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# SACRAMENTO CITY COLLEGE'S DAVIS CENTER: WORKFORCE DEVELOPMENT OPPORTUNITY PROFILE



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**COMPASS**  
POLICY STRATEGIES

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# EXECUTIVE SUMMARY

Sacramento City College's Davis Center's Phase 2 expansion wraps up in 2018. The expansion significantly expands the center's capacity, both in terms of square footage, lab facilities and student enrollment capacity. In 2012, as part of Phase 2, the center moved to the UC Davis West Village campus into newly constructed facilities.<sup>1</sup>

The expansion coincides with a renewed regional emphasis on town-gown partnerships, the prioritizing of workforce development in regional economic development planning, and the continuation of robust state funding for career education (CE), especially for community colleges. Amid these developments, Sacramento City College requested a study from the Center of Excellence to research core economic and workforce information about the City of Davis and surrounding counties to identify opportunities for program development and enhancement of the Davis Center.

What emerges from the research is a profile of a university town with a highly educated population with workforce development opportunities across many industries, including wealth-producing categories like professional and scientific services and manufacturing, and locally-serving industries like health, education and small business.

## Key findings include:

- As the population of Davis, Yolo and Solano counties have increased, community college enrollment of Davis residents at Sacramento City College have increased in recent years, with a decline in the last Fall semester. The population of the City of Davis increased by 7 percent over the last 10 years, while Yolo County's population increased by 14 percent.
- Davis' residential population is younger and more highly educated than the surrounding counties. Roughly 70 percent of adults have a bachelor's degree or above, significantly higher than average in California and surrounding counties.
- Davis is a commuter town. More than 80 percent of working residents commute out of Davis, especially to the areas of Sacramento and Woodland. The city loses about 10,000 more workers than it gains from the inflow of commuters each day. Dynamics indicate a jobs-housing imbalance, though the study did not focus on the issue.
- UC Davis dominates the local economy. Sixty-two percent of jobs are in the government sector; the majority of government employment is in the public postsecondary education industry. Public colleges, universities and professional schools employ more than 23,000 workers in Davis.
- The fastest growing and largest sectors for both Davis and surrounding counties include: health care; education; professional, scientific and technical services; manufacturing; and small businesses. The accommodation and food sector also play a key role in the local economy, largely driven by demand from UC Davis. Agriculture represents an important sector in Yolo County.
- Occupational data indicates that Davis has employment concentrations in business and administrative, education support and preschool teachers, and allied health. The number of annual openings projected does not indicate a windfall of jobs but suggests targeted workforce opportunities for residents.
- Awards data for Yolo and Solano counties (not including the Davis Center) shows the region has only partly emphasized career education (CE). The majority of associate and certificate awards are in transfer or general areas—liberal arts, biological and physical sciences, and humanities and social sciences.

The report expands on the findings, and includes recommendations in the final section of the report.

The expansion of the Davis Center coincides with renewed emphasis on connecting UC Davis with regional economic development efforts.

<sup>1</sup> Sacramento City College, About the Davis Center: Our Story, <https://www.scc.losrios.edu/daviscenter/faq/about-us/> Jeff Hudson, "Sac City College breaks ground on \$13 million expansion of Davis Center in UC's West Village," Enterprise, September 10, 2016, <https://www.davisenterprise.com/local-news/sac-city-college-breaks-ground-on-13-million-expansion-of-davis-center-in-ucds-west-village/>

# INTRODUCTION

The City of Davis is an important economic area in Northern California. While the community exhibits characteristics of a college town and a bedroom community for neighboring Sacramento and the Bay Area, the presence of University of California, Davis, as well as strong government institutions and economic activity around research and development, commercialization and technical services in emerging industries, make it a dynamic economy.

Sacramento City College (SCC) serves the City of Davis and surrounding areas through a local satellite campus on the campus of UC Davis. In 2012, the Davis Center relocated to the UC Davis campus, and in 2016 broke ground on a significant expansion of buildings and facilities. Phase 2 of construction is scheduled for completion in 2018, with new wet lab facilities and plans to significantly expand enrollments and course offerings. Analysis of enrollments of Davis residents in Sacramento City College shows enrollments by Davis residents increased during the expansion until the most recent academic year, in part countering a downward trend for many community colleges across the state. (See Appendix C.)

The expansion of the Davis Center could not come at a more opportune moment in the development of the Sacramento region. The population in Yolo County has grown by 14 percent in the last 10 years as Davis, Woodland and West Sacramento add residents. Civic leadership groups like the Greater Sacramento Economic Council (GSEC), Sacramento Metro Chamber of Commerce, City of Sacramento, UC Davis and others call for strong focus on connecting the university to the Sacramento region vis-à-vis regional transportation projects, incubator and accelerator programs, and other economic and workforce development partnerships.

For the time being, regional civic leadership organizations are using a recent Brookings Institution Metropolitan Policy Program study as a touchstone for creating economic and workforce development strategy.<sup>2</sup> The analysis leverages prior work from the region's Next Economy cluster research and partnership to revisit the most promising areas for focus.

To maintain its relevance and competitiveness in Davis as an education and training provider and continue to improve its offerings to the community (particularly around career education), Sacramento City College has initiated this study with the Northern California Center of Excellence to explore the current economic and workforce dynamics in Davis. This analysis examines some of the underlying factors driving Davis' local economy, with the goal of identifying ways that community colleges can continue to participate in and deepen their impact in the community.

There are five main sections of this report. The first section covers labor market basics, including population, unemployment, labor force, and community patterns. The second section examines key industry sectors in Davis and the two nearest counties. Next, the report looks at occupational demand, and job postings trends. Finally, the analysis includes an overview of award production by the program area.

The report concludes by summarizing key findings and offering a menu of options for potential next steps and program investments.

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<sup>2</sup> Parilla, J. et al. Charting a course to the Sacramento Region's future economic prosperity. *Brookings Metropolitan Policy Program*. <https://www.brookings.edu/research/charting-a-course-to-the-sacramento-regions-future-economic-prosperity/>

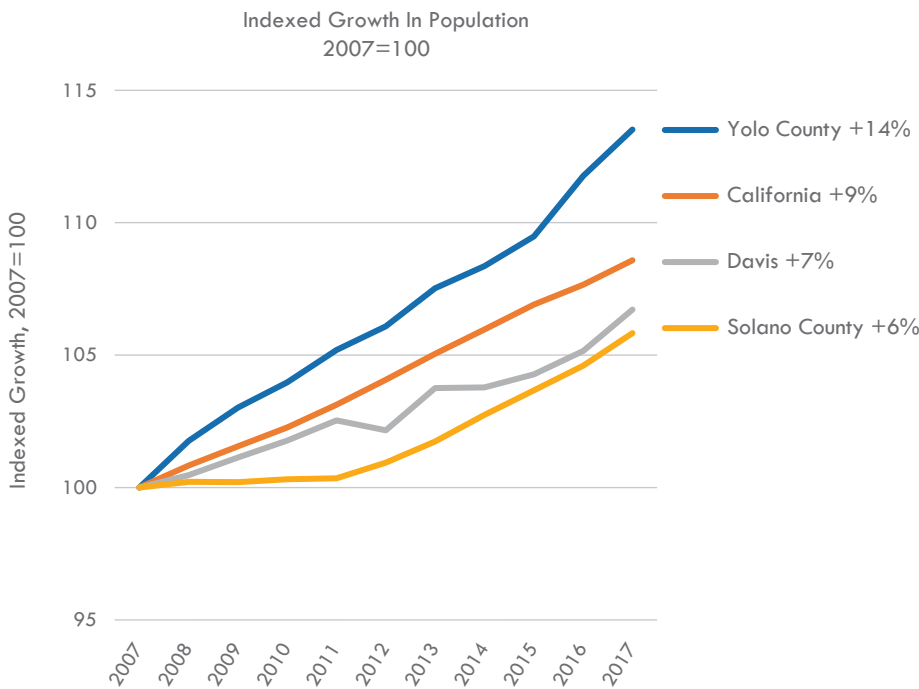
# DEMOGRAPHICS AND COMMUTING PATTERNS

## Population

In 2016, the City of Davis had nearly 69,000 residents (Exhibit 1). Over the past decade, the population has grown by 7 percent (with moderate average annual growth of less than 1 percent), slower than neighboring Yolo County and California overall. Solano County grew at a similar rate between 2007 and 2017, but Yolo County's population has grown by 14 percent.<sup>3</sup>

The City of Davis accounts for 31 percent of Yolo County's population in 2017.

**Exhibit 1: Population growth index and total population by city and county**



Population Size	2017
City of Davis	68,740
Yolo County	218,896
Solano County	436,023































<sup>3</sup> State of California, Department of Finance, *E-4 Population Estimates for Cities, Counties, and the State, 2001-2010, and 2011-2017*

## Demographics

The City of Davis has a much younger population on average than the state and surrounding counties, driven primarily by the pull of students by UC Davis to the region. According to the UC Davis undergraduate student profile in Fall 2016, roughly 29,500 undergraduate students were enrolled at the campus, and 94 percent of these students were 25 years old or younger. The city’s population skews younger due to the university’s student population. Similarly, there is a much higher share of female undergraduate students, 59 percent, than male, 41 percent, at UC Davis, affecting the city’s female share of the population overall (Exhibit 2).

### Exhibit 2: Demographic details: age and sex, residential population, 2016

	City of Davis		Yolo County		Solano County		California
<b>Total Population</b>	<b>68,107</b>		<b>215,802</b>		<b>440,207</b>		<b>39,250,017</b>
<b>Share of Population by Sex</b>							
Male	32,691	48% 	105,743	49% 	220,104	50% 	50% 
Female	36,097	53% 	110,059	51% 	220,104	50% 	50% 
<b>Share of Population by Age</b>							
19 years or less	17,027	25% 	58,267	27% 	110,052	25% 	26% 
20–24 years	15,665	23% 	30,212	14% 	30,814	7% 	7% 
25–44 years	15,665	23% 	56,109	26% 	118,856	27% 	28% 
45–65 years	12,259	18% 	45,318	21% 	118,856	27% 	25% 
65 years and over	7,492	11% 	25,896	12% 	66,031	15% 	14% 
<b>Median Age</b>	<b>25.7</b>		<b>30.9</b>		<b>37.9</b>		<b>36.4</b>

The student populations for both the Davis residents of Sacramento City College and UC Davis have a lower percentage of whites, Hispanics, and African Americans, and a higher percentage of Asian, Native Hawaiian or Pacific Islander than the general populations in Yolo County or Solano County (Exhibit 3).<sup>4</sup>

While Solano County has a large African American community, most of the community resides in Vallejo, outside the Davis Center’s service territory, closer to Solano Community College. There is also sizable difference in the “two or more races” category between the students and residents, though this category also includes students who chose not to report, and whose identities may encompass a wide range of ethnicities.<sup>5</sup>

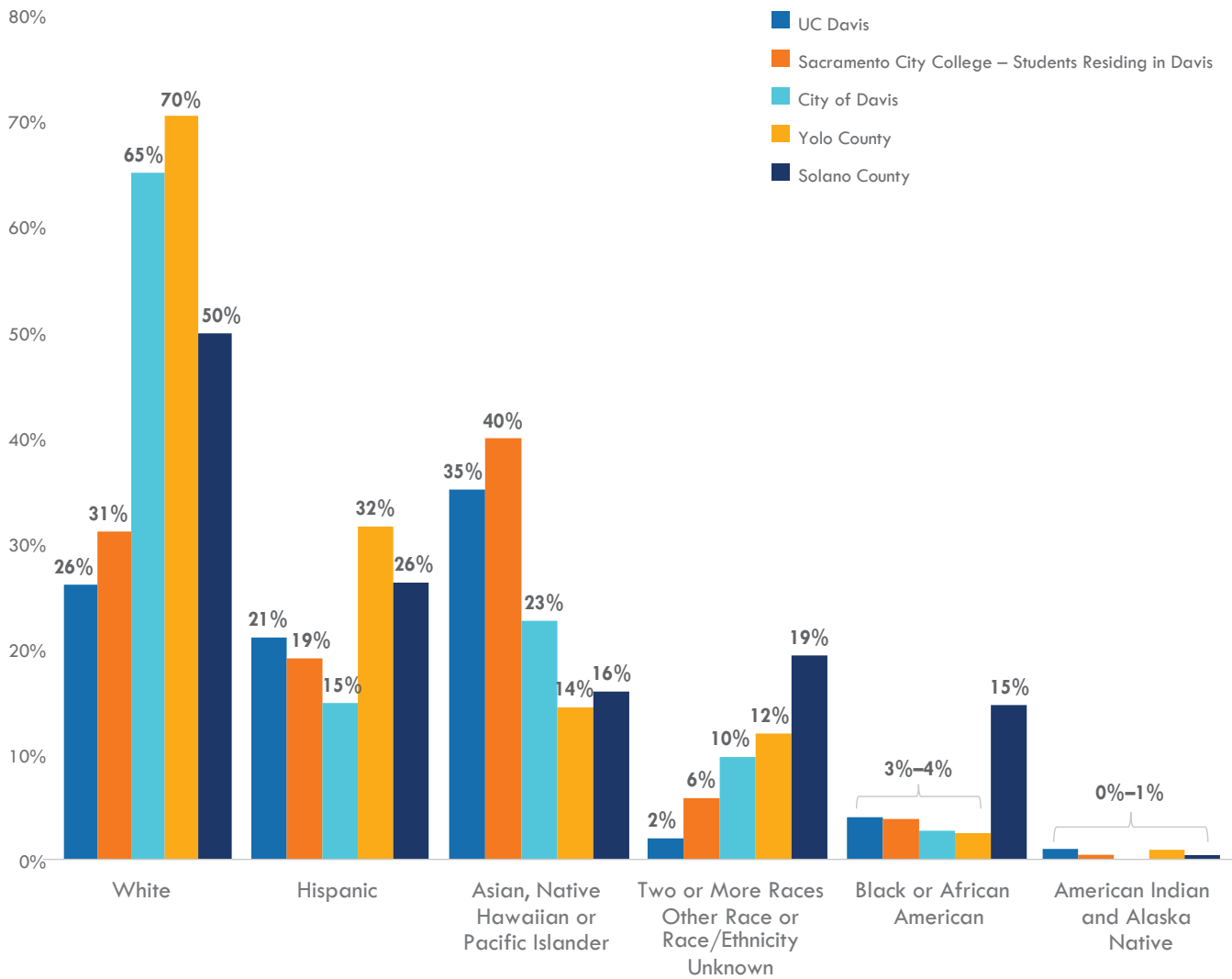
While there is likely some overstatement in disparity due to varying methods of counting Hispanics in these data sources, comparison of Sacramento City College students from Davis to the surrounding county population would suggest some opportunity for the Davis Center to increase outreach activities to Hispanic residents. Other ethnic groups in other categories may constitute areas of focus for outreach.

<sup>4</sup> The disparity in the white and Hispanic categories are likely overstated, as Census Bureau counts Hispanic identity separate from racial identity, while the education institutions do not. It is likely that many residents are counted both as white and as Hispanic in the county and city figures, while education provider figures are self-reported.

<sup>5</sup> US Census Bureau, American Community Survey, 2016 1-Year Estimates; UC Davis Student Profile, Student Characteristics Fall 2016; Los Rios Community College District Institutional Research End of Semester Enrollment Profile by Community of Residence within the Official LRCCD Service Area: by Gender, Ethnicity and Age, Fall 2016. Note that for Hispanic category, UC Davis and Los Rios Community College District report Hispanic population as one of the set of reported races. The American Community Survey reports Hispanic identity as a separate category. For UC Davis’s student body, 12 percent of students identify as “international students,” which are omitted from the graph above.



