



Summary

Program LMI Endorsement	Endorsed: All LMI Criteria Met <input type="checkbox"/>	Endorsed: Some LMI Criteria Met <input checked="" type="checkbox"/>	Not LMI Endorsed <input type="checkbox"/>
Program LMI Endorsement Criteria			
	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Supply Gap:	<p><i>Comments:</i> there is projected to be 1,829 annual job openings in the South Central Coast (SCC) Region for these business administration occupations, which is less than the 3,488 awards conferred by educational institutions.</p> <p>However, the educational programs that train for these for occupations also train for over 60 other occupations that account for nearly 16,000 annual job openings. Therefore, supply is overstated and there is likely a supply gap for general business occupations.</p>		
Self-Sufficiency Standard Living Wage ¹ :	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
	<p><i>Comments:</i> the majority (94%) of annual job openings for these business administration occupations have entry-level hourly wages above the Santa Barbara County living wage of \$29.80.</p>		
Education:	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
	<p><i>Comments:</i> though the typical entry-level education for these business administration occupations is a bachelor's degree, between 35% and 39% of workers in the field have completed some college or an associate degree as their highest level of education.</p>		
Additional Considerations			
Emerging Occupation(s):	Yes <input type="checkbox"/>	Some <input type="checkbox"/>	No <input checked="" type="checkbox"/>
	<i>Comments:</i> N/A		

The South Central Coast Center of Excellence for Labor Market Research (SCC COE) prepared this report to determine whether there is a supply gap in the SCC regional labor market related to four middle-skill occupations:

- *General and Operations Managers (11-1021)*
- *Administrative Services Managers (11-3012)*
- *Cost Estimators (13-1051)*
- *Logisticians (13-1081)*

¹ The living wage endorsement criteria in this report uses the University of Washington's Center for Women's Welfare Self-Sufficiency Standard, which the COE refers to as a living wage; the living wage for Los Angeles, San Luis Obispo, Santa Barbara, and Ventura counties, last updated in March 2024.

Based on the available data, there is likely a supply gap for business administration occupations. While the supply figures in this report are greater than demand, the educational programs that train for these four occupations also train for over 60 other occupations that account for nearly 16,000 annual job openings. Therefore, supply is overstated and there is likely a supply gap for business administration occupations. Typical education requirements for these occupations align with a community college education, and entry-level wages are above the Self-Sufficiency Standard living wage. **Therefore, due to some of the regional labor market criteria being met, the COE endorses this proposed program.**

Exhibit 1 lists the occupational demand, supply, typical entry-level education, and educational attainment for the occupations included in this report.

Exhibit 1: Labor Market Endorsement Summary

Occupation (SOC)	Demand (Annual Openings)	Supply (CC and Non-CC)	Entry-Level Hourly Earnings (25 th Percentile)	Typical Entry-Level Education	Community College Educational Attainment
General and Operations Managers (11-1021)	1,366	3,457	Santa Barbara: \$36.56	Bachelor's degree	35%
Administrative Services Managers (11-3012)	155	23	Santa Barbara: \$37.73	Bachelor's degree	36%
Cost Estimators (13-1051)	127	Accounted for above	Santa Barbara: \$28.78	Bachelor's degree	39%
Logisticians (13-1081)	182	8	Santa Barbara: \$35.86	Bachelor's degree	37%
Total	1,829	3,488	N/A	N/A	N/A

Demand:

- The number of jobs related to these business administration occupations is projected to increase 4% through 2029 in the SCC region. There is projected to be 1,829 annual job openings due to new job creation and replacements.
- Hourly entry-level wages for these business administration occupations in Santa Barbara County range from \$28.78 to \$37.73; the majority (94%) of annual job openings have entry-level wages above the Self-Sufficiency Standard living wage (\$29.80 for Santa Barbara County).
- There were 3,150 online job postings for these business administration occupations over the past 12 months. The highest number of postings were for supply chain associates, operations managers, and assistant managers.
- The typical entry-level education for these business administration occupations is a bachelor's degree.

- Between 35% and 39% of workers in the field have completed some college or an associate degree as their highest level of education.

Supply:

- There was an average of 2,312 awards conferred by all eight community colleges in the SCC Region from 2021 to 2024.
- Non-community college institutions conferred 1,177 related awards from 2020 to 2023.
- SCC community college students that exited Business Administration programs in the 2022-23 academic year had a median annual wage of \$42,960 (\$20.65 per hour) after exiting the program and 38% attained the regional living wage (Self-Sufficiency Standard).
- Throughout the SCC Region, 82% of Business Administration students that exited their program in 2021-22 reported that they are working in a job closely related to their field of study.

