

**Program Endorsement Brief: 0502.00/Accounting**  
**Financial Accounting Competency Certificate of Achievement**  
**Governmental Accounting Competency Certificate of Achievement**  
**Accounting Data Analytics**

Orange County Center of Excellence, January 2020

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**Summary Analysis**

The Orange County Center of Excellence for Labor Market Research (COE) prepared this report to provide Los Angeles/Orange County regional labor market supply and demand data for five occupations related to accounting. In addition to providing traditional labor market information for these occupations, this report also includes data for online job postings specifically related to governmental accounting and accounting data analytics. To illuminate which occupations are immediately accessible to community college graduates, the accounting occupational group has been divided into middle-skill and above middle-skill occupations. Middle-skill occupations typically require some postsecondary education, but less than a bachelor's degree.<sup>1</sup>

The occupations included in the **middle-skill** accounting occupation group are: Tax Preparers (13-2082), Bookkeeping, Accounting, and Auditing Clerks (43-3031), Payroll and Timekeeping Clerks (43-3051), and Brokerage Clerks (43-4011). The sole occupation in the **above middle-skill** accounting group is Accountants and Auditors (13-2011). This report is intended to help determine whether there is demand in the local labor market that is not being met by the supply from community college programs that align with the relevant occupations.

Based on the available data there appears to be a supply gap for these accounting occupations in the region. **Therefore, the COE endorses this proposed program.** Reasons include:

**Demand:**

- Over the next five years, there is projected to be **10,787 middle-skill jobs available annually** in the region due to new job growth and replacements, **which is more than the 2,726 awards conferred annually** by educational institutions in the region.
- For the middle-skill group of occupations, the national-level educational attainment data indicates **between 30.4% and 49.4% of workers in the field have completed some college or an associate degree as their highest level of education.**
- **Typical entry-level hourly wages** for these middle-skill occupations are between **\$14.91 and \$22.13 throughout the region.**
  - **Typical entry-level hourly wages** for these middle-skill occupations are between **\$15.54 and \$23.62 in Los Angeles County**, which is **above the**

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<sup>1</sup> The COE classifies middle-skill jobs as the following:

- All occupations that require an educational requirement of some college, associate degree or apprenticeship;
- All occupations that require a bachelor's degree, but also have more than one-third of their existing labor force with an educational attainment of some college or associate degree; or
- All occupations that require a high school diploma or equivalent or no formal education, but also require short- to long-term on-the-job training where multiple community colleges have existing programs.

**California Family Needs Calculator<sup>2</sup> hourly wage (living wage)** for one adult in that county (\$15.04).

- While typical **entry-level hourly wages for Tax Preparers (\$14.09) and Bookkeeping, Accounting, and Auditing Clerks (\$17.04) are below the living wage for one adult in Orange County, median wages for all middle skill occupations are above the living wage** for one adult in that county (\$17.36).

**Supply:**

- All **28 community colleges** in the region have an accounting program, conferring an average of **1,563 awards annually** between 2015 and 2018.
- Between 2013 and 2016, there were an average of **1,163 awards conferred annually** in related training programs by non-community college institutions, all of which were generated by **14 individual four-year colleges throughout** the region.

**Occupational Demand**

Exhibit 1 shows the five-year occupational demand projections for the middle-skill group of accounting occupations. In Los Angeles/Orange County, the number of jobs related to these middle-skill occupations is projected to decrease by 0.5% through 2023. However, there will be more than 10,780 job openings per year through 2023 due to retirements and workers leaving the field.

**Exhibit 1: Occupational demand in Los Angeles and Orange Counties<sup>3</sup>**

<b>Geography</b>	<b>2018 Jobs</b>	<b>2023 Jobs</b>	<b>2018-2023 Change</b>	<b>2018-2023 % Change</b>	<b>Annual Openings</b>
Los Angeles	71,062	70,462	(600)	(0.8%)	7,739
Orange	27,535	27,654	121	0.4%	3,048
<b>Total</b>	<b>98,597</b>	<b>98,116</b>	<b>(480)</b>	<b>(0.5%)</b>	<b>10,787</b>

Exhibit 2, on the following page, shows the five-year occupational demand projections for Accountants and Auditors, the sole occupation in the above middle-skill group of occupations. In Los Angeles/Orange County, the number of jobs related to Accountants and Auditors is projected to increase by 4% through 2023. There will be more than 6,700 job openings per year through 2023 due to job growth and replacements.

