to vendors in the State of California, excluding the Davis-Sacramento Region. As Figure 9 shows, over 25 percent, or nearly \$220 million of UC Davis's total purchasing of goods, services and construction, was collectively spent in the Davis-Sacramento Region in 2001-2002.



Sources: Office of Accounting and Financial Services, UC Davis; and Sedway Group



Table 11 provides a summary of the major categories of out-of-state purchasing expenditures during 2001-2002.

<b>TABLE 11: UC DAVIS OUT-OF-STATE EXPENDITURES, 2001-2002</b>	
Capital Equipment, Software, and Books	13%
Construction	7%
Travel, Fuel, and Moving	6%
Consulting	10%
Other Services	13%
Subcontracts	8%
Lab Supplies	4%
Medical Supplies	8%
Other Supplies	16%
Other Miscellaneous	15%
<b>Total</b>	<b>100%</b>

Sources: UC Davis Graduate School of Management; and Sedway Group.

As shown in Table 12, Sacramento County captures the majority of UC Davis purchasing in the Davis-Sacramento Region. During 2001-2002, 67 percent of UC Davis purchases in the Region were made in Sacramento County, followed by Yolo County (21 percent) and Placer County (8 percent). The remaining counties all represented less than three percent of the University's purchases within the Region.

<b>TABLE 12: UC DAVIS PURCHASING IN THE DAVIS-SACRAMENTO REGION 2001-2002</b>							
	<b>El Dorado County</b>	<b>Placer County</b>	<b>Sacramento County</b>	<b>Solano County</b>	<b>Sutter County</b>	<b>Yolo County</b>	<b>Yuba County</b>
Goods and Services	\$2,183,460	\$9,706,199	\$102,469,960	\$5,427,710	\$358,364	\$33,854,186	\$120,890
Capital Expenditures	\$746,551	\$8,342,189	\$44,243,773	\$157,032	\$0	\$11,844,927	\$27,376
<b>Total</b>	<b>\$2,930,011</b>	<b>\$18,048,388</b>	<b>\$146,713,733</b>	<b>\$5,584,742</b>	<b>\$358,364</b>	<b>\$45,699,113</b>	<b>\$148,266</b>

Sources: Office of Accounting and Financial Services, UC Davis; and Sedway Group.



## **IV. MULTIPLIER EFFECTS**

### **THE MULTIPLIER CONCEPT**

The impact of UC Davis on the Davis-Sacramento Region's economy is greater than the total of the University's direct spending on salaries and wages, goods and services, and construction. This is because money spent by the University is spent again by the employees and local businesses that receive it. Employees use their salaries and wages to purchase from local businesses. Local businesses make their own purchases and hire employees, who also spend their salaries and wages in the local economy. The multipliers represent the number of times each dollar spent by the University or its employees cycles through the economy, generating additional income and jobs before it effectively leaves the system through savings, taxes, and expenditures made outside the region.

### **METHODOLOGY**

#### **Origin of Multipliers**

Economic multipliers are generated through the use of input-output models. These are statistical models that quantify relationships between industries. They examine the pattern of purchases by industries and the associated distribution of jobs and wages by industry. Input-output models identify, for example, all the industries a construction contractor purchases its supplies from and in what proportion. In turn, the model then identifies the industries that are suppliers to these suppliers, second generation suppliers so to speak. This continues until all major purchases are accounted for contributing to the construction contractor's original purchases. These original purchases are called the direct sales. All other associated sales from within the supply chain are considered indirect and induced sales. There are other indirect and induced effects associated with the contractor purchases. These include retail and other expenditures made by the construction workers paid to use the materials purchased by the construction contractor.

The size of these indirect and induced effects depends upon the definition of the region being looked at as well as the nature of the economy within the region. A large region with a closed economy, which means that most needs are being met by industries located within the region, would keep many of the sales, earnings, and jobs impacts within the region. In a region like this, the multiplier effects would be relatively large, with a large share of the effects captured within the region. In contrast, a small region with an open economy, which means an economy with a limited array of producers providing goods and services, would leak sales to other regions. Because many purchases would be made from industries outside the local economy, the multiplier impacts on the local economy would be minimized.

#### **Study Models**

There are several input-output models commonly used by economists to estimate multiplier effects. At the request of UC Davis, this report employed two such models. Since these models produce estimates and are subject to underlying assumptions, two models were used to provide a range of impacts. The actual impact of the University is expected to lie somewhere within the range provided by the two models. These models include the following:

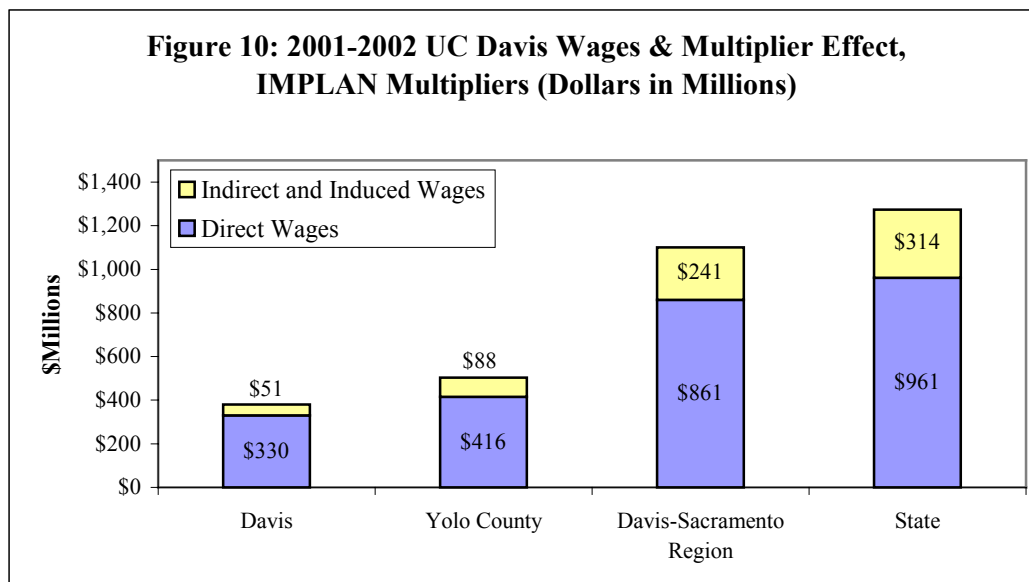
- one initially developed by the U.S. Department of Agriculture known as IMPLAN (IMPact Analysis for PLANning) and;
- one developed by the U.S. Bureau of Economic Analysis known as RIMS II (Regional Input-Output Modeling System).

Brief descriptions of these two models are provided in Appendix B. Both models examine inter-industry relationships but are distinguished by how they estimate these relationships as well as their data sources. For example, the IMPLAN model generally uses more detailed information than the RIMS II model. The RIMS II model is more focused on national data, while IMPLAN uses information more specific to particular regions. Also, RIMS II data are not available below the county level, thus City of Davis impacts using RIMS II are not available. Another major distinction between the two models is how household spending is incorporated into the analysis and assumptions regarding household spending patterns. As a result of their differences, the two models often produce different results. A literature search conducted by Sedway Group indicated that multipliers from RIMS II generally are higher than the multipliers from IMPLAN, as well as other econometric modeling techniques. This analysis is consistent with that pattern, wherein the multipliers from RIMS II are generally higher than those from IMPLAN.

## IMPLAN MULTIPLIERS

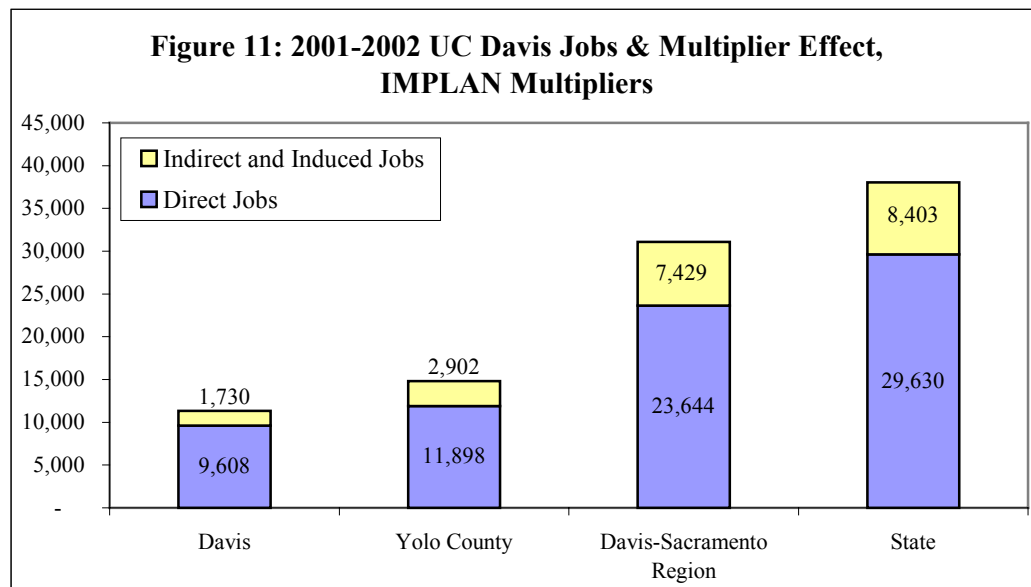
### Wages and Jobs

Based on the multipliers in the IMPLAN model, as Figure 10 shows, total direct, indirect, and induced spending by UC Davis in the City of Davis during 2001-2002 was approximately \$381 million, of which 13 percent was indirect and induced spending. Total spending by UC Davis in Yolo County was nearly \$504 million, of which 17 percent was indirect and induced spending. Total spending by UC Davis in the Davis-Sacramento Region was \$1.1 billion, of which 22 percent was indirect and induced spending. Total spending by UC Davis in the State of California was nearly \$1.3 billion, of which 25 percent was indirect and induced spending.



Sources: Payroll Department, UC Davis; IMPLAN; and Sedway

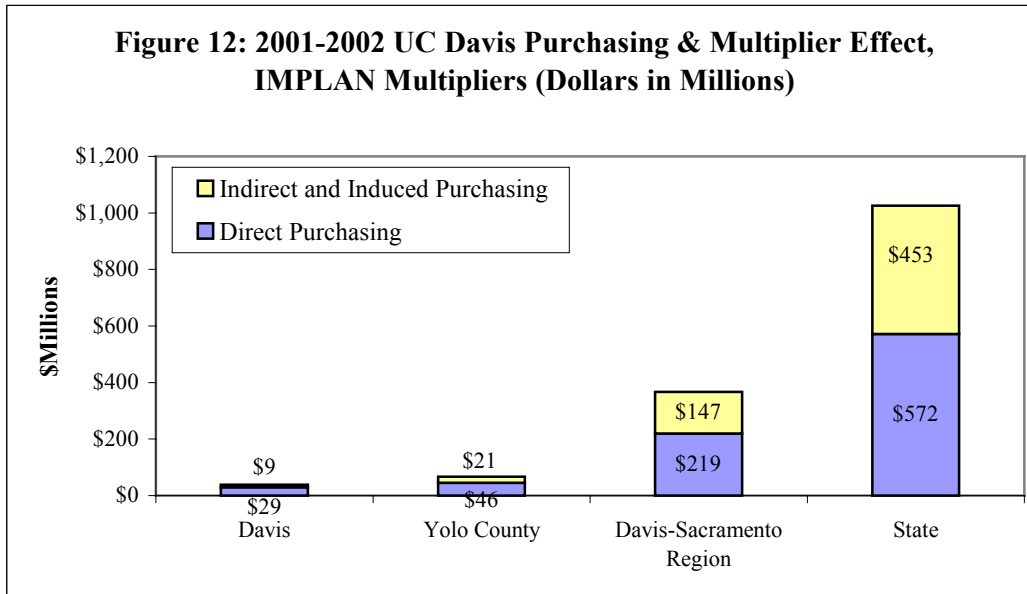
Based on its direct employment of 29,630, UC Davis helped create a total of over 11,000 jobs in the City of Davis, as shown in Figure 11, of which 15 percent were indirect and induced jobs (employees of other businesses). The University generated a total of nearly 15,000 jobs in Yolo County, of which 20 percent were indirect and induced jobs. UC Davis generated a total of more than 31,000 jobs in the Davis-Sacramento Region, of which 24 percent were indirect and induced jobs. In the State of California, UC Davis helped create a total of more than 38,000 jobs, of which 22 percent were indirect and induced jobs.



Sources: Payroll Department, UC Davis; IMPLAN; and Sedway

## Purchasing Impacts

As shown in Figure 12, in the City of Davis, UC Davis purchasing expenditures (goods and services and capital expenditures) generated \$38 million in total direct, indirect, and induced spending, of which 24 percent was indirect and induced spending. Additionally, these expenditures translated into over \$13 million in additional earnings and over 300 additional jobs for City of Davis residents. In Yolo County, the University generated \$66 million in total direct, indirect, and induced spending, of which 31 percent was indirect and induced spending. Additionally, these expenditures translated into over \$24 million in additional earnings and approximately 606 jobs for Yolo County residents. In the Davis-Sacramento Region, UC Davis generated \$367 million in total direct, indirect, and induced spending, of which 40 percent was indirect and induced spending. Additionally, these expenditures translated into over \$134 million in additional earnings and approximately 3,200 jobs for Davis-Sacramento Region residents. In the State of California, the University generated \$1.03 billion in total direct, indirect, and induced spending during 2001-2002, of which 44 percent was indirect and induced spending. These expenditures translated into over \$387 million in additional earnings and approximately 8,300 jobs for California residents.

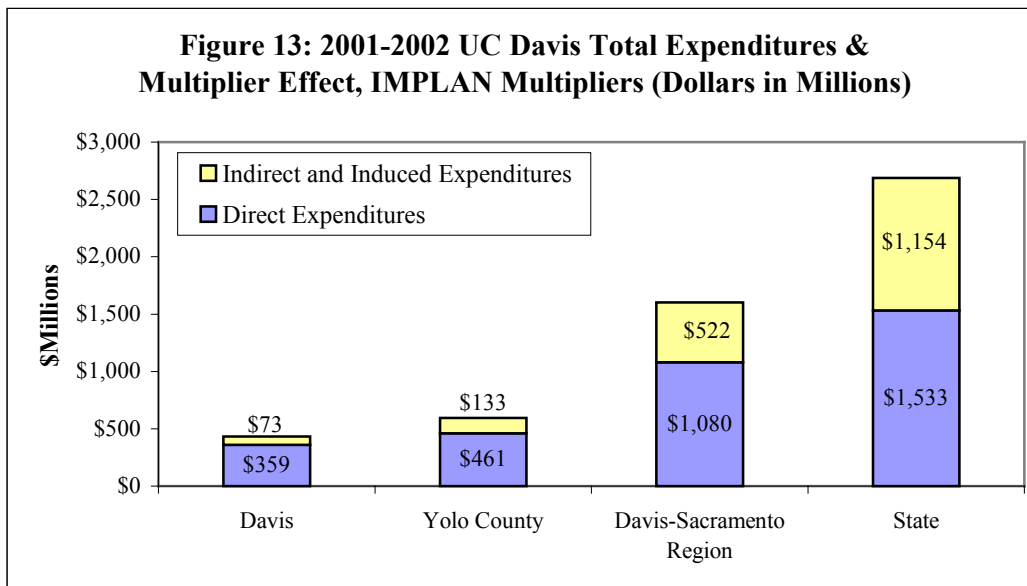


Sources: Office of Accounting and Financial Services, UC Davis; IMPLAN; and Sedway Group.

### Total Impacts of UC Davis Expenditures

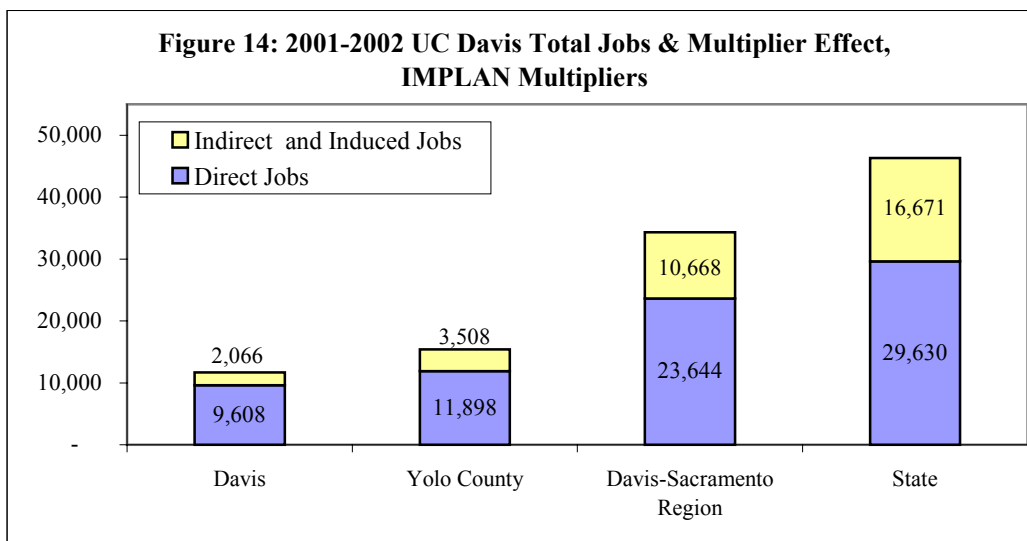
The total impacts of UC Davis pertain to the cumulative impacts of the University's expenditures on wages, goods and services, and capital expenditures, as well as the associated jobs impacts. Thus the expenditures impacts summarized below pertain to all University spending (sales and associated wage impacts) as well as the wage impacts of University employee spending.

**Expenditures Impacts.** Based on the multipliers in the IMPLAN model, UC Davis generated total spending of over \$432 million in the City of Davis, of which 17 percent was indirect and induced spending, as shown in Figure 13. The overall output multiplier for UC Davis spending in the City of Davis was 1.20, meaning that every dollar of direct expenditures by the University generated an additional \$0.20 in indirect and induced spending in the City of Davis. The University generated total spending of nearly \$600 million in Yolo County, of which 22 percent was indirect and induced spending. The overall output multiplier for UC Davis spending in Yolo County was 1.29, meaning that every dollar of direct expenditures by the University generated an additional \$0.29 in indirect and induced spending in Yolo County. UC Davis generated total spending of over \$1.6 billion in the Davis-Sacramento Region, of which 33 percent was indirect and induced spending. The overall output multiplier for UC Davis spending in the Region was 1.48, meaning that every dollar of direct expenditures by the University generated an additional \$0.48 in indirect and induced spending in the Davis-Sacramento Region. The University generated total spending of nearly \$2.7 billion in the State of California, of which 43 percent was indirect and induced spending. The overall output multiplier for UC Davis spending in the State was 1.75, meaning that every dollar of direct expenditures by the University generated an additional \$0.75 in indirect and induced spending in the State of California.



Sources: Office of Accounting and Financial Services, UC Davis; Payroll Department, UC Davis; IMPLAN; and Sedway Group.

**Jobs Impacts.** As shown in Figure 14, the University created a total of 11,674 jobs in the City of Davis, of which 18 percent were indirect and induced jobs. In all, the University helped create about 0.22 indirect and induced jobs for every direct University job in the City of Davis. UC Davis created a total of 15,406 jobs in Yolo County, of which 23 percent were indirect and induced jobs. The University helped create about 0.29 indirect and induced jobs for every direct University job in Yolo County. The University created 34,312 total jobs in the Davis-Sacramento Region, of which 31 percent were indirect and induced jobs. UC Davis helped create about 0.45 indirect and induced jobs for every direct University job in the Davis-Sacramento Region. UC Davis created 46,301 total jobs in the State of California, of which 36 percent were indirect and induced jobs. The University helped create about 0.47 indirect and induced jobs for every direct University job in the State of California.

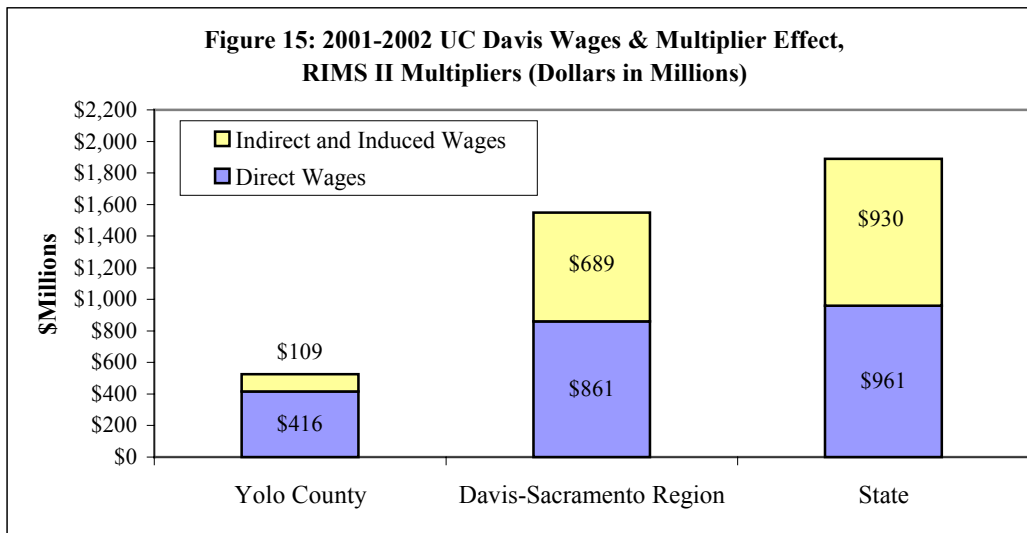


Sources: Office of Accounting and Financial Services, UC Davis; Payroll Department, UC Davis; IMPLAN; and Sedway Group.

## RIMS II MULTIPLIERS

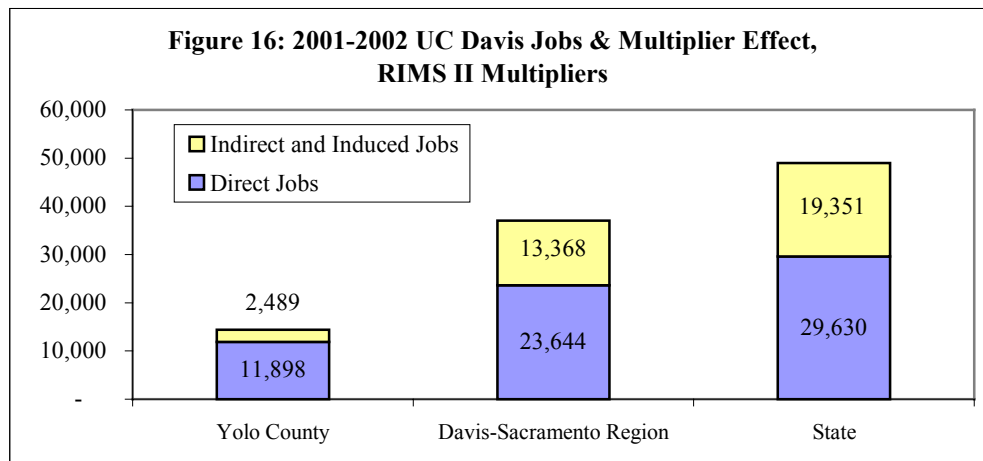
### Wages and Jobs

Based on the multipliers in the RIMS II model, as Figure 15 shows, total direct, indirect, and induced spending by UC Davis in Yolo County was \$525 million, of which 21 percent was indirect and induced spending. Total spending by UC Davis in the Davis-Sacramento Region was \$1.5 billion, of which 44 percent was indirect and induced spending. Total spending by UC Davis in the State of California was nearly \$1.9 billion, of which 49 percent was indirect and induced spending.