Demand

Occupational Projections:

Exhibit 2 compares historical and projected changes in employment for these occupations compared to the number of jobs in 2019. Notably, employment for these business administration occupations in San Luis Obispo County grew 41% from 2019 to 2024, which is significantly higher when compared to employment for these occupations in California, the SCC Region, and all other counties in the SCC region. From 2024 to 2029, employment for these business administration occupations is projected to steadily grow in all areas.

Exhibit 2: Historical and Projected Employment for Business Administration Occupations in the SCC Region, 2019-2029

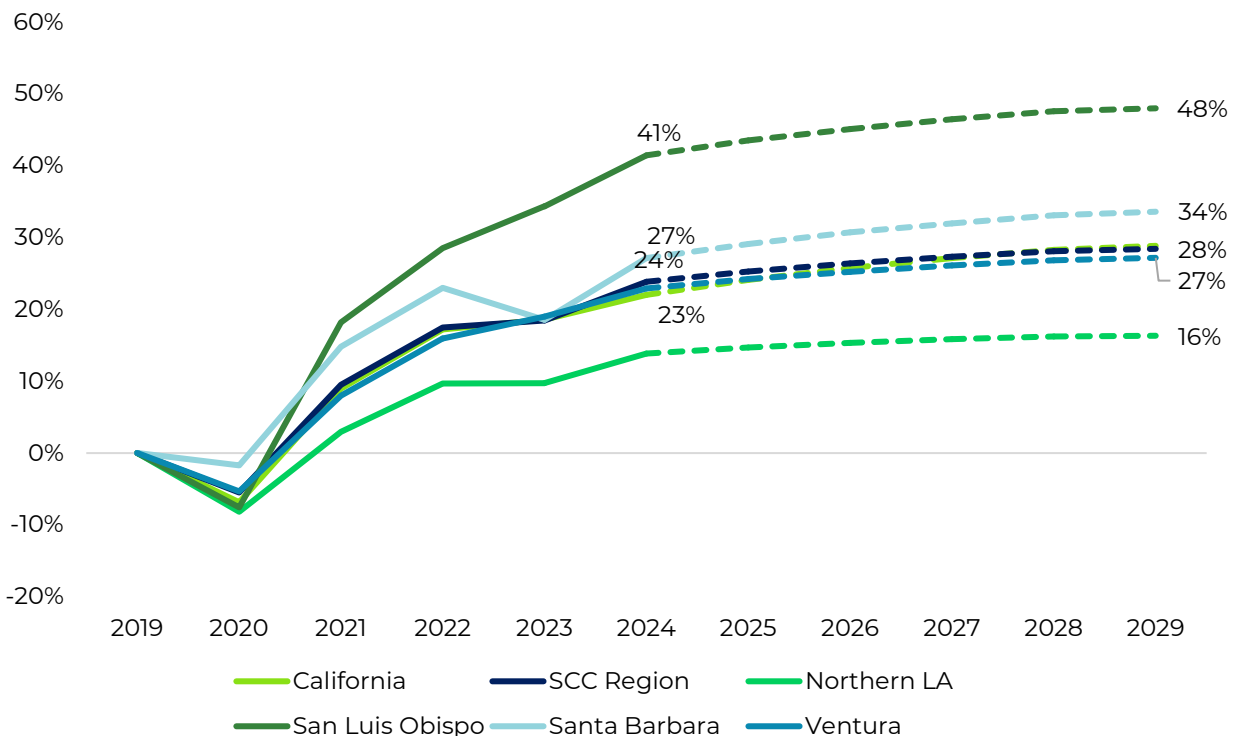


Exhibit 3 shows the five-year occupational demand projections for these business administration occupations. In the SCC Region, the number of jobs related to these occupations is projected to increase by 4% through 2029. There is projected to be 1,829 jobs available annually. Ventura County has the highest number of jobs and annual openings.

Exhibit 3: Occupational Demand in the SCC Region²

Geography	2024 Jobs	2029 Jobs	2024-2029 Change	2024-2029 % Change	Annual Openings
Northern LA	4,601	4,702	101	2%	400
San Luis Obispo	2,788	2,918	130	5%	257
Santa Barbara	4,612	4,848	235	5%	429
Ventura	8,253	8,538	285	3%	735
SCC Region	20,245	20,996	751	4%	1,829

Wages:

The labor market endorsement in this report considers the entry-level hourly wages for these business administration occupations in relation to the living wage of the county where the requesting community college is located. This report was requested by Santa Barbara City College, which is in Santa Barbara County. Wages for other counties are included below to provide a complete analysis of the SCC Region.