**Exhibit 3: Residential population by ethnicity, UC Davis, Sacramento City College students residing in Davis, city of Davis and surrounding counties**

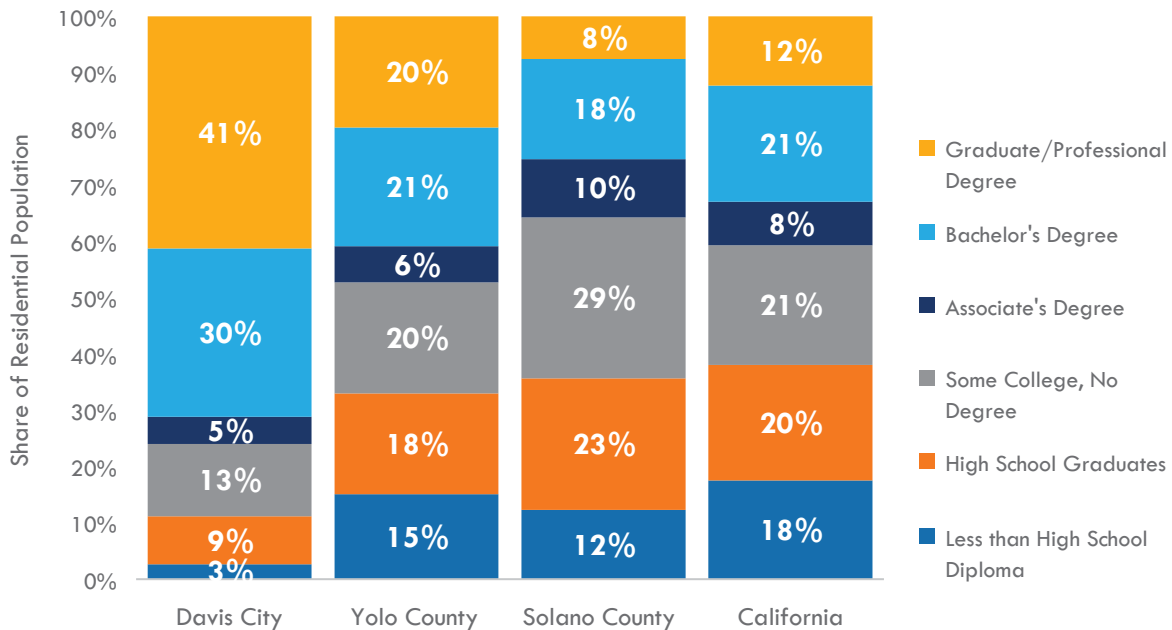


## Educational Attainment

Adult residents of Davis have significantly more education than the average in California and among residents of the surrounding region. Among the population 25 years old and above, more than 70 percent of residents have a bachelor's degree or higher. The data suggests that skills builders and career changers present one target audience. The share of residents with middle-skill credentials, including associate degrees or some college, was 18 percent, compared to 26 percent in Yolo County, and 29 percent in the state overall (Exhibit 4).<sup>6</sup>

The educational attainment of residents in surrounding counties is similar to the state, although Solano County has nearly a third of its adults who have completed some college, but no degree. The data shows that a more traditional audience for career education programs exists in surrounding counties, serving new and continuing students.

**Exhibit 4: Adult Population by educational attainment, City of Davis, surrounding counties and California, 2016**



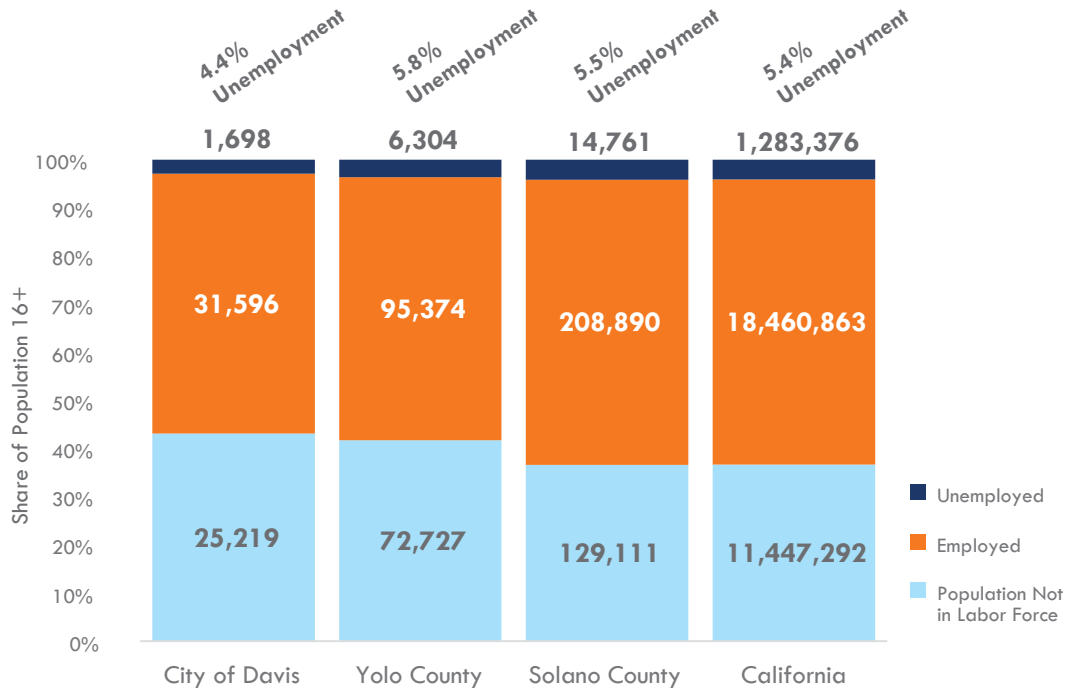
<sup>6</sup> US Census Bureau, American Community Survey, 2016 1-Year Estimates; Data reflects residents 25 years-old and above.



## Labor Force and Unemployment

In 2016, the City of Davis has a lower unemployment rate, 4.4 percent, compared to surrounding counties and the state (Exhibit 5). However, the city's large student population may skew the unemployment rate, which might be lower. Among residents 16 years or older, 54 percent of the population was employed in 2016, a smaller share than in surrounding counties or the state. In Solano County and California, about 60 percent of the population is employed.<sup>7</sup>

**Exhibit 5: Labor Force: employed, unemployed and not in labor force; population age 16 and over, 2016**

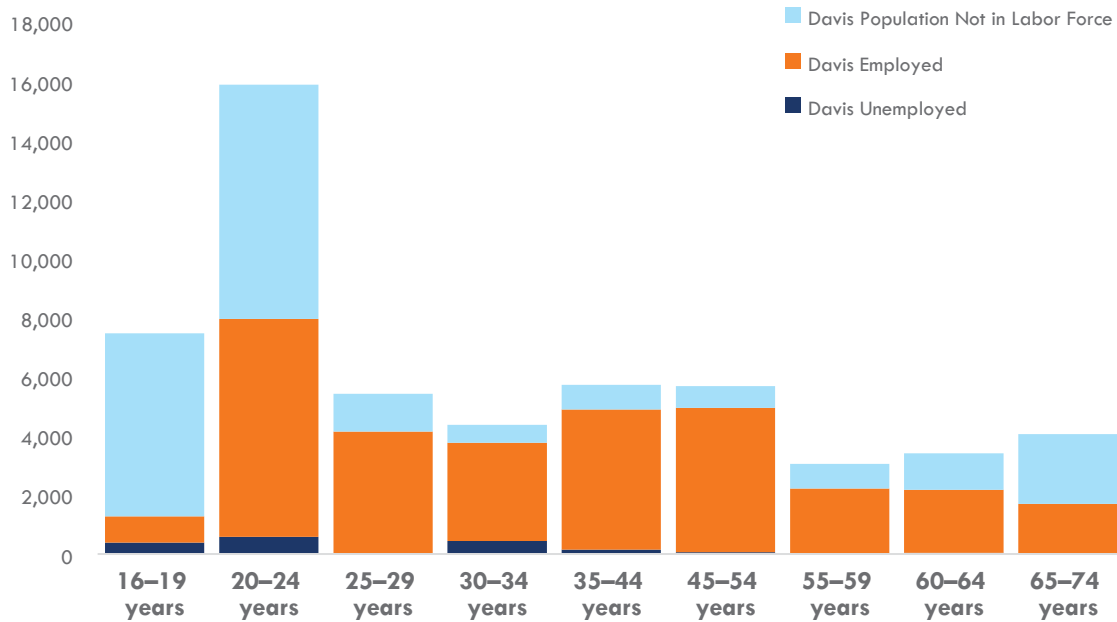


The student population likely plays a sizeable role in the share of Davis' residents not participating in the workforce. Among residents who are 20–24 years old, roughly 50 percent were neither working nor seeking work, while 83 percent of youth who are 16–19 years old were not participating in the labor market. It is also possible that following the recession, older workers opted to retire, thereby reducing the labor force (Exhibit 6).<sup>8</sup>

<sup>7</sup> Chart Data from US Census Bureau, American Community Survey, 2016 1-Year estimates. Unemployment Rates from Bureau of Labor Statistics Local Area Unemployment Statistics Survey, for 2016.

<sup>8</sup> US Census Bureau, American Community Survey, 2016 1-Year estimates.

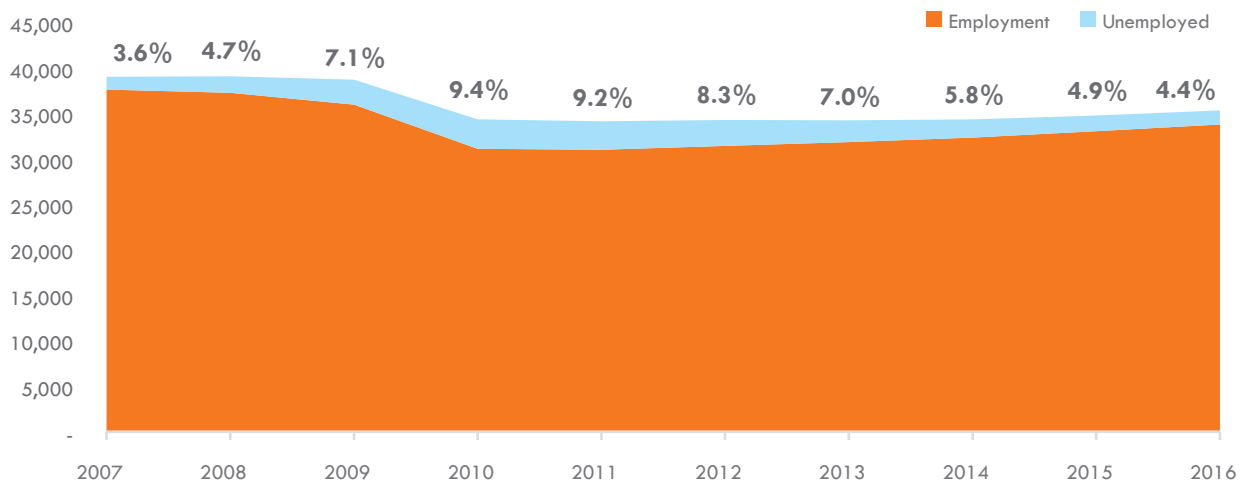
## Exhibit 6: Labor force by age group, City of Davis, 2016



A comparison of unemployment and employment reveals that a number of residents never returned to the workforce after the recession. While the population in the City of Davis dipped following the recession, by 2013 population levels had largely rebounded and continued to increase. In contrast, between 2007 and 2010, roughly 6,500 residents left the workforce, and in 2016, the workforce had only increased again by 2,700 workers, despite the population increase (Exhibit 7).<sup>9</sup>

These findings indicate programs could target UC Davis students, youth, and older demographic groups for lifelong learning. Based on the labor market data, pockets of discouraged workers in and around Davis could benefit from readiness and retraining to re-enter the workforce.

## Exhibit 7: Historical labor force and unemployment rate, City of Davis



<sup>9</sup> Unemployment Rates from Bureau of Labor Statistics Local Area Unemployment Statistics Survey.

## Commuting Patterns

Davis is a commuter town, whose population declines during the day, with many workers bound for Sacramento. The data shows a mismatch between available jobs and the resident workforce.

According to the Census Bureau’s Longitudinal Employer-Household Dynamics Origin-Destination Employment (LEHD) Statistics, 83 percent of Davis’ working residents leave the city to work in neighboring communities (just over 20,000 workers). Fewer than 10,000 workers commute into the city daily. Most Davis jobs, over 70 percent, are staffed by workers commuting into the city. The difference means that the city’s population contracts by about 10,000 workers during the day. Just over 4,000 people live and work in Davis (Exhibit 8).

These patterns suggest a substantial mismatch between the profile of the population residing in Davis and local jobs, which encourages many to pursue opportunities outside of the area. High costs of housing may be compounding the imbalance, as a substantial portion of the jobs in Davis do not pay high wages and surrounding areas are more affordable. In addition, the educational attainment data shows there are not enough jobs requiring a bachelor’s degree in Davis to support the resident workforce.

### Exhibit 8: Inflow and outflow commuting patterns in the city of Davis, all jobs

	Davis Residents Working & Living In Davis		Inflow: Commuters Living Elsewhere, Working in Davis		Outflow: Commuters Living In Davis, Working Elsewhere	
	2015	Trend 2007–2015	2015	Trend 2007–2015	2015	Trend 2007–2015
Total Workers	4,094		9,967		20,234	
Share of Davis' Total Residential Workforce	17%				83%	
Share of Davis' Employed Workers	29%		71%			

The highest share, nearly 20 percent of outflow workers, commute to Sacramento. A smaller share commutes to Vacaville, Fairfield and Woodland. A surprisingly small share commute to the inner Bay Area. Similar towns represent the top origin points for inflow commuters (Exhibit 9).<sup>10</sup>

Analysis shows that outflow workers have higher earnings. Nearly 60 percent of outflow workers earn more than \$40,000 annually. More than 60 percent of incoming commuters earn less than \$40,000 annually. Among these workers, the largest proportion, 37 percent, earned \$1,250 or less per month, the equivalent of \$15,000 or less per year.

<sup>10</sup> U.S. Census Bureau, OnTheMap, LEHD Origin-Destination Employment Statistics (Beginning of Quarter Employment, 2nd Quarter of 2002-2015). While these figures suggest trends and characteristics of Davis’ economy, roughly 7,300 workers living in Davis (which are accounted for in the American Community Survey) are not accounted for in the LEHD Origin-Destination Employment Statistics. Similarly, only 14,100 workers are accounted for as working within the City of Davis during the day, while jobs analysis from Emsi suggest that there are closer to 47,300 jobs in the City. These differences might be attributed to differences in geographic definitions, differences in accounting for shift changes, double-counting of workers due to multiple jobs, exclusion of self-employed workers, or something else.



**Exhibit 9: Commute patterns, origin and destination by count and share in the City of Davis**

**Workers Present at Night = 24,328**  
 20,234 commute out of Davis daily

Destination of Outgoing Commuters		2015	
	Count	Share	
Sacramento city, CA	4644	19%	
Woodland city, CA	1005	4%	
Vacaville city, CA	503	2%	
West Sacramento city, CA	475	2%	
Fairfield city, CA	432	2%	
San Francisco city, CA	426	2%	
Arden-Arcade CDP, CA	421	2%	
Roseville city, CA	353	1%	
Rancho Cordova city, CA	293	1%	
Dixon city, CA	233	1%	

**Difference between outbound workers and inbound workers = Davis loses 10,000 workers during the day**

**Workers Present During Day = 14,061**  
 9,967 commute into Davis daily

Origin of Incoming Commuters to Davis		2015	
	Count	Share	
Sacramento city, CA	1,393	9.9%	
Woodland city, CA	1,162	8.3%	
West Sacramento city, CA	437	3.1%	
Vacaville city, CA	395	2.8%	
Dixon city, CA	330	2.3%	
Elk Grove city, CA	329	2.3%	
San Francisco city, CA	162	1.2%	
San Jose city, CA	150	1.1%	
Roseville city, CA	149	1.1%	
Arden-Arcade CDP, CA	147	1.0%	

# ECONOMIC DRIVERS

This section focuses on employment patterns by sector and industry within the City of Davis, Yolo County and Solano County, with the intent of exploring areas of opportunity around workforce training. While there are differences in industry composition among these three geographies, there are also areas of convergence that may warrant additional exploration.