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<sup>2</sup> Living wage data was pulled from California Family Needs Calculator on 1/10/20. For more information, visit the California Family Needs Calculator website: <https://insightcced.org/2018-family-needs-calculator/>.

<sup>3</sup> Five-year change represents new job additions to the workforce. Annual openings include new jobs and replacement jobs that result from retirements and separations.

**Exhibit 2: Occupational demand in Los Angeles and Orange Counties<sup>4</sup>**

Geography	2018 Jobs	2023 Jobs	2018-2023 Change	2018-2023 % Change	Annual Openings
Los Angeles	51,067	52,793	1,726	3%	4,849
Orange	19,121	19,989	868	5%	1,866
<b>Total</b>	<b>70,188</b>	<b>72,783</b>	<b>2,595</b>	<b>4%</b>	<b>6,715</b>

**Wages**—Typical entry-level hourly wages for these accounting occupations throughout the region are between \$14.91 and \$26.62.<sup>5</sup> In Los Angeles County, entry-level wages for all five occupations are higher than the California Family Needs Calculator hourly wage for one adult in the county (\$15.04). In Orange County, entry-level wages for Tax Preparers (\$14.09) and Bookkeeping, Accounting, and Auditing Clerks (\$17.04) are lower than the California Family Needs Calculator hourly wage for one adult in the county (\$17.36); however, median wages for all five accounting occupations in this report are higher than the California Family Needs Calculator hourly wage for one adult in Orange County. Experienced workers can expect to earn between \$27.58 and \$47.96, which is higher than the California Family Needs Calculator wage estimates for both counties. Regional average wages are similar to the average statewide wage of \$31.19 for these occupations. Wage information, by county, is included in Appendix A.

**Employer Job Postings**

There were 46,257 online job postings related to all five accounting occupations listed in the past 12 months. Of those, 45.8% (21,168) were for the middle-skill group of occupations and 54.2% (25,089) were for the above middle-skill group. Exhibit 3 shows the number of job postings by occupation.

**Exhibit 3: Online job postings by occupation**

Occupation	# of postings
Accountants and Auditors	25,089
Bookkeeping, Accounting, and Auditing Clerks	16,283
Payroll and Timekeeping Clerks	3,583
Tax Preparers	1,180
Brokerage Clerks	122

The highest number of job postings for the middle-skill group of occupations were for bookkeeper, accounting clerk, accounts payable clerk, accounts payable specialist, and payroll specialist. The top three employers, by number of job postings, for the middle-skill group of occupations in the region were: H&R Block, Marriott International Incorporated, and Anthem Blue

<sup>4</sup> Five-year change represents new job additions to the workforce. Annual openings include new jobs and replacement jobs that result from retirements and separations.

<sup>5</sup> Entry-level wage is defined as the twenty-fifth percentile hourly wage. Wages for experienced workers are defined as the seventy-fifth percentile hourly wage.

Cross. Of the 21,168 middle-skill online job postings, 38% listed a minimum education requirement.

The highest number of job postings for the above middle-skill group of occupations were for accountant, staff accountant, and senior accountant. The top three employers, by number of job postings, in the region were: Anthem Blue Cross, KPMG, and Marriott International Incorporated. Of the 25,089 above middle-skill online job postings, 74.6% list a minimum education requirement.

**Governmental Accounting Job Postings.** To identify online job postings most closely related to governmental accounting, a filter for the Educational Services (61) and Public Administration (92) North American Industry Classification System (NAICS) industry codes was applied to the online job postings for these accounting occupations. Non-governmental employers were also filtered out to ensure all postings were posted by public institutions. Of the 21,168 middle-skill job postings, 829 were posted by public institutions. The highest number of middle-skill job postings were for accounting technician, clerk, and accounting specialist. The top skills requested were accounting, payroll processing, and bookkeeping. The top three employers, by number of job postings were University of California, Orange County, and County of Los Angeles.

Of the 25,079 above middle-skill job postings, 3% (731) were posted by public institutions. The highest number of above middle-skill job postings were for accountant, senior accountant, and staff accountant. The top skills requested were accounting, budgeting, and financial reporting. The top three employers, by number of job postings were Orange County, University of California, and County of Los Angeles.