Sources: Payroll Department, UC Davis; RIMS II; and Sedway

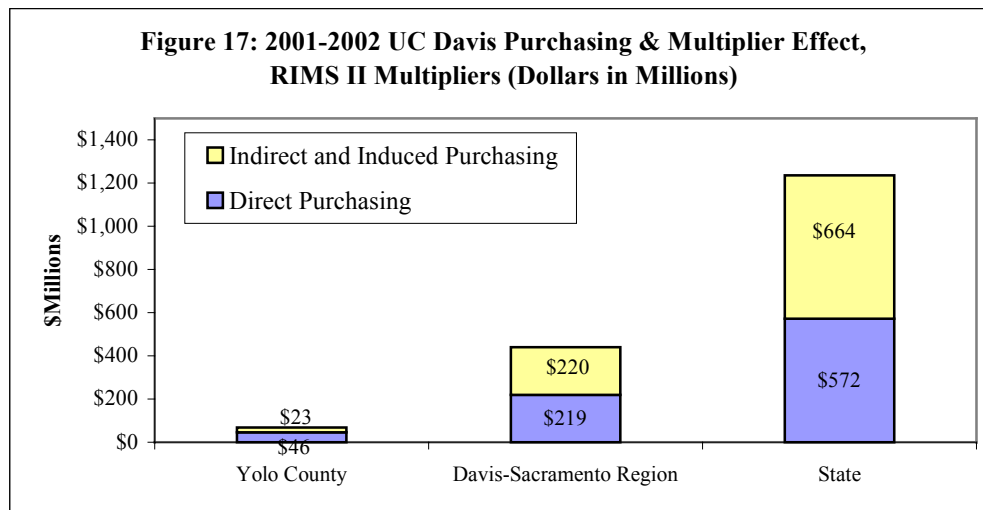
Based on its direct employment of 29,630, UC Davis helped create a total of over 14,000 jobs in Yolo County, as shown in Figure 16, of which 17 percent were indirect and induced jobs (employees of other businesses). UC Davis generated a total of more than 37,000 jobs in the Davis-Sacramento Region, of which 36 percent were indirect and induced jobs. In the State of California, UC Davis helped create a total of nearly 49,000 jobs, of which 40 percent were indirect and induced jobs.



Sources: Payroll Department, UC Davis; RIMS II; and Sedway

## Purchasing Impacts

As shown in Figure 17, in Yolo County, UC Davis purchasing expenditures (goods and services and capital expenditures) generated \$69 million in total direct, indirect, and induced spending, of which 33 percent was indirect and induced spending. Additionally, these expenditures translated into over \$7 million in additional earnings and approximately 171 jobs for Yolo County residents. In the Davis-Sacramento Region, UC Davis generated nearly \$440 million in total direct, indirect, and induced spending, of which 50 percent was indirect and induced spending. Additionally, these expenditures translated into over \$105 million in additional earnings and approximately 2,600 jobs for Davis-Sacramento Region residents. In the State of California, the University generated \$1.2 billion in total direct, indirect, and induced spending during 2001-2002, of which 54 percent was indirect and induced spending. These expenditures translated into over \$314 million in additional earnings and approximately 7,500 jobs for California residents.



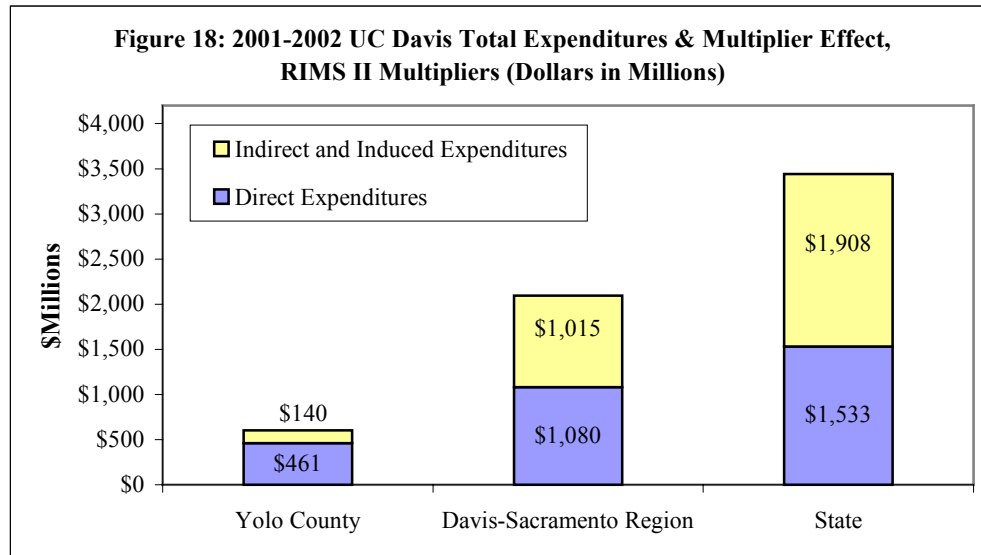
Sources: Office of Accounting and Financial Services, UC Davis; RIMS II; and Sedway Group.

## Total Impacts of UC Davis Expenditures

The total impacts of UC Davis pertain to the cumulative impacts of the University's expenditures on wages, goods and services, and capital expenditures, as well as the associated jobs impacts. Thus the expenditures impacts summarized below pertain to all University spending (sales and associated wage impacts) as well as the wage impacts of University employee spending.

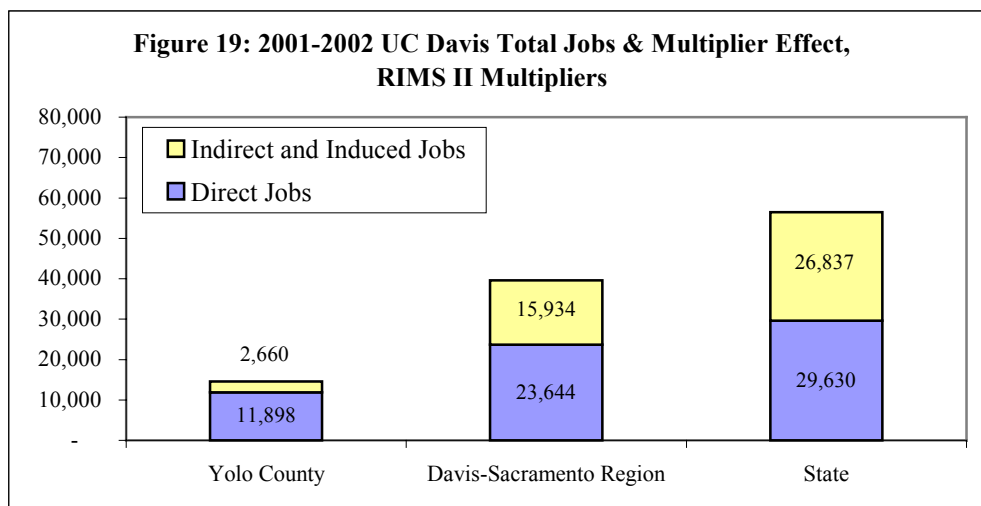
**Expenditures Impacts.** Based on the multipliers in the RIMS II model, UC Davis generated total spending of nearly \$601 million in Yolo County, of which 23 percent was indirect and induced spending, as shown in Figure 18. The overall output multiplier for UC Davis spending in Yolo County was 1.30, meaning that every dollar of direct expenditures by the University generated an additional \$0.30 in indirect and induced spending in Yolo County. UC Davis generated total spending of nearly \$2.1 billion in the Davis-Sacramento Region, of which 48 percent was indirect and induced spending. The overall output multiplier for UC Davis spending in the Region was 1.94, meaning that every dollar of direct expenditures by the University generated an additional \$0.94 in indirect and induced spending in the Davis-Sacramento Region. The University generated total spending of over \$3.4 billion in the State of California, of which 55 percent was indirect and induced spending. The overall output multiplier for UC Davis spending in the State was

2.25, meaning that every dollar of direct expenditures by the University generated an additional \$1.25 in indirect and induced spending in the State of California.



Sources: Office of Accounting and Financial Services, UC Davis; Payroll Department, UC Davis; RIMS II; and Sedway Group.

**Jobs Impacts.** As shown in Figure 19, the University created a total of 14,558 jobs in Yolo County, of which 18 percent were indirect and induced jobs. The University helped create about 0.22 indirect and induced jobs for every direct University job in Yolo County. The University created 39,578 total jobs in the Davis-Sacramento Region, of which 40 percent were indirect and induced jobs. UC Davis helped create about 0.67 indirect and induced jobs for every direct University job in the Davis-Sacramento Region. UC Davis created 56,467 total jobs in the State of California, of which 48 percent were indirect and induced jobs. The University helped create about 0.91 indirect and induced jobs for every direct University job in the State of California.



Sources: Office of Accounting and Financial Services, UC Davis; Payroll Department, UC Davis; RIMS II; and Sedway Group.



## COMPARISON OF MULTIPLIER IMPACTS

The individual review of the multiplier impacts indicates that in almost every case, the RIMS II multipliers are higher than the IMPLAN multipliers. This divergence between the two sets of multipliers is very pronounced at the regional and statewide level, but not so at the county level. In general, as the size of the geographical unit of study increases, so does the spread between the estimated model impacts.

For Yolo County, the University's estimated economic impacts are relatively comparable between the two models, with RIMS II impacts generally less than 3 percent greater than the IMPLAN impacts. While the RIMS II model is not capable of generating estimated impacts at the City of Davis level, this finding suggests that were RIMS II capable of providing these estimates, the results would likely be no more than 0 to 3 percent greater than the IMPLAN results. This supposition recognizes that in the IMPLAN analysis, the Davis impacts, both direct and total, generally comprise about 75 to 80 percent of the County impacts.

At the regional and statewide level the difference between the RIMS II and IMPLAN results are much more pronounced. While the difference varies by type of impact, on a regional basis the RIMS II total impacts are generally 15 to 30 percent greater than the IMPLAN impacts. On a statewide basis, the RIMS II impacts are generally 20 to 30 percent greater than the IMPLAN impacts. The greatest differences pertain to wage impacts, where RIMS II projects much greater wage impacts associated with University employment and much lower wage impacts associated with University expenditures. A similar pattern exists with job impacts, where the RIMS II job impacts associated with University employment are greater than the IMPLAN impacts, but the job impacts associated with University spending are lower. Almost across the board, the RIMS II sales multipliers are greater than IMPLAN's multipliers.

The pronounced differences between the IMPLAN and RIMS II impacts suggest it is difficult to compare the two sets of results. The differences further indicate a fundamental distinction in how the models are formulated (see Appendix B) as well as their inherent assumptions regarding the degree of openness in the regions under study. It appears that the IMPLAN model assumes a more open economy at the regional and statewide level than does RIMS II, with more indirect and induced impacts leaking out of the respective study areas.

## **V. RESEARCH AT UC DAVIS**

### **THE SIGNIFICANCE OF UNIVERSITY RESEARCH**

UC Davis's research contributes to the economy of the Davis-Sacramento Region and the State of California in several important ways. First, because most research funding is sponsored by the federal government, with a lesser amount from foundations and major corporations, university research is a significant generator of jobs and income. It is, in effect, a major export industry. Second, the products of university research may have potential commercial application and may provide the basis for creation of new enterprises or the expansion of existing ones. Finally, the presence of a large academic research complex in the region serves as a magnet for corporate R & D centers and related enterprises.

### **UNIVERSITY RESEARCH AS AN EXPORT INDUSTRY**

Research funding at UC Davis during fiscal year 2001-2002 totaled more than \$356 million. This amount represents funding obligated or appropriated for research during the year, not the amount earned or spent. Research expenditures for 2001-2002, before backing out capitalized items of \$12,318,000, were \$320,410,000. As Table 13 shows, the federal government provided approximately 56 percent of the University's research funding, with the Department of Health and Human Services, the National Science Foundation, the Department of Agriculture, the Department of Energy, the Department of Defense, and the Environmental Protection Agency combining to provide over one half of the total.

Most notably, UC Davis received over \$100 million dollars from the Department of Health and Human Services for health-related research and education. The National Science Foundation awarded almost \$35 million dollars for scientific and engineering research. Similarly, the departments of Defense and Energy sponsored research in medical as well as science and technology fields. Funds from these sponsors provide tremendous economic value to the region, with the funds turning over multiple times through employment of personnel and purchase of goods, as reflected in the University-wide multipliers. A primary added value is in the knowledge transfer within the UC Davis region and the nation. Since UC Davis does not conduct classified research, the results are broadly disseminated to the scientific community and ultimately to the public.

**TABLE 13: SPONSORED RESEARCH FUNDING BY SOURCE, 2001-2002**

Source	Amount	Percent of Total
<b>Federal Government</b>		
Health and Human Services	\$100,141,306	28%
National Science Foundation	34,314,081	10%
Department of Agriculture	20,236,353	6%
Department of Energy	18,197,471	5%
Department of Defense	9,072,278	3%
Environmental Protection Agency	5,300,892	1%
Department of the Interior	3,417,675	1%
Agency for International Development	3,075,000	<1%
NASA	3,031,393	<1%
All Other Federal Agencies	2,672,875	<1%
<b>Subtotal</b>	<b>\$199,459,324</b>	<b>56%</b>
<b>Non-Federal Government</b>		
State, Local, and Foreign Governments	\$64,841,508	18%
Foundations and Other Non-Profits	27,063,807	8%
Industry	26,603,722	8%
University of California	19,333,977	5%
Institutes of Higher Education	12,716,427	4%
Private Interest Groups	4,790,339	1%
UC-Managed Department of Energy Laboratories	2,077,153	<1%
<b>Subtotal</b>	<b>\$157,426,933</b>	<b>44%</b>
<b>TOTAL</b>	<b>\$356,886,257</b>	<b>100%</b>

Sources: Office of the Vice Chancellor of Research, UC Davis; and Sedway Group.

Between fiscal year 1992 and fiscal year 2002, sponsored research funding at UC Davis grew by an average of 9.6 percent per year. More recently, sponsored research funding grew by 11 percent in fiscal year 2001 and 20 percent in fiscal year 2002. Based on the sources of funds, it is not surprising that the Medicine and Agriculture departments lead the University in sponsored research funding by major academic unit. Together, the academic units of Medicine, Agriculture, Engineering, and Veterinary Medicine accounted for nearly 80 percent of all sponsored research funding in fiscal year 2002, as shown in Table 14.

**TABLE 14: SPONSORED RESEARCH FUNDING BY MAJOR ACADEMIC UNIT, 2001-2002**

Department	Amount	Percent of Total
Medicine	\$100,296,461	28%
Agriculture	80,015,786	22%
Engineering	52,176,773	15%
Veterinary Medicine	45,620,288	13%
Vice Chancellor - Research	33,496,542	9%
Biological Sciences	25,318,808	7%
Letters and Science	16,534,348	5%
All Other Divisions	3,427,251	1%
<b>Total</b>	<b>\$356,886,257</b>	<b>100%</b>

Sources: Office of the Vice Chancellor of Research, UC Davis; and Sedway Group.

The Business Contracts Office operates as a separate entity from the Office of Research at UC Davis. For this reason, it is necessary to note that an additional \$50 million in funding was received through the Business Contracts Office for non-research agreements. For the sake of comparison to other universities that do not operate separate offices for non-research agreements, this would bring the total funding at UC Davis during 2001-2002 to approximately \$407 million.

#### **EFFECTS OF STATE BUDGET CUTS ON UC DAVIS RESEARCH**

Although the State of California budget deficit and subsequent cuts did not affect UC Davis research funding and programs in the study year, 2001-2002, those cuts did impact fiscal year 2002-2003 and may be felt for several years to come. Campus wide, UC Davis research funding from the state was reduced by \$6.3 million in 2002-2003.

#### **FROM THE LABORATORY TO THE MARKETPLACE**

UC Davis policy encourages the practical application of research for public benefit. To this end, the University's Technology Transfer Center works with campus inventors to facilitate the transfer of technology created at UC Davis to the commercial sector. In 2001-2002, UC Davis researchers reported 98 inventions. A total of 50 first and 41 secondary U.S. patent applications were filed and 37 patents were issued. In addition, a total of 31 first foreign patent applications were filed and 45 foreign patents were issued. As of June 2002, the University had a total of 324 active U.S. patents as well as 309 active foreign patents. The University also had a total of 435 active license agreements as of June 2002.

#### **UC DAVIS KEY RESEARCH PROGRAMS**

Many research programs are centered on the UC Davis campus. These research programs contribute to the economic development of the Davis-Sacramento Region and beyond. The following summaries highlight some of the key UC Davis research programs.

##### **The Center for Biophotonics Science and Technology**

The Center for Biophotonics, Science and Technology is the only center in the country funded by the National Science Foundation devoted to the study of light and radiant energy in biology and medicine. The center's mission is to improve the quality of life by dramatically expanding the use of photons in technology for the life sciences, bioengineering, and health care. Funded with \$52 million over the next 10 years, including a \$40 million grant from the National Science Foundation, the Center for Biophotonics Science and Technology will bring together scientists, industry, educators, and the community to research and develop applications for biophotonics, the science of using light to understand the inner workings of cells and tissues in living organisms.

## **Western Institute for Food Safety and Security**

The Western Institute for Food Safety and Security (WIFSS) is dedicated to food safety and security, applied research, education, and the promotion of public-private sector partnerships that are needed to establish California as the world's leader in food safety and security. The mission of WIFSS is to conduct research that will enhance food safety in all sectors of the food systems' continuum from environment to consumer. WIFSS is a leading resource for scientific information that will facilitate innovations and new practices against international harmful acts directed at the food system, enhance economic stability of the food industry, and overall, lead to improved human health and welfare. The WIFSS is a collaborative effort among the UC Davis, the California Department of Food and Agriculture, the California Department of Health Services, and the California food and agricultural industry.

## **UC Davis Cancer Center**

Cancer patients from throughout central and northern California, Oregon, and Nevada are treated at the UC Davis Cancer Center, located at the UC Davis Medical Center. Within the region, the UC Davis Cancer Center has incomparable experience treating all types of cancer - from rare malignancies diagnosed in a few hundred Americans every year to more common cancers affecting millions. Cancer center physicians are board-certified in either medical or radiation oncology and all Cancer Center RNs are oncology nurse-certified. The cancer center is accredited by the American College of Surgeons and the Joint Commission on the Accreditation of Healthcare Organizations. U.S. News and World Report rated cancer care at UC Davis Medical Center among the top 50 in the nation out of 6,299 hospitals reviewed in its 1999 "best hospitals" report. The UC Davis Cancer Center also sponsors a number of educational events for community oncologists and primary care physicians.

## **Biomedical Engineering Research**

The Biomedical Engineering Department conducts research in many areas including bioinformatics, biomedical imaging, cellular and molecular engineering, microsystems engineering, musculoskeletal biomechanics, and therapeutics. The diversity of faculty within the biomedical engineering program provides a wide variety of facilities for student research. The program is administered by faculty from a variety of departments in several schools and colleges, including engineering, medicine, veterinary medicine, agricultural and environmental sciences, and letters and science. The research combines the principles of molecular and cellular biology and medicine with essential elements from biophysics, solid and fluid mechanics, thermodynamics and physical chemistry to provide a rigorous background for research in industrial and academic environments. The Whitaker Foundation grant of \$12 million to the new Department of Biomedical Engineering at UC Davis will help expand the department and enhance campus research in genomics, medical imaging, and other fields. It will also trigger approximately \$35 million in matching funds from the state government and university sources.

## **California Institute of Food and Agricultural Research (CIFAR)**

Established in 1991, the California Institute of Food and Agricultural Research (CIFAR) creates opportunities for collaboration between UC Davis and the food and agricultural industries by organizing events, preparing integrated news and information, and managing applied research to serve industry and the public. A partnership between UC Davis, the California Department of Food and Agriculture, and the California Department of Health Services, CIFAR will be funded for three years through a \$5 million

grant. This institute will advance understanding in food safety and security and conduct food-safety education programs for consumers and food-related industries. The institute will develop methods to identify, treat, and prevent both natural and intentional food contamination that might lead to food-borne illnesses and outbreaks. One emphasis will be the development of rapid diagnostic tests for disease-causing microbes such as Salmonella, deadly strains of E. coli, Cryptosporidium, anthrax, and bovine spongiform encephalopathy, or "mad cow disease."

### **Robert Mondavi Institute for Wine and Food Science**

Robert Mondavi, renowned California wine producer, made a personal gift of \$25 million to the College of Agricultural and Environmental Sciences in September 2001. The gift establishes the Robert Mondavi Institute for Wine and Food Science, opening a new era of opportunity for UC Davis in its widely acclaimed wine and food programs. The institute will provide a point for the transfer of new research findings to the food and wine industries, the government, and the public. A central tenet of the institute is that it should serve as the portal through which interactions with UC Davis stakeholders can occur. In addition, the center will draw upon the talents of faculty and students outside these departments who are interested in the wine and food sciences. World-renowned UC Davis researchers have contributed to the fields of viticulture and enology and to the wine industry through advances in cold-temperature fermentation, anti-viral technology, the production of heat-tolerant grapes and the development of improved equipment for winemaking, among other accomplishments.

## **THE IMPACT OF UNIVERSITY RESEARCH ON THE DAVIS-SACRAMENTO REGION AND BEYOND**

UC Davis research has had a direct impact on the economy of the Davis-Sacramento Region, the State of California, the nation, and the world through technology transfers. A few examples of the University's research achievements and their applications follow.

### **Agriculture**

- UC Davis has been the primary breeder for strawberry varieties for over 35 years. At approximately four-year intervals, several related cultivars under a given trademark name are released. These cultivars vary in the environments in which they thrive, so the new varieties can be grown under a range of conditions. Initially released in California, within a couple of years the strawberries are distributed worldwide. Today over 60 percent of the UC Davis varieties are sold outside of the United States, primarily shipped from nurseries in California to these foreign countries. During the past decade the average size of a strawberry variety has increased approximately eight fold. While some of the first of these "super" strawberries made up for in size what they may have lacked in taste, the recent varieties have added the taste back. Because of the disease resistant characteristics, size, and adaptable growth behavior of these strawberries, they are widely sought and represent close to 70 percent to 80 percent of the strawberries grown in the world.



## Electrical Engineering

- Professors at UC Davis have invented an optical switching technology, which has been licensed by a start-up company in Atlanta, which will serve as the technical core for the new company. Several companies were in a competition for an exclusive license to the technology. The license had the largest up-front license fee ever paid within the University of California system. A multi-wavelength cross-connect switch for fiber-optic communication networks was developed. The switch has low cross-talk, low polarization sensitivity, and low insertion loss when compared to state-of-the-art switches. It is implemented using micromachining technology, which makes it small, lightweight, and inexpensive to fabricate, package, install, and operate. The technology can be applied to femto-second (one billionth of one billionth of a second) laser pulse shaping (the time dependent rise and decline of the light pulse itself).

## Human Medicine

- The use of fat droplets, scientifically referred to as liposomes, to encapsulate therapeutic drugs that are water insoluble has been developed into a very successful drug delivery technology by a husband and wife team of UC Davis scientists. The technology requires mixing the water insoluble drugs with a suitable amount of fatty substance and then using sonication to disperse the fatty substance into small vesicles. If these are treated with simple sugars such as trehalose or sucrose (common table sugar) the resulting vesicles (liposomes) can be freeze-dried. In the freeze-dried state, these liposomes are stable for very long periods of time. The addition of water is all that is necessary to reconstitute the liposomes. They then can be used for administration of the drugs they contain.

