

Program Endorsement Brief:

Cosumnes College: Diagnostic Medical Sonography

North/Far North Center of Excellence, February 2019

INTRODUCTION

Cosumnes College is developing a course in diagnostic medical sonography in response to a request from the Imaging Advisory Board Committee. This training will prepare individual student for the RVT test, which is required in order to complete advanced vascular studies in this region. This report provides an overview of the labor market demand and supply for related occupations. It provides an overview of the employment opportunities and existing community college programs that prepare students for the profession.

Key findings include:

- Job prospects are bright for diagnostic medical sonography and related occupations, averaging more than 3% annual growth from 2008 to 2018 and expected growth of nearly 11% between 2018-2023.
- The demand for medical services is anticipated to increase in the Sacramento region due to the rate of population growth and demographic shifts towards an aging population.
- The annual average annual replacement jobs represent less than 5% of the total labor market in each study area, suggesting that there is little turnover for these positions.
- Wages for workers in cardiovascular medicine are greater than the Sacramento region living wage, paying more than \$30 per hour for technicians and more than \$50 per hour for sonographers.
- Job postings suggest a strong demand for skilled workers, particularly for sonographers and ultrasound technicians.

Findings in this report were determined using labor market data from the Bureau of Labor Statistics (BLS), U.S. Census Bureau data from Emsi and job posting data from Burning Glass.

The report contains the following sections:

- Occupational demand,
- Wages and job postings,
- Educational attainment and supply, and
- Findings and recommendations.

OCCUPATIONAL DEMAND

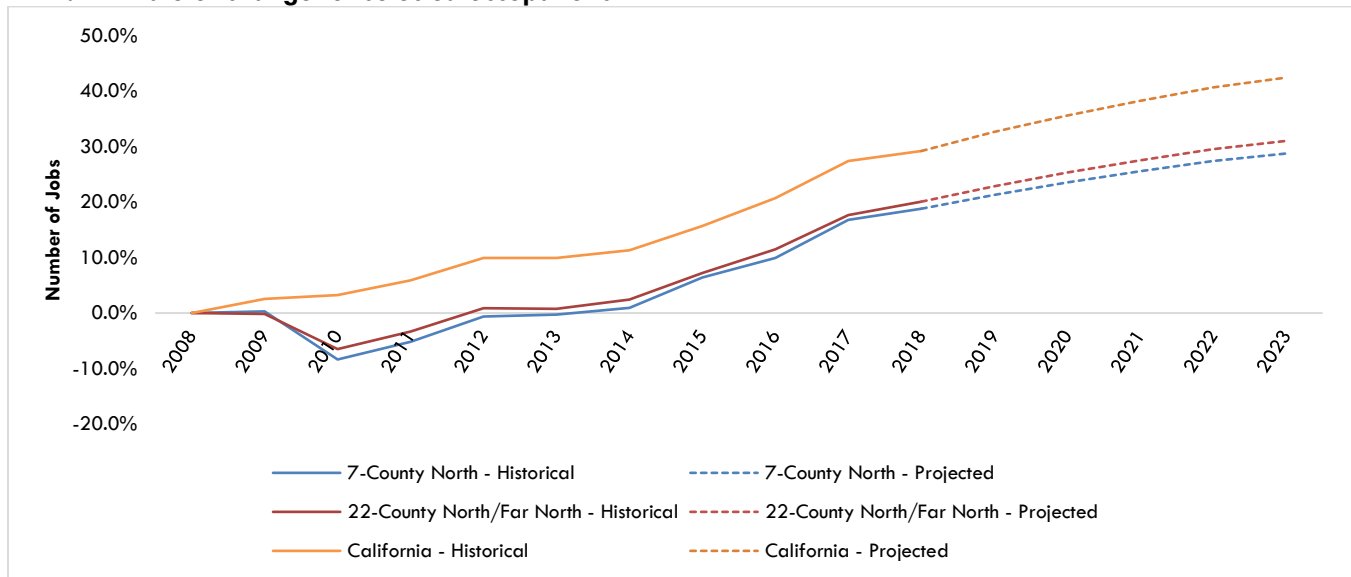
Two Standard Occupational Classification (SOC) codes were analyzed in relation to the proposed program. Exhibit 1 summarizes job trends per the SOC codes in the 7-county North region, 22-county North/Far North region and California.