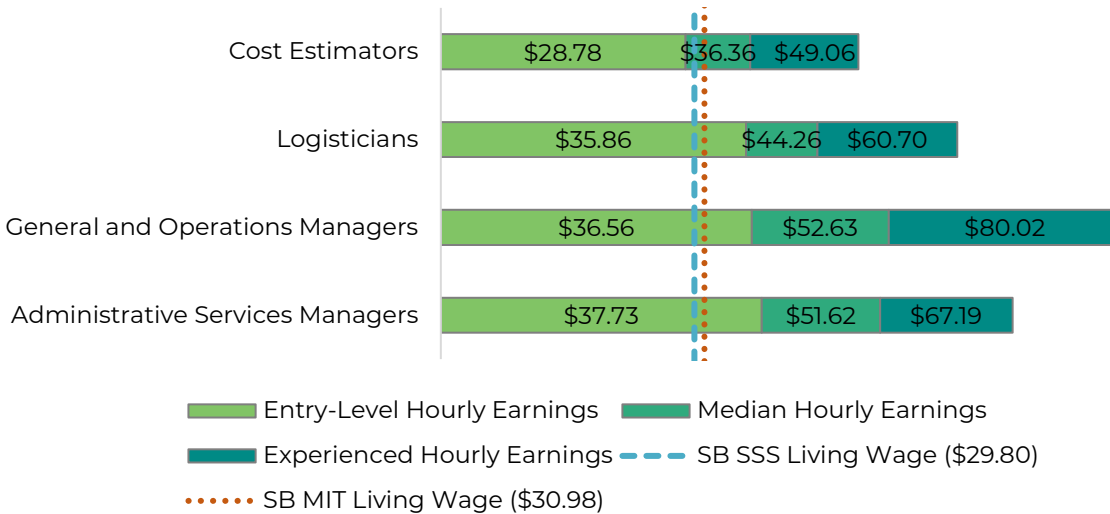
In addition to the Self Sufficiency Standard living wage, data for the MIT Living Wage, updated on February 10, 2025, is provided as a reference. Currently, the MIT Living Wage in Santa Barbara County is \$30.98. Both figures account for geographic-specific costs of necessities such as housing, food, health care, and transportation to assess the cost of living, and are notated in the exhibits below.

² Five-year change represents new job additions to the workforce. Annual openings include new jobs and replacement jobs that result from retirements and separations.

Santa Barbara

The majority (94%) of annual openings for these business administration occupations have entry-level wages above the Self-Sufficiency Standard living wage for one adult (\$29.80 in Santa Barbara County). Typical entry-level hourly wages range between \$28.78 and \$37.73. Exhibit 4 shows the wage range for each of these business administration occupations in Santa Barbara County and how they compare to the regional living wage, sorted from lowest to highest entry-level wage.

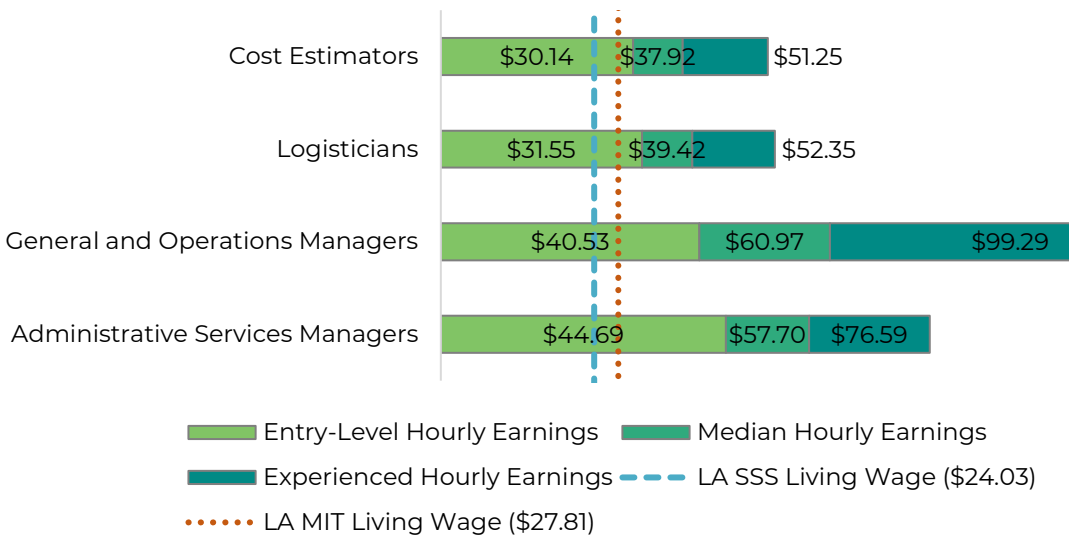
Exhibit 4: Wages by Occupation in Santa Barbara County



Northern Los Angeles

All (100%) annual openings for these business administration occupations have entry-level wages above the Self-Sufficiency Standard living wage for one adult (\$24.03 in Los Angeles County). Typical entry-level hourly wages range between \$30.14 and \$44.69. Exhibit 5 shows the wage range for each of these business administration occupations in Northern Los Angeles and how they compare to the regional living wage, sorted from lowest to highest entry-level wage.