This discovery was part of a larger scientific goal which was to understand how certain plants and animals withstand survival in a suspended state for years after becoming dehydrated (water removed). The result was that they utilize large quantities of the simple sugar trehalose (composed of two glucose molecules linked together in a particular fashion). The same inventors developed methods for infusing substantial quantities of trehalose into blood cells, particularly platelets, a rich source of blood cell growth factors. In everyday practice today, when human blood is donated, the blood is centrifuged and the red and white blood cells are separately isolated. The platelets are part of the white blood cell population. Isolated platelets are often used for transfusion in trauma cases, but suffer from being quite unstable. Typically they can be stored for three to five days before they have deteriorated to the point where they must be discarded. Approximately 30 percent of isolated platelets are thrown away. By infusing the platelets with trehalose, they can be freeze dried and stored for up to several years at room temperature and then reconstituted with water. When handled properly, the cells retain active growth factors and can be used for transfusions. This invention is currently being licensed to several start-up companies and will provide a market opportunity in excess of \$500 million per year.

- UC Davis has been a pioneer in advancing telemedicine, which uses telephones, computers, video, and endoscopic cameras, and other technologies to link patients and doctors who are in different locations, and to facilitate videoconferencing among health professionals. Telemedicine has the potential to improve access to healthcare for underserved populations, and to reduce professional isolation, thus improving clinical workforce recruitment and retention. These issues are critical for rural and urban underserved regions, and the need to support initiatives such as telemedicine was recognized by The California Endowment decision to fund the UC Davis Telemedicine Learning Center since 1999. The center offers training and expertise to organizations launching telemedicine programs. Over 500

people, mostly from California, but some from around the world, have attended one- and three-day instructional sessions in telemedicine strategic planning and operations at the learning center. Additionally, UC Davis Medical Center staff currently uses remote technology to treat patients in rural areas at 60 sites in 35 counties in California.

### **Veterinary Medicine**

- Feline immunodeficiency virus (FIV) is the feline equivalent to human HIV. As many as one in 12 cats tests positive for FIV, a virus which weakens the cat's immune system. In 2002, a vaccine to protect felines against feline AIDS was approved for commercial production and veterinary use by the U.S. Department of Agriculture. This success was the culmination of 15 years of work that began when two UC Davis researchers co-discovered FIV. Their work led to a vaccine that was jointly patented at UC Davis and the University of Florida at Gainesville. The vaccine is now available to licensed veterinarians under the name Fel-O-Vax. Given FIV's biological similarities to HIV, the vaccine is also of considerable interest to researchers attempting to develop a vaccine for HIV.
- An extremely contagious disease, papillomatous digital dermatitis (PDD) has plagued the dairy and beef industries in North America for several years. The condition, known as footwarts, is an infection in cattle that causes severe lameness, weight loss, decreased milk yield, and decreased fertility. These industries have suffered from economic loss due to treatment costs, reduced milk yield, and reproductive problems. Two researchers at UC Davis have developed two types of vaccines to immunize cattle or other animals against PDD. In 2000, the University licensed the rights to commercialize these vaccines to two companies.
- School of Veterinary Medicine researchers conducted studies on the safety, efficacy, and cost effectiveness of the "J5" vaccine in preventing mastitis of dairy cows caused by *E. coli*. Technology transfer of the concept led to development of a commercial vaccine now used throughout the world that saves dairy producers up to \$24 million in treatment costs every year.
- The seriousness of the 2001 foot and mouth disease epidemic in the United Kingdom resonated with California farmers, veterinary professionals and community leaders. Underscoring the importance of vigilance (surveillance) and biosecurity measures in prevention, a UC-sponsored model projected that an FMD outbreak could cost the California agricultural industry an estimated \$6-14 billion in control costs, devastated domestic and export markets, and loss of animal life, depending on the time involved to control an outbreak. Veterinary professors are now studying the efficacy and cost-effectiveness of novel preventive strategies.
- Veterinary scientists traced a grave heart ailment in cats, feline dilated cardiomyopathy, to taurine deficiency. Addition of the amino acid to commercial cat foods saves thousands of pet lives every year.
- During a 2002 outbreak of exotic Newcastle disease, a fatal and highly infectious disease of birds, veterinary researchers teamed up with scientists at Lawrence Livermore National Laboratory to develop diagnostic tests to rapidly identify the disease and to discern that vaccinated animals have not been exposed to a virulent form of the virus. With these rapid diagnoses, control strategies appropriate to this disease could be employed thereby significantly reducing the spread of the disease and reducing the economic impact of widespread eradication of poultry flocks. A single commercial poultry farmer estimated that the testing saved his business an estimated \$750,000 that he would have lost if the birds had needed to be destroyed. The DNA-based test is now being used as a monitoring tool to protect California poultry health.



## VI. UC DAVIS AND THE REGIONAL WORKFORCE

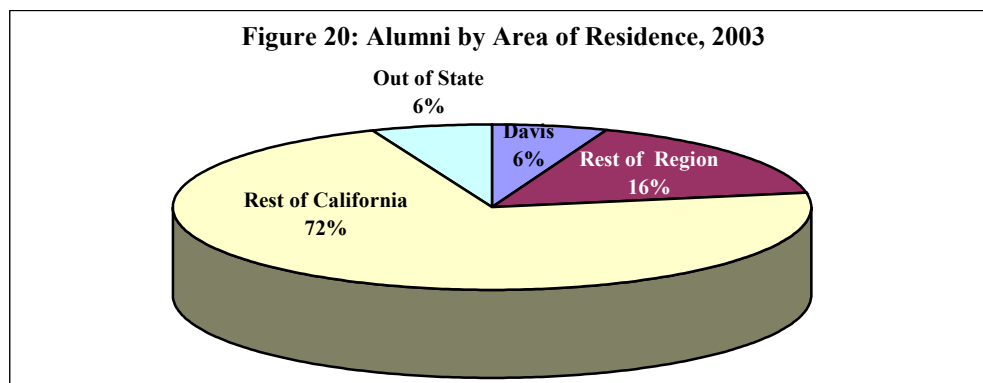
### A LEADER IN HIGHER EDUCATION

UC Davis is the largest of the ten UC campuses in terms of land area, with over 5,300 acres of land, and was founded in 1905 as the University Farm. The University has emerged as a leader in agriculture as well as biological, biotechnological, and environmental sciences. UC Davis offers programs in 15 different fields of engineering and has the most accredited majors and the largest undergraduate engineering program in the UC System.

UC Davis comprises nine major colleges and divisions, including the College of Agricultural and Environmental Sciences, the College of Engineering, the College of Letters and Science, the Graduate School of Management, the School of Education, the School of Law, the School of Medicine, the School of Veterinary Medicine, and the Division of Biological Sciences. The University offers its students approximately 110 majors and 70 graduate programs in over 100 departments and programs, indicating the scope of the institution; and the 6,129 undergraduate and graduate degrees awarded in 2001-2002 provide an indication of its scale. The highly skilled personnel these colleges and schools supply are perhaps UC Davis's most significant contribution to the Davis-Sacramento Region economy. UC Davis is ranked 16<sup>th</sup> among public universities nationwide according to the National Research Council and ranked 11<sup>th</sup> among public universities nationwide according to U.S. News & World Report, in terms of quality of education. Additionally, the University is ranked 17<sup>th</sup> in research funding among U. S. universities according to the National Science Foundation. The University has also been the recipient of numerous academic distinctions and awards including 18 National Academy of Sciences awards, five Institute of Medicine awards, and eight Fulbright scholarships.

### UC DAVIS GRADUATES IN THE DAVIS-SACRAMENTO REGION

Of the 155,881 total alumni (defined for the purpose of this study as all persons who have received graduate or undergraduate degrees) who graduated from UC Davis, 146,555, or about 94 percent, lived in the State of California in 2003, as shown in Figure 20. Of these alumni, 8,988, or about 6 percent, lived in Davis and 25,549, or 16 percent, lived elsewhere in the Davis-Sacramento Region. The remaining 9,326, or 6 percent, lived outside of California.



Sources: Office of Advancement Services and University Relations, UC Davis; and Sedway Group.

Most of UC Davis's new students, however, come from outside the region. As the data in Table 15 indicate, from 2000 to 2002 between 81.4 and 87.7 percent of new freshmen came to UC Davis from outside the Davis-Sacramento Region. These figures support the view that the University acts as a magnet that draws talented people to the region. It also appears that UC Davis is a net attracter to the Davis-Sacramento Region given that approximately 24 percent of UC Davis graduates resided in the Davis-Sacramento Region as of January 2003, but only 12 percent to 19 percent of new freshman registrants in recent years came from the Davis-Sacramento Region.

<b>TABLE 15: PERCENT OF NEW FRESHMEN REGISTRANTS BY HOME LOCATION</b>			
<b>County</b>	<b>FY 1999-2000</b>	<b>FY 2000-2001</b>	<b>FY 2001-2002</b>
El Dorado	1.0	1.0	0.7
Placer	1.4	1.6	1.7
Sacramento	6.6	6.7	8.6
Solano	1.5	2.0	3.3
Sutter	0.7	0.3	0.3
Yolo	1.0	1.5	3.9
Yuba	0.1	0.3	0.1
<b>Total from Region</b>	<b>12.3</b>	<b>13.4</b>	<b>18.6</b>
Rest of California	82.7	81.4	77.7
Out-of-state	5.0	5.2	3.7
<b>Total from Outside Region</b>	<b>87.7</b>	<b>86.6</b>	<b>81.4</b>

Sources: Office of the Registrar, UC Davis; and Sedway Group.

## ON-CAMPUS RECRUITING AT UC DAVIS

In 2001-2002, a total of 13,965 off-campus career jobs were posted with the University Internship and Career Center (ICC). All of these jobs require baccalaureate degrees and include listings for part-time as well as full-time openings. The ICC database does not sort for location of an individual position, but positions listed were in organizations in California as well as throughout the U.S. The Career Recruiting Programs (CRP) sub-unit of the ICC is responsible for campus-wide coordination and scheduling of on-campus interviews. During the 2001-2002 year, CRP scheduled 2,071 student interviews and hosted a total of 163 visiting companies whose representatives conducted these interviews. Job placement data for graduating UC Davis students were not available. Some of the companies that conducted on-campus interviews at UC Davis for jobs in various locations are listed in Table 16.

<b>TABLE 16: EXAMPLES OF COMPANIES INTERVIEWING ON-CAMPUS, 2001-2002</b>		
Advanced Micro Devices	Enterprise Rent A Car	Pricewaterhouse Coopers
Altera Corporation	Fortis Investors	Radian International
Accenture	General Mills	Sun Microsystems
Apple Computer.	IBM Corporation	Texas Instruments
Bechtel Systems & Infrastructure	Intel Corporation	TRW
Chevron	Mervyn's	Wells Fargo Bank
Deloitte & Touche	National Semiconductor	Yahoo!
Ernest & Julio Gallo	Pacific Gas & Electric	Zia Informational Analysis Group

Sources: The Internship and Career Center, UC Davis; and Sedway Group.

Additionally, the UC Davis Graduate School of Management (GSM) conducts recruiting services and an internship program through its Career Services Center. Recruiting services for full-time positions for

second-year students have resulted in historic placement rates of 82 percent to 98 percent of students three months after graduation. For the graduating class of 2002, career placement three months after graduation was equal to 85 percent of the class. Table 17 provides a summary of key statistics for career placement of the GSM's graduating class of 2002.

<b>TABLE 17: UC DAVIS GRADUATE SCHOOL OF MANAGEMENT GRADUATING CLASS OF 2002 CAREER PLACEMENT SUMMARY</b>			
<b>Placement by Location</b>		<b>Placement by Industry</b>	
Sacramento	43%	High-Tech	39%
Greater Bay Area	34%	Finance	22%
San Francisco	9%	Consulting	15%
International	7%	Not-for-Profit	10%
Out-of-state	5%	Consumer Goods	7%
		Other	7%

Sources: UC Davis Graduate School of Management; and Sedway Group.

First-year GSM students are employed in summer internship managerial positions that allow them to apply skills they have learned in the first-year core curriculum. Through these extremely valuable internships, students make key connections in the industry or functional area of particular interest to them. These internships often lead to job offers upon graduation.

Table 18 provides information on the first-year internship program at the UC Davis GSM during the summer of 2002.

<b>TABLE 18: UC DAVIS GRADUATE SCHOOL OF MANAGEMENT SUMMARY OF INTERNSHIP PROGRAM, SUMMER OF 2002</b>	
Average Monthly Internship Salary	\$3,303
Monthly Salary Range	\$1,120 - \$6,000
Acceptance Date of Internships by Quarter	
Fall 2%	Spring 65%
Winter 14%	Summer 19%
Recruitment through GSM	58%
Recruitment other than GSM	42%
Post Internship Part-Time Job Offers Extended through Academic Year	52%
Students Who Valued and Recommended their Internships to Others	89%

Sources: UC Davis Graduate School of Management; and Sedway Group.

## KEY LOCAL BUSINESSES FOUNDED BY ALUMNI AND FACULTY

In addition to providing skilled workers to the region, UC Davis alumni and faculty have started successful companies in the Davis-Sacramento Region and Greater Northern California. The University Office of Advancement Services tracks only alumni-owned businesses in their database; therefore, data that follow are presented for alumni-owned businesses.

As of 2003, there were over 2,300 UC Davis alumni-owned businesses in the State of California. Of these 2,300 businesses, a total of 230 were located in Yolo County, with 144 located in Davis. In the Davis-Sacramento Region as a whole there were 684 alumni-owned businesses (inclusive of City of Davis and Yolo County businesses). There were also 28 faculty-owned businesses in California in 2003. Of these businesses, two were located in the City of Davis and a total of eight were located in Yolo County. In the Davis-Sacramento Region there were 21 faculty-owned businesses. Profiles of selected alumni-founded and faculty-founded businesses are detailed as follows.

## **PROFILES OF SELECTED COMPANIES FOUNDED BY UC DAVIS ALUMNI AND FACULTY**

**Alexander Valley Vineyards** – Alexander Valley Vineyards produces 100,000 cases of wine annually, 75 percent of which is red wine. Varietals produced by the winery include Chardonnay, Merlot, Cabernet Sauvignon, Pinot Noir, Zinfandel, Gewurztraminer, Chenin Blanc, Syrah, and Viognier. The winery was built in 1975 after the Wetzel family purchased, in 1962, a portion of a homestead built by Cyrus Alexander (the Valley's namesake). The winery is located in Sonoma County, CA, approximately six miles from Healdsburg.

**UC Davis Affiliate** – Hank Wetzel  
Fermentation Science, B.S. (1974)  
Founder; Managing Partner

**BEA Systems, Inc.** – BEA is a leading application infrastructure software company with more than 13,000 customers throughout the world, including the majority of the Fortune 500. BEA was founded in 1995 and has 81 offices in 34 countries. Per current estimations, BEA employs approximately 3,000 employees. In 2002, BEA had revenues of more than \$976 million, an increase of 19 percent over 2001. BEA is headquartered in San Jose, CA.

**UC Davis Affiliate** – Alfred Chuang  
Computer Science, M.S. (1986)  
Founder; Chairman (August 2002 – present) and CEO (October 2001 – present)

**Calgene** – Calgene was a pioneer in genetic engineering in the area of agriculture, particularly in oils, fresh produce and cotton. By modifying canola seed oil, Calgene created a portfolio of unique edible and industrial oils with a variety of new applications. Additional research included the cotton genetic engineering program, which focused on the development of herbicide resistant and insect resistant cotton varieties. In addition, Calgene identified and cloned or acquired rights to a portfolio of genes, which influence the ripening and post harvest physiology of many fruits and vegetables. The Monsanto Company acquired Calgene in 1997.

**UC Davis Affiliate:** Ray Valentine  
Professor Emeritus, UC Davis Agronomy and Range Science  
Co-founder

**Integrated Surgical Systems, Inc.** – Integrated Surgical Systems designs, manufactures, sells, and services image-directed, computer-controlled robotic products for use in orthopedic and neurosurgical procedures. In 1986 IBM's Thomas J. Watson Research Center and researchers at the University of California, Davis began collaborative development of an innovative system for Total Hip Arthroplasty

(THA). By 1992 they had unveiled the Robodoc Surgical System, which made medical history by assisting in a THA procedure. Additional developments include Orthodoc, a preoperative planning workstation for total hip arthroplasty and NeuroMate, the first robot available for assisting with stereotactic brain surgery.

**UC Davis Affiliate:** William Bargar, M.D.  
Assistant Professor of Orthopedic Surgery (1981-1986)

**Reebok International, Ltd.** – With sales of over \$3 billion, Reebok is the second largest manufacturer of athletic shoes in the United States. Reebok operates more than 200 retail stores throughout the world. In addition to Reebok sportswear and accessories, Reebok lines include the Greg Norman line of men's wear, Rockport walking and casual shoes, Ralph Lauren and Polo dress and athletic shoes, and Weebok shoes for children. Angel Martinez, UC Davis alumnus, co-founded Reebok and is credited with positioning the brand at the forefront of the aerobic movement in the 1980s. As chief executive of Rockport in the 1990s, he increased the subsidiary's sales by gaining new popularity with the youth market. After 21 years with Reebok, Martinez resigned from his positions as executive vice president and chief marketing officer in April 2001.

**UC Davis Affiliate:** Angel Martinez  
College of Letters and Science (1977)  
Co-founder; former Executive Vice President and Chief Marketing Officer

**Sagres Discovery** – Sagres Discovery is a post-genomics biotechnology company dedicated to understanding the molecular basis of cancer. The company has pioneered methods to rapidly identify and validate disease-causing cancer genes, based on a novel systems approach to cancer biology, for use in the development of new diagnostics and therapeutics. Dr. Ferrick had been an associate professor of pathology and immunology in the School of Veterinary Medicine at UC Davis, where his contributions to the discovery and functions of gamma-delta T cells have made him a world-recognized leader in this area.

**UC Davis Affiliate:** David Ferrick  
Professor, UC Davis School of Veterinary Medicine  
Co-founder; Director; CEO

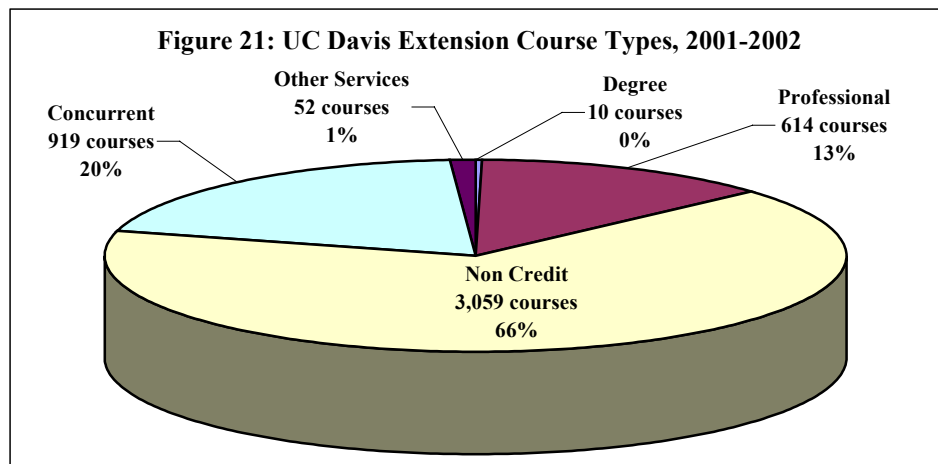
**Yan Can Cook** – Martin Yan and the Yan Can Cook Group are consultants to the food manufacturing, food service, and hospitality industries, specializing in Chinese and Asian cuisines. Martin Yan is the host of the PBS television program, “Yan Can Cook,” which is broadcast in more than 240 markets throughout the United States and internationally in more than 70 countries. Martin Yan is also the author of several cookbooks and the Yan Can Cook Group owns and operates five Asian restaurants in California, including three Yan Can restaurants in the San Francisco Bay Area. The Yan Can Cook Group is headquartered in San Mateo, CA.

**UC Davis Affiliate** – Martin Yan  
Agricultural and Environmental Sciences (1973)  
Founder

## UC DAVIS EXTENSION

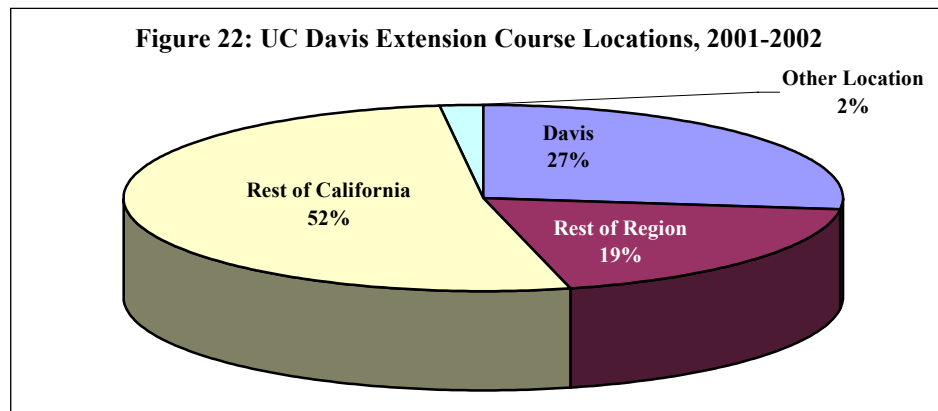
The UC Davis Extension program is notable for its contribution to the development of existing Davis-Sacramento Region residents and professionals. The regional emphasis of UC Davis Extension is the Sacramento-Davis-Sacramento Region, but the Department of Human Services and several other professional programs offer classes throughout the State of California (with the approval of all other campus UC Extensions). UC Davis Extension has a significant international program and most students come to the U.S. for the program. During 2001-2002 a few courses were offered out-of-state, including two courses overseas in Uruguay and Germany. The program offers a variety of formats and delivery methods including courses in the daytime, evening, weekends and online or distance education courses.

UC Davis Extension offers specialized studies and certificate programs and professional degrees in partnership with campus departments, as well as some unique programs that have gained regional, national, and international recognition - reflecting the University's strengths in specialized fields of study such as winemaking, brewing science, agriculture and food science, law, natural resources management, and executive education. UC Davis Extension also has extensive contract training programs providing specialized education for professionals in corporate settings, local, state, and federal agencies, and a series of planning and environmental courses offered to federal agencies throughout the western United States.



Sources: UC Davis Extension; and Sedway Group.

The UC Davis Extension program is the second largest UC Extension program in the State in terms of enrollment numbers. In 2001-2002, a total of 73,245 students enrolled in UC Davis Extension courses. A total of 4,654 courses were offered. As shown in Figure 21, 10 of these were degree credit courses, 614 were professional credit courses, and 4,030 were general noncredit courses and other services.



Sources: UC Davis Extension; and Sedway Group.

As shown in Figure 22, 1,263, or 27 percent, of UC Davis Extension courses were offered in the City of Davis, 861, or 19 percent, were offered elsewhere in the Davis-Sacramento Region, and 2,411, or 52 percent, were offered elsewhere in the State of California.