Exhibit 1: Employment, projected occupational demand¹

Occupation	SOC	2008 Jobs	2018 Jobs	2023 Jobs	2018-23 Jobs % Change	Annual Openings
Cardiovascular Technologists/Technicians	29-2031	349	338	352	4.1%	22
Diagnostic Medical Sonographers	29-2032	443	602	667	10.8%	45
7-County North	TOTAL	791	940	1,019	8.4%	67
Cardiovascular Technologists/Technicians	29-2031	431	421	444	5.5%	29
Diagnostic Medical Sonographers	29-2032	557	766	851	11.1%	58
22-County North/Far North	TOTAL	989	1,187	1,295	9.1%	87
Cardiovascular Technologists/Technicians	29-2031	4,303	4,845	5,156	6.4%	321
Diagnostic Medical Sonographers	29-2032	4,671	6,751	7,628	13.0%	525
California	TOTAL	8,974	11,596	12,784	10.2%	846

Exhibit 2 shows the percentage change in number of jobs between 2008 through 2018 and occupational projections from 2018 through 2023. The rate of change is indexed to the total number of jobs in 2008 as the base year and compares 7-county North region, 22-county North/Far North region and California.

Exhibit 2: Rate of change for selected occupations²



WAGES AND JOB POSTINGS

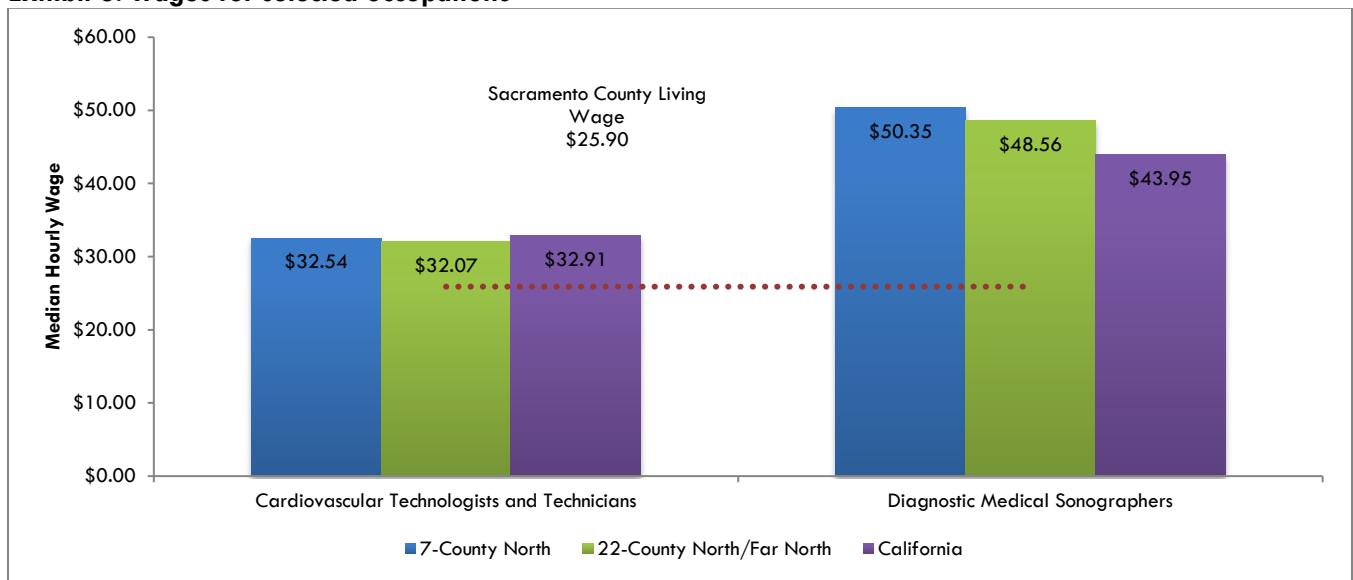
Exhibit 3 displays hourly wages for selected occupations in the study regions compared to the Sacramento County living wage for a one-adult, one-child household.³ The chart highlights the difference between the median wages of the representative occupations.

¹ Emsi 2018.4; QCEW Employees, Non-QCEW Employees and Self-Employed. The 7-county North region includes El Dorado, Placer, Nevada, Sacramento, Sutter, Yolo and Yuba. The 22-county North/Far North region includes the aforementioned counties plus Butte, Colusa, Del Norte, Glenn, Humboldt, Lake, Lassen, Mendocino, Modoc, Plumas, Shasta, Sierra, Siskiyou, Tehama and Trinity.