## City of Davis: Industry Sectors

There are over 47,000 workers employed in the City of Davis, including self-employed workers.<sup>11</sup>

Government employs the largest number of workers in city, accounting for 62 percent of total employment in the city. The size of this sector is primarily driven by public postsecondary education, dominated by the UC Davis. Public colleges, universities, and professional schools employed roughly 23,600 people in Davis in 2017. Between 2007 and 2017, government employment declined slightly, and only moderate growth is anticipated for the next five years (+5 percent), largely driven by job growth in state government (Exhibits 10 and 11).

Health care (including social assistance) is the second largest sector in Davis, with a large projected increase in jobs over the next five years. Between 2017 and 2022, health care jobs are anticipated to expand by 15 percent, and by 2022 will employ more than 4,000 people in Davis. A key driver of this trend is the continued expansion of jobs in continuing care retirement communities (+50 percent between 2017 and 2022). Hospitals and outpatient care jobs are also expanding.

Two additional key sectors in Davis are: accommodation and food, and professional, scientific and technical services. Jobs in hospitality (largely in restaurants) are growing quickly in the city and may reflect demand from college students and an affluent residential population.

An especially interesting sector in Davis is professional, scientific and technical services. While this sector's employment is not more concentrated in Davis (in relation to the full local economy) than in the state of California, it is projected to grow 6 percent between 2017 and 2022. (Due to linkages with UC Davis, the region is known for its specialization in this area.) The largest industries within this sector are research and development in physical, engineering and life sciences (except nanotechnology and biotechnology), and custom computer programming services, each employing more than 400 people in Davis.

Between 2017 and 2022, manufacturing is projected to grow the most quickly of all sectors in Davis, in part because the sector is growing from a small base of employment and is still recovering from losses over the last decade. Employment in manufacturing is a very small portion of the Davis economy (1 percent of total jobs in the city), and this sector shed nearly a third of its jobs between 2007 and 2017. Additional details about growth patterns, large industries, and "other" industries within these sectors in Davis are available in Appendix A.

## Reading a bubble chart:

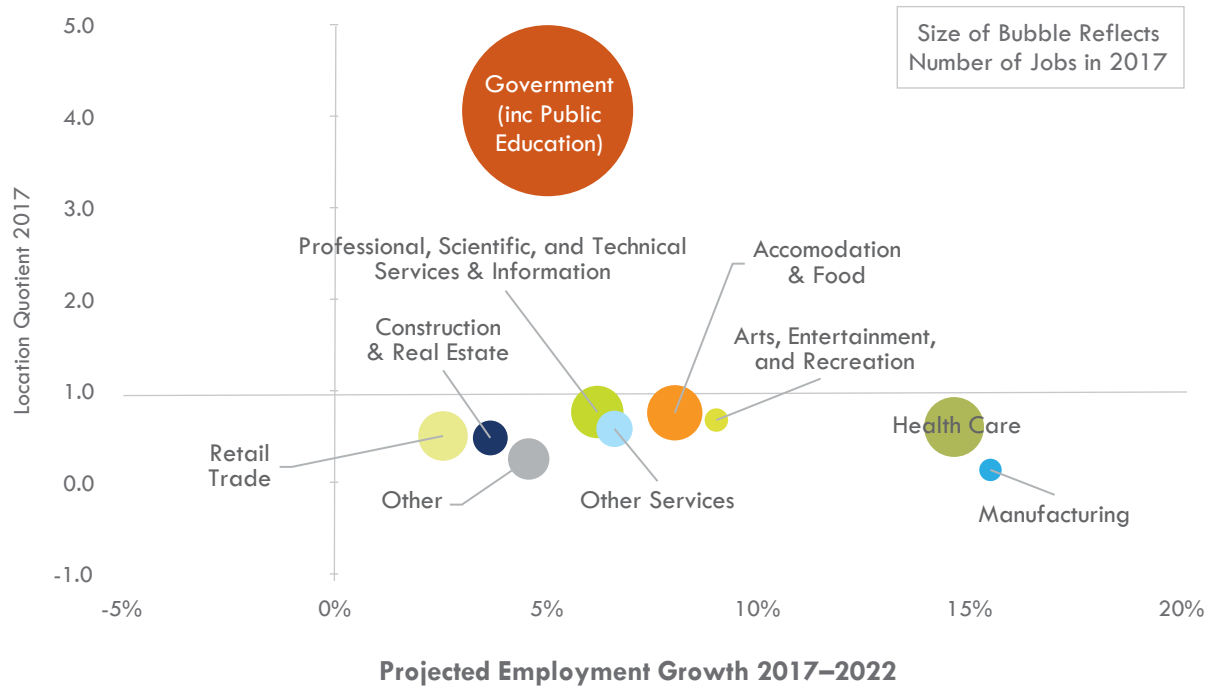
The bubble charts featured in this section highlight three important dimensions of:

- Size of employment by sector, reflected by the size of the circles in the charts.
- Expected employment growth in the sector over the next five years (2017–2022), illustrated on the X-axis
- Concentration or specialization of employment, indicated by Location Quotient in 2017, depicted on the Y-axis. Location quotient reflects the size of the local sector in relation to the total local economy, compared to the nation overall. A location quotient greater than 1.0 indicates more relative concentration of employment in the local area than in the nation, which can be inferred to reflect a degree of specialization in that sector within the local area.

Sectors that fall in the upper right quadrant reflect areas of concentration and growth, and often reflect economic drivers of local economies.

<sup>11</sup> 2018.1 Emsi. The charts and tables in this section all refer to the same data source.

### Exhibit 10: Industry sector projected employment growth, location quotient and jobs in the City of Davis



### Exhibit 11: Five-year projected employment, by industry sector in the City of Davis

Industry Sector	2017 Jobs	2022 Jobs	2017–2022 Growth
Government (incl. Public Education)	29,456	30,911	5%
Health Care	3,609	4,133	15%
Accommodation & Food	3,081	3,326	8%
Professional, Scientific, and Technical Services & Information	2,763	2,932	6%
Retail Trade	2,475	2,536	2%
Other	1,727	1,805	4%
Other Services	1,328	1,414	7%
Construction & Real Estate	1,221	1,265	4%
Arts, Entertainment, and Recreation	552	601	9%
Manufacturing	506	584	15%
<b>Total</b>	<b>47,333</b>	<b>50,151</b>	<b>6%</b>

## Yolo County Industry Sectors

The City of Davis accounted for 40 percent of the 117,300 total jobs in Yolo County in 2017. While Davis is an important city in the county, there are substantial differences when comparing Davis' local employment profile with the broader county. Yolo County has a substantial concentration of jobs in agriculture, and jobs in this sector are expected to expand rapidly over the next five years (Exhibits 12 and 13).

The location quotient for agriculture and forestry is 4.5 in Yolo County, meaning that there are 4.5 times as many jobs than in the nation, in relation to the size of their respective total economies. While the largest number of jobs within this sector are in farm labor contractors/crew leaders and crop production, jobs in postharvest crop activities are anticipated to grow most rapidly (+20 percent between 2017 and 2022) and employ more than 780 people in 2022.

Administrative/support and waste management/remediation services incorporate several disparate industries. While aggregate jobs in this sector have grown rapidly, this change is principally driven by temporary help services, and security guards and patrol services. Temporary help services more than tripled between 2007 and 2017 and is expected to employ more than 2,000 workers by 2022. Security guards and patrol services doubled between 2007 and 2017.

Like the city of Davis, health care is a large and growing sector in Yolo County, with 63 percent of county health care jobs in areas other than Davis. Elder care is similarly an important driver of the growth, with jobs in "services for the elderly and persons with disabilities," which is anticipated to grow 30 percent between 2017 and 2022, adding 3,200 jobs.

**More diverse than the City of Davis, Yolo County's economy has employment concentrations and growth trends in agriculture & forestry, manufacturing, wholesale, and transportation and warehousing.**

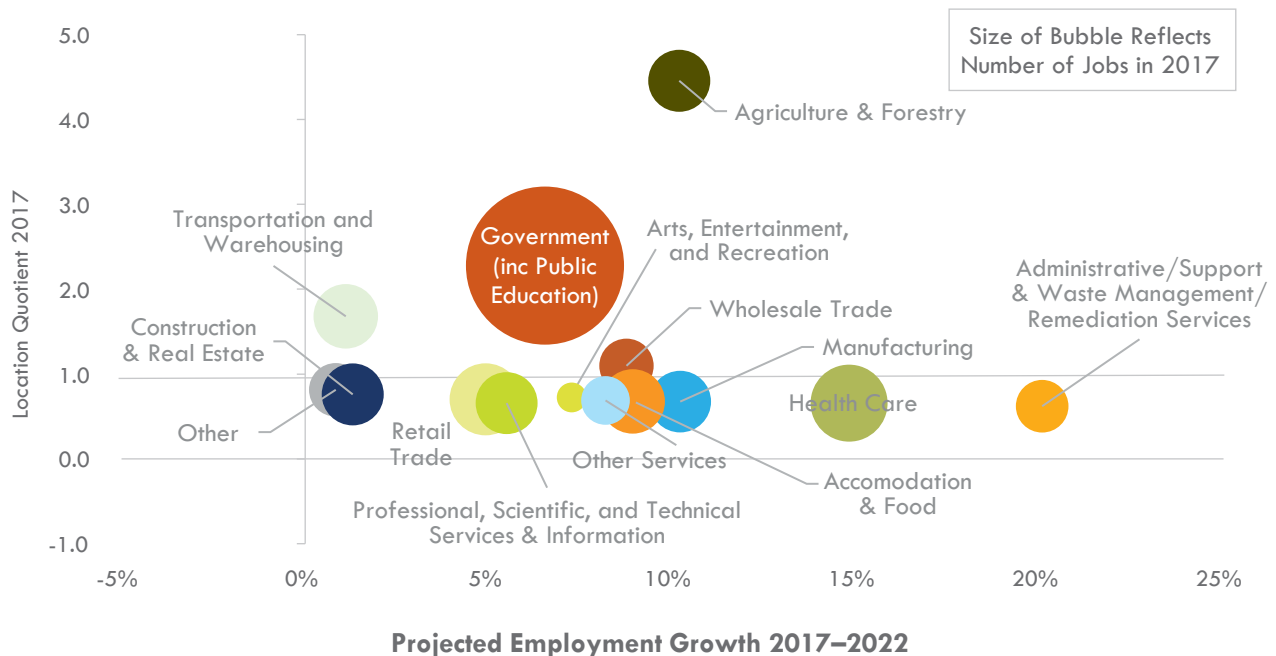




Manufacturing plays a relatively larger role in the county's economy than the city's. In 2017, 5 percent of total jobs in the county were in the manufacturing sector, divided among a number of industries. Transportation and warehousing was the fourth largest employment sector in Yolo County in 2017 and is an area of specialization relative to the state. Jobs in this sector declined between 2007 and 2017, led by decreases in warehousing and storage, and are anticipated to grow by only 1 percent between 2017 and 2022. While government is the largest sector in Yolo County, 72 percent of these jobs are in Davis.

See Appendix A for additional details about growth patterns, large industries, and "other" industries within these sectors in Yolo County.

### Exhibit 12: Industry sector projected employment growth, location quotient and jobs in Yolo County





### Exhibit 13: Five-year projected employment, by industry sector, in Yolo County

Industry Sector	2017 Jobs	2022 Jobs	2017–2022 Growth
Government (incl. Public Education)	40,977	43,652	7%
Health Care	9,716	11,155	15%
Retail Trade	8,498	8,915	5%
Transportation and Warehousing	6,822	6,897	1%
Accommodation & Food	6,807	7,414	9%
Agriculture, Forestry, Fishing and Hunting	6,304	6,946	10%
Construction & Real Estate	6,302	6,383	1%
Professional, Scientific, and Technical Services & Information	6,280	6,624	5%
Manufacturing	6,229	6,865	10%
Wholesale Trade	4,842	5,266	9%
Other	4,696	4,735	1%
Administrative and Support and Waste Management and Remediation Services	4,541	5,452	20%
Other Services	3,878	4,195	8%
Arts, Entertainment, and Recreation	1,456	1,561	7%
<b>Total</b>	<b>117,347</b>	<b>126,060</b>	<b>7%</b>

### Solano County Industry Sectors

Solano County’s economy is more diversified than Yolo County and the City of Davis. While the government sector is also its largest employer, manufacturing, health care, retail and construction are all large sources of jobs within the county, and highly concentrated compared to the nation.

Health care is anticipated to be Solano County’s fastest growing sector between 2017 and 2022, particularly led by growth in “Services for the Elderly and Persons with Disabilities” (+31% to 7,100 jobs in 2022) and HMO Medical Centers (+40% to 6,300 jobs in 2022).

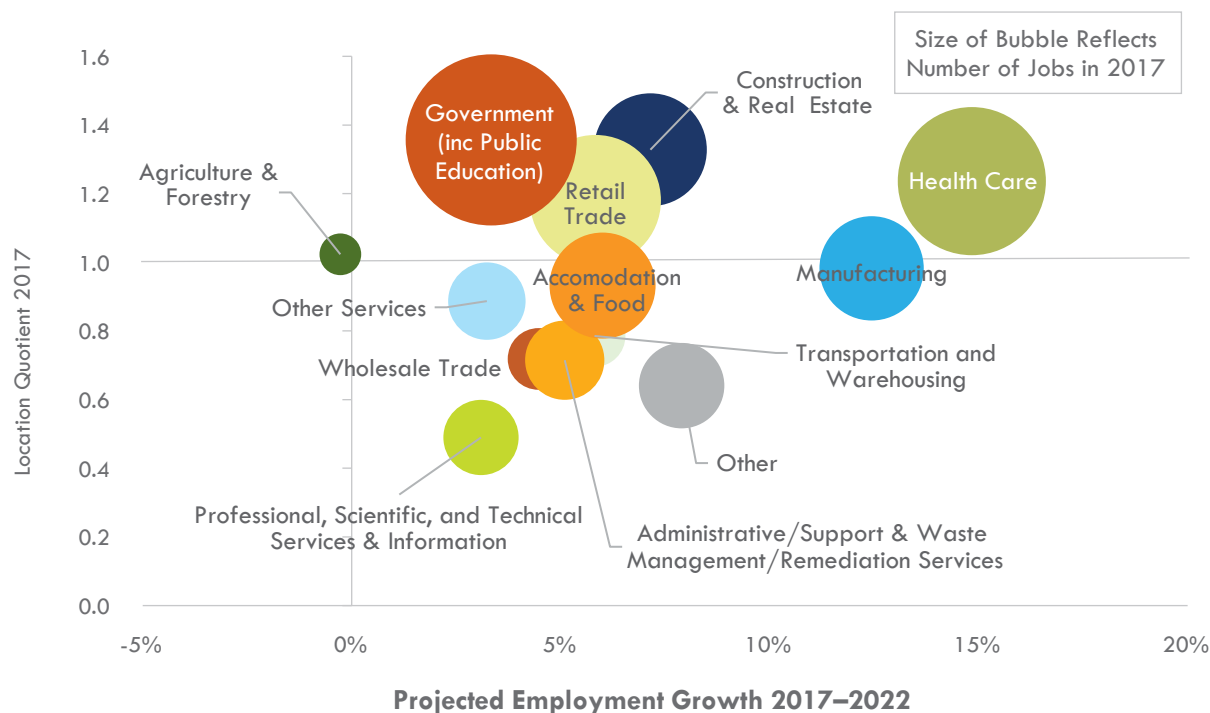
Manufacturing is anticipated to be the county’s second fastest-growing sector in the next five years. Much of the manufacturing activity in Solano is concentrated around Vallejo and its waterfront.