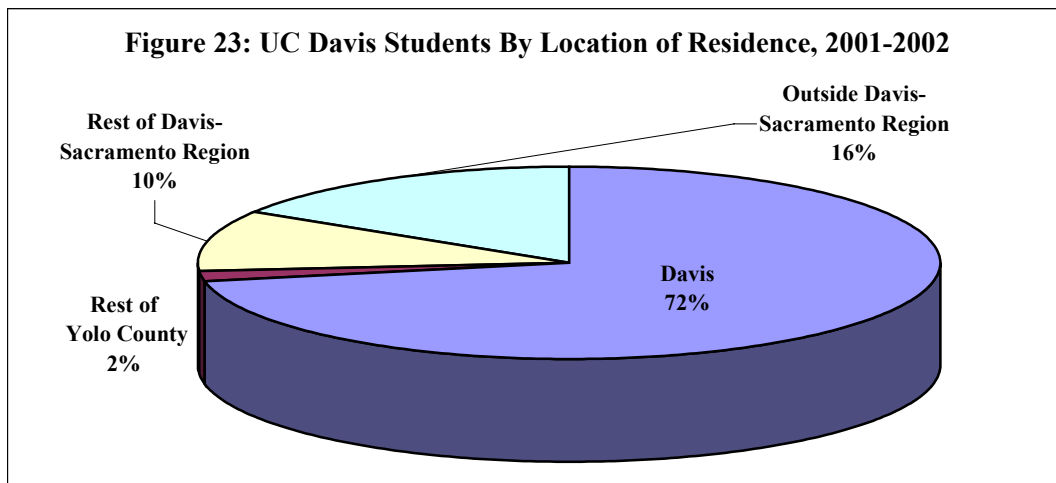


## VII. UNIVERSITY STUDENTS AND VISITORS

### STUDENT EXPENDITURES

In addition to the University's purchasing and payroll expenditures, UC Davis students fuel the local economy through their spending. Based on residential data from the Registrar's Office and spending estimates from the Financial Aid Office, the approximate location and amount of spending by UC Davis students can be determined. As shown in Figure 23, a total of 72 percent of the University's students lived in the City of Davis in 2001-2002. Among undergraduates, the figure is slightly higher, about 76 percent, while among graduate students the figure is lower, about 59 percent. About 10 percent of undergraduates and 18 percent of graduate students, or 12 percent of all students, live elsewhere in the Davis-Sacramento Region. About 14 percent of undergraduates and 23 percent of graduate students, or 16 percent of all students, live outside of the Davis-Sacramento Region.

It should be noted that the figures cited above and shown in Figure 23 include all UC Davis students, including UC Davis Medical Center, field locations (e.g., Bodega Bay Marine Lab), etc. The breakdown by location of residence is also dependent upon addresses on file with the Registrar's Office and may not include current addresses for all students.



Sources: Office of the Registrar, UC Davis; and Sedway Group.

Student budget estimates from the Financial Aid Office tend to represent a fairly economical spending pattern. As such, the estimates of student expenditures that follow comprise a conservative approximation of student spending. According to spending estimates from the University's Financial Aid Office, UC Davis students contributed more than \$180 million to the Davis-Sacramento Regional economy in 2001-2002. Table 19 lists the total spending of undergraduate and graduate students based on their location of residence. The average spending for each student includes food, transportation, and personal expenses. On-campus housing and meal plans, university registration and fees, books and supplies, and non-resident tuition are not included because they are counted elsewhere in this report as University revenue. The Financial Aid Office 2001-2002 budgets for graduate students are higher than for undergraduates because they are older and are more likely to have families.

Sedway Group estimates that UC Davis students spend 80 percent of their expenditures in the City of Davis, 85 percent total in Yolo County, and 90 percent total in the Davis-Sacramento Region. These estimated capture rates are based on several factors, such as the residential location of students, the distribution of retail and entertainment venues, and the expectation that students who do not live in Davis will nevertheless make expenditures there because of time spent at the University. Based on these capture rates and the figures in Table 19, UC Davis undergraduate and graduate students spent more than \$144 million in the City of Davis and a total of more than \$160 million in the entire Davis-Sacramento Region in 2001-2002.

<b>TABLE 19: STUDENT SPENDING AT UC DAVIS, 2001-2002</b>			
<b>Student Type and Location of Residence</b>	<b>Total Students</b>	<b>Average Spending <sup>(1)</sup></b>	<b>Total Spending</b>
<b>Undergraduate</b>			
Davis On-Campus	4,610	\$2,048	\$9,441,280
Off-Campus Independent	15,003	8,216	123,267,524
Off-Campus with Parents (2)	790	5,977	4,719,738
<b>Subtotal</b>	<b>20,403</b>	<b>6,736</b>	<b>137,428,542</b>
<b>Graduate</b>			
Davis On-Campus	677	3,030	2,051,292
Off-Campus	3,787	10,825	40,993,694
<b>Subtotal</b>	<b>4,464</b>	<b>9,643</b>	<b>43,044,986</b>
<b>TOTAL</b>	<b>24,867</b>	<b>7,258</b>	<b>\$180,473,528</b>

(1) Based on estimates from the UC Davis Financial Aid Office. Spending does not include on-campus housing and meal plans, registration and fees, books and supplies, and non-resident tuition

(2) Estimated to be 5% of undergraduate students living off campus, per distribution of financial aid packages.

Sources: Financial Aid Office, UC Davis; and Sedway Group.

The \$180 million in UC Davis student spending generated additional sales and wages to other businesses and jobs within the City of Davis, Yolo County, the Davis-Sacramento Region, and the State of California. Using multipliers from the IMPLAN and RIMS II models, Tables 20 and 21 show the total direct, indirect, and induced sales, wages, and jobs within these geographic areas.

<b>TABLE 20: UC DAVIS STUDENT SPENDING, FY 2001-2002 INDIRECT AND INDUCED SPENDING – IMPLAN MULTIPLIERS</b>				
<b>Area</b>	<b>Direct Sales</b>	<b>Indirect and Induced Impacts</b>		
		<b>Sales</b>	<b>Wages</b>	<b>Jobs <sup>(1)</sup></b>
<b>City of Davis</b>	\$144,378,822	\$96,951,244	\$23,005,610	695
<b>Yolo County</b>	\$153,402,498	\$146,012,171	\$49,392,450	1,417
<b>Davis-Sacramento Region</b>	\$162,426,175	\$170,350,855	\$59,133,353	1,724
<b>California</b>	\$180,473,528	\$197,083,375	\$69,806,205	1,819

(1) Jobs per \$1.0 million in visitor expenditures.

Sources: Financial Aid Office, UC Davis; IMPLAN; and Sedway Group.

Using multipliers from the IMPLAN model, total direct, indirect, and induced UC Davis student spending in the City of Davis in 2001-2002 was over \$241 million. This spending also resulted in an additional \$23 million in earned wages and 695 jobs within the City. Student expenditures generated total spending of \$299 million in Yolo County, with an additional \$49 million in earned wages and 1,417 jobs. Within the Davis-Sacramento Region, UC Davis student spending generated total expenditures of nearly \$333 million, with an additional \$59 million in earned wages and 1,724 jobs. Student expenditures in the State of

California generated total expenditures of over \$377 million, with an additional \$70 million of earned wages and 1,819 jobs.

<b>TABLE 21: UC DAVIS STUDENT SPENDING, FY 2001-2002 INDIRECT AND INDUCED SPENDING – RIMS II MULTIPLIERS</b>				
<b>Area</b>	<b>Direct Sales</b>	<b>Indirect and Induced Impacts</b>		
		<b>Sales</b>	<b>Wages</b>	<b>Jobs <sup>(1)</sup></b>
<b>Yolo County</b>	\$153,402,498	\$53,900,984	\$27,598,647	1,043
<b>Davis-Sacramento Region</b>	\$162,426,175	\$125,760,062	\$73,170,356	2,580
<b>California</b>	\$180,473,528	\$167,778,694	\$97,159,440	3,237

(1) Jobs per \$1.0 million in visitor expenditures.

Sources: Financial Aid Office, UC Davis; RIMS II; and Sedway Group.

Using multipliers from the RIMS II model, total direct, indirect, and induced UC Davis student spending in the Yolo County in 2001-2002 was over \$207 million. This spending also resulted in an additional \$28 million in earned wages and 1,043 jobs within the County. Within the Davis-Sacramento Region, UC Davis student spending generated total expenditures of over \$288 million, with an additional \$73 million in earned wages and 2,580 jobs. Student expenditures in the State of California generated total expenditures of over \$348 million, with an additional \$94 million of earned wages and 3,237 jobs.

## CAMPUS VISITORS

Each year, UC Davis attracts thousands of visitors to its academic programs, libraries, museums, performances, and athletic events. While no comprehensive source of data exists that measures the total number of visitors to the campus, the University does keep records of certain visitor activities that give an indication of the number of people who come to the campus. According to the Office of Campus Events and Visitor Services, a total of nearly 1.8 million visitors came to the UC Davis campus during 2001-2002 for events that are tracked by the University. Table 22 details event attendance at UC Davis during that time period.

<b>TABLE 22: EVENT ATTENDANCE AT UC DAVIS, 2001-2002</b>			
<b>Event Category</b>	<b>Examples</b>	<b>Sum of Attendance</b>	<b>Total Number of Events</b>
Annual	Campus sponsored events such as Picnic Day, Commencement, etc.	336,186	1,962
Athletic	All campus athletic events including those sponsored by IC, Intramural Sports, and Sports Clubs	373,753	5,442
Class	Classes offered for no credit and UC Davis Extension course	317,035	6,844
Conference	Academic conferences sponsored by campus affiliates	27,392	428
Film	Sponsored by ASUCD Campus Cinema	14,375	41
Lecture	Non academic and non credit bearing lectures	9,325	145
Meeting	Includes both campus sponsored and non campus sponsored meetings	370,817	11,003
Social	Events sponsored by both campus departments and non campus groups	21,477	364
Special Event	Performance events such as concerts, plays, music events, etc.	289,670	2,598
Tours	Tours scheduled through Visitor Services	33,500	0
Wedding	Most are sponsored by campus affiliates, although some are sponsored by non affiliates	4,158	62
<b>TOTAL</b>		<b>1,797,688</b>	<b>28,889</b>

Sources: Office of Campus Events and Visitor Services, UC Davis; and Sedway Group.

It should be noted that 2001-2002 event attendance shown in Table 22 likely includes a significant number of students and existing Davis residents. In particular, athletic events (as noted on page 52), films, and special events likely are comprised of as many if not more local residents (including students) than visitors from outside Davis.

Many UC Davis visitors spend their entire stay on the campus and therefore do not spend anything in the City of Davis or elsewhere in the Davis-Sacramento Region. However, it is also clear that many visitors shop and eat outside of the campus, and some stay in local hotels. Sedway Group surveyed three major hotels in the City of Davis with a total of 256 rooms. All three of these hotels offer discounts to guests who are attending an event at the University, with some restrictions. Based on the estimates of hotel managers interviewed by Sedway Group, in 2001-2002, official University guests accounted for 10 to 60 percent of the room nights in these hotels. Total annual room night data were not available. There are an additional nine hotels in Davis, bringing the total City of Davis room count to 634 rooms. If it is assumed that the

hotels conservatively achieved 60 percent occupancy rates, and that University visitors on average conservatively represented 35 percent of all visitors, then University visitors account for an estimated 48,600 room nights in the City of Davis.

According to the Davis Visitors and Convention Bureau, the average visitor to the City of Davis during the last three years spent \$163 per person per stay if an overnight traveler, \$65 per person per stay if a day traveler, and \$255 per person per stay if a conference traveler. University-associated travelers typically stay two to three days per visit while general travelers typically stay one to two days per visit. To estimate the total spending effects of visitors to UC Davis, Sedway Group developed conservative assumptions regarding the number of visitors who made expenditures in the City. Out of the total 1.8 million visitors to UC Davis in 2001-2002, Sedway Group assumed that 75 percent of visitors spent nothing locally. Out of the remaining 25 percent of campus visitors, we assumed that 5 percent were overnight travelers, 5 percent were conference travelers, and 90 percent were day travelers. Based on the estimates by the Davis Visitors and Convention Bureau, these conservative assumptions would result in total visitor spending attributable to UC Davis visitors of \$35.7 million dollars. This conservative estimate of total spending equates to an average expenditure of \$20 per visitor based on total visitors of 1.8 million. UC Davis Medical Center hospital visits (and visitors) are not included in this analysis since those visits occur in the City of Sacramento.

The \$35.7 million in UC Davis visitor spending in the City of Davis generated additional sales and wages to other businesses and jobs within the City of Davis, Yolo County, the Davis-Sacramento Region, and the State of California. Using multipliers from the IMPLAN and RIMS II models, Tables 23 and 24 show the indirect and induced sales, wages, and jobs within these geographic areas.

<b>TABLE 23: UC DAVIS VISITOR SPENDING, FY 2001-2002</b>				
<b>INDIRECT AND INDUCED SPENDING – IMPLAN MULTIPLIERS</b>				
<b>Area</b>	<b>Direct Sales</b>	<b>Indirect and Induced Impacts</b>		
		<b>Sales</b>	<b>Wages</b>	<b>Jobs<sup>(1)</sup></b>
<b>Davis</b>	\$35,700,000	\$33,843,003	\$11,618,728	606
<b>Yolo County</b>	\$35,700,000	\$36,125,036	\$13,389,582	699
<b>Davis-Sacramento Region</b>	\$35,700,000	\$40,657,980	\$15,604,060	738
<b>California</b>	\$35,700,000	\$43,607,959	\$17,365,033	821

(1) Jobs per \$1.0 million in visitor expenditures.

Sources: Office of Campus Events and Visitor Services, UC Davis; Davis Visitors and Convention Bureau; IMPLAN; and Sedway Group.

Using multipliers from the IMPLAN model, total direct, indirect, and induced spending within the City of Davis as a result of UC Davis visitors during 2001-2002 was approximately \$69.5 million, as shown in Table 23. This spending also resulted in an additional \$12 million in earned wages and 606 jobs within the City. Visitor expenditures generated total spending of \$72 million in Yolo County, with an additional \$13 million in earned wages and 699 jobs. Within the Davis-Sacramento Region, UC Davis visitor spending generated total expenditures of over \$76 million, with an additional \$16 million in earned wages and 738 jobs. Visitor expenditures in the State of California generated total expenditures of over \$79 million, with an additional \$17 million of earned wages and 821 jobs. It should be noted that the figures in Table 23 are additive; for example, Davis impacts are included in the totals for Yolo County, etc.

**TABLE 24: UC DAVIS VISITOR SPENDING, FY 2001-2002  
INDIRECT AND INDUCED SPENDING – RIMS II MULTIPLIERS**

Area	Direct Sales	Indirect and Induced Impacts		
		Sales	Wages	Jobs <sup>(1)</sup>
<b>Yolo County</b>	\$35,700,000	\$15,400,818	\$9,395,844	459
<b>Davis-Sacramento Region</b>	\$35,700,000	\$33,463,656	\$21,025,920	889
<b>California</b>	\$35,700,000	\$42,240,768	\$24,507,036	993

(1) Jobs per \$1.0 million in visitor expenditures.

Sources: Office of Campus Events and Visitor Services, UC Davis; Davis Visitors and Convention Bureau; RIMS II; and Sedway Group.

Using multipliers from the RIMS II model, total direct, indirect, and induced spending within Yolo County as a result of UC Davis visitors during 2001-2002 was approximately \$51 million, as shown in Table 24. This spending also resulted in an additional \$9 million in earned wages and 459 jobs within the County. Within the Davis-Sacramento Region, UC Davis visitor spending generated total expenditures of over \$69 million, with an additional \$21 million in earned wages and 889 jobs. Visitor expenditures in the State of California generated total expenditures of nearly \$78 million, with an additional \$24 million of earned wages and 993 jobs.

## **VIII. CULTURAL PROGRAMS, COMMUNITY SERVICE, AND VOLUNTEERISM**

### **CULTURAL AND RECREATIONAL PROGRAMS**

UC Davis provides a wide range of cultural and recreational programs that are open to local residents. A few examples are described below.

#### **The Robert and Margrit Mondavi Center for the Performing Arts**

The Robert and Margrit Mondavi Center for the Performing Arts is a 104,000-square-foot facility with state-of-the-art acoustics that opened in October 2002. The facility includes two performance venues supported by production support space and reception areas. Resident programs include the Mondavi Center presenting program (major touring performances in music, dance, theater, and lectures), the UC Davis Department of Music, the UC Davis Department of Theater & Dance, and the Mondavi Center performing arts education and outreach programs. First year attendance at the Mondavi Center (October 2002 through July 2003) included 146,000 tickets sold for events sponsored by the Mondavi Center presenting program, the UC Davis Department of Music, and the UC Davis Department of Theater & Dance.

The Mondavi Center's Arts Education program (formerly known as UC Davis Presents) provides opportunities for children grades K-12 and UC Davis students and adults to discover and appreciate the performing arts through free performances, pre-performance matinees produced for school groups, professional development opportunities for teachers, adult education classes, music and dance classes, masters classes for serious aspiring artists, and lecture demonstrations in public schools. ArtSmarts encompasses the K-12 education programs while ArtsWise encompasses the programs geared toward UC Davis students and adults. During 2001-2002, ArtSmarts had a total of 24,687 participants in 138 activities while ArtsWise had a total of 2,461 participants in 30 activities. These participation numbers grew significantly during 2002-2003 with the opening of the Mondavi Center, when total Arts Education reach grew by 31 percent and total number of activities offered grew by 43 percent.

### **Museums**

UC Davis museums are open to the public, generally at no charge for admission. The focus of each museum varies, as does its exhibition schedule, as discussed as follows.

- **Memorial Union Art Gallery** – The Memorial Union Art Gallery features a rotating series of exhibitions devoted primarily to contemporary and historical California Art. All exhibitions are free of charge. The gallery began as “The Painting of the Month” in the 1950s, which featured the work of the Art Department faculty and students. The Gallery has since expanded and combined with the Music and Periodicals Center, which together occupy exhibition space in the Memorial Union.
- **The C.N. Gorman Museum** – The C.N. Gorman Museum features contemporary Native American art. It is named after Carl Nelson Gorman, a Navajo artist and advocate, and a founding faculty member of the Native American Studies Department at UC Davis. The gallery currently hosts four exhibits per year.



- **Design Museum** – The Design Museum presents theme exhibitions featuring changing installations of architecture, graphic design, costumes, textiles, folk art, and popular culture. Past exhibitions have included festivals from Latin America, Asia, Africa, and the Caribbean, international folk toys, edible art, bicycle design, baseball design, and new technologies in textiles and furniture. The Design Museum currently hosts four exhibits per year.
- **The Richard L. Nelson Gallery** – The Richard L. Nelson Gallery was dedicated to the first Chairperson of the Department of Art at UC Davis. The gallery is a resource for the department and greater UC Davis campus, and also serves the art communities and general public of the region. The Fine Arts Collection contains approximately 2,500 works representing various historical periods and cultures as well as contemporary art. It is the University's major resource and repository for art objects.
- **Bohart Museum of Entomology** – The Bohart Museum of Entomology began as a teaching collection in two small cases and now contains over six million specimens of insects and other terrestrial arthropods, which are used for research, teaching, and outreach.
- **UC Davis Arboretum** – The arboretum was established in 1936 and occupies approximately 100 acres along the banks of the north channel of Putah Creek. The arboretum specializes in plants adapted to a Mediterranean climate and is home to over 4,000 varieties of trees and plants.

### **The Craft Center**

The Craft Center offers over 80 classes, from one-day workshops to seven-week courses, to provide students and other members of the UC Davis community with an outlet for creative expression. After taking a course and developing a skill, a Craft Center student may use the facilities on his or her own with Day Use and Quarter Use passes. During the summer, the Craft Center offers Kids Camps for children ages eight to twelve and some teen classes. During the academic year, however, the Craft Center does not offer children's classes. During 2001-2002, nearly 2,500 participants from the University and the community took classes at the Craft Center. Participation was split fairly evenly between students and university affiliates (38 percent and 36 percent of participants, respectively) and the general public accounted for 26 percent of all participants.

### **Outdoor Adventures**

UC Davis's outdoor education program, Outdoor Adventures, offers a wide variety of classes and outings in activities such as backpacking, rock climbing, whitewater and sea kayaking, whitewater rafting, and winter snow courses. All programs are open to community members and a complete line of rental equipment is available at reasonable prices. Approximately 4,000 people participated in trips sponsored by Outdoor Adventures during 2001-2002.

### **Equestrian Center**

The UC Davis Equestrian Center operates an extensive year-round program in English and Western riding and is open to UC Davis students as well as the general public. The Center also offers boarding for horses owned by students or members of the community. Also offered are leases of UC Davis-owned horses to participants at the Center who have completed an advanced-level riding course there.

### **The Children's Garden**

The Children's Garden manages a working garden and farm site that host field trips each spring for elementary school classes. Tours are one and a half hours in length and are geared towards children K-3. Examples of tour activities include: harvesting carrots or strawberries, transplanting basil to take home, garden scavenger hunts, making and eating a class salad, collecting seeds, and examining beneficial and pest insects. The garden also offers workshops to teachers, parents, and volunteers working with a school garden to enhance elementary school garden projects.

### **Intercollegiate Athletics**

UC Davis hosts 25 competitive sports teams and a myriad of club, intramural, and recreational sports. UC Davis had an excellent athletic year in 2001-2002 by capturing the NACDA Directors' Cup for NCAA Division II for the fifth time in six years and the third year in a row. The award represents the most successful athletic program in the country for the division. UC Davis has never finished lower than second place in the seven-year history of the award. Total attendance at home football games (approximately 6 per year) is about 47,000. This attendance estimate includes UC Davis students, who are admitted for free. Approximately 500 complimentary football tickets are provided to the community for football games. Men's basketball draws approximately 30,000 fans to home games and offers free admission to UC Davis students as well as some free community tickets. Women's basketball hosts approximately 14,000 fans, which includes free student admission and some complimentary tickets for the community. The University charges admission for non- UC Davis students at baseball, wrestling, men's and women's soccer, and gymnastics games and meets. All other sports have free admission. Total attendance for intercollegiate athletic events at UC Davis during 2001-2002 was approximately 140,000.

### **Recreation Facilities and Youth Program**

The Recreation Pool is open to the community and includes a multi-purpose pool with lap lanes, diving boards, and an island, as well as picnic tables and a barbecue. During the summer the Recreation Pool offers adult swimming lessons, aqua aerobics, junior lifeguarding, and youth swim lessons. The pool is also available for rental in the evenings during the spring, summer, and fall.

The Memorial Union Games Area consists of 16 lanes of bowling, 10 billiard tables, and 50 video games. The Games Area is open to the public and party packages are available.

UC Davis also sponsors a summer youth program that includes arts and crafts, outdoor adventures, teen craft classes, swimming, horseback riding, bowling, and "PM Potpourri" for the community. Most programs are morning day camp programs finishing at 12:30 pm. An all-day schedule is available, finishing at 5:30 pm.

### **ACADEMIC SERVICE-LEARNING**

While University institutions and facilities bring people from the community to the campus, many UC Davis academic courses send students out into the community to perform a variety of services. In 2001-2002, according to the University's Internship and Career Center, 622 service-learning courses in 77

departments were offered at UC Davis, representing nearly every discipline in each of the undergraduate colleges. Approximately 4,147 students enrolled in at least one service-learning course over the year.