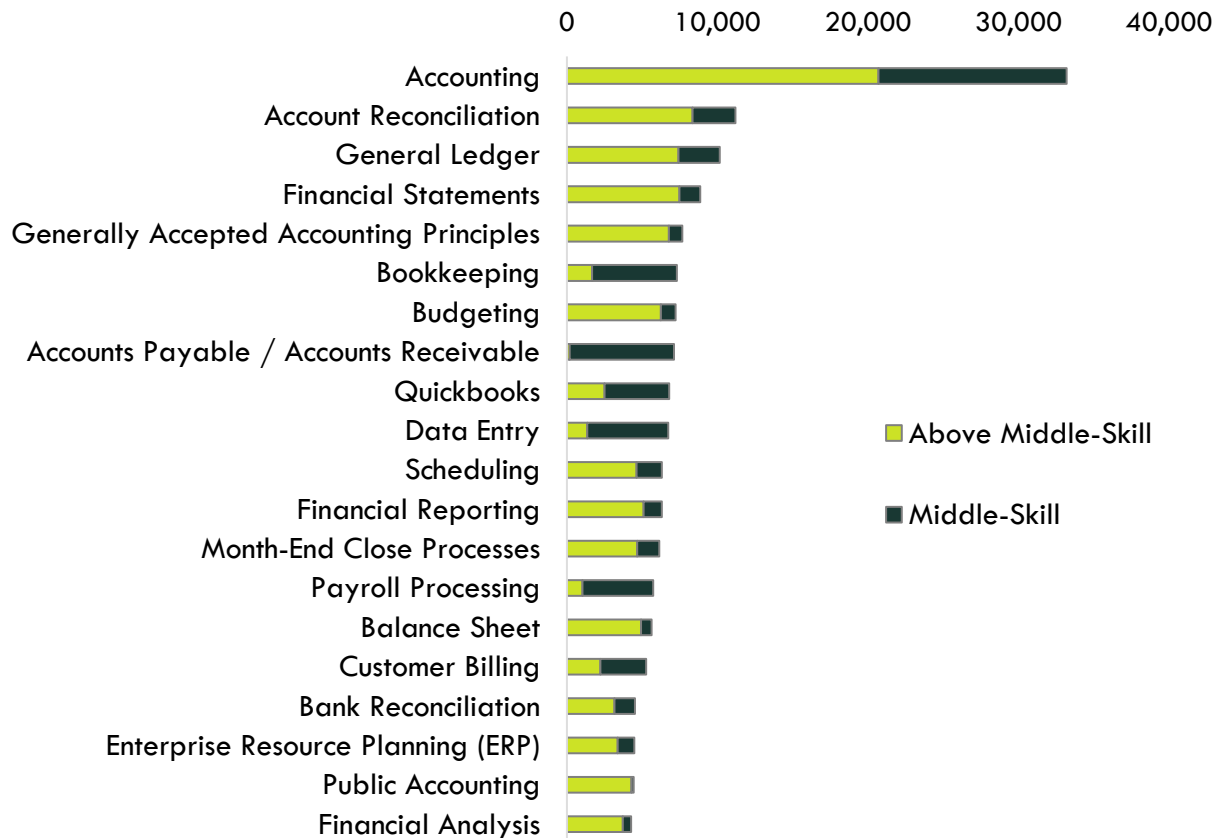
**Accounting Data Analytics Job Postings.** To identify online job postings related to accounting data analytics, a filter for skills including data analysis, data mining, data science, data visualization, data cleaning, and statistical software was applied to both groups of occupations. Of the 21,168 middle-skill job postings, 1.8% (377) requested skills related to data analytics. The highest number of middle-skill job postings were for bookkeeper, accounts payable specialist, and accounts payable clerk. The top employers, by number of job postings were County of Los Angeles, Compass Group, and Bunzl Distribution. The top skills requested were accounting, data analysis, and accounts payable/receivable.

Of the 25,079 above middle-skill job postings, 3% (750) requested skills related to data analytics. The highest number of above middle-skill job postings were for staff accountant, senior accountant, and accountant. The top employers, by number of job postings were KPMG, Ernst & Young, and Anthem Blue Cross. The top skills requested were accounting, data analysis, and account reconciliation.