Like Davis, Solano County has very strong outflow of commuting workers to surrounding areas. While the county has roughly 220,000 more residents than Yolo County, it only has 41,600 more jobs.

Additional details about growth patterns, large industries, and “other” industries within these sectors in Solano County are available in Appendix A.

**Solano County’s economy adds construction and additional manufacturing employment to notable industry sectors in the study region.**

### Exhibit 14: Industry sector projected employment growth, location quotient and jobs in Solano County



### Exhibit 15: Five-year projected employment, by industry sector, in Solano County

Industry Sector	2017 Jobs	2022 Jobs	2017-2022 Growth
Government (incl. Public Education)	33,049	34,152	3%
Health Care	24,773	28,448	15%
Retail Trade	19,360	20,489	6%
Construction & Real Estate	14,378	15,405	7%
Accommodation & Food	12,690	13,452	6%
Manufacturing	12,282	13,809	12%
Other	8,243	8,894	8%
Administrative and Support and Waste Management and Remediation Services	7,086	7,447	5%
Other Services	6,766	6,985	3%
Professional, Scientific, and Technical Services & Information	6,389	6,587	3%
Transportation and Warehousing	4,319	4,570	6%
Wholesale Trade	4,297	4,489	4%
Arts, Entertainment, and Recreation	3,364	3,482	4%
Agriculture, Forestry, Fishing and Hunting	1,961	1,955	-0.3%
<b>Total Jobs</b>	<b>158,956</b>	<b>170,165</b>	<b>7%</b>

# WORKFORCE ANALYSIS

## Entry-Level Educational Requirements

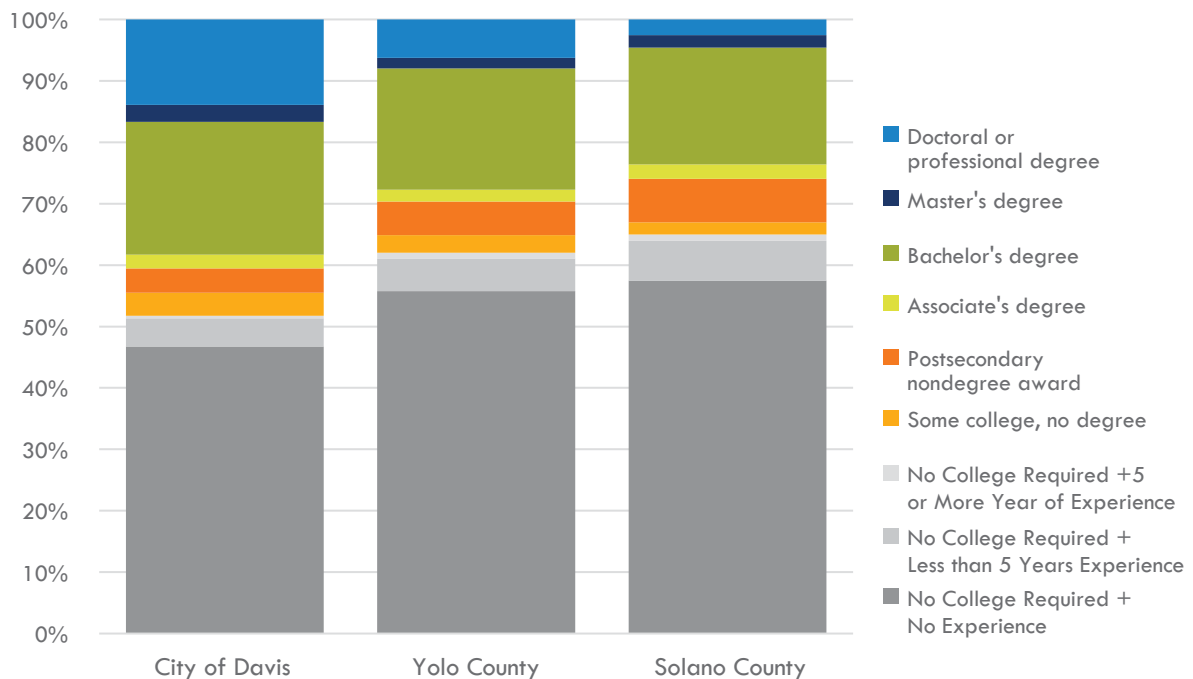
The report presents findings on the typical entry-level education required for occupations in each area of the study region, and compares the shares of employment by education level. This section is a place of work analysis for employees working in a location. The educational attainment section above is a place of residence analysis. Analyzing the typical entry-level education for occupations in the study regions, some findings are similar to the educational attainment analysis shown in the sections above. Comparing the place of work occupational picture to the resident educational attainment picture suggests residents are more highly educated than the workforce. Recall, over 70 percent of the resident population holds a bachelor's degree or higher.

The City of Davis had a higher share of jobs that require a bachelor's degree or above than the surrounding counties. Nearly 40 percent of occupational employment requires at least four years of postsecondary education (Exhibit 16).<sup>12</sup>

There is a lower share of the occupational employment requiring education below college level. The figure is still more than half of jobs in Davis. In Yolo and Solano counties, more than 60 percent of jobs require no post-secondary education.

When considering the required entry-level education as a single measure of skill level, about 15 percent of jobs in Davis are in the middle-skill range.<sup>13</sup> In contrast, just under 20 percent of jobs in Yolo and Solano counties, more than Davis, are in the middle skill range. Again, the presence of the university creates a slightly more top and bottom-skewed picture of the labor market and lower-end jobs.

**Exhibit 16: Occupations, educational level required, city of Davis, Yolo County, Solano County, 2017**



<sup>12</sup> Emsi 2018.1 Calculations by Compass Policy Strategies.

<sup>13</sup> Middle skill in this case is roughly defined to include requiring an associate degree or post-secondary award, or some college or no college, with experience. This use does not incorporate the COE's definition of middle skill, which uses multiple metrics.

## Occupational Analysis

The occupational analysis also uses educational attainment as a measure for middle skill jobs to identify potential targets for the community colleges.

In the City of Davis, the middle-skill occupations with the most employment include a range of occupations in the Business Information Worker sphere, including administrative, bookkeeping, and business operations occupations. Nurses and medical assistants comprise top health care occupations. Preschool, childcare and teacher assistants are included in the list. Several positions also involve first-line management positions, including first-line supervisors of office workers and food service workers show up for entry-level management occupations (Exhibit 17).

The fastest growing occupations projected over the next five years in Davis are police patrol officers, maintenance and repair workers, and computer user support specialists.

The occupational picture reflects university and other key professional occupations. The largest single occupation in Davis in 2017 was post-secondary teachers with 5,500 workers. Other sizeable occupations that require a bachelor's degree or above in Davis included management analysts, library workers and accountants.

These figures suggest a large range of education and training backgrounds required within key industry sectors. Additional research and engagement in key industries, such as healthcare, education, government administration and scientific/technical services, will likely be necessary to identify specific industry needs and gauge the full scale of demand.

A list of the top 20 occupations (at all skill levels) is included in Appendix B alongside a list of the top 15 middle skill occupations for each study region. The lists are intended to offer suggestions for potential pathway and transfer program opportunities.

### Exhibit 17: Top 15 middle-skill occupations by number of jobs, 2017, City of Davis

SOC	Description	2017 Jobs	2022 Jobs	Growth 2017–2022	Annual Openings	Avg. Hourly Earnings	Middle Skill?
	<b>Total Jobs</b>	<b>47,333</b>	<b>50,151</b>	<b>6%</b>	<b>5,753</b>	<b>\$26.33</b>	
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	1,782	1,989	12%	226	\$18.84	Middle Skill
13-1199	Business Operations Specialists, All Other	647	647	0%	63	\$37.44	Middle Skill
49-9071	Maintenance and Repair Workers, General	646	736	14%	75	\$20.51	Middle Skill
25-9041	Teacher Assistants	633	705	11%	76	\$14.25	Middle Skill
43-3031	Bookkeeping, Accounting, and Auditing Clerks	588	610	4%	73	\$21.00	Middle Skill
29-1141	Registered Nurses	541	579	7%	36	\$48.92	Middle Skill
15-1151	Computer User Support Specialists	471	532	13%	46	\$28.57	Middle Skill
39-9011	Childcare Workers	423	426	1%	98	\$10.35	Middle Skill
43-1011	First-Line Supervisors of Office and Administrative Support Workers	416	429	3%	44	\$29.12	Middle Skill
43-4051	Customer Service Representatives	345	379	10%	48	\$19.06	Middle Skill
33-3051	Police and Sheriff's Patrol Officers	312	361	16%	28	\$42.34	Middle Skill
43-6011	Executive Secretaries and Executive Administrative Assistants	272	262	-4%	32	\$27.84	Middle Skill
31-9092	Medical Assistants	262	291	11%	33	\$17.63	Middle Skill
35-1012	First-Line Supervisors of Food Preparation and Serving Workers	214	240	12%	33	\$14.89	Middle Skill
25-2011	Preschool Teachers, Except Special Education	198	218	10%	31	\$13.32	Middle Skill

Yolo County's middle-skill jobs resemble the City of Davis' top occupations. Occupational employment for education, "Business Information Worker"-related, healthcare, and public safety, are in the top list. Key differences reflect the presence of other industries—construction, retail, and logistics. Yolo County shows sizeable employment for heavy truck drivers, sales specialists and carpenters among the top occupations.

Solano County, in contrast, introduces a different set of prevalent middle-skill occupations, reflecting the diversity of the economy moving west and south. Automotive Service Technicians & Mechanics and Health Technologists/Technicians were the most common middle-skill jobs in Solano in 2017. Middle-skill jobs anticipated to grow most rapidly in the next five years included home health aides (+56 percent), health technologists/technicians (+26 percent), telecommunications line installers and repairers (+39 percent) and machinists (+15 percent).

Additional occupational employment details on middle-skill jobs and other skill levels for the three study regions can be found in Appendix B.

## In-demand Skills

The research analyzed job postings for the top skills and credentials employers cited. Skills often span industries and job descriptions, deepening industry and occupational analysis, and offering specific opportunities for training and education program offerings.

This analysis compares job postings in Davis with the top five commuter cities identified in commute and labor shed analysis above. The top five commuter cities and origin cities for Davis residents include Sacramento, Woodland, West Sacramento and Fairfield (Exhibit 18).

The most common skills cited in job postings in Davis and the commuter cities include Microsoft Office (MS Excel, MS Word, MS PowerPoint), and management and finance (budgeting, scheduling, project management, staff management and accounting).<sup>14</sup>

Customer service was the most frequently cited skill in the commuter cities, perhaps reflecting the large retail sectors in surrounding areas. This skill was cited in 11 percent of job postings in Davis.

Two industry sectors posted the most job openings in Davis and the top commuter cities over the 12 months analyzed: health care, and professional, scientific and technical services. There were over 22,000 jobs posted in the health care sector in the study period. The most common skills required included patient care, CPR, and treatment planning. There were over 5,000 postings for Registered Nurses, nearly 900 postings for medical and health services managers, and over 800 postings for Nurse Practitioners. These were the most frequent positions called for in the health care postings.

There were roughly 9,600 postings in the professional, scientific and technical services sector. Project Management, Microsoft Office-related skills, and customer service made up the top listings. Computer skills highest in demand (beyond MS Office) included SQL, SAP, Oracle, and Java. The most common occupation in the job postings in the sector was software developer. There were more than 500 postings for software developers in the year studied.

Burning Glass, the real-time tool used for analysis, makes a distinction between "specialized skills" and "baseline skills," commonly referred to as soft skills, or employability skills. The baseline skills were cited more frequently in job descriptions than most "specialized skills." About 40 percent of the 2,500 postings in Davis cited communications skills; nearly 30 percent cited writing; and a quarter cited research skills.

**There were nearly 10,000 jobs posted in the professional, scientific, and technical services sector in the last 12 months in the study region.**

<sup>14</sup> Burning Glass, 2018.1

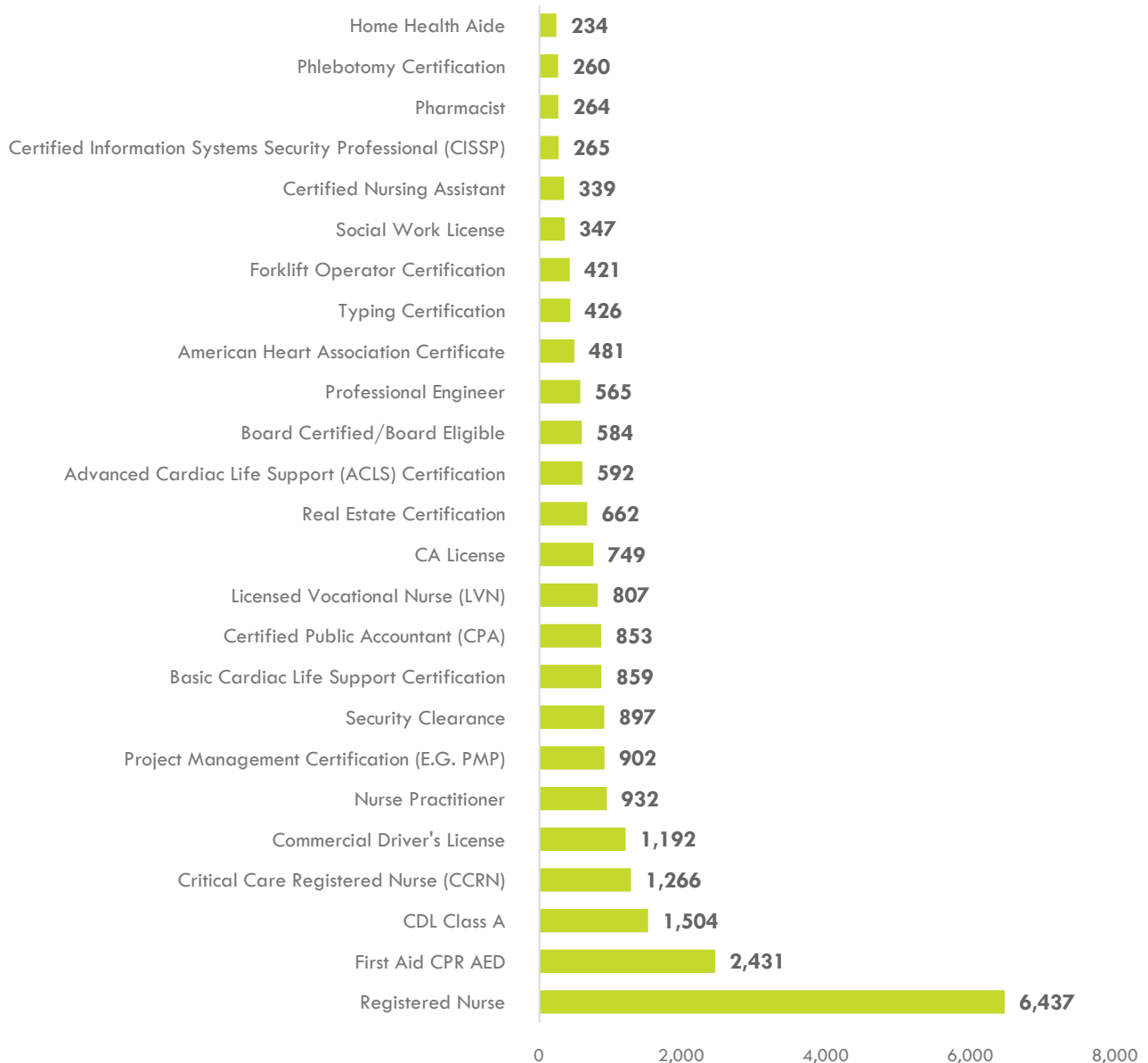
**Exhibit 18: Top skills cited in job postings, City of Davis, and Davis’s top commuter cities, Feb. 2017 to Jan. 2018**