### **Internships at UC Davis**

The Internship and Career Center at UC Davis coordinates the largest internship program in the UC system, and arguably one of the largest and most diverse internship programs in the nation. UC Davis students are placed into internships on campus and locally in the Davis-Sacramento Region, throughout California, across the nation, and abroad. These experiences are both part- and full-time, and are done on a volunteer basis as well as stipend assisted internships where the stipend goes to offset the costs incurred by the student to participate in the internship. During 2001-2002 the Internship and Career Center placed 5,841 students into academic internships. The following are but a few examples of these placements:

- A Communication and Psychology major interning with the Summerbridge program in a placement designed for aspiring teachers. This student was placed in the role of a teacher and mentored throughout the experience to ensure that the internship provided maximum learning and exposure to the teaching profession.
- A Computer Science major interning with IBM where the student was exposed to the requirements and preparation necessary to do professional level programming.
- A Statistics major interning with a publications firm where the focus of the internship was learning how to prepare work for publication in a professional journal.
- An Economics major interning in the White House and exposed to aspects of economic planning on a national level.
- A Neurophysiology/Biology major interning at Davis Community Meals where the focus of learning was effective interaction and treatment of patients, especially patients with drug and emotional problems.
- An Environmental Science and Policy major interning with an environmental toxicology firm where the experience enabled the intern to expand her knowledge of the field of environmental studies, especially about hazardous waste management.
- A Mechanical Engineering major interning with Greenheck Fan where the student was exposed to manufacturing engineering as a potential career choice.
- A Psychobiology major interning with Clinica Tepati where the experience taught the intern about compassion and what it means to be a volunteer for the good of the community.
- A Psychology major interning with the Davis Joint Unified School District where the intern learned about how elementary schools operate, the relationships among students, teachers, parents, administrators, the district, county and state offices, and the counselors.
- An Environmental Policy Analysis and Planning major interning with the US Forest Service where the experience led to greater understanding about environmental planning and first-hand knowledge of local parks management.

- A Managerial Economics major interning with the International Trade Commission where the student was assigned independent project work and allowed involvement in economic analysis and planning.

## **SUPPORT FOR K-12 EDUCATION**

UC Davis supports Davis-Sacramento Region public schools through School/University Partnerships (S/UP), which was established on the UC Davis campus in 1999 in response to a mandate by the University of California Outreach Task Force to increase the number of underrepresented students eligible for enrollment at UC campuses. S/UP serves as a link between the resources of the University and the K-12 community. Part of S/UP's work focuses on a select number of regional high schools and their "feeder" junior high and elementary schools to work intensively with these schools through individually developed plans that include a wide range of outreach services. During 2001-2002, S/UP served 24 schools within the Davis-Sacramento Region.

UC Davis further supports schools through the Early Academic Outreach Program (EAOP). The Early Academic Outreach Program was implemented in 1976 by the University in response to the California State Legislature's recommendation to increase the number of students who are competitively eligible for postsecondary education. Outreach coordinators assist K-14 students with academic preparation, enrollment, admission, and financial aid requirements. The program works in collaboration with campus and area personnel to provide academic services and support to students, families, schools, and communities. EAOP serves over 6,000 students in 19 school districts. The following summaries highlight several additional programs offered by the University as part of its support for K-12 education.

- The Animal Ambassadors Program is a campus to community outreach tool that helps to improve science literacy among young people and builds partnerships with schools, nonformal education agencies, and community based professionals working in the field of veterinary medicine. The program uses the world of animals as a "bridge" to help youth develop critical thinking skills and an interest in science. The program fosters a foundation of care and responsibility towards animals and by extension, towards humans.
- ArtsBridge is a program that extends arts education from UC Davis to local schools. The program provides scholarships to UC Davis students (undergraduate and graduate) to teach the arts and conduct arts-related workshops in art, dance, drama, and music to local K-12 students in public schools.
- The Center for Engineering Plants for Resistance Against Pathogens (CEPRAP) is a National Science Foundation Science and Technology Center located at UC Davis. CEPRAP conducts research and promotes education in the area of biotechnological research, focusing on K-12 students and their teachers. The program includes teacher workshops and summer institutes and offers local teachers access to a biotechnology kit loan program. Since 1996, over 7,000 students have benefited from the equipment loan program. CEPRAP also offers student internships and workshops.
- The Center for Cooperative Research and Extension Services for Schools (the CRESS Center), assists university faculty, education extension specialists, graduate students and K-12 educators in cooperatively designing and conducting educational research, curriculum, and professional development projects. CRESS projects are designed to bring K-12 educators together with university faculty and staff to share and refine their understanding of schooling and to jointly address the continuing challenges of planned school change. CRESS projects engage teachers across grade levels

and subject areas and from a wide range of schools. CRESS places a special emphasis on supporting teachers working to serve California's increasingly diverse student population.

- UC Davis Extension Education is committed to creating partnerships with educators and school districts to help them achieve their goals. In addition to offering a wide range of cutting-edge programs taught by top instructors in the field, UC Davis Extension Education helps build collegial networks through partnerships with districts and site-based contract training. Courses serve the professional development needs of educators throughout their teaching careers.

**TABLE 25: SELECTED UC DAVIS OUTREACH AND PARTNERSHIP PROGRAMS**

Animal Ambassadors Program	Pet Loss Support Hotline
ArtsBridge	Maddie's Shelter Medicine Program
Children's Garden Program	California Raptor Center
COSMOS	The Craft Center
UC Davis Extension	Outdoor Adventures
The Children's Garden	Early Academic Outreach Program
School/University Partnerships	UC Davis CONNECT
Cooperative Research and Extension Services for Schools (CRESS)	

Sources: UC Davis; and Sedway Group.

### **EFFECTS OF STATE BUDGET CUTS ON UC DAVIS OUTREACH**

Although the State of California budget deficit and subsequent cuts did not affect UC Davis outreach programs in the study year, 2001-2002, those cuts did impact fiscal year 2002-2003 and may be felt for several years to come. Only a few outreach programs were directly impacted by the budget cuts during 2002-2003. Those programs were: School/University Partnerships (lost 100 percent of State funding, or 70 percent of total budget) and Early Academic Outreach (lost 50 percent of State funding, or 50 percent of total budget). Additionally, the Craft Center lost 20 percent of the funding it generally receives from the registration fee budget (as did most student services).

## **COMMUNITY PARTNERSHIPS**

In addition to support for K-12 education, UC Davis provides outreach to the Davis community and the greater Davis-Sacramento Region through a series of programs and community partnerships. Several campus-based community partnerships are outlined below. Additional Health System and School of Veterinary Medicine partnerships are discussed in their respective sections.

### **UC Davis CONNECT**

UC Davis CONNECT is the University's Program in Technology and Entrepreneurship. The mission of the program is to foster the growth of technology business ventures in the Sacramento region. To do so, the program connects new business ventures with the resources of the University and the local community. The program provides opportunities for technology exchange, the use of business services, and the creation of new sources of equity funding for start-up companies.

UC Davis CONNECT focuses on business ventures in the following areas:

- **Life Sciences:** Biotechnology; Medicine; Veterinary Medicine; Agriculture; and Environmental Sciences.
- **Engineering:** Biological, Agricultural & Biomedical; Materials Science; Optical Science (laser physics/optical networking); and Computer Science (hardware/software).

### **Tahoe Research Group Field Station**

The Tahoe Research Group field station was established in 1967 as a center for alpine lake aquatic research. Subsequently, the research has expanded to include additional facets of the atmospheric, terrestrial, and aquatic environments in the Lake Tahoe Basin. Personnel provide both on- and off-site public education programs in the form of presentations, field trips, and demonstrations. These programs serve approximately 700 persons of all ages each year.

The Tahoe Research Group conducts research that is used by local and regional planning agencies. Scientific exchange of the research is conducted with other limnologists and aquatic ecologists from throughout the United States and abroad, including Europe, New Zealand, Russia, and Japan.

### **The Botanical Conservatory**

The Botanical Conservatory was founded in 1959 and serves as an educational facility, research resource, and genetic diversity preserve for the University and the Davis-Sacramento Region community. The Conservatory houses over 2,500 plants in more than 150 families, including examples from most of the earth's climatic regions. Public tours of the Conservatory are available by request. The Conservatory has a public Open House two times per year, once in February and again in April during the UC Davis Picnic Day festivities. Other events include presentations, exhibits, school projects, and participation in the annual Arboretum Plant Faire.

### **UC Davis Graduate School of Management Community Consulting Group**

The Community Consulting Group (CCG) is an organization of MBA students who provide free consulting services to nonprofit organizations. Founded by students of the Graduate School of Management in 1999, the CCG brings together the diverse professional and academic experiences of MBA candidates and professors to provide consulting services tailored to client-specific needs. The mission of CCG is to provide practical business solutions for non-profits and organizations with community-oriented projects and to give MBA students the opportunity to apply learned skills to real-world situations. CCG provides such services as designing marketing and advertising campaigns, developing and executing customer surveys, devising staffing and compensation packages, designing fundraising strategies, and analyzing mergers and acquisitions. Past CCG clients include the St. Hope Development Company, California Crop Improvement Association, Davis Community Meals & Shelter, Grant High School Environmental Organization, Golden State Museum, Sacramento Theater Organization, and Solano Economic Development Corporation.



## **Big Bang! UC Davis Business Plan Competition**

Big Bang! is the annual UC Davis Business Plan Competition organized by MBA students of the Graduate School of Management. Local corporations and the venture capital community sponsor the competition. Now in its fourth year, the goal of the contest is to promote entrepreneurship at UC Davis and in the region supported by the University. The competition spans eight months from initial kickoff in October through final judging and awards in May. Teams must include one UC Davis student, alumni, staff or faculty and teams must be true start-ups (less than \$500,000 in prior funding). Participants receive valuable lessons learned through the competition's workshops, team interaction, interdisciplinary effort of writing the executive summary and the business plan, and networking with successful investors and professionals who serve the new business market. Top venture capitalists and angel investors, who mentor the semi-finalists during one-on-one sessions, carefully review plans. There were 25 entrants in the first rounds of the 2001-2002 Big Bang! Business Plan Competition and there were 40 entrants in the first two rounds of the 2002-2003 competition. During 2002-2003, eleven qualifiers were asked to submit complete business plans, and following a review of the business plans, four teams were selected to make 15-minute presentations before judges and before a public audience. Winners receive cash awards. Entrants came from a variety of disciplines and backgrounds, both technical and non-technical, and ranged in experience from first-time entrepreneurs to accomplished businesspeople from the UC Davis alumni community.

## **STUDENT, STAFF, AND FACULTY VOLUNTEER PROGRAMS**

The Internship and Career Center administers the UC Davis Human Corps Program for community service. Human Corps promotes community service through action and leadership through service. It is dedicated to widening the ethic of service on campus. During 2001-2002, Human Corps had over 539 e-mail and telephone contacts with potential volunteers and with community service organizations. A total of 331 service organizations were listed in the on-line Human Corps database, and a total of 78 individuals and 19 groups were recognized at a formal reception by the Office of the Chancellor for outstanding community service contributions. The Human Corps program has recently transitioned from a calendar year to an academic year format in their collection of volunteer hour data. As a result of this transition, volunteer data for 2001-2002 are not available. However, Human Corps survey results for 2002-2003 indicate a total of 246,479 hours of community service volunteered by UC Davis, students, faculty, and staff.



## IX. UC DAVIS HEALTH SYSTEM AND UC DAVIS SCHOOL OF VETERINARY MEDICINE

### OVERVIEW OF THE UC DAVIS HEALTH SYSTEM

The UC Davis Health System is a fully integrated academic health system comprising the UC Davis School of Medicine, its medical center, which is located in Sacramento, and a 550-physician medical group. A discussion of some of the UC Davis Health System programs and their impact on the surrounding community follows.

**TABLE 26: UC DAVIS HEALTH SYSTEM FACTS IN BRIEF 2001-2002**

Faculty	605
Students	1,211 <sup>(1)</sup>
Licensed Beds	528
Average Length of Stay	4.9
Occupancy Rate	82%
Patients Served	
Total Outpatient Visits	875,369
ER Visits	55,132
Annual Admissions	30,765
Total Patients Served	961,266
Facilities (in square feet)	
Sacramento	3,228,000
Davis	349,000
Primary Care Network	249,000
Total Square Feet	3,826,000

(1) Includes medical students, graduate medical residents, and graduate biosciences students.

Sources: UC Davis Health System; and Sedway Group.

### UC DAVIS SCHOOL OF MEDICINE

The UC Davis School of Medicine continually ranks among the top medical schools in the country, according to *U.S. News & World Report's* annual list of Best Graduate Schools in America. The School of Medicine's primary care program was ranked 17<sup>th</sup> in the nation in the 2004 edition. In addition to receiving scholastic recognition, UC Davis medical students and faculty have a long-standing tradition of making contributions to the community through volunteerism. In 1971, the school's second graduating class founded a student-run free clinic for the medically underserved, the Paul Hom Clinic, which is the oldest Asian health clinic in the United States and is still in operation today. Three other community clinics were opened subsequently: the Clinica Tepati, which was founded in 1974 and provides services to the medically underserved Latino population of Sacramento; the Imani Clinic, which provides services to the African American community and addresses issues such as hypertension, heart disease, and inadequate prenatal care; and the Shifa Community Clinic, which serves members of the Muslim community.

Currently, UC Davis student-run community clinics deliver medical care to underserved patients who would otherwise have difficulty obtaining health care due to socioeconomic and language barriers. A remarkable 85 percent of UC Davis medical students volunteer at the clinics, which are staffed entirely by

UC Davis faculty, undergraduate students, medical students, and community members. The services provided by the clinics range from primary care to women's and children's health. A final impact of the School of Medicine is the large percentage of alumni who remain in the Davis-Sacramento Region and practice medicine. An estimated 30 percent of all practicing doctors in the Davis-Sacramento Region are graduates of the UC Davis School of Medicine or the School of Medicine residency programs.

## **UC DAVIS MEDICAL CENTER**

The UC Davis Medical Center ranks among the nation's leading hospitals in cancer, hormonal disorders, otolaryngology, orthopedics, neurology, pulmonary disease, urology, digestive disorders, geriatrics, kidney disease, and rheumatology according to *U.S. News & World Report*. The Medical Center is the primary clinical education site for the UC Davis School of Medicine and is also the leading tertiary care referral center for 33 counties and approximately 5 million residents, covering more than 50,000 square miles. A few of the multidisciplinary programs offered through the Medical Center include the UC Davis Cancer Center, the UC Davis Children's Hospital (Sacramento's only comprehensive children's hospital), the UC Davis Transplant Center, and the UC Davis Trauma Center. The Medical Center's 528-bed, acute-care hospital and its affiliated outpatient centers host approximately one million patient visits annually.

The UC Davis Medical Center is actively committed to the community through a variety of means. The Medical Center provides more health care to underserved and underfunded populations than any other hospital in the region and sponsors public conferences and seminars on health-related topics such as nutrition and fitness. In 2001-2002, the Medical Center spent approximately \$7 million in uncompensated charity care and an additional \$137 million on Medi-Cal and county indigent care in excess of reimbursements, for a total of over \$144 million in uncompensated care.

## **HEALTH SYSTEM RESEARCH**

Research at the UC Davis School of Medicine and Medical Center covers all areas of basic and clinical research. In 2002, research at the school and Medical Center included over 450 active grants and contracts, and research funding totaled over \$100 million. Areas of expertise include bone biology, cancer biology, comparative medicine, diabetes, health services research, heart disease, human molecular genetics, infectious diseases, neurosciences, ophthalmology, pediatrics, and transplantation.

One example of research at work is the UC Davis Center for Health and Technology, which is focused on using the latest in telecommunications and information technology to improve access to health care and clinical education. This access is particularly important to rural communities in California, which historically had to travel long distances to receive certain types of medical care. UC Davis has been a pioneer in advancing telemedicine, which uses telephones, computers, videoconferences, diagnostic cameras, and other technologies to link patients and doctors who are in different locations. UC Davis Medical Center staff currently uses remote technology to treat patients in rural areas at 60 sites in 35 counties in California.

## **HEALTH SYSTEM COMMUNITY PARTNERSHIPS**

The UC Davis Health System is actively involved in the community and sponsors many activities and partnerships to promote healthy living by Davis-Sacramento Region residents. A few of the community partnerships are summarized as follows:

- Five student-run, free community clinics, including the oldest existing Asian clinic in the nation.
- Service on the Mayor's Commission on Children's Health since 1998, during which time 8,000 local children were assisted and enrolled in a health insurance program.
- Partnership with local hospitals to create a Radiology Technician Academy in conjunction with Yuba College to train career ladder employees for new, marketable technical skills.
- Partnership with Los Rios Community College District to expand registered nurse training opportunities for employees interested in healthcare careers.
- Sponsorship of the Healthy Aging lecture series featuring more than two dozen free community lectures annually. And presentation of several, multi-cultural Healthy Aging summits with annual attendance exceeding 2,500 participants.
- Sponsorship of community health fairs for children, youth, teens, adults and seniors.
- Provision of first aid services at large scale community events, e.g. Sacramento International Marathon, Pacific Rim Festival.
- Five-year, \$500,000 commitment to St. Hope Public Schools to form a School of Health at the new Sacramento High School Charter School.
- Scholarship awards to eligible youth for the National Youth Leadership Forum on Medicine each summer.
- Operation of the only University of California-sponsored EMS helicopter trauma service, Life Flight.
- 24/7 access to professional medical interpreters speaking 21 different languages.
- Annual funding and clinical support of the CARES center for HIV/AIDS in Sacramento.

## UC DAVIS SCHOOL OF VETERINARY MEDICINE

The UC Davis School of Veterinary Medicine, the largest of the nation's 28 veterinary schools, conducts teaching, research and service activities statewide benefiting animal, human, and environmental health. In addition to its educational programs, the school is the primary health resource for California's animals: companion animals, livestock, poultry, and wildlife. The school delivers a broad range of services and programs in clinical service, food animal health, food safety, wildlife health, outreach, and research.

### MAJOR SERVICE UNITS

The **Veterinary Medical Teaching Hospital**, located on the Davis campus, serves clients and veterinarians throughout the state. The hospital provides veterinary care in 28 clinical services to 30,000 animal patients each year as well as clinical training for veterinary students and specialty residents. The hospital also offers tertiary care services not generally available in the community: organ transplantation, genetics, and nutrition, for example. The school also operates a clinic in the San Diego region, offering specialty services in behavior and hemodialysis.

The **Veterinary Medicine Teaching and Research Center**, Tulare, serves the nation's number one dairy production region, providing specialized veterinary services for area producers. Faculty and cooperating producers perform applied research studies in response to current issues in food animal medicine and environmental health. Center faculty teach veterinary students, residents and graduate students to apply principles of food animal medicine and population health.

The **California Animal Health and Food Safety Laboratory** system, in partnership with the California Department of Food and Agriculture, protects animal health, public health, and food safety. The laboratory conducts statewide veterinary diagnostic services, disease surveillance, and research at laboratories in Davis, Turlock, Fresno, Tulare, and San Bernardino. Laboratory personnel monitor and combat emerging threats such as exotic Newcastle disease, which struck poultry during 2002, and West Nile virus, which entered California in 2003. During 2002, the laboratory performed 1.8 million diagnostic tests representing 3,253 different findings in 506 species or breeds.

**Veterinary Medicine Extension** specialists work with livestock and poultry producers, county farm advisors, California veterinarians, and consumers on issues affecting food safety and the health of food animals in California's \$7 billion animal agriculture industry. Veterinary Medicine Extension veterinarians in 2002-2003 mobilized scientific support and educational outreach to veterinarians and consumers as part of a national task force charged with eradicating exotic Newcastle disease in California game birds and commercial poultry.

### RESEARCH IMPACTS

The School of Veterinary Medicine expands society's understanding of animal health, comparative medical research, and veterinary science. In 2002, researchers were engaged with 353 active grants and contracts. Of an annual research budget of \$60 million, about \$37 million in public and private funding supports basic and applied studies to benefit the health and well being of food animals, horses, wildlife, and

companion animals. In addition, as much as 45 percent of the research budget supports veterinary medical research affecting human and environmental health. In all but one of the last 15 years, the National Institutes of Health has awarded more funding to the School of Veterinary Medicine than any other veterinary school in the country--\$29.3 million in 2002--for studies of AIDS, asthma, autism, tobacco-related illness, cancers, nutrition, genetic disease, West Nile virus, and other human health concerns.

The School has organized its research efforts into Centers of Excellence, which focus research on species interests and multidisciplinary themes. A few examples include:

The **Center for Companion Animal Health** supports advanced studies of the causes and cures of cancers, genetic and immune disorders, infectious diseases, nutritional disorders, kidney ailments, heart disease, and other companion animal problems.

The **Center for Equine Health** advances the health, well-being, performance, and veterinary care of horses through research. It also serves as a teaching resource for the training of professional DVM students in medicine, reproduction, surgery, breeding farm practices, disease prevention, medical treatments, and emergencies.

The **Center for Food Animal Health** funds research to enhance the health and well being of food-producing animals, promote the safety of foods of animal origin, and provide a healthy environment for food animals and humans.

The **Wildlife Health Center** emphasizes research on the health of free-ranging and captive terrestrial and aquatic wild animals as well as addressing complex issues of conservation, ecological balance, and the impacts of urban development on wildlife habitats.

The **Center for Comparative Medicine**, co-sponsored with the School of Medicine, emphasizes integrated research and teaching on intervention strategies for the treatment, control, and prevention of persistent infectious diseases common to humans and animals, including AIDS, Lyme disease, erlichiosis, and other diseases.

The **Center for Vectorborne Diseases** conducts testing and research to solve human health and veterinary problems caused by mosquitoes, ticks and other vectors. Laboratory personnel identified the first occurrence of West Nile virus in California.

The **Western Institute for Food Safety and Security** coordinates efforts of UC Davis, the California Department of Food and Agriculture, the California Department of Health Services, and the California food and agricultural industries to develop applied food safety research and education.

The **Center for Children's Environmental Health**, in collaboration with the School of Medicine and the M.I.N.D. Institute, examines how toxic chemicals may influence the development of autism in children.

## COMMUNITY OUTREACH AND PARTNERSHIPS

Faculty, staff and students engage in ongoing community outreach and emergency response. Just a few activities are mentioned here:

The **Center for Continuing Professional Education** produced or co-produced more than 40 educational programs in 2002-2003 for more than 2,300 veterinarians, veterinary assistants, technicians and office staff, and the public. Programs represented approximately 350 hours of coursework aimed at assisting members of the veterinary profession at all levels to stay current with new technologies and techniques.

The **Oiled Wildlife Care Network** consists of 25 specialized wildlife health centers along California's 1100-mile coast, which respond to oil spills with coordinated rescue and rehabilitation of injured wildlife, including sea birds, small marine mammals, and sea turtles. The Network conducts advanced volunteer training and oil-related wildlife research.

The **Maddie's Shelter Medicine Program** works to improve health and well being of shelter animals using preventive medicine, infectious disease management, and behavioral approaches. Partners in Sacramento, Solano, Contra Costa and San Mateo counties receive specialized services and collaborate on population health studies. Program leaders also guide student efforts to improve successful animal adoptions.

The **Mercer Veterinary Clinic for the Homeless**, coordinated by veterinary students, provides free care for animal companions of the homeless. At monthly clinics in Sacramento, veterinarians and student volunteers provide routine care services and spay-neuter referrals. Students received the 1998 American Veterinary Medical Association Humane Award for promoting humane treatment of animals.

Trained veterinary student volunteers at the **Pet Loss Support Hotline** lend a compassionate ear and provide free resources to people coping with the loss of a companion animal.

The **California Raptor Center** rehabilitates more than 250 injured and orphaned birds of prey each year, releasing about 60 percent of them back into the wild. The center provides hands-on training in veterinary care and management of birds of prey. Since 1980, more than 40,000 people of all ages have participated in center outreach programs.

At the **California State Fair Livestock Nursery**, trained veterinary students introduce fairgoers to the miracle of birth and daily farm life and gain clinical experience assisting food animal veterinarians during the births of more than 100 calves, piglets, goat kids and lambs.

Trained volunteers of the **Veterinary Emergency Response Team** conduct animal rescues during declared disasters (floods, earthquakes, fires), including airlift rescues of livestock. For example, faculty, staff and students assisted in rescue efforts during the California flooding of 1997 and 1998 and Hurricane Floyd in 1999. The team stands at the ready for quick deployment.