² Ibid.

³ Living Wage Calculator: Counties and Metropolitan Statistical Areas in California, <http://livingwage.mit.edu/states/06/locations>.

Exhibit 3: Wages for selected occupations⁴



Burning Glass data for job postings identified a pool of 527 listings in the North region on the representative SOC codes. Data was pulled for the last year from February 1, 2018 through January 31, 2019.

Exhibit 4 presents the job postings trend for the SOC codes over the past 10 years compared to the median during the same period for the study regions.

Exhibit 4: Job posting trend for selected occupations⁵

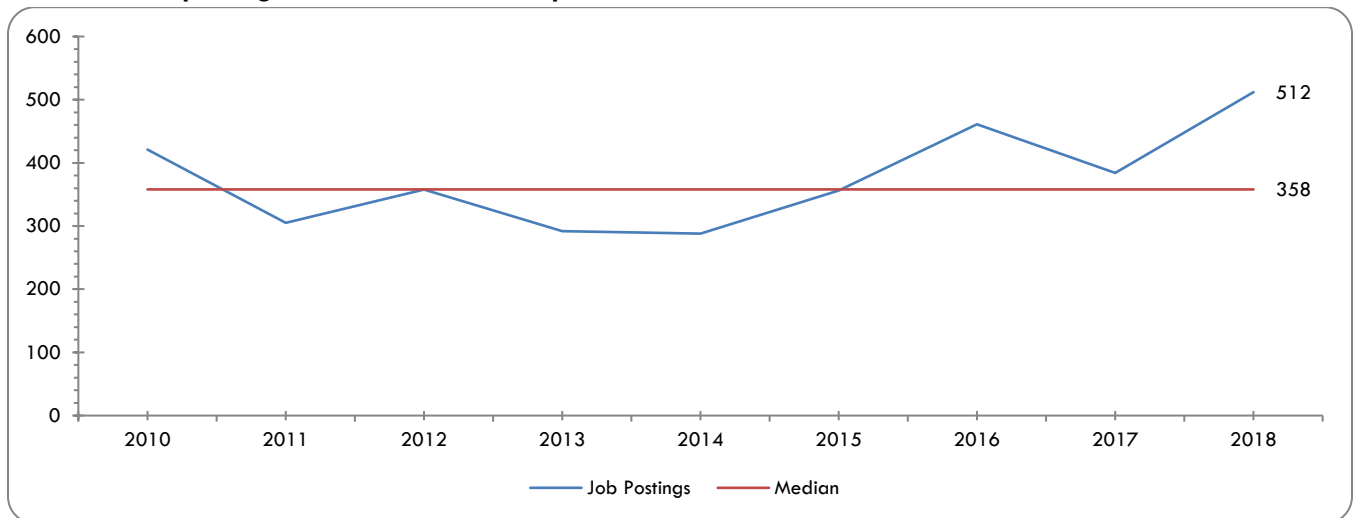


Exhibit 5 shows the top titles for positions within the selected occupations that were present in the job postings.

⁴ Emsi 2018.4; QCEW Employees, Non-QCEW Employees and Self-Employed.

⁵ Burning Glass Technologies, "Labor Insight Real-Time Labor Market Information Tool," 2019.

Exhibit 5: Top titles for selected occupations⁶

Top Titles	North	
	Number	Percent (n=527)
Sonographer	93	17.6%
Ultrasound Technician	50	9.5%
Ultrasound Technologist	47	8.9%
Catheterization Laboratory Technician	24	4.6%
Cardiac Sonographer	20	3.8%
Behavior Technician	19	3.6%
EKG Technician	17	3.2%
Ultrasonographer	16	3.0%

Exhibit 6 shows the top employers for selected occupation jobs postings in the study regions. There were only 353 postings with employer information, therefore the results below may not be indicative of the entire sample.

Exhibit 6: Top Employers among selected occupations⁷

Top Employers	North	
	Number	Percent (n=353)
Dignity Health	73	20.7%
Sutter Health	33	9.3%
Kaiser Permanente	29	8.2%
Sutter Health Sacramento Sierra Region	27	7.6%
Healthcare Employment Network	16	4.5%
Sutter Medical Center	12	3.4%
Dignity Health Medical Foundation	10	2.8%
University Of California Davis Medical Center	7	2.0%

Exhibit 7 shows the top skills desired within selected occupation positions in the study regions. There were only 418 postings with skill information, therefore the results below may not be indicative of the entire sample.