Specialized Skill	City of Davis			Top 5 Commuter Cities (including Davis)		
	Rank	Number of Postings	Share of All Postings	Rank	Number	Share of All Postings
Microsoft Excel	1	934	15%	2	13,038	12%
Collective Bargaining	2	926	15%	42	1,785	2%
Budgeting	3	850	14%	6	9,529	9%
Scheduling	4	782	13%	3	10,913	10%
Customer Service	5	678	11%	1	13,569	12%
Spreadsheets	6	659	11%	26	2,900	3%
Teaching	7	653	10%	19	3,611	3%
Supervisory Skills	8	632	10%	7	8,270	7%
Project Management	9	549	9%	8	8,161	7%
Microsoft Office	10	529	9%	5	9,919	9%
Staff Management	11	528	8%	9	6,048	5%
Microsoft Word	12	454	7%	10	5,789	5%
Accounting	13	420	7%	14	4,617	4%
Microsoft Powerpoint	14	387	6%	13	4,857	4%
Cardiopulmonary Resuscitation (CPR)	15	355	6%	22	3,029	3%
Surveillance	16	355	6%	153	762	1%
Patient Care	17	352	6%	17	3,775	3%
Purchasing	18	340	5%	32	2,162	2%
Infectious Disease	19	334	5%	287	454	0%
Proofreading	20	289	5%	225	562	1%

## In-demand Certifications

The research also analyzed the top certifications cited in the job postings in Davis and the top commuter cities (Exhibit 19). Registered Nurses, and other health certifications ranked high (critical care RNs, nurse practitioners, licensed vocational nurses, CPR, and advanced life support). Commercial driver licenses, project management, and Certified Public Accountant (CPA) also appeared among the top-ranked certifications.<sup>15</sup>

### Exhibit 19: Top 25 most frequently cited certifications in the job postings, City of Davis and Davis's top commuter cities, Feb. 2017 to Jan. 2018



<sup>15</sup> Ibid.

# EDUCATIONAL SUPPLY

This section of the report offers an overview of student enrollment and programs offered by Sacramento City College and the Davis Center. The section also summarizes regional completions across disciplines for two-year and four-year postsecondary institutions in Yolo County and Solano County.

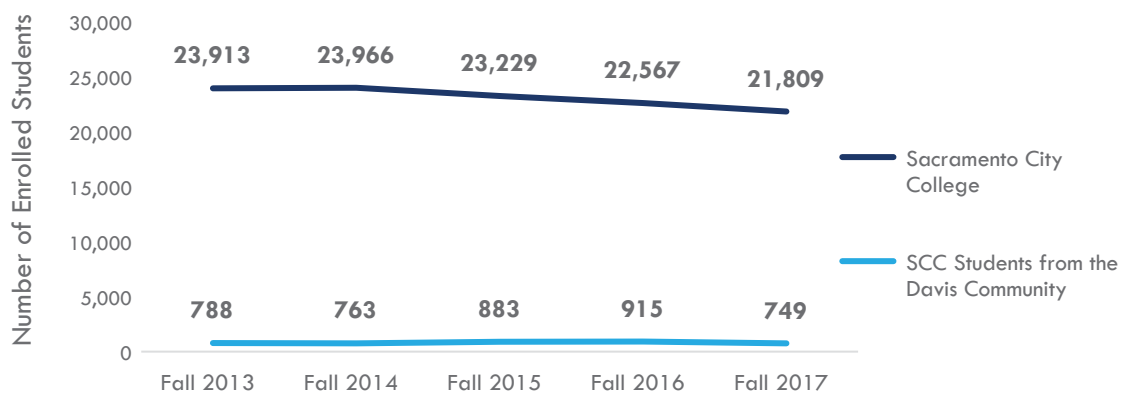
The Davis Center has historically been transfer-oriented. Career education (CE) offerings are limited. Several programs approximate CE including Computer Information Science, Early Childhood Education, Business, and Family and Consumer Sciences (Exhibit 20).<sup>16</sup>

## Exhibit 20: Davis Center, offerings by discipline

Accounting	Anthropology	Art
Art History	ASL-Deaf Culture	Astronomy
Biology	Business	Chemistry
Computer – Apps	Computer-Programs	Communication
E. Childhood Education	Economics	English – Creative Writing
English – Writing	Family/Consumer Sci.	Geography
Geology	History	Humanities
Journalism	Mathematics	Music
Nutrition and Foods	Philosophy	Physics
Political Science	Psychology	Sociology
Spanish	Statistics	Women and Gender Studies

Since Davis Center-specific student data was not available, research used Davis residents enrolled at Sacramento City College as a proxy metric for analysis to compare enrollment trends (Exhibit 21). Comparing the end-of-semester fall enrollments from the last five years shows two trends for the Davis residents. Enrollments of Davis residents at Sacramento City College increased between 2014 and 2016, while overall college enrollment steadily declined during the same period.<sup>17</sup> The most recent fall semester (2017) showed a 20 percent decline from the previous fall, and a 5 percent decline compared to 2013, however.

## Exhibit 21: Sacramento City College fall enrollments, all students and Davis resident students



<sup>16</sup> The data is not exhaustive. The research did not catalog all the regional training offerings.

<sup>17</sup> Los Rios Community College District Institutional Research, End of Semester Enrollment Trends, and Profile by Community of Residence within the Official LRCCD Service Area.

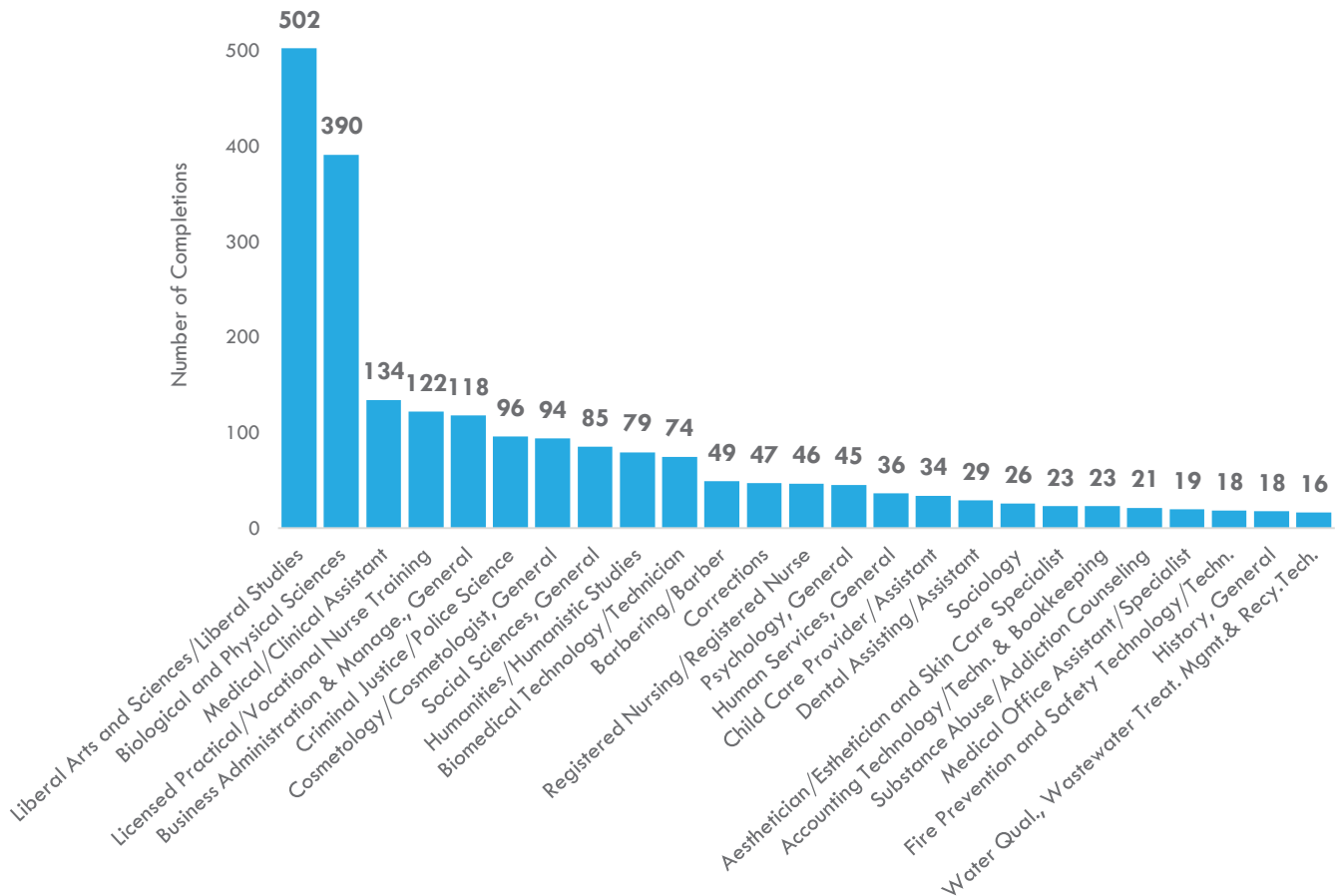


UC Davis is the largest institution in the two-county region, granting over 10,000 degrees and awards annually. The second largest institution is Solano Community College, which awarded roughly 1,600 degrees and certificates in 2016. Woodland Community College granted roughly 350 degrees and certificates in 2016. The California State University’s Maritime Academy in Vallejo (Solano County) conferred 250 awards. Other private training providers are active in both counties (primarily in Solano County, with five schools reporting awards data).

Due to data constraints, Davis Center completions are not included in this analysis of training providers and degree/certificate awards.<sup>18</sup> The majority of credentials awarded in Yolo and Solano counties were for bachelor’s degrees and advanced degrees, reflecting UC Davis’ presence. Only 18 percent of credentials awarded were for associate degrees and certificates on average for the 2014-2016 period.<sup>19</sup> A large share of associate degree and certificate production are for transfer-oriented awards—liberal arts (~500 degrees annually), and biological and physical sciences (~400 degrees annually).

Several sectors of career education awards (degrees and certificates) are sizeable and include health care (medical assistants, licensed vocational nurses, registered nurses, substance abuse counselors and medical office specialists), business administration and public safety (criminal justice, corrections, and fire technology). Solano Community College’s biotech program is reflected in the biomedical technician awards data. Several private training providers offer cosmetology and barbering programs. A small number of water treatment awards are from Solano Community College’s program (Exhibit 22).

**Exhibit 22: Top 25 programs, by annual average certificate and associate degree completions, Yolo and Solano counties, 2014-2016**



<sup>18</sup> Publicly-available data from the Los Rios Community College District’s institutional research webpage does not provide a breakout of data from the Davis Center (<http://irweb.losrios.edu>). The COE was not able to obtain that data beyond general student data about Davis residents enrolled at Sacramento City College, which serve as a proxy indicator for Davis enrollment trends.

<sup>19</sup> Emsi 2018.1, IPEDS Institutional Completions data. Note: data does not include Sacramento City College, Davis Center completions.

# CONCLUSION AND RECOMMENDATIONS

With the expansion of the Davis Center, its location on the campus of a world-class research university, and the unique characteristics of the city and surrounding counties, the center has an opportunity to be a major player among workforce development actors in the region. The center has the potential to train highly educated residents and offer educational prospects for nearby workers, while supporting the region's advantaged industries.

The Davis Center sits in a place of enormous opportunity, but it is also a place of imbalance. Highly educated residents leave the city daily to the tune of a net loss of 10,000 daily commuters. Inbound commuters generally earn less money and more often work in service industries. Postsecondary institutions do not serve Hispanic residents on par with population levels. Educational attainment of bachelor's degrees and above is far higher among Davis residents than in surrounding counties and the state.

The report offers the following key findings and recommendations to encourage workforce development and career education investments to support an economically competitive and equitable region. The key findings include the following:

## Demographics and Commuting Patterns Key Findings

- The Davis Center's expansion provides added capacity for local population growth. Among the three study regions, Yolo County has undergone a 14 percent population increase in the last 10 years. The City of Davis and Solano County have each grown 7 percent.
- Comparing university and college demographics with county and city demographics indicates that Hispanic residents represent a significant underserved community. Other ethnicities, including African-Americans and people who selected the "two or more races category," constitute other underrepresented groups.
- Based on the data analysis, the city faces a significant jobs-housing imbalance, and the city does not possess enough jobs requiring a bachelor's degree or above to employ the local resident population. More than 70 percent of Davis residents possess a bachelor's degree or above. (In California, that number is 33 percent.) Most residents residing in Davis commute to Sacramento, Woodland and other surrounding cities.
- Davis also draws workers from other parts of the region, but local jobs tend to be service oriented, and workers earn less than outbound commuters.
- A relatively high proportion of younger Davis residents do not participate in the labor market, many of them in the 20–24 age bracket, owing to the student population. Retirement age brackets also have large shares of people who are not in the labor force. Findings show that a small, but significant, number of people left the labor force during the recession and did not return.

## Economic Drivers Key Findings

The City of Davis sits in the middle of urban and suburban population centers amid a wealth of agricultural and industrial land. A large portion of the local economy is driven by UC Davis as an employer and an economic driver for local restaurants, businesses and services providers.

In addition to the university, the Davis Center stands to capitalize on strong employment concentrations in growing locally-serving and export-oriented industries in the city and surrounding counties. Locally-serving industries that merit attention include health care, education and child care, construction and food service.

Export-oriented industry sectors that merit attention include professional, scientific and technical services; agriculture, manufacturing, wholesale, warehousing and transportation, and hospitality and accommodations. These constitute

important sectors in the local economy, with high employment and expected growth in the next five years.

While the City of Davis, Yolo County and Solano County have different economies and economic drivers, common themes emerge across these geographies.

Important industry sectors include:

- **Professional, scientific, and technical services** contains several key industries that deserve focus. Research and development in the physical, engineering, and life Sciences (except nanotechnology and biotechnology) is an industry expanding rapidly in Davis (anticipated +22 percent growth in the next five years). Custom computer programming is another industry in the sector showing strong projected growth. Testing labs and veterinary services are important industries in Solano County.
- **Manufacturing** represents an especially key area in Davis and its surrounding counties. The cutting tool and machine tool accessory manufacturing shows promising employment growth in Davis. In Yolo County, construction product manufacturing is notable, including concrete product manufacturing and blind and shade manufacturing. In Solano County, agricultural manufacturing and pharmaceutical manufacturing are strong.
- **Agriculture:** Agriculture and forestry shows strong projected job growth in Yolo County. As a land grant institution, UC Davis' College of Agriculture and Environmental Sciences is a national leader in research and development.
- **Wholesale, warehousing and transportation** is an industry sector deserving attention in Solano County. Industrial machinery and equipment wholesalers is a growing industry, and freight and delivery services show high projected growth rates.
- In **health care and social assistance**, elder care is a fast-growing field in all three geographic areas. In Davis, elder care facilities and services show strong five-year projections. These industries include continuing care retirement communities, assisted living facilities for the elderly, and services for the elderly and persons with disabilities. Hospitals and HMO medical centers are also industry areas to watch that have strong anticipated growth.
- **Education and child care** will have substantial employment needs in the near term for all three study areas. While UC Davis is a massive employer of postsecondary teachers, elementary and secondary schools are the third largest employer in the government sector and are expected to account for significant job growth over the next five years. Child day care services are expected to grow 8 percent in the next five years.
- **Construction** workforce shortages continue to plague the area. Several industries in the three study regions show double digit growth projections including plumbing, heating and air conditioning contractors; specialty trade contractors, power and communication line construction; highway bridge and street construction; and concrete foundation and structure contractors.
- **Food service and restaurants** are large employers in all three geographies. While many jobs in these industries do not require postsecondary training and have many low-wage positions, the community colleges can provide pathway opportunities around culinary, food safety and hospitality management training. In some cases, the workforce system can support transitions into other industries and occupations.
- **Small business and management**, as a cross-industry opportunity, may also be beneficial in the three geographies explored. About 2,500 workers in Davis are self-employed.