## **X. COMMUNITY EFFECTS OF THE UNIVERSITY**

The preceding chapters of this report document the economic contributions of UC Davis to the surrounding communities of the City of Davis, Yolo County, the Davis-Sacramento Region, and the State of California. This chapter evaluates how the University affects the surrounding communities in other ways, including losses from property tax exemptions, use of municipal and county services, traffic and parking impacts, local housing impacts, and taxable sales generated by the University.

### **LOSSES FROM PROPERTY TAX EXEMPTIONS**

UC Davis is exempt from property taxes. Therefore, the revenues of the City of Davis and Yolo County are affected by University-owned and University-leased properties within the City of Davis. During 2001-2002, the total estimated assessed value of University-owned properties in the City of Davis was \$7.4 million<sup>1</sup>. The estimated loss of potential property taxes for University-owned properties was approximately \$75,000. If the properties were taxable, then approximately \$5,300<sup>2</sup> in property taxes would flow to the City of Davis general fund revenues and \$5,900<sup>3</sup> in property taxes would flow to Yolo County general fund revenues. The remainder of the \$63,800 in property tax revenue would flow to the following entities<sup>4</sup>, in the order of largest allocation to smallest:

1. Davis School District;
2. Education Revenue Augmentation Fund (ERAF);
3. Davis Redevelopment Agency;
4. Los Rios Community College;
5. Solano County Flood Control;
6. Yolo County School District;
7. Yolo County Library;
8. Yolo County Accumulated Outlay,
9. Sacto-Yolo Mosquito and Vector Control;
10. Yolo County Flood Control District; and
11. Davis Cemetery District.

It is important to note that the school districts' foregone revenue is backfilled by the State of California via the ERAF mechanism, so although they are not receiving the revenue needed to educate enrolled students directly from University property tax dollars, they are made whole by the State.

The total estimated assessed value of University-leased properties in the City of Davis was \$12.2 million. The estimated loss of potential property taxes for University-leased properties was \$125,000. If the properties were taxable, then approximately \$24,000 in property taxes would flow to the City of Davis and

<sup>1</sup> This figure is exclusive of 3 student housing properties. Valuations of these properties were not available.

<sup>2</sup> Based on the assumption that the average City of Davis tax allocation factor is 20 percent, of which 35 percent flows to City of Davis general fund revenues.

<sup>3</sup> Based on the assumption that the average Yolo County general fund tax allocation factor is 7.8 percent.

<sup>4</sup> Based on the tax allocation factors for Aggie Village; entities may vary depending upon location of properties within the City.



\$9,500 in property taxes would flow to Yolo County. The remainder of the \$91,500 in property tax revenue would flow to the same entities as those outlined for University-owned properties within the City of Davis.

## **USE OF MUNICIPAL AND COUNTY SERVICES**

UC Davis provides a full range of typical public services including police, fire, water and wastewater treatment, storm drainage, street and grounds maintenance, electricity, and natural gas, among others. Two municipal departments that provide services to the University as part of a mutual and/or automatic aid agreement are the Davis Police Department and the Davis Fire Department. The Davis Police Department estimates that they assist the University one to two times per month on average for both patrol and investigation services. This mutual aid assistance generally occurs when campus events cross over into City limits rather than a call response to a specific University location within the City. The Davis Police Department estimates that UC Davis patrol officers frequently assist them on calls, more often than one to two times per month. This anecdotal information indicates that the presence of the University is a net benefit to the City of Davis with respect to police services.

During 2001-2002, the UC Davis Fire Department received automatic aid (based on an agreement between the City of Davis and UC Davis) from the Davis Fire Department 27 times and received mutual aid (based on the State of California Master Mutual Aid agreement) from the Davis Fire Department five times. During the same time period, the Davis Fire Department received automatic aid from the UC Davis Fire Department 104 times and mutual aid six times. In addition to the greater number of aid incidents given, the University also has the only ladder truck in the Davis area and comprises the core component of the Yolo County hazardous materials emergency response team. Again, this anecdotal information indicates that the University is a net provider of services to the City of Davis.

## **TRAFFIC AND PARKING IMPACTS**

### **Traffic Impacts**

Approximately 57,200 daily vehicles travel to the UC Davis campus on a typical weekday. There are two regional roadways that serve the UC Davis campus: Interstate 80 and State Route 113. The central campus is served by six campus gateways, an internal loop roadway, and adjacent roadways within the City of Davis. The central campus gateways and the primary local roadways include the following:

1. La Rue Road (serves approximately 26 percent of vehicles traveling to campus);
2. Hutchison Drive (serves approximately 20 percent of vehicles traveling to campus);
3. A Street (serves approximately 17 percent of vehicles traveling to campus);
4. Howard Way (serves approximately 15 percent of vehicles traveling to campus);
5. Old Davis Road (serves approximately 14 percent of vehicles traveling to campus);
6. California Avenue (serves approximately 8 percent of vehicles traveling to campus);
7. County Road 98;
8. First Street;
9. Hopkins Road;
10. Richards Boulevard; and
11. Russell Boulevard.

For the University's recent Long Range Development Plan, Fehr & Peers (traffic consultants) conducted peak-hour traffic counts at 45 intersections in Davis. The level of service (LOS) was calculated for each study intersection to evaluate the quality of existing traffic conditions, and letter grades were assigned from A (the best) to F (the worst). Most study intersections operate at LOS D or better during the AM and PM peak hours, according to Fall 2001 conditions.

Bicycles are a major component of the transportation system at UC Davis and within the City of Davis. UC Davis has an extensive system of bicycle paths, which makes bicycles a popular form of transportation on campus. This is due in part to the fact that roadways within the core campus area are restricted to transit and emergency vehicles, bicyclists, and pedestrians. The infrastructure support for bicyclists on the UC Davis campus and within the City of Davis helps to alleviate motorized vehicular traffic impacts in the area.

Unitrans serves as the main local transit system for UC Davis and City of Davis residents. Unitrans is owned and operated by UC Davis through the Associated Students, University of California at Davis (ASUCD) and the City of Davis. During 2001-2002, UC Davis funded 61 percent of the revenues in the Unitrans operating budget through the ASUCD undergraduate transit fee and the University's contribution. In the same year, the City of Davis funded 32 percent of the revenues in the operating budget through Davis Transportation Development Act (TDA) funds and federal operating funds (via the City of Davis). The remaining 7 percent of revenues were funded through fares and pass sales, Yolo County TDA funds, and advertising and other miscellaneous sources. Unitrans has a total of 44 buses in operation, or one bus for every 565 students on campus. Unitrans supported a total of 2.7 million riders during 2001-2002, 95.5 percent of whom were UC Davis students. The remaining riders were UC Davis faculty and staff (1.5 percent) and non-UCD-related riders (3 percent). Total ridership for 2001-2002 was an increase of 11 percent over total ridership for 2000-2001. This service has a positive effect on traffic impacts of the University, as it decreases the number of commuters driving their cars to and from campus.

The University has worked collaboratively with the City to address specific roadway improvements that serve both the City and campus. In fall of 2001, the campus contributed \$857,000 toward the reconfiguration of the intersection of First Street, E Street, and Richards Boulevard.

### **Parking Impacts**

UC Davis provides approximately 14,500 parking spaces on campus. Since 1996, the parking supply on campus has continually increased while parking utilization has remained at 80 percent or higher during Fall and Winter quarters (the quarters analyzed in the University's Long Range Development Plan). The University has proactively tried to reduce the reliance on travel to and from campus by private automobile, thereby reducing parking demand on campus. That said, there is adequate parking on campus based on the parking demand measured during Winter quarter, which is the quarter with highest parking demand due to weather conditions. The University charges for parking permits on campus as a means to offset the operating and maintenance expenses associated with the campus parking program.

In spite of a variety of transportation demand management strategies the City still experiences problems with University students, faculty, and staff parking in residential neighborhoods near campus to avoid paying for parking on campus. Additionally, there are more cars per housing unit that require parking within the City than City parking standards anticipated. The parking impacts in City neighborhoods has necessitated the creation of neighborhood parking districts whereby residents are issued parking permits and street parking is limited to cars displaying such permits. Since 1991, the City has created a total of

eight parking districts in response to the parking impacts caused by UCD students, faculty, and staff. The University acknowledges the issues associated with students, faculty, and staff parking in residential neighborhoods within the City of Davis and is working with the City on this situation.

## **LOCAL HOUSING IMPACTS**

During 2001-2002, approximately 5,800 UC Davis students lived on campus out of a total headcount of 24,870 students. Thus, 19,070 students, or 77 percent, were accommodated off campus, predominantly in the City of Davis and the Davis-Sacramento Region. Given that the total population in Davis in January 2002 was approximately 63,000, the University student population accounts for a large portion of the total Davis population and creates a significant impact on the local housing situation in the community.

The State of California Department of Finance estimated an overall residential vacancy rate within the City of Davis of approximately 3 percent in 2002. The UC Davis Housing Office estimated an October/November 2002 vacancy rate of 0.2 percent for apartments within the City of Davis. As such, housing is constrained in Davis and the presence of the University's students, faculty, and staff has contributed to this situation with both positive and negative effects. In general, The City of Davis would like the University to accommodate new students on campus. This is to say that as enrollment increases, those additional students would be housed in University housing as opposed to residences in the City. This goal is in line with University housing goals. Nevertheless, City of Davis staff have raised several issues pertaining to the availability of housing in the City and the direct impacts attributed to the University on housing.

One issue pertains to the greater "buying power" that students have over families when searching for rental housing in Davis. When students group together to rent apartments or single-family homes together, they have a larger pool of money to spend on rent than the average single-family household. This tends to squeeze families out of the competition for housing and has an adverse effect on property maintenance costs (in other words, a house full of students is likely to suffer more damage than a house occupied by a single-family household). The positive benefit of this situation is that high demand and low vacancy rates tend to increase rental rates, which results in more income for landlords.

A second issue relates to the controversy over investors who buy single-family homes in Davis and then add on several bedrooms to effectively double the occupancy of the home. These homes are then rented to large groups of students. This situation results in potential conflicts between the student-occupied houses and their non-student residential neighbors as well as severe parking issues in the single-family neighborhoods in which these homes are located. The positive benefit of this situation is that the property values of these homes are likely to increase after the improvements are made, which is good for the owner as well as the owners of neighboring homes. Also, the ability of these homes to house more students equates to greater rental rates for the homes, which results in more income for the landlords.

A third issue arises when parents of students purchase single-family homes or condominiums within Davis to house their children while students at the University. This creates instability in neighborhoods as owners as well as occupants become transient in nature. Additionally, this results in a highly competitive market for purchasing residential real estate, much like the result of the students' greater "buying power" creates a highly competitive market for renting residential real estate. The positive benefit of this situation is that property values of these homes are likely to increase due to the competitive market for purchasing real estate, which is again good for residential real estate owners.

The housing impacts of the University also extend outside of the City of Davis. As a result of the low vacancy rates and high cost of housing (both for-sale and rental) within the City, the towns and cities surrounding Davis are impacted as well. UC Davis students and employees who commute to campus generally reside within the three counties of Sacramento, Yolo, and Solano. Housing prices and conditions vary considerably within the three-county area, with small cities and towns (Woodland, Winters, Dixon, and Isleton) generally having less expensive housing than the affluent suburbs (Davis and Fair Oaks) and the core area of Sacramento. As a result, some University students and employees seek more affordable housing outside the City of Davis, which has contributed to some degree to the low vacancy rates within neighboring cities and the three-county area in general. In 2002, the overall residential vacancy rate for all dwelling units was 3.6 percent for Yolo County, 4.5 percent for Sacramento County, and 3.3 percent for Solano County. The three-county average residential vacancy rate was 4.2 percent. The actual contribution of UC Davis towards this three-county average vacancy rate is quite low. As a percentage of total population, UC Davis students, faculty, and staff comprise 15.0 percent of Yolo County total population, 0.8 percent of Sacramento County total population, and 0.4 percent of Solano County total population, based on residence data cited earlier in this report and January 1, 2002 total population counts.

To partially address housing issues in the City of Davis and surrounding community, the recently adopted 2003 UC Davis Long Range Development Plan (LRDP) provides capacity to accommodate approximately 5,000 students and 500 faculty and staff on the UC Davis campus. These figures represent virtually all of the projected student growth during the term of the LRDP, and about one-eighth of the projected growth in faculty and staff.

## **TAXABLE SALES GENERATED BY THE UNIVERSITY**

The taxable sales that are generated by UC Davis partially offset the foregone property taxes and the cost of services provided to the University. In 2001-2002 the University paid approximately \$358,000 in sales taxes on total food service sales of approximately \$6.2 million. The University paid approximately \$51,000 in sales taxes associated with its self-operated campus coffee house. The UC Davis bookstore paid approximately \$1.5 million in sales taxes on total sales of approximately \$22 million. Based on direct sales attributable to retail sales on campus, the University paid a total of \$1.9 million in sales taxes during 2001-2002, of which approximately \$395,000 was collected by Yolo County. This is a conservative estimate of sales taxes attributable to the University, as it does not include vendor payments made by the University, only direct retail sales on campus. The remainder of the sales taxes paid by the University went to various entities, including the State of California general fund, the local revenue fund, and local transportation tax, as shown in Table 27 below.

<b>TABLE 27: DETAILED DESCRIPTION OF THE CALIFORNIA SALES AND USE TAX RATE</b>	
<b>Rate</b>	<b>Jurisdiction</b>
4.75%	State (General Fund)
0.50%	State (Local Revenue Fund)
0.25%	State (General Fund)
0.50%	State (Local Public Safety Fund)
1.25%	Local (County/City) 1.00% City and county operations 0.25% County transportation funds
7.25%	Total Statewide Base Sales/Use Tax

Sources: California State Board of Equalization; and Sedway Group.

## **XI. UNIVERSITY DEVELOPMENT CASE STUDIES**

This chapter assesses the impacts of two recent UC Davis developments on the surrounding communities of the City of Davis and Yolo County. Specifically, these case studies focus on the direct fiscal impacts to governmental revenues and costs generated by the two University developments. Several sources were utilized for these analyses, including the UC Davis Neighborhood Master Plan Public Review Draft Fiscal Impact Analysis conducted by Goodwin Consulting and dated May 20, 2003, the Yolo County Final Development Impact Fee Study Update 2000-2015 conducted by Bay Area Economics and dated April 30, 2002, and data provided by UC Davis, the City of Davis, and Yolo County.

### **THE COLLEGES AT LA RUE**

#### **Description**

The Colleges at La Rue is a student apartment complex on the UC Davis campus, which was specifically designed to build a sense of community and connection with the campus for the student residents. The development encompasses 216,000 square feet on 11.3 acres and is located on the western portion of the central campus. The Colleges comprises five thematic courts of one- to four-bedroom apartments, with a total of 197 units accommodating up to 600 students. Each court has its own classroom and study areas, and there is also a common green, fitness and laundry facilities, and a 4,000-square-foot community center for the collective development.

The Colleges at La Rue cost \$18 million to develop and was privately funded. The development was built and is owned by Tandem Properties, which also provides property management services for the development. The Colleges was built to provide additional on-campus housing during a period of rapid growth in enrollment and decreased availability of housing, both on-campus and off-campus.

#### **Fiscal Impact**

The development of the Colleges at La Rue resulted in two primary positive effects on the City of Davis and Yolo County. First, the Colleges provides additional student residences in housing-constrained Davis. These additional residences are serviced solely by the University. These services include: fire, police, water, sewer, electricity, waste management, data links, telephone, and cable. Second, the students housed at the Colleges at La Rue spend a significant amount of money each year at the UC Davis bookstore and other retail stores in the Davis area. These expenditures generate sales tax revenue to both the City and the County. It is estimated that during 2001-2002, the average undergraduate student spent approximately \$1,150 on books and supplies while the average graduate student spent approximately \$1,340 on books and supplies. These expenditures are in addition to \$2,000 to \$3,000 spent by undergraduate and graduate students living on campus during 2001-2002, as shown in Table 22. The development of additional student housing at UC Davis allows enrollment to increase without further strain on the Davis housing market. This additional enrollment results in a direct benefit to the City of Davis and Yolo County in the form of student expenditures in the Davis area.

The primary negative effect of the development of the Colleges at La Rue is the foregone property taxes that result from the tax-exempt status of the project. The project is currently valued at approximately \$22.5



million. Utilizing Yolo County's average general fund tax increment allocation factor of 7.8 percent, this results in foregone revenue to Yolo County of approximately \$17,600.

The Colleges at La Rue imposes little impact on the surrounding community due to the University providing all of the services that the City of Davis might provide to projects not associated with the University. With respect to the impact of the development on Yolo County-provided services, the Yolo County Final Development Impact Fee Study Update 2000-2015, conducted by Bay Area Economics and dated April 30, 2002, as cited in the Goodwin Consulting analysis, states that UC Davis students and employees have a reduced level of demand for County facilities and services compared to non-UC Davis – related County residents and employees. Thus, the Colleges at La Rue imposes relatively little impact on services provided by either the City of Davis or Yolo County.

If it is assumed that the Colleges at La Rue was occupied by 600 undergraduate students in 2001-2002, the total sales tax revenue collected by Yolo County from the campus bookstore as a result of those students' purchases of books and supplies was approximately \$10,400 (based on the per undergraduate student spending estimate of \$1,150 cited previously). Additional taxable sales revenue attributable to the Colleges at La Rue would result from student spending in the Davis-Sacramento Region. As outlined in Chapter VII of this report, average on-campus student spending during 2001-2002 was \$2,102. It is assumed that 60 percent of this spending occurs in Yolo County. Therefore, the 600 undergraduate students living at the Colleges at La Rue contributed an additional \$760,000 in student spending to the Yolo County economy, which generated an additional \$3,800 in sales tax revenue to the County. This taxable sales revenue is a subset of the taxable sales revenues/student spending impacts discussed previously in this report and is detailed here for case study purposes.

As detailed above, total revenues to Yolo County as a result of the Colleges at La Rue were \$14,200. Total foregone property tax revenue was \$17,600. This results in a net impact to Yolo County of (\$3,400) attributable to the Colleges at La Rue development during 2001-2002.

## **AGGIE VILLAGE**

### **Description**

Aggie Village is a housing community that offers UC Davis faculty and staff affordable homes created specifically to suit the needs of the growing University community. Aggie Village encompasses 4.5 acres in total and includes 54 dwelling units on 37 lots. The dwelling units comprise 21 single-family detached homes, of which 17 include detached cottages in the backyard of the homes, and 16 split-lot townhomes. Architectural designs include Craftsman-style bungalows and Victorian- and Mission-style homes, which integrates appropriately with the diverse architectural character of the surrounding neighborhood. The detached cottages or "Grad Flats" included in 81 percent of the single-family homes can be used by homeowners as offices, guest accommodations, or rental units for University students.

Aggie Village is located adjacent to downtown Davis, integrating the UC Davis campus with the City. The five-block site includes retail (Davis Commons), residential and University uses, and open space. Bicycle and pedestrian paths provide access to destinations both on campus and in the City. Aggie Village is home to approximately 132 residents, averaging three per home and 1.25 per cottage. Residents of Aggie Village own the improvements but lease the land, which is owned by the University, based on a 99-year ground lease. Each homeowner pays property taxes based upon the purchase price of the home plus the value of

the leased lot, which was negotiated by the University with the Yolo County appraiser. Home values for resale purposes are capped at the higher of the faculty salary index or the consumer price index.

## **Fiscal Impact**

The net impacts of Aggie Village on the City of Davis and Yolo County include both benefits and costs. Benefits include the provision of housing in a constrained housing market, property taxes paid by the residents of Aggie Village, property taxes paid by Davis Commons, jobs created by Davis Commons, retail expenditures spent by the employees of Davis Commons in the Davis area, and sales taxes paid by Davis Commons, among others. The primary cost impact of Aggie Village on the City and the County are the use of City and County services by Aggie Village residents and employees of Davis Commons. This analysis weighs both to determine net impact.

**Methodology.** The Aggie Village fiscal impact analysis focuses specifically on the recurring impacts of Aggie Village on the City's and County's general funds. Sedway Group utilized the same methodology and data (adjusted for 2001-2002) for this fiscal impact analysis as those used by Goodwin Consulting in its UC Davis Neighborhood Master Plan Public Review Draft Fiscal Impact Analysis dated May 20, 2003. The reader should refer to this report for a thorough discussion of the methodology and assumptions used in that analysis.

Two methodologies were used in the analysis for Aggie Village. First, the case study method (or marginal cost method) was used to estimate recurring revenues and expenses by applying defined service standards, existing tax and fee rates, and suggested operating and maintenance costs to the land uses in Aggie Village (residential and retail). The case study method was also used when actual figures were available for the 2001-2002 fiscal year. For example, the case study method was used for property taxes on the revenue side and recreation expenses on the expense side.

Second, the average cost method was used when the current average cost is a reasonable approximation of the actual costs to provide similar services. This approach assumes that fiscal impacts from Aggie Village occur at the same per-capita rates that currently occur for each department or service. The City of Davis uses a Dwelling Unit Equivalent (DUE) factor approach to determine the impacts on the City from developments. The DUE factor converts City resident and employee populations into household equivalents using the City's average number of residents per single-family household as its base figure. Non-residential developments are also converted into DUEs under the assumption that in general, one employee is equal to one resident in terms of services required. The City of Davis assumes that 2.83 residents equal one residential DUE and 2.83 employees equal one employee DUE. Fiscal impacts (revenues and expenses) are then calculated on a per DUE basis. Yolo County analyzes average costs based upon a Per Person Served multiplier. This approach utilizes the total service population for the County (which is equal to 100 percent of County residents plus 50 percent of the countywide employee population) and calculates the revenues or expenses attributable to each person served in the County. Data for the fiscal impact analysis were provided by Goodwin Consulting, the City of Davis, and Yolo County. The general assumptions for the fiscal impact analysis as well as revenue and expense assumptions for both the City of Davis and Yolo County are included in Appendix C.

**Findings.** Tables 28 and 29 detail the positive and negative fiscal impacts of Aggie Village on the City of Davis and Yolo County. The figures detailed in these tables are based upon the assumptions provided in Appendix B. Based on a service population of 132 residents in Aggie Village and 98 FTE employees of Davis Commons, the net fiscal impact on the City of Davis for the residential portion of the project was



\$6,000 in 2001-2002, while the net fiscal impact for the non-residential portion of the project was \$134,500. The net fiscal impact of the total project on the City of Davis was \$140,500.

In the Yolo County fiscal impact analysis, to be conservative it was assumed that all 132 residents of Aggie Village were UC Davis faculty, staff, or family members and it was assumed that all 98 FTE employees of Davis Commons were not residents of Aggie Village. Based on a service population of 132 residents in Aggie Village and 98 FTE employees of Davis Commons, the net fiscal impact on Yolo County for the residential portion of the project was (\$1,800) in 2001-2002, while the net fiscal impact for the non-residential portion of the project was \$62,700. The net fiscal impact of the total project on Yolo County was \$60,900.

Both case studies provide insight into the direct fiscal impacts of UC Davis developments on the surrounding communities of the City of Davis and Yolo County. These case studies should be considered in the broader context of all impacts of the University on these communities, quantitative or qualitative, and in conjunction with the economic impacts of the University detailed in this report.