Exhibit 7: Top skills among selected occupations⁸

Top Skills	North	
	Number	Percent (n=418)
Ultrasound	211	50.5%
Patient Care	158	37.8%
Cardiopulmonary Resuscitation (CPR)	145	34.7%
Anatomy	131	31.3%
Physiology	111	26.6%
Acute Care	88	21.1%
Ultrasonography	87	20.8%
Patient/Family Education and Instruction	84	20.1%

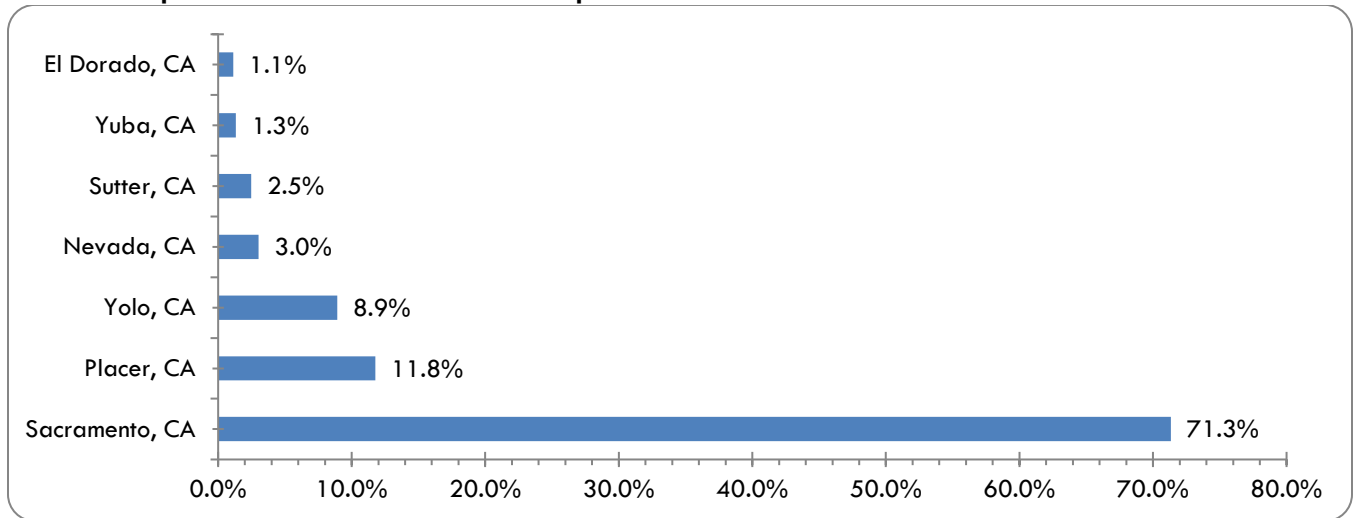
Exhibit 8 shows the counties where the selected occupations postings were located.

⁶ Ibid.

⁷ Ibid.

⁸ Ibid.