**Skills—**There are several skills that employers request across both the above middle-skill and middle-skill accounting occupations reviewed in this report. Some skills, such as customer billing, are requested at similar rates in postings for both groups of occupations. Other skills are more heavily requested for the above middle-skill group of occupations, such as accounting, account reconciliation, and general ledger, and financial statements. Whereas postings for the middle-skill group of accounting occupations more heavily request skills such as bookkeeping, accounts payable/receivable, Quickbooks, data entry, and payroll processing. The top skills for the

middle-skill group of occupations were accounting, accounts payable/receivable, bookkeeping, data entry, payroll processing, and Quickbooks. Exhibit 4 shows the top 20 requested skills in online job postings across both groups of occupations.

**Exhibit 4: Top skills listed in online job postings (n=46,257)**



**Educational Attainment**—The Bureau of Labor Statistics (BLS) lists a high school diploma or equivalent as the typical entry-level education for Tax Preparers, Payroll and Timekeeping Clerks, and Brokerage Clerks, some college no degree for Bookkeeping, Accounting and Auditing Clerks. For the middle-skill group of occupations, the national-level educational attainment data indicates between 30.1% and 49.4% of workers in the field have completed some college or an associate degree as their highest level of education. Of the 38% of middle-skill job postings listing a minimum education requirement in Los Angeles/Orange County, 69.1% (5,648) requested a high school diploma or vocational training and 30.9% (2,531) requested an associate degree.

BLS lists a bachelor’s degree for Accountants and Auditors classifying this group as above middle-skill. For the above middle-skill group, the national-level educational attainment data indicates that 16.3% of workers in the field have completed some college or an associate degree and 79.7% of workers have completed a bachelor’s degree or above as their highest level of

education. Of the 74.6% of above middle-skill job postings listing a minimum education requirement, 98.6% requested a bachelor's degree.

### Supply

**Community College Supply**—Exhibit 5 shows the three-year average number of awards conferred by community colleges in the related TOP codes: Accounting (0502.00) and Tax Studies (0502.10). All community colleges in the region have accounting programs and have conferred an average of 1,563 awards over the past three years. The college with the most completions in the region was East Los Angeles. Over the past 12 months, there were 22 other related program recommendation requests from regional community colleges.

**Exhibit 5: Regional community college awards (certificates and degrees), 2015-2018**

TOP Code	Program	College	2016-2017 Awards	2017-2018 Awards	2018-2019 Awards	3-Year Award Average		
0502.00	Accounting	Cerritos	25	26	-	26		
		Citrus	16	20	16	17		
		Compton	4	-	1	3		
		East LA	346	397	629	457		
		El Camino	15	8	16	13		
		Glendale	55	52	63	57		
		LA City	17	16	4	12		
		LA Harbor	8	4	8	7		
		LA Mission	10	8	8	9		
		LA Pierce	12	5	9	9		
		LA Swest	2	-	1	2		
		LA Trade	25	26	19	23		
		LA Valley	80	45	34	53		
		Long Beach	27	36	-	32		
		Mt San Antonio	103	114	174	130		
		Pasadena	20	30	23	24		
		Rio Hondo	11	17	13	14		
		Santa Monica	52	169	78	100		
		West LA	17	7	16	13		
		<b>LA Subtotal</b>		<b>845</b>	<b>980</b>	<b>1,112</b>	<b>979</b>	
				Coastline	63	43	49	52
				Cypress	4	5	8	6
		Fullerton	14	18	17	16		
		Golden West	17	19	36	24		
		Irvine	169	142	201	171		
		Orange Coast	22	112	104	79		

TOP Code	Program	College	2016-2017 Awards	2017-2018 Awards	2018-2019 Awards	3-Year Award Average
		Saddleback	42	32	38	37
		Santa Ana	95	86	175	119
		Santiago Canyon	6	55	47	36
		<b>OC Subtotal</b>	<b>432</b>	<b>512</b>	<b>675</b>	<b>540</b>
		<b>Subtotal/Average</b>	<b>1,277</b>	<b>1,492</b>	<b>1,787</b>	<b>1,519</b>
0502.10	Tax Studies	LA Pierce	32	16	17	22
		Mt San Antonio	-	-	7	7
		<b>LA Subtotal</b>	<b>32</b>	<b>16</b>	<b>24</b>	<b>24</b>
		Irvine	16	9	26	17
		Saddleback	5	3	3	4
		<b>OC Subtotal</b>	<b>21</b>	<b>12</b>	<b>29</b>	<b>21</b>
		<b>Subtotal/Average</b>	<b>53</b>	<b>28</b>	<b>53</b>	<b>45</b>
		<b>Supply Total/Average</b>	<b>1,330</b>	<b>1,520</b>	<b>1,840</b>	<b>1,563</b>