## Workforce Analysis Key Findings

Over the last year, health care and professional, scientific and technical services were the industry sectors with the most job postings in Davis and its top commuter cities. There were 22,000 postings in health care, with over 5,000 postings for nurses. There were nearly 10,000 postings in the professional, scientific, and technical consulting fields.

The job postings analysis of skills for Davis and the top commuter cities reveals that employers are seeking office, business and management skills in job postings. These skills include accounting, Microsoft Office, budgeting, scheduling, supervisory and staff management, customer service and project management. Teaching and health-care-related skills, including patient care, infectious disease, and CPR, are other in-demand skills.

The occupational data analysis echoes the findings from the job postings. This study identified occupational clusters that are common to the three study regions and that present program development opportunities.

- **Office support occupations** show concentrations and growth and are key middle-skill jobs in Davis and Yolo counties. These include secretaries and administrative assistants, business operations specialists, bookkeeping and executive secretaries.
- **Management, sales and customer service** occupations support manufacturing, wholesale and distribution operations, construction and agriculture, and other industries, and represent key occupations in the county middle skill data. These include first-line supervisor sales and customer service representatives, and industry-oriented occupations.
- **Paraprofessional education occupations**, like childcare providers, preschool teachers and teacher assistants, represent key middle skill occupations.
- **Health care** occupations, especially medical assistants and registered nurses, show strong growth and sizeable employment. In Solano County, middle-skill health care occupations representing opportunity areas include health technicians, home health aides and medical lab techs.
- **Construction** occupations, including HVAC technicians, carpenters and structural ironworkers emerge in the occupational data, especially in Solano County, as key middle-skill occupations. Maintenance and repair workers, who also serve industries beyond construction, represent another promising middle-skill occupation.
- **Telecommunications and computer user support specialists** are two ICT occupations that merit attention.
- **Police and patrol officers** show strong employment levels and growth.

## Educational Supply Key Findings

Regional awards data shows that the postsecondary education and training providers in the two-county study region has largely been focused on transfer degrees, especially in liberal arts, and life and hard sciences. CE and workforce development programs exist in several key areas that show some strong program completions results, with room to grow in some areas and opportunities to start programs in others. In the two-county region (not including Davis Center completions), data shows the following average annual completions in CE areas:

- **Business:** Business administration and management (120); Accounting technology and bookkeeping (20)
- **Health:** Medical assistant (MA) (130); licensed vocational nurses (LVN) (120); registered nursing (RN) (45); dental assisting (30); medical office assistant (20)
- **Public safety:** Criminal justice/police science (100); corrections (50); fire prevention and safety technology (20)
- **Biotechnology:** Biomedical technology (75)
- **Water treatment:** Water quality, wastewater management technician (15)

- **Human services:** Childcare (35); human services (35); substance abuse/addiction counseling (20)
- **Cosmetology:** Cosmetology (100); barbering (50); aesthetician (20)

Data shows that enrollments from Davis residents at Sacramento City College in part saw an upward trend in recent years, counter to declining enrollments common statewide in the community colleges. However, Davis student numbers saw a decline between 2016 and 2017 (Davis residents of Sacramento City College).

For its part, the Davis Center has also largely focused on transfer-oriented programs. The center lists CE-related programs in the following areas: accounting, computer applications and programs, nutrition and foods, family and consumer science, and communication.

The Davis Center has a partnership with UC Davis to provide basic coursework in in math, English and physical sciences.

## Recommendations

The report offers recommendations in several subsections: (1) partnership development opportunities; (2) program development opportunities; (3) training and education audiences and formats.

1. Consider **partnership development opportunities** that streamline communications channels. To accomplish this goal, align with regional economic and workforce development priorities. Partnership opportunities include the following:

- **Invest in cluster-based approaches to workforce action planning:** Supporting streamlined approaches to industry engagement in regional cluster and sector-based partnerships promises the highest yields on investments. If successful, this creates regular, systematic feedback loops between industry and workforce organizations, and build capacity for partnership. These efforts align funding streams, communications, program offerings and workforce needs.
- **Align efforts with other workforce stakeholders in the study region:** The region is defined by the commute and labor sheds. Aligning efforts with Solano Community College, Sacramento City College's West Sacramento Center and Woodland Community College, the workforce investment system, community-based organizations and other actors in the two-county study region can both leverage resources and avoid redundancy as the Davis Center considers program investment opportunities. Solano Community College especially accounts for many of the CE award completions noted above.
- **Leverage existing UC Davis partnerships for additional program development in CE areas:** Opportunities to expand existing programs and to develop new programs with UC Davis makes sense. Given the location of the Davis Center on the campus of the university, the center should consider opportunities with UC partners to expand offerings for matriculated university students, perhaps by offering programs that offer commensurate benefits to community college students. Complimentary coursework could overlap with community college electives or other program goals for longer-term certificates or professional programs serving commuter audiences.
- **Harness renewed town-gown economic development momentum:** The renewed emphasis on town-gown workforce and economic development partnerships in the Sacramento region, most notably with the Aggie Square development, offers an opportunity to create innovative approaches for training and education programs. Economic development stakeholders in Sacramento have placed renewed emphasis on UC Davis as an economic development driver. The Davis Center should stand to both support and benefit from the emphasis by aligning efforts with regional workforce and economic development actors, especially UC Davis, and regional conveners like Valley Vision, Greater Sacramento Economic Council, the City of Sacramento, the Workforce Innovation and Opportunity Act (WIOA) partners, chambers of commerce and others.

2. The following **program development opportunity** areas consider the Davis Center's existing program assets, and regional industry and workforce opportunities. Overall the study region's completion data suggests there are several areas where no programs exist, others where there are few awards annually, and others, like business and health care, where the demand gulfs existing award production. Opportunity areas include:

- **Business Information Worker:** Basic and advanced coursework for administrative and office support, including Microsoft Office and other business skills, offer opportunities for program development. The job postings, occupational data, and supply data shows that there is an extensive need for these skills that the Davis Center can address, such as expanding current offerings in computer information science and business programs and offer courses to new audiences.
- **Management and supervisory pathways for multiple sectors:** The occupational and job postings data shows that there are opportunities for supporting many key industries with coursework to prepare existing workers and new entrants with management skills including supervision, project management, and budgeting. These industries include restaurants, hospitality, construction, logistics and wholesale, manufacturing and agriculture. Surrounding county industry data indicates exploring manufacturing workforce partnerships in food and agriculture products (specialty foods and confectionary), pharmaceuticals, and concrete and construction products will support key economic development priorities.
- **Teacher pathways:** The need for primary and secondary education, teachers and paraprofessionals will be an ongoing need. The Davis Center and others should provide teacher pathway training and training for paraprofessionals to supply this critical workforce need.
- **Elder and child care:** There are opportunities to support industries that take care of aging populations. Programs that prepare allied health workers for direct care positions, management or program administration will be needed. Expanding existing programs in family and consumer sciences, and starting new programs, can begin addressing the need. Similarly, the need for childcare workers and preschool teachers is acute. The Davis Center has an existing program in early childhood education. The center may wish to consider expansion, but also provide business services to those who wish to start childcare businesses.
- **Other healthcare opportunities:** The region shows completions in several middle skill healthcare areas from surrounding community colleges. The occupational data shows growth especially for registered nurses. The Davis Center may wish to explore opportunities for healthcare program development, though should consider the strengths of nearby community colleges and private training providers with existing, related programs.
- **Restaurants, hospitality and retail:** Davis and the surrounding counties show strong growth in food service, restaurants and hospitality industries, with many inbound commuters filling positions in these industries. The Davis Center can support these workers to advance in management positions, start businesses of their own, or return to school to transition to other industries and occupations. The business and management programs at the Davis Center can help workers achieve advancements and make successful transitions.
- **Computer science and other information computer technology programs:** Regional supply data shows few completions in information, computers or digital media. And yet, professional, scientific, and technical industries and IT occupations are projected to grow. The Davis Center has an existing program in computer information science and could consider expanding the program, adding new coursework or offering existing coursework in an alternative format. Computer programming is an ascendant industry. Computer user support specialists is an in-demand occupation in the study region. These programs can benefit research and development, computer software, postsecondary colleges and universities, warehousing and logistics (wholesale), manufacturing, healthcare and other industries.

- **Biotechnology technicians supporting agricultural and medical research and development:** Innovative approaches to support research and development and manufacturing in agricultural sciences and medical applications could involve collaborations with Solano Community College, American River College and the Davis Center. A partnership could leverage the new Aggie Square project in Sacramento for program development, internships, externships and other collaborative opportunities. Biotech programs at Solano Community College and American River College could also offer key partnerships to leverage the new wet labs at the Davis Campus for technician training or shared lab space for start-up businesses. Bio-link, a project of the City College of San Francisco's National Science Foundation Center, has case study resources that demonstrate public-private partnerships between incubators and community colleges.
3. Consider a diverse portfolio of **program formats (schedule, duration, credit/not-for-credit) to target audiences identified in the demographics section of the report. These program formats can include:**
- **Short-term, evening professional programs:** Serving the professional outbound commuter population could offer an opportunity for focused, evening programs. Davis and surrounding county profiles indicate skill needs in project management, Microsoft Office, budgeting or personnel management, and human resources. Programming and other computer science courses may also suit the short-term format. These programs call for market research and employer engagement but can simultaneously serve students enrolled in for-credit CE programs as capstone or elective courses.
  - **Contract education and incumbent worker training:** Short courses for incumbent workers or workers in transition could offer support for rank-and-file workers in the service industries around Davis, including restaurants, hospitality, and retail businesses and their employees. The university or other government agencies in surrounding counties may benefit from contract education services.
  - **Traditional day and evening certificate and degree programs:** Serving inbound commuters and underserved Davis residents could suggest a more traditional approach for day and evening programs. (Underserved groups include the share of residents who have received little or no post-secondary training, Hispanic residents and the inbound commuters who are working in low-wage and below middle skill occupations.) Recruitment of students among Davis-based workers seeking to improve earnings or change careers, through adult education, community-based organizations or other local partners may hold promise. Targeting opportunity sectors and industries, and occupations and skills will yield benefits for program participants.
  - **Business services for students and startups:** Data shows that about 2,500 workers are self-employed in Davis. Innovative programs that provide coursework, workshops and mentorship could encourage business start-up activity and development of existing start-ups in the city. The Davis Center may want to consider partnerships with incubators, coworking and maker spaces, research and development labs and university business programs to create short-term programs, workshops and public offerings that could integrate with campus business programs or other CE areas, such as early childhood education and computer information science.

The Davis Center's expansion is timely welcome for a region that has a renewed emphasis on connecting Davis' assets to economic development efforts. Workforce development investments can only benefit these efforts if they are undertaken in partnership with other stakeholders around strategic initiatives. Such efforts and investments can serve the diverse communities in Davis and surrounding counties. These communities include professional commuters, UC Davis students, workers in growth industries and underserved groups. The report has identified many workforce investment opportunities that target key industry drivers, occupational and skill demand, and needs in the training and education system. The Center of Excellence will continue supporting more focused efforts and partnerships that result from these planning efforts.

# APPENDIX A: METHODOLOGY

## Economic Drivers: Industry Analysis

Employment data included in this section is sourced from Emsi, from the 2018.01 dataset. It includes Emsi’s modeled Quarterly Census of Employment and Wages (QCEW) series, non-QCEW series (to incorporate military employment and other employment not well-covered by the QCEW) and self-employed workers, assessed at the 2-digit NAICS level. In the bubble charts, the size of a bubble reflects the number of jobs, projected growth between 2017 and 2022, and location quotient for 2017. The location quotient reflects relative concentration of local employment by industry, relative to the nation.

The study region consists of the City of Davis, Yolo County and Solano County. The City of Davis is defined by three zip codes: 95616, 95617 and 95618. The “Other” category in the analysis of Davis includes agriculture, forestry, fishing and hunting, mining, quarrying, and oil and gas extraction, utilities, wholesale trade, transportation and warehousing, finance and insurance, management of companies and enterprises, administrative and support and waste management and remediation services, and unclassified industry. For Yolo and Solano counties, “Other” includes mining, quarrying, and oil and gas extraction, finance and insurance, management of companies and enterprises, educational services (private only), and unclassified industry.

The tables below detail the largest industries by employment within sectors for each geographic area in the overall study region (Exhibits 23, 24, 25).<sup>20</sup> “Industries to Watch” are industries with roughly 200 jobs or greater, with strong historical growth (greater than 10 percent between 2007–2017) or strong projected growth (greater than 5 percent between 2017–2022).

**Exhibit 23: City of Davis: top industries within sectors by number of jobs, 2017**

NAICS	Description	2017 Jobs	2022 Jobs	Growth 2007–2017	Growth 2017–2022	Industries to Watch
11	Agriculture, Forestry, Fishing and Hunting	244	250	21%	2%	
111000	Crop Production	202	203	20%	0%	
115210	Support Activities for Animal Production	19	22	32%	14%	
112000	Animal Production	12	13	-2%	5%	
23	Construction	635	656	-35%	3%	
237310	Highway, Street, and Bridge Construction	208	226	12%	9%	
236115	New Single-Family Housing Construction (except For-Sale Builders)	108	135	41%	25%	
236118	Residential Remodelers	106	111	-16%	4%	
31	Manufacturing	506	584	-29%	15%	
333515	Cutting Tool and Machine Tool Accessory Manufacturing	196	274		40%	*
325413	In-Vitro Diagnostic Substance Manufacturing	100	91	-68%	-9%	
312130	Wineries	26	31	36%	19%	
42	Wholesale Trade	111	124	-23%	11%	
424480	Fresh Fruit and Vegetable Merchant Wholesalers	27	24	-35%	-12%	
424910	Farm Supplies Merchant Wholesalers	27	29	58%	7%	
424820	Wine and Distilled Alcoholic Beverage Merchant Wholesalers	25	32		27%	

*continued*

<sup>20</sup> Emsi 2018.1. The citation is the same for all tables in the appendix.