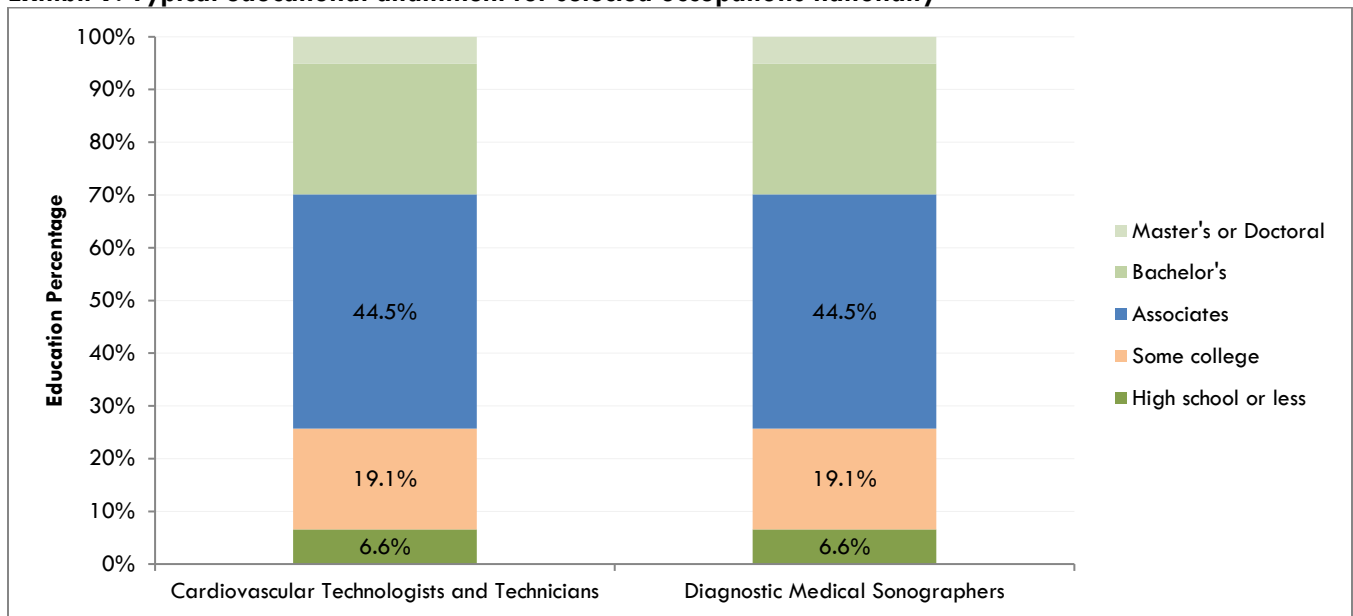
Exhibit 8: Top locations listed for selected occupations⁹



EDUCATIONAL ATTAINMENT AND SUPPLY

At the national level, the typical education required for the selected occupations is an associates degree. Education data for both occupations is from the same medical industry survey. Exhibit 9 breaks down the educational attainment percentages by degree type.

Exhibit 9: Typical educational attainment for selected occupations nationally¹⁰



There was one Taxonomy of Programs (TOP) code identified that relates to sonography: Diagnostic Medical Sonography (1227.00)

Cosumnes is the only school in the North region that offers related training. Statewide, there are seven schools (including CRC) with specific diagnostic sonography training. Awards are split between certificates and associate

⁹ Ibid.

¹⁰ Current Population Survey, Educational Attainment for Workers 25 Years and Older by Detailed Occupation, 2014-2015, https://www.bls.gov/emp/ep_table_111.htm.

degrees. Cypress College confers the majority of awards with between 25-30 per year. Exhibit 10 shows the total number of awards by colleges during the past three academic years.