**TABLE 28: AGGIE VILLAGE FISCAL IMPACT ANALYSIS  
CITY OF DAVIS - SUMMARY OF NET FISCAL IMPACTS FOR 2001-2002**

	2001-2002 Impacts Residential	Percent of Total	2001-2002 Impacts Davis Commons	Percent of Total	Modeling Methodology
<b>General Fund Revenues</b>					
Property Tax	\$4,800	19%	\$4,200	3%	Case Study
Sales & Use Tax	\$6,414	25%	\$139,600	87%	Case Study
Other Taxes					
Franchise Taxes	\$787	3%	\$585	0%	Per DUE Multiplier
Municipal Services Tax	\$2,123	8%	\$3,168	2%	2001-2002 City Rates Applied
Business License Tax	N/A		\$8,292	5%	2001-2002 City Rates Applied
Intergovernmental					
Motor Vehicle In-Lieu	\$7,144	28%	N/A		Per Residential DUE Multiplier
Fines & Forfeitures	\$28	0%	\$21	0%	Per DUE Multiplier
Total	\$21,298		\$155,866		
<b>Special Fund Revenues</b>					
Parks Maintenance Tax	\$1,813	7%	\$400	0%	2001-2002 City Rates Applied
Public Safety Tax	\$1,662	6%	\$4,029	3%	2001-2002 City Rates Applied
Open Space Protection Tax	\$888	3%	\$200	0%	2001-2002 City Rates Applied
Total	\$4,363		\$4,629		
<b>Total Revenues</b>	<b>\$25,660</b>	<b>100%</b>	<b>\$160,495</b>	<b>100%</b>	
<b>General Fund Expenses</b>					
General Government	\$5,610	28%	\$4,165	16%	Per DUE Multiplier
Planning and Building	\$904	5%	\$671	3%	Per DUE Multiplier
Recreation	\$1,503	8%	\$1,116	4%	Case Study
Social Services	\$90	0%	\$67	0%	Case Study
Subtotal	\$8,107		\$6,019		
Transportation Department Maintenance	\$2,876	15%	\$2,660	10%	Case Study
Police Department	\$0	0%	\$10,799	42%	Per DUE Multiplier
Fire Department	\$8,722	44%	\$6,475	25%	Per DUE Multiplier
Subtotal	\$11,598		\$19,935		
<b>Total Expenses</b>	<b>\$19,705</b>	<b>100%</b>	<b>\$25,954</b>	<b>100%</b>	
<b>Net Fiscal Impact</b>	<b>\$5,955</b>		<b>\$134,541</b>		
<b>Total Net Fiscal Impact</b>	<b>\$140,496</b>				

Notes:

Assumptions utilized in this table are available in Appendix C.

Sources: City of Davis; Goodwin Consulting; UC Davis; and Sedway Group.

**TABLE 29: AGGIE VILLAGE FISCAL IMPACT ANALYSIS  
YOLO COUNTY - SUMMARY OF NET FISCAL IMPACTS FOR 2001-2002**

	<b>2001-2002 Impacts Residential</b>	<b>Percent of Total</b>	<b>2001-2002 Impacts Davis Commons</b>	<b>Percent of Total</b>	<b>Modeling Methodology</b>
<b>General Purpose Revenues</b>					
Property Tax	\$5,900	34%	\$5,200	7%	Case Study
Sales & Use Tax	\$3,207	18%	\$69,800	93%	Case Study
Motor Vehicle In-Lieu	\$8,049	46%	N/A		Per Resident Multiplier
Fines & Forfeitures	\$402	2%	\$298	0%	Per Person Served Multiplier
<b>Total Revenues</b>	<b>\$17,558</b>	<b>100%</b>	<b>\$75,298</b>	<b>100%</b>	
<b>General Purpose Expenses</b>					
General Government	\$7,541	39%	\$5,598	45%	Per Person Served Multiplier
Public Protection	\$7,618	39%	\$5,656	45%	Per Person Served Multiplier
Health and Human Services	\$1,375	7%	\$1,021	8%	Per Person Served Multiplier
Public Assistance	\$2,467	13%	\$0	0%	Per Person Served Multiplier
Planning and Public Works	\$405	2%	\$301	2%	Per Person Served Multiplier
<b>Total Expenses</b>	<b>\$19,405</b>	<b>100%</b>	<b>\$12,575</b>	<b>100%</b>	
<b>Net Fiscal Impact</b>	<b>-\$1,848</b>		<b>\$62,723</b>		
<b>Total Net Fiscal Impact</b>	<b>\$60,875</b>				

Notes:

Assumptions utilized in this table are available in Appendix C.

Sources: Yolo County; Goodwin Consulting; UC Davis; and Sedway Group.

J:\word\_processing\word\_docs\projects\24302\Report04\[Fiscal Impact Analysis - Aggie Village.xls]County Impacts\[BSM]

## **ASSUMPTIONS AND GENERAL LIMITING CONDITIONS**

Sedway Group has made extensive efforts to confirm the accuracy and timeliness of the information contained in this study. Such information was compiled from a variety of sources, including interviews with government officials, review of City and County documents, and other third parties deemed to be reliable. Although Sedway Group believes all information in this study is correct, it does not warrant the accuracy of such information and assumes no responsibility for inaccuracies in the information by third parties. We have no responsibility to update this report for events and circumstances occurring after the date of this report. Further, no guarantee is made as to the possible effect on development of present or future federal, state or local legislation, including any regarding environmental or ecological matters.

The accompanying projections and analyses are based on estimates and assumptions developed in connection with the study. In turn, these assumptions, and their relation to the projections, were developed using currently available economic data and other relevant information. It is the nature of forecasting, however, that some assumptions may not materialize, and unanticipated events and circumstances may occur. Therefore, actual results achieved during the projection period will likely vary from the projections, and some of the variations may be material to the conclusions of the analysis.

Contractual obligations do not include access to or ownership transfer of any electronic data processing files, programs or models completed directly for or as by-products of this research effort, unless explicitly so agreed as part of the contract.

This report may not be used for any purpose other than that for which it is prepared. Neither all nor any part of the contents of this study shall be disseminated to the public through publication advertising media, public relations, news media, sales media, or any other public means of communication without prior written consent and approval of Sedway Group.

## APPENDICES

## APPENDIX A: UNIVERSITY STAFF RESOURCES

Many individuals from the University contributed input and assistance to Sedway Group throughout the course of this study, including:

Name		Title	Department
Timothy	Akin	Marketing Coordinator	Graduate School of Management
Kathy	Archer	Director, Alumni & Donor Relations	College of Letters & Science
Don	Barclift		Office of the Registrar
Lora	Bossio	Director	Financial Aid
Scott	Brayton	Marketing Director	Athletic Department
Teresa	Brown	Director	Campus Events and Visitor Services
Delanda	Buchanan	Capital Asset Accounting Manager	Accounting & Financial Services
Joseph	Calger	Associate Director	Advancement Services and University Relations
Jessie	Catacutan	Financial Officer	Office of the Vice Chancellor for Research
Lynne	Chronister	Associate Vice Chancellor of Research and Administration	Office of the Vice Chancellor of Research
Yvonne	Collins	Executive Assistant III	Center for Biophotonics Science and Technology
Tom	Compton	Executive Director	Campus Unions and Campus Recreation
Jim	Cramer	Director	Internship & Career Center
Janelle	Davila	Arts Education	Mondavi Center
Ralph	De Vere White	Professor and Chair/Medical Director	Medical: Urology/Cancer Center
Susan	Della	Analyst VI	Business Contracts
Susan	DeMarois	Manager	UC Davis Health System Government and Community Relations
Hebert	Diaz-Flores	Campus Data Administrator	Resource Management and Planning
Denise	Donn	Associate Director	Financial Aid
Mona	Ellerbrock	Director of Research Outreach	Office of the Vice Chancellor for Research
Mary	Ferguson	Financial Analyst	UC Davis Extension
Katherine	Ferrara	Department Chair	Biomedical Engineering
Larry	Fox	Director	Technology Transfer Center
Doreen	Franke	Executive Assistant Dean for Administration	School of Veterinary Medicine
Steve	Frost	Director	Materiel Management
Jan	Garrison	Assistant Manager	Craft Center
Jerry	Gillespie	Director	Western Institute for Food Safety and Security
Kathleen	Hass	Manager	Accounting and Financial Services
Sharon	Henn	Associate Accounting Officer	Accounting & Financial Services
Hazel	Hill	Assistant to the Chair	Biomedical Engineering
Cynthia	Ingham-Bachman	Associate Director	Capital and Space Resource Management

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Name		Title	Department
Kathy	Klenzendorf	Associate Director, Career Services	Graduate School of Management
William	Lacy	Vice Provost	University Outreach and International Programs
Lina	Layiktez	Assistant Director	Campus Events and Visitor Services
Alex	Matsis	Programmer/Analyst	Materiel Management
Dennis	Matthews	Director	Center for Biophotonics Science and Technology
Christine	McUmbler	Budget Analyst	Office of Resource Management and Planning
Karl	Mohr	Associate Director - Campus Planning	Resource Management and Planning
Nora	Moore Jimenez	Director	UC Davis Connect
Helen	Paik	Principal Administrative Analyst	Resource Management and Planning
Dennis	Pendleton	Dean	UC Davis Extension
Kelly	Ratliff	Associate Vice Chancellor Budget Resource Management	Office of Resource Management and Planning
Mabel	Salon	Director	Government and Community Relations
Jeanne	Shelby	Associate Director	Internship & Career Center
Sharon	Shoemaker	CIFAR Program Director	Food Science and Technology
Robert	Smiggen	Director	Student Housing
Antony	Smith	Senior Analyst	UC Davis Health System Market Research
John	Yates	Director	Real Estate Services
Linda	Ybarra	Executive Officer	School of Veterinary Medicine
Marie	Zimmerman	Director's Office	Student Housing



## **APPENDIX B: MULTIPLIERS METHODOLOGY**

This appendix provides the detailed results for the multiplier effects summarized in Chapter IV. These are the impacts of the University's spending on wages, goods and services, and capital expenditures, as well as job impacts.

### **METHODOLOGY**

There are several input-output models commonly used by economists to estimate these "multiplier" effects. Because of the difficulty of measuring multiplier effects, all of the models have limitations. Still, economists generally agree that the models can provide an approximate measure of the indirect and induced spending, total jobs, and personal income generated by a given amount of direct spending in a particular geographic area. To calculate the multiplier effects of UC Davis's spending, Sedway Group used two input-output models, one initially developed by the U.S. Department of Agriculture known as IMPLAN (IMPact Analysis for PLANning) and one developed by the U.S. Bureau of Economic Analysis known as RIMS II (Regional Input-Output Modeling System).

The IMPLAN model organizes the economy into 528 separate industries and has comprehensive data on every area of the United States. Sedway Group organized all University purchasing and payroll into the IMPLAN industry classifications and used the 2000 IMPLAN tables of multipliers for Davis, Yolo County, the Davis-Sacramento Region, and the State of California to calculate the total effect of UC Davis' spending for 2001-2002. The IMPLAN model is based on incorporating regional purchase coefficients, which measure trade flows, i.e., the proportion of local demand purchased from local producers. The results are summarized in Tables 30-32.

The RIMS II model analyzes relationships between 490 industries. The current model is based on 1999 annual input-output accounts for the U.S. economy, with 2000 regional data available. RIMS II data are not available below the county level, thus City of Davis impacts using RIMS II are not available. In contrast to IMPLAN, the RIMS II model is more heavily dependent upon the calculation of location quotients, which estimate the extent to which input requirements are supplied by firms within the region. As a result, RIMS II multipliers are often more aggressive than IMPLAN multipliers. The results of UC Davis' economic impacts using RIMS II are summarized in Tables 33-35.

### **IMPLAN MULTIPLIERS**

#### **Wages and Jobs**

Based on the multipliers in the IMPLAN model, discussed in Chapter IV, UC Davis's direct expenditures of nearly \$330 million in the City of Davis generated a total impact of over \$380 million in wages in the City of Davis, or nearly \$51 million in indirect and induced spending on wages, as shown in Table 30. UC Davis' direct wage expenditures of more than \$415 million in Yolo County generated a total impact of nearly \$504 million in wages in Yolo County, or over \$88 million in indirect and induced spending on wages. The University's direct wage expenditures of more than \$860 million in the Davis-Sacramento Region generated a total impact of over \$1.1 billion in wages in the Davis-Sacramento Region, or over \$240 million in indirect and induced spending on wages. The University's direct expenditures of more than

\$960 million of wages in the State of California generated a total impact of nearly \$1.3 billion in wages in the State, or nearly \$314 million in indirect and induced spending on wages.

Based on its direct employment of 29,630, UC Davis helped create a total of over 11,000 jobs, including 9,608 direct jobs and nearly 2,000 indirect jobs (employees of other businesses) in the City of Davis, as shown in Table 30. The University generated a total of nearly 15,000 jobs in Yolo County, including 11,898 direct jobs and just over 2,900 indirect jobs. UC Davis generated a total of more than 31,000 jobs in the Davis-Sacramento Region, including 23,644 direct jobs and more than 7,400 indirect jobs. In the State of California, UC Davis the University helped create a total of more than 38,000 jobs in the State of California, including more than 8,400 indirect jobs.

<b>TABLE 30: UC DAVIS WAGES &amp; JOBS, FY 2001-2002</b>						
<b>INDIRECT AND INDUCED SPENDING – IMPLAN MULTIPLIERS</b>						
	<b>Direct Impact <sup>(1)</sup></b>		<b>Multiplier</b>		<b>Total Impact <sup>(1)</sup></b>	
<b>Area</b>	<b>Wages <sup>(2)</sup></b>	<b>Jobs</b>	<b>Wages <sup>(2)</sup></b>	<b>Jobs</b>	<b>Wages <sup>(2)</sup></b>	<b>Jobs</b>
<b>Davis</b>	\$329,898,814	9,608	1.15	1.18	\$380,770,680	11,338
<b>Yolo County</b>	\$415,694,609	11,898	1.21	1.24	\$503,794,661	14,800
<b>Davis-Sacramento Region</b>	\$860,678,756	23,644	1.28	1.31	\$1,101,316,667	31,073
<b>California</b>	\$960,616,909	29,630	1.33	1.28	\$1,274,367,252	38,033

(1) Impacts are for entire areas, not “rest of,” so they should not be summed.

(2) True impacts of disposable income estimated by IMPLAN to comprise approximately 73-76 percent of total earnings, depending upon area.

Sources: Payroll Department, UC Davis; IMPLAN; and Sedway Group.

## Spending Impacts

**Goods and Services.** Based on the multipliers in the IMPLAN model, UC Davis’s direct expenditures of nearly \$29 million in the City of Davis generated a total of nearly \$38 million in spending, or nearly \$9 million in indirect and induced spending (additional spending by local businesses from which the University purchases goods and services), as shown in Table 31. This spending also resulted in additional earnings in the City of Davis of over \$13 million and an additional 334 jobs. UC Davis’ direct expenditures of nearly \$34 million in Yolo County generated a total of \$48 million in spending, or approximately \$14 million in indirect and induced spending. This spending also resulted in additional earnings in Yolo County of nearly \$17 million and an additional 450 jobs. The University’s direct expenditures of \$154 million in the Davis-Sacramento Region generated a total of \$253 million in spending, or \$99 million in indirect and induced spending. This spending also resulted in additional earnings in the Davis-Sacramento Region of \$90 million and an additional 2,224 jobs. The University’s direct expenditures of \$439 million on goods and services in the State of California in 2001-2002 generated a total of \$772 million in spending, or more than \$333 million in indirect and induced spending. This spending also resulted in additional earnings in the State of over \$284 million and an additional 6,113 jobs.

**Capital Expenditures.** Based on the multipliers in the IMPLAN model, UC Davis’s, direct expenditures of nearly \$163,000 in the City of Davis generated a total of over \$226,000 in spending, or \$63,000 in indirect and induced spending, as shown in Table 31. This spending also resulted in additional earnings in the City of Davis of over \$89,000 and an additional 2 jobs. UC Davis’ direct expenditures of nearly \$12 million in Yolo County generated a total of over \$18 million in spending, or more than \$6 million in indirect and induced spending. This spending also resulted in additional earnings in Yolo County of \$7 million and an additional 156 jobs. The University’s direct expenditures of \$65 million in the Davis-Sacramento Region

generated a total of nearly \$114 million in spending, or \$48 million in indirect and induced spending. This spending also resulted in additional earnings in the Davis-Sacramento Region of nearly \$44 million and an additional 1,015 jobs. The University's direct expenditures of \$133 million on capital expenditures in the State of California in 2001-2002 generated a total of \$247 million in spending, or nearly \$114 million in indirect and induced spending. This spending also resulted in additional earnings in the State of over \$97 million and an additional 2,056 jobs.

**Total Purchasing.** In the City of Davis, the \$38 million in total direct, indirect, and induced spending generated by the University's expenditures translated into over \$13 million in additional earnings and over 300 additional jobs for City of Davis residents, as shown in Table 31. The \$66 million in total direct, indirect, and induced spending generated by UC Davis's goods and services and construction expenditures in Yolo County translated into over \$24 million in additional earnings and approximately 606 jobs for Yolo County residents. The \$367 million in total direct, indirect, and induced spending generated by UC Davis's goods and services and construction expenditures in the Davis-Sacramento Region translated into over \$134 million in additional earnings and approximately 3,200 jobs for Davis-Sacramento Region residents. The \$1.03 billion in total direct, indirect, and induced spending generated by UC Davis's goods and services and construction expenditures in the State of California during 2001-2002 translated into over \$387 million in additional earnings and approximately 8,300 jobs for California residents.

**TABLE 31: UC DAVIS GOODS & SERVICES AND CAPITAL EXPENDITURES  
FY 2001-2002  
INDIRECT AND INDUCED SPENDING – IMPLAN MULTIPLIERS**

	Direct Impact	Multiplier			Total Impact		
Area	Sales	Sales	Earnings	Jobs <sup>(1)</sup>	Sales	Earnings	Jobs
<b>Goods &amp; Services</b>							
Davis	\$28,959,223	1.31	0.45	11.5	\$37,892,049	\$13,139,225	334
Yolo County	\$33,854,186	1.43	0.50	13.3	\$48,297,461	\$16,860,488	450
Davis-Sacramento Region	\$154,120,768	1.64	0.59	14.4	\$253,117,739	\$90,231,387	2,224
California	\$438,871,922	1.76	0.65	13.9	\$771,798,785	\$284,063,401	6,113
<b>Capital Expenditures</b>							
Davis	\$162,985	1.39	0.55	12.3	\$226,359	\$89,293	2
Yolo County	\$11,844,927	1.54	0.61	13.1	\$18,205,604	\$7,168,374	156
Davis-Sacramento Region	\$65,361,848	1.74	0.67	15.5	\$113,755,984	\$43,951,970	1,015
California	\$133,388,763	1.85	0.73	15.4	\$247,151,391	\$97,624,419	2,056
<b>Total Purchasing Impacts</b>							
Davis	\$29,122,208	1.31	0.45	11.5	\$38,118,375	\$13,228,480	336
Yolo County	\$45,699,113	1.45	0.53	13.3	\$66,487,297	\$24,013,554	606
Davis-Sacramento Region	\$219,482,616	1.67	0.61	14.8	\$366,870,963	\$134,180,909	3,239
California	\$572,260,685	1.79	0.68	14.5	\$1,025,234,222	\$387,328,751	8,268

(1) Employment multipliers represent the number of jobs per \$1.0 million in output.

Sources: Office of Accounting and Financial Services, UC Davis; IMPLAN; and Sedway Group.

### Total Impacts of UC Davis Spending

Based on the multipliers in the IMPLAN model, UC Davis's direct expenditures of more than \$359 million on wages and purchasing in 2001-2002 resulted in total spending of over \$432 million in the City of Davis,

or \$73 million in indirect and induced spending, as shown in Table 32. The overall output multiplier for UC Davis spending was 1.20, meaning that every dollar of direct expenditures by the University generated an additional \$0.20 in indirect and induced spending in the City of Davis. Additionally, the University's direct employment of 9,608 persons and non-wage expenditures resulted in the total creation of 11,674 jobs in the City of Davis, or 2,066 indirect jobs. In all, the University helped create about 0.22 indirect jobs for every direct University job in the City of Davis.

UC Davis's direct expenditures of more than \$461 million on wages and purchasing in 2001-2002 resulted in total spending of nearly \$600 million in Yolo County, or nearly \$133 million in indirect and induced spending. The overall output multiplier for UC Davis spending was 1.29, meaning that every dollar of direct expenditures by the University generated an additional \$0.29 in indirect and induced spending in Yolo County. Additionally, the University's direct employment of 11,898 persons and non-wage expenditures resulted in the total creation of 15,406 jobs in Yolo County, or 3,508 indirect jobs. In all, the University helped create about 0.29 indirect jobs for every direct University job in Yolo County.

UC Davis's direct expenditures of nearly \$1.1 billion on wages and purchasing in 2001-2002 resulted in total spending (sales and wages) of over \$1.6 billion in the Davis-Sacramento Region, or over \$500 million in indirect and induced spending. The overall output multiplier for UC Davis spending was 1.48, meaning that every dollar of direct expenditures by the University generated an additional \$0.48 in indirect and induced spending in the Davis-Sacramento Region. Additionally, the University's direct employment of 23,644 persons and non-wage expenditures resulted in the total creation of 34,312 jobs in the Davis-Sacramento Region, or 10,668 indirect jobs. In all, the University helped create about 0.45 indirect jobs for every direct University job in the Davis-Sacramento Region.

UC Davis's direct expenditures of over \$1.5 billion on wages and purchasing in 2001-2002 resulted in total spending of nearly \$2.7 billion in the State of California, or \$1.15 billion in indirect and induced spending. The overall output multiplier for UC Davis spending in the State was 1.75, meaning that every dollar of direct expenditures by the University generated an additional \$0.75 in indirect and induced spending in the State of California. Additionally, the University's direct employment of 29,630 persons resulted in the total creation of 46,301 jobs in the State of California, or 16,671 indirect jobs. In all, the University helped create about 0.47 indirect jobs for every direct University job in the State of California.

**TABLE 32: UC DAVIS TOTAL SPENDING, FY 2001-2002**  
**INDIRECT AND INDUCED SPENDING – IMPLAN MULTIPLIERS**

Area	Direct Impact			Total Impact		
	Sales	Wages	Jobs	Sales	Wages	Jobs
<b>Davis</b>	\$29,122,208	\$329,898,814	9,608	\$38,118,375	\$393,999,160	11,674
<b>Yolo County</b>	\$45,699,113	\$415,694,609	11,898	\$66,487,297	\$527,808,215	15,406
<b>Davis-Sacramento Region</b>	\$219,482,616	\$860,678,756	23,644	\$366,870,963	\$1,235,497,576	34,312
<b>California</b>	\$572,260,685	\$960,616,909	29,630	\$1,025,234,222	\$1,661,696,004	46,301

Note: As noted, the impacts of the University are smallest at the most local level, the City of Davis, and greatest at the most geographically dispersed level, the State of California. This is a reflection of the nature of the economies, where the City of Davis economy is more open and the State economy is more closed, i.e., because the State economy is more diverse than Davis', more products can be purchased from throughout the State than within just the City of Davis. The same holds true for the dispersion of the work force and its associated earnings supported by the University's spending.

Sources: Office of Accounting and Financial Services, UC Davis; Payroll Department, UC Davis; IMPLAN; and Sedway Group.

## RIMS II MULTIPLIERS

### Wages and Jobs

Based on the multipliers in the RIMS II model, UC Davis' direct wage expenditures of more than \$415 million in Yolo County generated a total impact of over \$525 million in wages in Yolo County, or over \$109 million in indirect and induced spending on wages, as shown in Table 33. The University's direct wage expenditures of more than \$860 million in the Davis-Sacramento Region generated a total impact of over \$1.5 billion in wages in the Davis-Sacramento Region, or over \$688 million in indirect and induced spending on wages. The University's direct expenditures of more than \$960 million of wages in the State of California generated a total impact of nearly \$1.9 billion in wages in the State, or nearly \$930 million in indirect and induced spending on wages.