**Non-Community College Supply**—It is important to consider the supply from four-year institutions in the region that provide training programs for these accounting occupations. Exhibit 6 shows the annual and three-year average number of awards conferred by these institutions in the related Classification of Instructional Programs (CIP) Codes: Accounting (52.0301) and Accounting Technology/Technician (52.0302). Due to different data collection periods, the most recent three-year period of available data is from 2013 to 2016. Between 2013 and 2016, four-year colleges in the region conferred an average of 1,163 awards annually in related training programs.

**Exhibit 6: Regional non-community college awards, 2013-2016**

CIP Code	Program	College	2013-2014 Awards	2014-2015 Awards	2015-2016 Awards	3-Year Award Average
52.0301	Accounting	Biola University	0	0	17	6
		California State University-Northridge	243	196	250	230
		Claremont McKenna College	43	25	24	31
		Loyola Marymount University	57	60	59	59
		Pepperdine University	12	19	30	20
		Pitzer College	1	0	0	0
		University of Southern California	228	262	222	237
		Woodbury University	23	22	27	24

CIP Code	Program	College	2013-2014 Awards	2014-2015 Awards	2015-2016 Awards	3-Year Award Average
		<b>LA Subtotal</b>	<b>607</b>	<b>584</b>	<b>629</b>	<b>607</b>
		Chapman University	39	54	53	49
		Southern California Institute of Technology	2	1	0	1
		University of Phoenix-California	21	42	38	34
		Vanguard University of Southern California	2	8	6	5
		<b>OC Subtotal</b>	<b>432</b>	<b>512</b>	<b>675</b>	<b>540</b>
<b>Subtotal/Average</b>			<b>1,039</b>	<b>1,096</b>	<b>1,304</b>	<b>1,146</b>
52.0302	Accounting Technology/Technician and Bookkeeping	InterCoast Colleges-Anaheim	6	12	4	7
		Southern California Institute of Technology	15	13	0	9
		<b>OC Subtotal</b>	<b>21</b>	<b>25</b>	<b>4</b>	<b>17</b>
<b>Subtotal/Average</b>			<b>21</b>	<b>25</b>	<b>4</b>	<b>17</b>
<b>Supply Total/Average</b>			<b>1,060</b>	<b>1,121</b>	<b>1,308</b>	<b>1,163</b>

**Appendix A: Occupational demand and wage data by county**

**Exhibit 4. Los Angeles County**

Occupation (SOC)	2018 Jobs	2023 Jobs	5-Yr Change	5-Yr % Change	Annual Openings	Entry-Level Hourly Earnings (25 <sup>th</sup> Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75 <sup>th</sup> Percentile)
Tax Preparers (13-2082)	5,019	5,176	157	3%	561	\$15.54	\$25.95	\$38.56
Bookkeeping, Accounting, and Auditing Clerks (43-3031)	58,522	57,803	(719)	(1%)	6,432	\$17.09	\$22.19	\$27.62
Payroll and Timekeeping Clerks (43-3051)	5,875	5,845	(30)	(1%)	579	\$18.78	\$24.18	\$29.34
Brokerage Clerks (43-4011)	1,646	1,638	(8)	(0%)	166	\$23.62	\$28.90	\$32.93
<b>Middle-Skill Subtotal</b>	<b>71,062</b>	<b>70,462</b>	<b>(600)</b>	<b>(0.8%)</b>	<b>7,739</b>			