Exhibit 10: Total awards conferred by California community colleges, 2015-2018¹¹

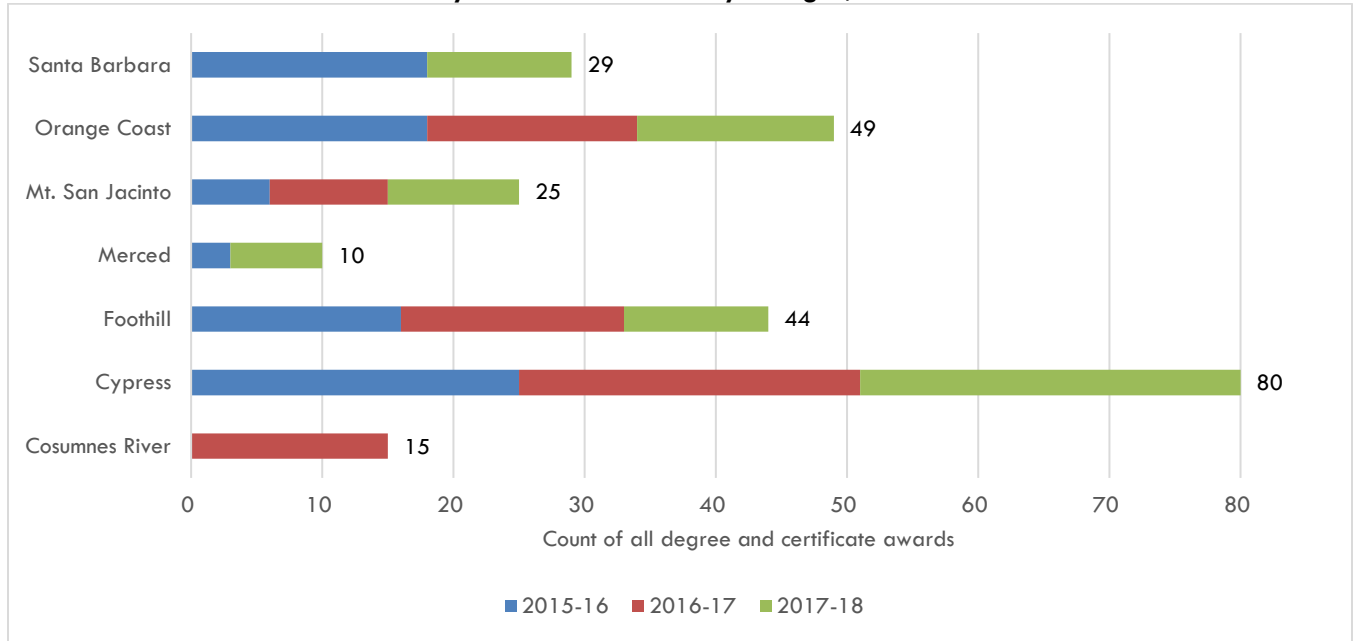


Exhibit 11 shows the break down between certificates and associate degrees in TOP code 1227.00, Diagnostic Medical Sonography.

Exhibit 11: Certificates and associate degrees conferred by California community colleges, 2015-2018¹²

	Certificate				Associate			
	2015-16	2016-17	2017-18	3-Yr Avg	2015-16	2016-17	2017-18	3-Yr Avg
Cosumnes River	0	3	0	0	0	12	0	0
Cypress	16	18	16	16	9	8	13	9
Foothill	0	0	0	0	16	17	11	16
Merced	3	0	7	3	0	0	0	0
Mt. San Jacinto	0	0	0	0	6	9	10	6
Orange Coast	0	0	0	0	18	16	15	18
Santa Barbara	18	0	11	18	0	0	0	0
Total	37	21	34	31	49	62	49	53

FINDINGS

- Job prospects are bright for diagnostic medical sonography and related occupations, averaging more than 3% annual growth from 2008 to 2018 and expected growth of nearly 11% between 2018-2023.
- The demand for medical services is anticipated to increase in the Sacramento region due to the rate of population growth and demographic shifts towards an aging population. The Sacramento metro

¹¹ COE Supply Tables, California Community Colleges Chancellor's Office DataMart, Integrated Postsecondary Education Data System (IPEDS).

¹² Ibid.

population has expanded faster than other areas of California, gaining 1.1% between July 2017 and 2018, double that of the rest of the state.

- The annual average annual replacement jobs represent less than 5% of the total labor market in each study area, suggesting that there is little turnover for these positions. Such low turnover is likely due to the specialized level of technical expertise needed to enter the field and high wages paid to workers.
- Wages for workers in cardiovascular medicine are greater than the Sacramento region living wage, paying more than \$30 per hour for technicians and more than \$50 per hour for sonographers. Sonographer wages are higher in the North region than statewide by more than \$6 per hour, suggesting that there is a shortage of trained sonographers to meet the demand.
- Job postings suggest a strong demand for skilled workers, particularly for sonographers and ultrasound technicians. Top medical centers including Dignity Health, Sutter and Kaiser Permanente had more than 30 job postings within the past twelve months for related occupations.
- The occupational demand for annual openings is roughly on par with the number of certificates and degrees issued annually. However, it is expected that the number of specializations offered segments the number of awards, some of which fall outside the scope of the occupational demand.

RECOMMENDATIONS

- The COE recommends that Cosumnes College move forward with the program to meet the demand identified in the research. Community college program investments, especially related to healthcare, are critical for the industry to meet workforce needs and be ready to serve the needs of a growing and aging population.

COE Recommendation	
<input checked="" type="checkbox"/>	Move forward with program
<input type="checkbox"/>	Program is not recommended
<input type="checkbox"/>	Additional information needed

APPENDIX A: DATA SOURCES

Sources used for data analysis purposes in this report include:

- U.S. Department of Labor/Employment and Training Administration (DOLETA) O*NET Online
- Burning Glass, Labor Insight/Jobs
- Economic Modeling Specialists, International (EMSI)
- California Employment Development Department, Labor Market Information Division (EDD, LMID)
- Bureau of Labor Statistics, Occupational Employment Statistics (OES)
- California Community Colleges Chancellor's Office, Cal-PASS Plus LaunchBoard
- Living Insight Center for Community Economic Development, Self-Sufficiency Standard Tool for California
- California Community Colleges Chancellor's Office Management Information Systems (MIS Data Mart)
- U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS)

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February 2019