## Exhibit 23: City of Davis: top industries within sectors by number of jobs, 2017

(continued)

NAICS	Description	2017 Jobs	2022 Jobs	Growth 2007–2017	Growth 2017–2022	Industries to Watch
44	Retail Trade	2,475	2,536	-10%	2%	
445110	Supermarkets and Other Grocery (except Convenience) Stores	779	785	-3%	1%	
441110	New Car Dealers	281	275	-12%	-2%	
446110	Pharmacies and Drug Stores	149	143	5%	-4%	
48	Transportation and Warehousing	299	348	28%	17%	
485999	All Other Transit and Ground Passenger Transportation	129	150	27%	17%	
488190	Other Support Activities for Air Transportation	43	50	230%	18%	
493120	Refrigerated Warehousing and Storage	33	49		51%	
51	Information	282	289	15%	2%	
511110	Newspaper Publishers	80	67	-40%	-16%	
519130	Internet Publishing and Broadcasting and Web Search Portals	74	79	222%	6%	
512131	Motion Picture Theaters (except Drive-Ins)	38	39	-4%	1%	
52	Finance and Insurance	310	282	-40%	-9%	
522110	Commercial Banking	124	103	-33%	-16%	
524210	Insurance Agencies and Brokerages	40	40	-2%	0%	
522130	Credit Unions	27	24	-1%	-11%	
53	Real Estate and Rental and Leasing	586	608	0%	4%	
531311	Residential Property Managers	257	283	25%	10%	*
531110	Lessors of Residential Buildings and Dwellings	113	108	-4%	-4%	
531210	Offices of Real Estate Agents and Brokers	69	61	-33%	-12%	
54	Professional, Scientific, and Technical Services	2,481	2,643	13%	7%	
541715	Research and Development in the Physical, Engineering, and Life Sciences (except Nanotechnology and Biotechnology)	437	533	178%	22%	*
541511	Custom Computer Programming Services	403	491	238%	22%	*
541330	Engineering Services	199	170	-27%	-15%	
55	Management of Companies and Enterprises	200	193	-11%	-4%	
551114	Corporate, Subsidiary, and Regional Managing Offices	200	193	1%	-4%	
56	Administrative and Support and Waste Management and Remediation Services	468	474	-27%	1%	
561730	Landscaping Services	218	210	-26%	-3%	
561110	Office Administrative Services	61	79	4%	30%	
562111	Solid Waste Collection	38	35	-24%	-9%	
61	Educational Services	616	648	9%	5%	
611110	Elementary and Secondary Schools	253	277	68%	9%	*
611620	Sports and Recreation Instruction	95	100	-2%	5%	
611610	Fine Arts Schools	84	92	24%	10%	

continued

### Exhibit 23: City of Davis: top industries within sectors by number of jobs, 2017

(continued)

NAICS	Description	2017 Jobs	2022 Jobs	Growth 2007–2017	Growth 2017–2022	Industries to Watch
62	Health Care and Social Assistance	3,609	4,133	28%	15%	
622110	General Medical and Surgical Hospitals	469	489	14%	4%	
623311	Continuing Care Retirement Communities	468	700	511%	50%	*
624410	Child Day Care Services	415	447	9%	8%	*
621111	Offices of Physicians (except Mental Health Specialists)	407	458	32%	13%	*
71	Arts, Entertainment, and Recreation	552	601	17%	9%	
713940	Fitness and Recreational Sports Centers	202	215	11%	6%	
713990	All Other Amusement and Recreation Industries	132	161	80%	22%	
713910	Golf Courses and Country Clubs	123	128	14%	4%	
72	Accommodation and Food Services	3,081	3,326	9%	8%	
722511	Full-Service Restaurants	1,250	1,305	21%	4%	*
722513	Limited-Service Restaurants	1,028	1,180	45%	15%	*
722515	Snack and Nonalcoholic Beverage Bars	358	407	18%	14%	*
81	Other Services (except Public Administration)	1,328	1,414	-22%	7%	
814110	Private Households	401	380	-57%	-5%	
813110	Religious Organizations	218	252	36%	16%	*
812112	Beauty Salons	132	149	37%	13%	
90	Government	29,456	30,911	-1%	5%	
902612	Colleges, Universities, and Professional Schools (State Government)	23,568	24,471	-3%	4%	
903999	Local Government, Excluding Education and Hospitals	2,109	2,258	-7%	7%	
903611	Elementary and Secondary Schools (Local Government)	1,299	1,414	5%	9%	*
902999	State Government, Excluding Education and Hospitals	793	1,195	842%	51%	*
99	Unclassified Industry	90	129	747%	44%	
999999	Unclassified Industry	90	129	747%	44%	

### Exhibit 24: Yolo County: top industries within sectors by number of jobs, 2017

NAICS	Description	2017 Jobs	2022 Jobs	Growth 2007–2017	Growth 2017–2022	Industries to Watch
11	Agriculture, Forestry, Fishing and Hunting	6,304	6,946	36%	10%	
115115	Farm Labor Contractors and Crew Leaders	2,560	3,005	48%	17%	*
111000	Crop Production	2,545	2,549	20%	0%	
115114	Postharvest Crop Activities (except Cotton Ginning)	652	781	85%	20%	*
21	Mining, Quarrying, and Oil and Gas Extraction	76	54	-70%	-29%	
212321	Construction Sand and Gravel Mining	45	39	-47%	-13%	
213112	Support Activities for Oil and Gas Operations	30	13	-80%	-57%	

continued

## Exhibit 24: Yolo County: top industries within sectors by number of jobs, 2017

(continued)

NAICS	Description	2017 Jobs	2022 Jobs	Growth 2007–2017	Growth 2017–2022	Industries to Watch
<b>22</b>	<b>Utilities</b>	<b>805</b>	<b>859</b>	<b>66%</b>	<b>7%</b>	
221210	Natural Gas Distribution	509	534	32%	5%	*
221117	Biomass Electric Power Generation	230	218	141%	-5%	*
221330	Steam and Air-Conditioning Supply	61	104		70%	
<b>23</b>	<b>Construction</b>	<b>4,627</b>	<b>4,720</b>	<b>-35%</b>	<b>2%</b>	
238110	Poured Concrete Foundation and Structure Contractors	431	538	1%	25%	*
237110	Water and Sewer Line and Related Structures Construction	408	449	-23%	10%	
237310	Highway, Street, and Bridge Construction	398	434	12%	9%	*
<b>31</b>	<b>Manufacturing</b>	<b>6,229</b>	<b>6,865</b>	<b>2%</b>	<b>10%</b>	
327390	Other Concrete Product Manufacturing	482	572	134%	19%	*
311212	Rice Milling	350	334	14%	-5%	
323111	Commercial Printing (except Screen and Books)	339	308	-23%	-9%	
337920	Blind and Shade Manufacturing	339	448		32%	*
<b>42</b>	<b>Wholesale Trade</b>	<b>4,842</b>	<b>5,266</b>	<b>-11%</b>	<b>9%</b>	
424470	Meat and Meat Product Merchant Wholesalers	579	684	132%	18%	*
423830	Industrial Machinery and Equipment Merchant Wholesalers	531	524	-12%	-1%	
424490	Other Grocery and Related Products Merchant Wholesalers	352	439	227%	25%	*
<b>44</b>	<b>Retail Trade</b>	<b>8,498</b>	<b>8,915</b>	<b>5%</b>	<b>5%</b>	
445110	Supermarkets and Other Grocery (except Convenience) Stores	1,890	1,905	-2%	1%	
452311	Warehouse Clubs and Supercenters	1,116	1,314	2572%	18%	*
444110	Home Centers	460	530	70%	15%	*
<b>48</b>	<b>Transportation and Warehousing</b>	<b>6,822</b>	<b>6,897</b>	<b>-10%</b>	<b>1%</b>	
493110	General Warehousing and Storage	2,014	1,791	-24%	-11%	
492110	Couriers and Express Delivery Services	1,519	1,564	-7%	3%	
484122	General Freight Trucking, Long-Distance, Less Than Truckload	918	1,023	-7%	11%	
<b>51</b>	<b>Information</b>	<b>1,116</b>	<b>1,230</b>	<b>-10%</b>	<b>10%</b>	
517311	Wired Telecommunications Carriers	368	451	257%	23%	*
515120	Television Broadcasting	213	240	-28%	13%	
511110	Newspaper Publishers	108	91	-40%	-16%	
<b>52</b>	<b>Finance and Insurance</b>	<b>1,195</b>	<b>1,043</b>	<b>-47%</b>	<b>-13%</b>	
522110	Commercial Banking	337	282	-33%	-16%	
524210	Insurance Agencies and Brokerages	253	254	0%	0%	
522130	Credit Unions	96	85	-1%	-12%	
<b>53</b>	<b>Real Estate and Rental and Leasing</b>	<b>1,674</b>	<b>1,663</b>	<b>-32%</b>	<b>-1%</b>	
531311	Residential Property Managers	509	560	25%	10%	*
531110	Lessors of Residential Buildings and Dwellings	269	257	-4%	-4%	
531210	Offices of Real Estate Agents and Brokers	184	162	-33%	-12%	

continued

## Exhibit 24: Yolo County: top industries within sectors by number of jobs, 2017

(continued)

NAICS	Description	2017 Jobs	2022 Jobs	Growth 2007–2017	Growth 2017–2022	Industries to Watch
54	Professional, Scientific, and Technical Services	5,163	5,394	2%	4%	
541511	Custom Computer Programming Services	682	833	239%	22%	*
541715	Research and Development in the Physical, Engineering, and Life Sciences (except Nanotechnology and Biotechnology)	510	623	178%	22%	*
541940	Veterinary Services	463	446	-20%	-4%	
541330	Engineering Services	413	352	-27%	-15%	
55	Management of Companies and Enterprises	1,296	1,247	-1%	-4%	
551114	Corporate, Subsidiary, and Regional Managing Offices	1,296	1,247	1%	-4%	
56	Administrative and Support and Waste Management and Remediation Services	4,541	5,452	26%	20%	
561320	Temporary Help Services	1,466	2,118	287%	44%	*
561720	Janitorial Services	874	874	-19%	0%	
561612	Security Guards and Patrol Services	691	855	101%	24%	
61	Educational Services	955	1,001	9%	5%	
611110	Elementary and Secondary Schools	425	464	68%	9%	*
611620	Sports and Recreation Instruction	135	142	-2%	5%	
611610	Fine Arts Schools	125	138	24%	10%	
62	Health Care and Social Assistance	9,716	11,155	43%	15%	
624120	Services for the Elderly and Persons with Disabilities	2,440	3,164	1831%	30%	*
622110	General Medical and Surgical Hospitals	1,409	1,467	14%	4%	*
623110	Nursing Care Facilities (Skilled Nursing Facilities)	805	824	2%	2%	
71	Arts, Entertainment, and Recreation	1,456	1,561	12%	7%	
713940	Fitness and Recreational Sports Centers	408	433	11%	6%	*
711211	Sports Teams and Clubs	314	313	-3%	0%	
711510	Independent Artists, Writers, and Performers	186	190	-8%	2%	
72	Accommodation and Food Services	6,807	7,414	14%	9%	
722513	Limited-Service Restaurants	2,625	3,012	44%	15%	*
722511	Full-Service Restaurants	2,491	2,601	21%	4%	
722515	Snack and Nonalcoholic Beverage Bars	617	703	18%	14%	*
81	Other Services (except Public Administration)	3,878	4,195	-10%	8%	
814110	Private Households	664	630	-57%	-5%	
813110	Religious Organizations	551	638	36%	16%	*
811111	General Automotive Repair	501	558	6%	11%	*
90	Government	40,977	43,652	2%	7%	
902612	Colleges, Universities, and Professional Schools (State Government)	23,891	24,806	-3%	4%	
903999	Local Government, Excluding Education and Hospitals	5,928	6,347	-7%	7%	
903611	Elementary and Secondary Schools (Local Government)	4,667	5,079	5%	9%	*
902999	State Government, Excluding Education and Hospitals	2,229	3,358	844%	51%	*
99	Unclassified Industry	369	532	757%	44%	
999999	Unclassified Industry	369	532	757%	44%	

## Exhibit 25: Solano County: top industries within sectors by number of jobs, 2017

NAICS	Description	2017 Jobs	2022 Jobs	Growth 2007–2017	Growth 2017–2022	Industries to Watch
11	Agriculture, Forestry, Fishing and Hunting	1,961	1,955	11%	0%	
111000	Crop Production	1,234	1,204	7%	-2%	
115115	Farm Labor Contractors and Crew Leaders	350	364	69%	4%	
112000	Animal Production	188	199	-7%	6%	
21	Mining, Quarrying, and Oil and Gas Extraction	240	271	-15%	13%	
213111	Drilling Oil and Gas Wells	167	211	11%	27%	*
212321	Construction Sand and Gravel Mining	32	20	-39%	-38%	
211130	Natural Gas Extraction	17	13		-20%	
22	Utilities	599	781	33%	30%	
221210	Natural Gas Distribution	479	617	26%	29%	*
221310	Water Supply and Irrigation Systems	60	80	340%	33%	
221112	Fossil Fuel Electric Power Generation	40	58		45%	
23	Construction	12,278	13,298	-6%	8%	
238220	Plumbing, Heating, and Air-Conditioning Contractors	1,708	1,963	32%	15%	*
237130	Power and Communication Line and Related Structures Construction	1,311	1,990	220%	52%	*
238990	All Other Specialty Trade Contractors	1,019	1,152	15%	13%	*
238210	Electrical Contractors and Other Wiring Installation Contractors	862	834	-13%	-3%	
31	Manufacturing	12,282	13,809	22%	12%	
325412	Pharmaceutical Preparation Manufacturing	3,565	4,337	108%	22%	*
311340	Nonchocolate Confectionery Manufacturing	456	528	108%	16%	*
311412	Frozen Specialty Food Manufacturing	439	622	289%	42%	*
42	Wholesale Trade	4,297	4,489	-1%	4%	
423830	Industrial Machinery and Equipment Merchant Wholesalers	580	703	55%	21%	*
423220	Home Furnishing Merchant Wholesalers	511	566	-5%	11%	
425120	Wholesale Trade Agents and Brokers	476	392	-32%	-18%	
44	Retail Trade	19,360	20,489	0%	6%	
445110	Supermarkets and Other Grocery (except Convenience) Stores	2,776	2,845	5%	2%	
452311	Warehouse Clubs and Supercenters	2,514	3,100	191%	23%	*
441110	New Car Dealers	1,712	1,991	18%	16%	*
48	Transportation and Warehousing	4,319	4,570	-12%	6%	
484220	Specialized Freight (except Used Goods) Trucking, Local	733	806	35%	10%	*
484110	General Freight Trucking, Local	497	601	24%	21%	*
492110	Couriers and Express Delivery Services	440	571	96%	30%	*
51	Information	1,251	1,221	-27%	-2%	
517311	Wired Telecommunications Carriers	310	370	469%	19%	*
515210	Cable and Other Subscription Programming	193	206	44%	7%	
511110	Newspaper Publishers	184	103	-53%	-44%	

continued

## Exhibit 25: Solano County: top industries within sectors by number of jobs, 2017

(continued)