Occupation (SOC)	2018 Jobs	2023 Jobs	5-Yr Change	5-Yr % Change	Annual Openings	Entry-Level Hourly Earnings (25 <sup>th</sup> Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75 <sup>th</sup> Percentile)
Accountants and Auditors (13-2011)	51,067	52,793	1,726	3%	4,849	\$27.06	\$35.94	\$48.72
<b>Above Middle-Skill Subtotal</b>	<b>51,067</b>	<b>52,793</b>	<b>1,726</b>	<b>3%</b>	<b>4,849</b>	<b>\$27.06</b>	<b>\$35.94</b>	<b>\$48.72</b>
<b>Total</b>	<b>122,129</b>	<b>123,255</b>	<b>1,126</b>	<b>1%</b>	<b>12,588</b>			

**Exhibit 5. Orange County**

Occupation (SOC)	2018 Jobs	2023 Jobs	5-Yr Change	5-Yr % Change	Annual Openings	Entry-Level Hourly Earnings (25 <sup>th</sup> Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75 <sup>th</sup> Percentile)
Tax Preparers (13-2082)	1,745	1,811	66	4%	198	\$14.09	\$23.49	\$34.80
Bookkeeping, Accounting, and Auditing Clerks (43-3031)	22,760	22,749	(11)	(0.05%)	2,533	\$17.04	\$22.10	\$27.48
Payroll and Timekeeping Clerks (43-3051)	2,218	2,247	29	1%	227	\$18.37	\$23.65	\$28.69
Brokerage Clerks (43-4011)	811	848	37	5%	91	\$19.80	\$24.22	\$27.60
<b>Middle-Skill Subtotal</b>	<b>27,535</b>	<b>27,654</b>	<b>121</b>	<b>0.4%</b>	<b>3,048</b>			
Accountants and Auditors (13-2011)	51,067	52,793	1,726	3%	4,849	\$27.06	\$35.94	\$48.72
<b>Above Middle-Skill Subtotal</b>	<b>19,121</b>	<b>19,989</b>	<b>868</b>	<b>5%</b>	<b>1,866</b>			
<b>Total</b>	<b>19,121</b>	<b>19,989</b>	<b>868</b>	<b>5%</b>	<b>1,866</b>			

**Exhibit 6. Los Angeles and Orange Counties**

<b>Occupation (SOC)</b>	<b>2018 Jobs</b>	<b>2023 Jobs</b>	<b>5-Yr Change</b>	<b>5-Yr % Change</b>	<b>Annual Openings</b>	<b>Entry-Level Hourly Earnings (25<sup>th</sup> Percentile)</b>	<b>Median Hourly Earnings</b>	<b>Experienced Hourly Earnings (75<sup>th</sup> Percentile)</b>
Tax Preparers (13-2082)	6,764	6,987	223	3%	759	\$14.91	\$25.25	\$37.59
Bookkeeping, Accounting, and Auditing Clerks (43-3031)	81,282	80,552	(730)	(1%)	8,966	\$17.08	\$22.17	\$27.58
Payroll and Timekeeping Clerks (43-3051)	8,093	8,092	(1)	(0.01%)	806	\$18.67	\$24.03	\$29.17
Brokerage Clerks (43-4011)	2,458	2,486	28	1%	257	\$22.13	\$26.92	\$31.78
<b>Middle-Skill Subtotal</b>	<b>98,597</b>	<b>98,116</b>	<b>(480)</b>	<b>(0.5%)</b>	<b>10,787</b>			
Accountants and Auditors (13-2011)	70,188	72,783	2,595	4%	6,715	\$26.62	\$35.39	\$47.96
<b>Above Middle-Skill Subtotal</b>	<b>70,188</b>	<b>72,783</b>	<b>2,595</b>	<b>4%</b>	<b>6,715</b>	<b>\$27.06</b>	<b>\$35.94</b>	<b>\$48.72</b>
<b>Total</b>	<b>168,785</b>	<b>170,899</b>	<b>2,114</b>	<b>1%</b>	<b>17,502</b>			

## Appendix B: Sources

- O\*NET Online
- Labor Insight/Jobs (Burning Glass)
- Economic Modeling Specialists, International (Emsi)
- Bureau of Labor Statistics (BLS)
- Employment Development Department, Labor Market Information Division, OES
- Employment Development Department, Unemployment Insurance Dataset
- Living Insight Center for Community Economic Development
- California Community Colleges Chancellor's Office Management Information Systems (MIS)
- California Family Needs Calculator, Insight Center for Community Economic Development
- Chancellor's Office Curriculum Inventory (COCI 2.0)

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