Based on its direct employment of 29,630, the University generated a total of over 14,000 jobs in Yolo County, including 11,898 direct jobs and nearly 2,500 indirect jobs. UC Davis generated a total of more than 37,000 jobs in the Davis-Sacramento Region, including 23,644 direct jobs and more than 13,000 indirect jobs. In the State of California, UC Davis the University helped create a total of more than 48,000 jobs in the State of California, including more than 19,000 indirect jobs.

<b>TABLE 33: UC DAVIS WAGES &amp; JOBS, FY 2001-2002</b>						
<b>INDIRECT AND INDUCED SPENDING – RIMS II MULTIPLIERS</b>						
	<b>Direct Impact <sup>(1)</sup></b>		<b>Multiplier</b>		<b>Total Impact <sup>(1)</sup></b>	
<b>Area</b>	<b>Wages</b>	<b>Jobs</b>	<b>Wages</b>	<b>Jobs</b>	<b>Wages</b>	<b>Jobs</b>
<b>Yolo County</b>	\$415,694,609	11,898	1.26	1.21	\$525,147,000	14,387
<b>Davis-Sacramento Region</b>	\$860,678,756	23,644	1.80	1.57	\$1,549,393,897	37,012
<b>California</b>	\$960,616,909	29,630	1.97	1.65	\$1,890,398,015	48,981

(1) Impacts are for entire areas, not "rest of," so they should not be summed.

Sources: Payroll Department, UC Davis; RIMS II; and Sedway Group.

### Spending Impacts

**Goods and Services.** Based on the multipliers in the RIMS II model, UC Davis' direct expenditures of nearly \$34 million in Yolo County generated a total of more than \$51 million in spending, or more than \$17 million in indirect and induced spending (additional spending by local businesses from which the University purchases goods and services), as shown in Table 34. This spending also resulted in additional earnings in Yolo County of almost \$5 million and an additional 112 jobs. The University's direct expenditures of \$154 million in the Davis-Sacramento Region generated a total of \$305 million in spending, or \$151 million in indirect and induced spending. This spending also resulted in additional earnings in the Davis-Sacramento Region of \$66 million and an additional 1,579 jobs. The University's direct expenditures of \$439 million on goods and services in the State of California in 2001-2002 generated a total of \$926 million in spending, or \$487 million in indirect and induced spending. This spending also resulted in additional earnings in the State of \$216 million and an additional 5,081 jobs.

**Capital Expenditures.** Based on the multipliers in the RIMS II model, UC Davis' direct expenditures of nearly \$12 million in Yolo County generated a total of nearly \$17 million in spending, or more than \$5 million in indirect and induced spending, as shown in Table 34. This spending also resulted in additional earnings in Yolo County of \$2 million and an additional 58 jobs. The University's direct expenditures of \$65 million in the Davis-Sacramento Region generated a total of over \$135 million in spending, or nearly



\$70 million in indirect and induced spending. This spending also resulted in additional earnings in the Davis-Sacramento Region of \$40 million and an additional 986 jobs. The University's direct expenditures of \$133 million on capital expenditures in the State of California in 2001-2002 generated a total of \$310 million in spending, or nearly \$177 million in indirect and induced spending. This spending also resulted in additional earnings in the State of over \$98 million and an additional 2,405 jobs.

**Total Purchasing.** The \$68 million in total direct, indirect, and induced spending generated by UC Davis's goods and services and construction expenditures in Yolo County translated into over \$7 million in additional earnings and approximately 171 jobs for Yolo County residents, as shown in Table 34. The \$440 million in total direct, indirect, and induced spending generated by UC Davis's goods and services and construction expenditures in the Davis-Sacramento Region translated into \$106 million in additional earnings and approximately 2,566 jobs for Davis-Sacramento Region residents. The \$1.2 billion in total direct, indirect, and induced spending generated by UC Davis's goods and services and construction expenditures in the State of California during 2001-2002 translated into almost \$315 million in additional earnings and 7,486 jobs for California residents.

**TABLE 34: UC DAVIS GOODS & SERVICES AND CAPITAL EXPENDITURES  
FY 2001-2002  
INDIRECT AND INDUCED SPENDING – RIMS II MULTIPLIERS**

	Direct Impact	Multiplier			Total Impact		
Area	Sales	Sales	Earnings	Jobs <sup>(1)</sup>	Sales	Earnings	Jobs
<b>Goods &amp; Services</b>							
Yolo County	\$33,854,186	1.52	0.14	3.3	\$51,329,717	\$4,875,003	112
Davis-Sacramento Region	\$154,120,768	1.98	0.43	10.2	\$304,727,582	\$65,732,508	1,579
California	\$438,871,922	2.11	0.49	11.6	\$925,975,868	\$215,968,873	5,081
<b>Capital Expenditures</b>							
Yolo County	\$11,844,927	1.45	0.21	4.9	\$17,155,008	\$2,470,852	58
Davis-Sacramento Region	\$65,361,848	2.07	0.61	15.1	\$135,174,838	\$40,007,987	986
California	\$133,388,763	2.33	0.74	18.0	\$310,275,601	\$98,707,685	2,405
<b>Total Purchasing Impacts</b>							
Yolo County	\$45,699,113	1.50	0.16	3.7	\$68,484,725	\$7,345,855	171
Davis-Sacramento Region	\$219,482,616	2.00	0.48	11.7	\$439,902,420	\$105,740,495	2,566
California	\$572,260,685	2.16	0.55	13.1	\$1,236,251,470	\$314,676,557	7,486

(1) Employment multipliers represent the number of jobs per \$1.0 million in output.

Sources: Office of Accounting and Financial Services, UC Davis; RIMS II; and Sedway Group.

### Total Impacts of UC Davis Spending

Based on the multipliers in the RIMS II model, UC Davis's direct expenditures of more than \$461 million on wages and purchasing in 2001-2002 resulted in total spending of \$601 million in Yolo County, or \$140 million in indirect and induced spending, as shown in Table 35. The overall output multiplier for UC Davis spending was 1.30, meaning that every dollar of direct expenditures by the University generated an additional \$0.30 in indirect and induced spending in Yolo County. Additionally, the University's direct employment of 11,898 persons and non-wage expenditures resulted in the total creation of 14,558 jobs in

Yolo County, or 2,660 indirect jobs. In all, the University helped create about 0.22 indirect jobs for every direct University job in Yolo County.

UC Davis's direct expenditures of nearly \$1.1 billion on wages and purchasing in 2001-2002 resulted in total spending (sales and wages) of nearly \$2.1 billion in the Davis-Sacramento Region, or \$1.0 billion in indirect and induced spending. The overall output multiplier for UC Davis spending was 1.94, meaning that every dollar of direct expenditures by the University generated an additional \$0.94 in indirect and induced spending in the Davis-Sacramento Region. Additionally, the University's direct employment of 23,644 persons and non-wage expenditures resulted in the total creation of 39,578 jobs in the Davis-Sacramento Region, or 15,934 indirect jobs. In all, the University helped create about 0.67 indirect jobs for every direct University job in the Davis-Sacramento Region.

UC Davis's direct expenditures of over \$1.5 billion on wages and purchasing in 2001-2002 resulted in total spending of over \$3.4 billion in the State of California, or approximately \$1.9 billion in indirect and induced spending. The overall output multiplier for UC Davis spending in the State was 2.25, meaning that every dollar of direct expenditures by the University generated an additional \$1.25 in indirect and induced spending in the State of California. Additionally, the University's direct employment of 29,630 persons and non-wage expenditures resulted in the total creation of 56,467 jobs in the State of California, or 26,837 indirect jobs. In all, the University helped create about 0.91 indirect jobs for every direct University job in the State of California.

**TABLE 35: UC DAVIS TOTAL SPENDING, FY 2001-2002  
INDIRECT AND INDUCED SPENDING – RIMS II MULTIPLIERS**

Area	Direct Impact			Total Impact		
	Sales	Wages	Jobs	Sales	Wages	Jobs
<b>Yolo County</b>	\$45,699,113	\$415,694,609	11,898	\$68,484,725	\$532,492,854	14,558
<b>Davis-Sacramento Region</b>	\$219,482,616	\$860,678,756	23,644	\$439,902,420	\$1,655,134,391	39,578
<b>California</b>	\$572,260,685	\$960,616,909	29,630	\$1,236,251,470	\$2,205,074,573	56,467

Note: As noted, the impacts of the University are smallest at the most local level, the City of Davis, and greatest at the most geographically dispersed level, the State of California. This is a reflection of the nature of the economies, where the City of Davis economy is more open and the State economy is more closed, i.e., because the State economy is more diverse than Davis', more products can be purchased from throughout the State than within just the City of Davis. The same holds true for the dispersion of the work force and its associated earnings supported by the University's spending.

Sources: Office of Accounting and Financial Services, UC Davis; Payroll Department, UC Davis; RIMS II; and Sedway Group.



## APPENDIX C: AGGIE VILLAGE FISCAL IMPACT ANALYSIS ASSUMPTIONS

### UC Davis Aggie Village Fiscal Impact Analysis General Assumptions

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#### Aggie Village Statistics

Aggie Village Land Area	4.5 acres
Aggie Village Single Family Homes	21
Aggie Village Townhome Units	16
Davis Commons Land Area	4.75 acres
Davis Commons Square Footage	44,078
Centerline Miles in Aggie Village - Residential	0.5
Centerline Miles in Aggie Village - Davis Commons	0.5
Aggie Village Residents	132
Aggie Village Employees (Davis Commons)	98
Total Aggie Village Service Population	230

<u>Dwelling Unit Equivalents</u>	<u>Residents</u> <u>Per DUE</u>	<u>Employees</u> <u>Per DUE</u>	<u>DUE</u>
Base Multiplier			
Residents	2.83	-----	47
Employees	-----	2.83	35
Persons Served			81

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#### City of Davis Statistics

2002	City Population (as of January 1)	63,324
2002	Estimated City Employee Population	12,387

<u>Dwelling Unit Equivalents</u>	<u>Residents</u> <u>Per DUE</u>	<u>Employees</u> <u>Per DUE</u>	<u>DUE</u>
Base Multiplier			
Davis Residents	2.83	-----	22,376
Davis Employees	-----	2.83	4,377
Persons Served			26,753

Assumed Discount Rate b/n City Preliminary Budget 2002-2003 and Budget 2001-2002	4.00%
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#### Yolo County Statistics

2002	Estimated Total Countywide Population (as of January 1)	176,300
2002	Estimated Total Countywide Employee Population	94,817
2002	Persons Served (Residents + 50% of Employees)	223,709

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#### Unincorporated Yolo County Statistics

2002	Unincorporated Total Countywide Population (as of January 1)	21,800
2002	Estimated Unincorporated Employee Population	23,560
2002	Persons Served (Residents + 50% of Employees)	33,580

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Sources: City of Davis; Yolo County; Goodwin Consulting; UC Davis; and Sedway Group.

**UC Davis Aggie Village Fiscal Impact Analysis  
City of Davis - Revenue Assumptions**

<b><u>Business License Tax</u></b>	<b>2001-2002</b>
Business License Tax Rate (per \$10,000 gross receipts) - Retail	\$6.00

**Franchise Taxes**

General Fund Gas and Electric Tax Revenue	\$451,680
Resident DUEs in the City of Davis	22,376
Employee DUEs in the City of Davis	4,377
Total DUEs	26,753
Revenue per DUE	<b>\$16.88</b>

**Intergovernmental - State Subventions**

General Fund Revenue	\$4,019,832
Less Other Revenues	(\$592,632)
Motor Vehicle In-Lieu Revenues	\$3,427,200
Resident DUEs in the City of Davis	22,376
Net Revenue per Residential DUE	<b>\$153.16</b>

**Fines and Forfeitures**

General Fund Revenue	\$16,320
Resident DUEs in the City of Davis	22,376
Employee DUEs in the City of Davis	4,377
Total DUEs	26,753
Revenue per DUE	<b>\$0.61</b>

**Notes:**

(1) Based on Goodwin Consultings 2002-2003 estimate, adjusted by 3.5% (California average CPI rate).

**Sources:** City of Davis; Goodwin Consulting; and Sedway Group.

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<b><u>Municipal Services Tax</u></b>	<b>2001-2002</b>
<u>Flat Rate</u>	
SF/MF Residential Rate per Unit	\$55.26
Commercial Rate per Structure Size (Square Feet)	\$0.07

<u>Additional Square Feet of Lot Size Rate</u>	
SF/MF Residential Rate per Square Feet of Lot Size	\$0.00040
Commercial Rate per Square Feet of Lot Size	\$0.00040

**Parks Maintenance Tax**

SF/MF Residential Rate per Unit	\$49.00
Commercial (per 1,000 SF; maximum of 10,000 SF)	\$40.00

**Public Safety Tax**

<u>Flat Rate</u>	
SF/MF Residential Rate per Unit	\$43.32
Commercial Rate per Structure Size (Square Feet)	\$0.09

<u>Additional Square Feet of Lot Size Rate</u>	
SF/MF Residential Rate per Square Feet of Lot Size	\$0.00030
Commercial Rate per Square Feet of Lot Size	\$0.00030

**Open Space Protection Tax**

SF/MF Residential Rate per Unit	\$24.00
Commercial (per 1,000 SF; maximum of 10,000 SF)	\$20.00

**Taxable Sales**

Taxable Sales Captured in the City of Davis per Single Family Unit	\$18,576 (1)
Taxable Sales Captured in the City of Davis per Townhouse	\$15,709

**UC Davis Aggie Village Fiscal Impact Analysis**  
**City of Davis - Expense Assumptions**

**Expenditures Funded by General Fund**

<b><u>General Government</u></b>	<b>2001-2002</b>
City Council - General Fund Support	\$104,956
City Attorney - General Fund Support	\$253,544
City Manager's Office - General Fund Support	\$871,203
Administrative Services - General Fund Support	<u>\$1,651,296</u>
Net General Fund Expense	\$2,880,998
Resident DUEs in the City of Davis	22,376
Employee DUEs (1 Employee DUE = 0.36 residential DUEs)	<u>1,576</u>
Total DUEs in the City of Davis	23,952
<b>Net Expense per DUE</b>	<b>\$120.28</b>

**Planning & Building**

Total Expenditures	\$2,656,451
Less Non-General Fund Revenues	<u>(\$2,137,928)</u>
Net General Fund Expense	\$518,523
Resident DUEs in the City of Davis	22,376
Employee DUEs in the City of Davis	<u>4,377</u>
Total DUEs in the City of Davis	26,753
<b>Net Expense per DUE</b>	<b>\$19.38</b>

**Park Maintenance & Community Service**

Recreation Field General Fund Maintenance Cost (per acre)	\$5,280
Bus Rapid Transit General Fund Maintenance Cost (per acre)	\$5,280
Neighborhood Park General Fund Maintenance Cost (per acre)	\$6,240
Village Square General Fund Maintenance Cost (per acre)	\$6,240
Open Space General Fund Maintenance Cost (per acre)	\$1,440
Drainage Pond General Fund Maintenance Cost (per acre)	\$1,440

**Transportation Division**

Estimated Street Rehabilitation and O&M Cost	\$799,680
Less Projected State/Federal Funds	<u>-\$208,320</u>
Net General Fund Expense	\$591,360

Centerline Miles in the City of Davis	145
<b>Net General Fund Expense per Mile</b>	<b>\$4,078</b>

Traffic Engineering	\$480,000
Total DUEs in the City of Davis	26,753
<b>Net Expense per DUE</b>	<b>\$17.94</b>

<b><u>Recreation Division</u></b>	<b>2001-2002</b>
Total Recreation Expense	\$2,325,261
Aggie Village Residential DUEs	47
Resident DUEs in the City of Davis	22,376
Project DUEs as a Percent of Davis DUEs	0.21%
Increased Recreation Expense Related to Project	\$4,847
Portion of Expense Supported by the General Fund	<u>31.0%</u>
General Fund Impact at Project Build Out	\$1,503
Aggie Village Residential DUEs	47
<b>Net Expense per Residential DUE</b>	<b>\$32.21</b>

**Social Services Division**

Fair Housing & Mediation Budget - General Fund Contribution	\$43,200
Aggie Village Residential DUEs	47
Resident DUEs in the City of Davis	22,376
New Development DUEs as a % of Davis DUEs	0.21%
Increased Expense Related to Aggie Village	\$90
Aggie Village Residential DUEs	47
<b>Net Expense per Residential DUE</b>	<b>\$1.93</b>

**Davis Police Service**

Total Expenditures	\$8,737,690
Less Department Fees & Charges	(\$327,353)
Less Grants	<u>(\$67,200)</u>
Net Expense	\$8,343,136
Resident DUEs in the City of Davis	22,376
Employee DUEs in the City of Davis	<u>4,377</u>
Total DUEs in the City of Davis	26,753

<b>Net Expense per DUE</b>	<b>\$311.86</b>
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**Davis Fire Service**

Total Expenditures	\$5,474,199
Less Department Fees & Charges	(\$471,631)
Less Grants	<u>\$0</u>
Net Expense	\$5,002,569

Resident DUEs in the City of Davis	22,376
Employee DUEs in the City of Davis	<u>4,377</u>
Total DUEs in the City of Davis	26,753

<b>Net Expense per DUE</b>	<b>\$186.99</b>
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Sources: City of Davis; Goodwin Consulting; and Sedway Group.

**UC Davis Aggie Village Fiscal Impact Analysis**  
**Yolo County - Revenue Assumptions**

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<b><u>General Purpose Revenues</u></b>	<b>2001-2002</b>
Motor Vehicle In-Lieu	\$10,750,000
Total County Residents	176,300
<b>Net Revenue per County Resident</b>	<b>\$60.98</b>

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Fines & Forfeitures	\$680,500
Estimated Persons Served	223,709
<b>Net Revenue per County Person Served</b>	<b>\$3.04</b>

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Sources: Yolo County; Goodwin Consulting; and Sedway Group.

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**UC Davis Aggie Village Fiscal Impact Analysis**  
**Yolo County - Expense Assumptions**

<u>General Fund Net Expenditures</u>	Net General Fund Expenditure	Service Population	Average Cost Multiplier	Is Service Provided Countywide?	UCD Student Demand Factor	Reduced UCD Student Cost Multiplier	UCD Faculty, Staff, & Family Member Demand Factor	UCD Faculty, Staff, & Family Member Cost Multiplier
<b><u>General Government</u></b>								
Assessor	\$809,175	223,709	\$3.62	Yes	18.60%	\$0.67	100.00%	\$3.62
Auditor-Controller	\$1,039,058	223,709	\$4.64	Yes	18.60%	\$0.86	100.00%	\$4.64
Board of Supervisors	\$778,556	223,709	\$3.48	Yes	18.60%	\$0.65	100.00%	\$3.48
Central Services Division	\$4,191,334	223,709	\$18.74	Yes	18.60%	\$3.48	100.00%	\$18.74
Grants & Public Information	\$96,822	223,709	\$0.43	Yes	18.60%	\$0.08	100.00%	\$0.43
Human Resources	\$740,894	223,709	\$3.31	Yes	18.60%	\$0.62	100.00%	\$3.31
Information Technologies	\$954,274	223,709	\$4.27	Yes	18.60%	\$0.79	100.00%	\$4.27
LAFCo	\$168,375	223,709	\$0.75	Yes	18.60%	\$0.14	100.00%	\$0.75
Office of Revenue & Reimbursement	\$286,474	223,709	\$1.28	Yes	18.60%	\$0.24	100.00%	\$1.28
Organizational Development and Training	\$551,959	223,709	\$2.47	Yes	18.60%	\$0.46	100.00%	\$2.47
Risk Management	\$46,300	223,709	\$0.21	Yes	18.60%	\$0.04	100.00%	\$0.21
Special Employment Services	\$957,740	223,709	\$4.28	Yes	18.60%	\$0.80	100.00%	\$4.28
County Clerk	\$2,158,665	223,709	\$9.65	Yes	18.60%	\$1.79	100.00%	\$9.65
<b>Total</b>	<b>\$12,779,626</b>		<b>\$57.13</b>			<b>\$10.63</b>		<b>\$57.13</b>
<b>Net Expense per Person Served</b>			<b>\$57.13</b>			<b>\$10.63</b>		<b>\$57.13</b>
<b><u>Public Protection</u></b>								
District Attorney	\$1,949,978	223,709	\$8.72	Yes	17.00%	\$1.48	100.00%	\$8.72
Probation	\$946,657	223,709	\$4.23	Yes	7.60%	\$0.32	100.00%	\$4.23
Public Administration/Guardian	\$250,242	223,709	\$1.12	Yes	1.70%	\$0.02	100.00%	\$1.12
Public Defender	\$2,729,075	223,709	\$12.20	Yes	1.70%	\$0.21	100.00%	\$12.20
Sheriff - Non-Patrol	\$2,981,067	223,709	\$13.33	Yes	9.20%	\$1.23	100.00%	\$13.33
Sheriff - Patrol	\$608,423	33,580	\$18.12	No	0.00%	\$0.00	100.00%	\$18.12
<b>Total</b>	<b>\$9,465,442</b>		<b>\$57.71</b>			<b>\$3.26</b>		<b>\$57.71</b>
<b>Net Expense per Person Served</b>			<b>\$57.71</b>			<b>\$3.26</b>		<b>\$57.71</b>
<b><u>Health and Human Services &amp; Public Assistance</u></b>								
Alcohol, Drug & Mental Services	\$507,584	223,709	\$2.27	Yes	56.20%	\$1.28	100.00%	\$2.27
Health Department	\$1,822,133	223,709	\$8.15	Yes	56.20%	\$4.58	100.00%	\$8.15
<b>Total</b>	<b>\$2,329,717</b>		<b>\$10.41</b>			<b>\$5.85</b>		<b>\$10.41</b>
<b>Net Expense per Person Served</b>			<b>\$10.41</b>			<b>\$5.85</b>		<b>\$10.41</b>
Public Assistance	\$3,294,965	176,300	\$18.69	Yes	19.10%	\$3.57	100.00%	\$18.69
<b>Net Expense per Resident</b>			<b>\$18.69</b>			<b>\$3.57</b>		<b>\$18.69</b>
<b><u>Library</u></b>								
Library	\$137,028	162,829	\$0.84	Yes	N/A	\$0.00	N/A	\$0.00
Agriculture	\$316,903	223,709	\$1.42	Yes	N/A	\$0.00	N/A	\$0.00
Cooperative Extension	\$165,398	223,709	\$0.74	Yes	N/A	\$0.00	N/A	\$0.00
<b>Total</b>	<b>\$619,329</b>		<b>\$3.00</b>			<b>\$0.00</b>		<b>\$0.00</b>
<b>Net Expense per Person Served</b>			<b>\$3.00</b>			<b>\$0.00</b>		<b>\$0.00</b>
<b><u>Planning and Public Works</u></b>								
Parks, Grounds & Museum	\$360,789	176,300	\$2.05	Yes	100.00%	\$2.05	100.00%	\$2.05
Building & Planning	\$390,517	223,709	\$1.75	No	N/A	\$0.00	N/A	\$0.00
Economic Development	\$168,541	223,709	\$0.75	No	N/A	\$0.00	N/A	\$0.00
Fleet Services	\$228,974	223,709	\$1.02	Yes	100.00%	\$1.02	100.00%	\$1.02
Surveyor & Engineer	\$4,225	223,709	\$0.02	No	N/A	\$0.00	N/A	\$0.00
<b>Total</b>	<b>\$1,153,046</b>		<b>\$5.59</b>			<b>\$3.07</b>		<b>\$3.07</b>
<b>Net Expense per Person Served</b>			<b>\$3.07</b>			<b>\$3.07</b>		<b>\$3.07</b>

Sources: Yolo County; Goodwin Consulting; and Sedway Group.

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