NAICS	Description	2017 Jobs	2022 Jobs	Growth 2007–2017	Growth 2017–2022	Industries to Watch
52	Finance and Insurance	3,837	4,026	-5%	5%	
522110	Commercial Banking	851	845	-2%	-1%	
522130	Credit Unions	657	777	37%	18%	*
524210	Insurance Agencies and Brokerages	504	580	43%	15%	*
53	Real Estate and Rental and Leasing	2,100	2,107	-16%	0%	
531210	Offices of Real Estate Agents and Brokers	520	463	-36%	-11%	
531311	Residential Property Managers	412	502	91%	22%	*
531110	Lessors of Residential Buildings and Dwellings	228	219	-9%	-4%	
54	Professional, Scientific, and Technical Services	5,139	5,365	8%	4%	
541380	Testing Laboratories	662	780	150%	18%	*
541330	Engineering Services	469	478	-16%	2%	
541940	Veterinary Services	447	504	36%	13%	*
541110	Offices of Lawyers	431	420	-13%	-3%	
55	Management of Companies and Enterprises	868	666	-11%	-23%	
551114	Corporate, Subsidiary, and Regional Managing Offices	863	662	-9%	-23%	
56	Administrative and Support and Waste Management and Remediation Services	7,086	7,447	-16%	5%	
561320	Temporary Help Services	1,496	1,239	-32%	-17%	
561730	Landscaping Services	1,269	1,300	-7%	2%	
561422	Telemarketing Bureaus and Other Contact Centers	976	1,562	7104%	60%	*
61	Educational Services	2,298	2,605	26%	13%	
611110	Elementary and Secondary Schools	708	725	4%	2%	
611310	Colleges, Universities, and Professional Schools	644	760	60%	18%	*
611691	Exam Preparation and Tutoring	197	219	18%	11%	*
62	Health Care and Social Assistance	24,773	28,448	45%	15%	
624120	Services for the Elderly and Persons with Disabilities	5,433	7,133	969%	31%	*
621491	HMO Medical Centers	4,549	6,347	791%	40%	*
622110	General Medical and Surgical Hospitals	3,224	2,384	-50%	-26%	
623110	Nursing Care Facilities (Skilled Nursing Facilities)	1,501	1,879	77%	25%	*
621210	Offices of Dentists	1,331	1,412	5%	6%	
621111	Offices of Physicians (except Mental Health Specialists)	1,251	1,040	11%	-17%	
624410	Child Day Care Services	1,052	1,013	-21%	-4%	
71	Arts, Entertainment, and Recreation	3,364	3,482	14%	4%	
713110	Amusement and Theme Parks	1,204	1,307	38%	9%	*
713940	Fitness and Recreational Sports Centers	872	921	18%	6%	*
711510	Independent Artists, Writers, and Performers	462	381	-11%	-18%	
72	Accommodation and Food Services	12,690	13,452	14%	6%	
722513	Limited-Service Restaurants	5,658	6,254	31%	11%	*
722511	Full-Service Restaurants	4,475	4,476	0%	0%	
722515	Snack and Nonalcoholic Beverage Bars	1,032	1,186	10%	15%	*

continued

## Exhibit 25: Solano County: top industries within sectors by number of jobs, 2017

(continued)

NAICS	Description	2017 Jobs	2022 Jobs	Growth 2007–2017	Growth 2017–2022	Industries to Watch
81	Other Services (except Public Administration)	6,766	6,985	-15%	3%	
813110	Religious Organizations	1,177	1,251	16%	6%	*
812112	Beauty Salons	1,052	1,127	22%	7%	*
814110	Private Households	538	345	-77%	-36%	
90	Government	33,049	34,152	0%	3%	
903611	Elementary and Secondary Schools (Local Government)	8,163	8,280	-10%	1%	
901200	Federal Government, Military	7,110	6,957	-4%	-2%	
903999	Local Government, Excluding Education and Hospitals	6,640	6,786	-7%	2%	
902999	State Government, Excluding Education and Hospitals	4,564	5,507	40%	21%	*
901199	Federal Government, Civilian, Excluding Postal Service	3,282	3,124	-2%	-5%	
99	Unclassified Industry	401	543	536%	35%	
999999	Unclassified Industry	401	543	536%	35%	



# APPENDIX B: TOP OCCUPATIONS

## Workforce Demand: Occupational Analysis

Occupational analysis was conducted using Emsi occupational data (2018.01 dataset) and cross-referenced with the California Community Colleges' Centers Of Excellence (COE) TOP/middle skill crosswalk to identify the skill category (below middle skill, middle skill, above middle skill) (Exhibits 26, 27, 28, 29, 30). Data includes Emsi's modeled Quarterly Census of Employment and Wages (QCEW) series, non-QCEW series (to incorporate military employment and other employment not well-covered by the QCEW) and self-employed workers. Where skill level was unavailable through the COE crosswalk, a level was inferred

based on education and experience requirements. The report does not repeat the Top 15 middle skill occupations in Davis in the appendix.

### Exhibit 26: City of Davis: Top 20 occupations by number of jobs, all skill levels, 2017

SOC	Description	2017 Jobs	2022 Jobs	Growth 2017-2022	Annual Openings	Avg. Hourly Earnings	Middle Skill?
	Total Jobs	47,333	50,151	6%	5,753	\$26.33	
25-1099	Postsecondary Teachers	5,462	5,270	-4%	461	\$37.70	Above Middle Skill
43-9061	Office Clerks, General	2,733	3,001	10%	366	\$18.20	Below Middle Skill
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	1,782	1,989	12%	226	\$18.84	Middle Skill
37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	1,242	1,398	13%	182	\$15.00	Below Middle Skill
43-9199	Office and Administrative Support Workers, All Other	1,164	1,242	7%	143	\$13.70	Below Middle Skill
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	991	1,134	14%	192	\$11.12	Below Middle Skill
41-2011	Cashiers	779	802	3%	152	\$12.57	Below Middle Skill
13-1111	Management Analysts	758	795	5%	72	\$33.30	Above Middle Skill
13-1199	Business Operations Specialists, All Other	647	647	0%	63	\$37.44	Middle Skill
49-9071	Maintenance and Repair Workers, General	646	736	14%	75	\$20.51	Middle Skill
25-9041	Teacher Assistants	633	705	11%	76	\$14.25	Middle Skill
35-3031	Waiters and Waitresses	596	625	5%	117	\$14.37	Below Middle Skill
43-3031	Bookkeeping, Accounting, and Auditing Clerks	588	610	4%	73	\$21.00	Middle Skill
29-1141	Registered Nurses	541	579	7%	36	\$48.92	Middle Skill
41-2031	Retail Salespersons	524	563	8%	85	\$14.11	Below Middle Skill
15-1151	Computer User Support Specialists	471	532	13%	46	\$28.57	Middle Skill
37-3011	Landscaping and Groundskeeping Workers	465	496	7%	62	\$14.11	Below Middle Skill
25-9099	Education, Training, and Library Workers, All Other	450	436	-3%	43	\$19.41	Above Middle Skill
39-9011	Childcare Workers	423	426	1%	98	\$10.35	Middle Skill
13-2011	Accountants and Auditors	420	435	4%	41	\$32.70	Above Middle Skill
33-3051	Police and Sheriff's Patrol Officers	563	645	15%	48	\$41.15	Middle Skill





**Exhibit 27: Yolo County: Top 15 occupations by number of jobs, focus on middle skill, 2017**

SOC	Description	2017 Jobs	2022 Jobs	Growth 2017–2022	Annual Openings	Avg. Hourly Earnings	Middle Skill?
	<b>TOTAL</b>	117,347	126,060	7%	14,636	\$24.32	
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	2,589	2,873	11%	318	\$18.65	Middle Skill
53-3032	Heavy and Tractor-Trailer Truck Drivers	2,270	2,443	8%	285	\$21.78	Middle Skill
43-3031	Bookkeeping, Accounting, and Auditing Clerks	1,335	1,374	3%	158	\$20.74	Middle Skill
25-9041	Teacher Assistants	1,228	1,359	11%	145	\$13.99	Middle Skill
43-4051	Customer Service Representatives	1,211	1,324	9%	168	\$18.78	Middle Skill
29-1141	Registered Nurses	1,190	1,301	9%	79	\$48.91	Middle Skill
49-9071	Maintenance and Repair Workers, General	1,159	1,295	12%	129	\$20.20	Middle Skill
41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	1,107	1,199	8%	126	\$34.04	Middle Skill
43-1011	First-Line Supervisors of Office and Administrative Support Workers	1,070	1,139	6%	115	\$29.12	Middle Skill
13-1199	Business Operations Specialists, All Other	1,045	1,088	4%	102	\$37.44	Middle Skill
39-9011	Childcare Workers	799	811	1%	176	\$10.50	Middle Skill
41-1011	First-Line Supervisors of Retail Sales Workers	737	775	5%	85	\$19.70	Middle Skill
47-2031	Carpenters	734	780	6%	79	\$22.78	Middle Skill
15-1151	Computer User Support Specialists	647	728	12%	62	\$28.27	Middle Skill
33-3051	Police and Sheriff's Patrol Officers	563	645	15%	48	\$41.15	Middle Skill

## Exhibit 28: Yolo County: Top 20 occupations by number of jobs, all skill levels, 2017

SOC	Description	2017 Jobs	2022 Jobs	Growth 2017–2022	Annual Openings	Avg. Hourly Earnings	Middle Skill?
	<b>TOTAL</b>	<b>117,347</b>	<b>126,060</b>	<b>7%</b>	<b>14,636</b>	<b>\$24.32</b>	
25-1099	Postsecondary Teachers	5,555	5,362	-3%	468	\$37.69	Above Middle Skill
43-9061	Office Clerks, General	4,164	4,560	10%	541	\$18.05	Below Middle Skill
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	3,118	3,343	7%	453	\$15.62	Below Middle Skill
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	2,589	2,873	11%	318	\$18.65	Middle Skill
45-2092	Farmworkers and Laborers, Crop, Nursery, and Greenhouse	2,446	2,673	9%	413	\$12.22	Below Middle Skill
37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	2,383	2,595	9%	338	\$14.74	Below Middle Skill
41-2011	Cashiers	2,367	2,465	4%	460	\$12.54	Below Middle Skill
53-3032	Heavy and Tractor-Trailer Truck Drivers	2,270	2,443	8%	285	\$21.78	Middle Skill
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	2,186	2,509	15%	421	\$11.08	Below Middle Skill
41-2031	Retail Salespersons	1,936	2,096	8%	295	\$14.09	Below Middle Skill
13-1111	Management Analysts	1,593	1,697	7%	151	\$33.37	Above Middle Skill
43-5081	Stock Clerks and Order Fillers	1,571	1,655	5%	214	\$14.06	Below Middle Skill
11-1021	General and Operations Managers	1,497	1,615	8%	139	\$53.23	Above Middle Skill
43-9199	Office and Administrative Support Workers, All Other	1,372	1,468	7%	166	\$13.74	Below Middle Skill
43-3031	Bookkeeping, Accounting, and Auditing Clerks	1,335	1,374	3%	158	\$20.74	Middle Skill
35-3031	Waiters and Waitresses	1,236	1,301	5%	243	\$14.37	Below Middle Skill
25-9041	Teacher Assistants	1,228	1,359	11%	145	\$13.99	Middle Skill
43-4051	Customer Service Representatives	1,211	1,324	9%	168	\$18.78	Middle Skill
39-9021	Personal Care Aides	1,195	1,571	31%	217	\$11.34	Below Middle Skill
29-1141	Registered Nurses	1,190	1,301	9%	79	\$48.91	Middle Skill

**Exhibit 29: Solano County: Top 15 occupations by number of jobs, focus on middle skill, 2017**

SOC	Description	2017 Jobs	2022 Jobs	Growth 2017–2022	Annual Openings	Avg. Hourly Earnings	Middle Skill?
49-3023	Automotive Service Technicians and Mechanics	948	1,022	8%	102	\$17.89	Middle Skill
29-2099	Health Technologists and Technicians, All Other	514	648	26%	57	\$29.79	Middle Skill
43-6011	Executive Secretaries and Executive Administrative Assistants	476	493	4%	55	\$27.17	Middle Skill
49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	354	415	17%	43	\$18.34	Middle Skill
31-1011	Home Health Aides	311	487	56%	84	\$12.57	Middle Skill
43-5061	Production, Planning, and Expediting Clerks	268	292	9%	31	\$25.11	Middle Skill
41-2022	Parts Salespersons	268	294	10%	36	\$17.35	Middle Skill
13-1023	Purchasing Agents, Except Wholesale, Retail, and Farm Products	265	280	6%	25	\$35.10	Middle Skill
51-4041	Machinists	254	292	15%	32	\$33.20	Middle Skill
47-2221	Structural Iron and Steel Workers	244	250	2%	33	\$28.76	Middle Skill
11-9013	Farmers, Ranchers, and Other Agricultural Managers	242	242	0%	21	\$22.23	Middle Skill
29-2012	Medical and Clinical Laboratory Technicians	237	262	10%	22	\$25.61	Middle Skill
49-9052	Telecommunications Line Installers and Repairers	203	281	39%	34	\$23.17	Middle Skill
53-1031	First-Line Supervisors of Transportation and Material-Moving Machine and Vehicle Operators	199	212	6%	24	\$27.29	Middle Skill
27-4021	Photographers	194	234	20%	24	\$17.67	Middle Skill

### Exhibit 30: Solano County: Top 20 occupations by number of jobs, all skill levels, 2017

SOC	Description	2017 Jobs	2022 Jobs	Growth 2017–2022	Annual Openings	Avg. Hourly Earnings	Middle Skill?
49-3023	Automotive Service Technicians and Mechanics	948	1,022	8%	102	\$17.89	Middle Skill
25-2031	Secondary School Teachers, Except Special and Career/Technical Education	877	896	2%	67	\$27.42	Above Middle Skill
39-3091	Amusement and Recreation Attendants	677	726	7%	159	\$10.56	Below Middle Skill
25-2022	Middle School Teachers, Except Special and Career/Technical Education	604	617	2%	48	\$30.83	Above Middle Skill
29-2099	Health Technologists and Technicians, All Other	514	648	26%	57	\$29.79	Middle Skill
43-9199	Office and Administrative Support Workers, All Other	501	519	4%	60	\$17.88	Below Middle Skill
43-6011	Executive Secretaries and Executive Administrative Assistants	476	493	4%	55	\$27.17	Middle Skill
53-3041	Taxi Drivers and Chauffeurs	371	458	23%	70	\$10.48	Below Middle Skill
21-1023	Mental Health and Substance Abuse Social Workers	371	424	14%	52	\$28.55	Above Middle Skill
49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	354	415	17%	43	\$18.34	Middle Skill
25-3021	Self-Enrichment Education Teachers	354	393	11%	46	\$20.86	Below Middle Skill
49-9099	Installation, Maintenance, and Repair Workers, All Other	338	346	2%	35	\$18.77	Below Middle Skill
47-2181	Roofers	323	355	10%	38	\$23.44	Below Middle Skill
31-1011	Home Health Aides	311	487	56%	84	\$12.57	Middle Skill
17-2051	Civil Engineers	270	294	9%	22	\$46.93	Above Middle Skill
11-1011	Chief Executives	269	280	4%	23	\$80.74	Above Middle Skill
43-5061	Production, Planning, and Expediting Clerks	268	292	9%	31	\$25.11	Middle Skill
41-2022	Parts Salespersons	268	294	10%	36	\$17.35	Middle Skill
13-1023	Purchasing Agents, Except Wholesale, Retail, and Farm Products	265	280	6%	25	\$35.10	Middle Skill
43-9041	Insurance Claims and Policy Processing Clerks	265	280	6%	30	\$20.65	Below Middle Skill

# APPENDIX C: POSTSECONDARY EDUCATION PROVIDERS

## Training Providers Within the Study Region

Exhibit 31 shows a list of public and private postsecondary institutions in Yolo and Solano counties, and the number and type of awards recorded in 2016.<sup>21</sup>

**Exhibit 31: Postsecondary completions and award type, Yolo and Solano counties, 2016**

County	Institution	All Program Completions, 2016	Award Type
Yolo	University of California-Davis	10,311	Bachelor's, Post-Bac, Graduate-level
Yolo	Woodland Community College	344	Certificates, Associate
Yolo	Sacramento City College - Davis Center	N/A	Certificates, Associate
Yolo	Cambridge Junior College-Woodland	41	Certificates
Solano	Solano Community College	1,576	Certificates, Associate, Bachelor's (Biotech)
Solano	Touro University California	542	Graduate-level
Solano	California State University Maritime Academy	248	Bachelor's
Solano	Blake Austin College	223	Certificates
Solano	InterCoast Colleges-Fairfield	145	Certificates
Solano	Milan Institute of Cosmetology-Fairfield	27	Certificates
Solano	Hinton Barber and Beauty College	25	Certificates



<sup>21</sup> Emsi 2018.1, program completions data. Integrated postsecondary education data system (IPEDS).

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