Exhibit 5: Wages by Occupation in Northern Los Angeles County



San Luis Obispo

All (100%) annual openings for these business administration occupations have entry-level wages above the Self-Sufficiency Standard living wage for one adult (\$22.15 in San Luis Obispo County). Typical entry-level hourly wages range between \$26.91 and \$41.51. Exhibit 6 shows the wage range for each of these business administration occupations in San Luis Obispo County and how they compare to the regional living wage, sorted from lowest to highest entry-level wage.

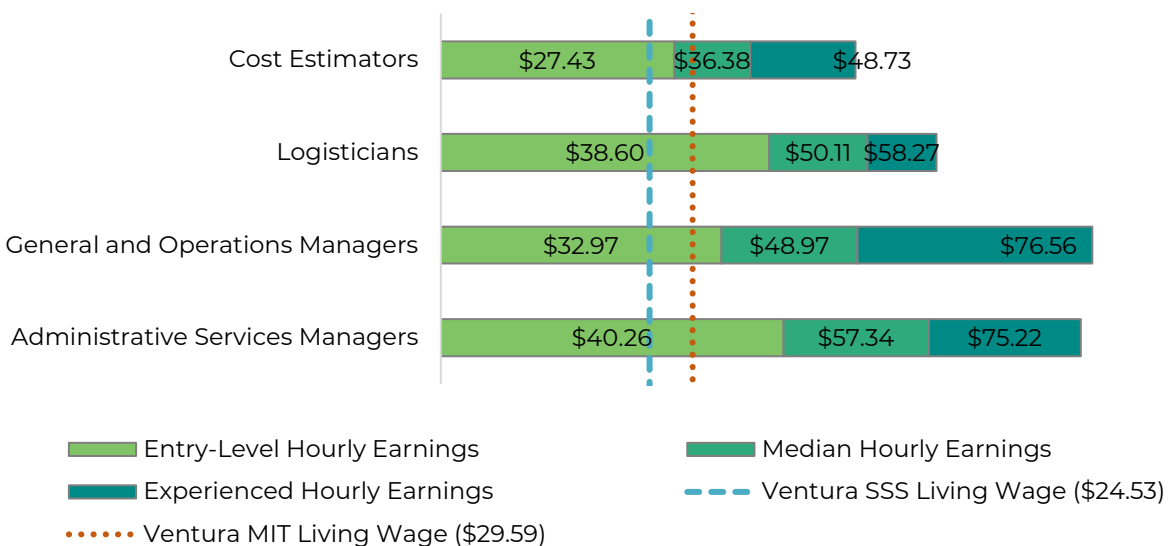
Exhibit 6: Wages by Occupation in San Luis Obispo County



Ventura

All (100%) annual openings for these business administration occupations have entry-level wages above the Self-Sufficiency Standard living wage for one adult (\$24.53 in Ventura County). Typical entry-level hourly wages range between \$27.43 and \$40.26. Exhibit 7 shows the wage range for each of these business administration occupations in Ventura County and how they compare to the regional living wage, sorted from lowest to highest entry-level wage.

Exhibit 7: Wages by Occupation in Ventura County



Job Postings:

There were 3,150 online job postings related to these business administration occupations listed in the past 12 months in the SCC Region. Exhibit 8 shows the number of job postings by occupation. Approximately 44% of job postings were in Ventura County.

Exhibit 8: Number of Job Postings by County (n=3,150)

County	Job Postings	Percentage of Job Postings
Ventura	1,395	44%
Santa Barbara	806	26%
Northern Los Angeles	619	20%
San Luis Obispo	329	10%
Total Postings	3,150	100%

Of the 3,150 postings, the majority (54%) were for *General and Operations Managers (11-1021)*, followed by *Logisticians (13-1081)* (31%), as shown in Exhibit 9.

Exhibit 9: Number of Job Postings by Occupation (n=3,150)

Occupation	Job Postings	Percentage of Job Postings
General and Operations Managers	1,693	54%
Logisticians	986	31%
Cost Estimators	369	12%
Administrative Services Managers	102	3%
Total Postings	3,150	100%

The top employers in the region, by number of job postings, are shown in Exhibit 10.

Exhibit 10: Top Employers by Number of Job Postings (n=3,150)

Employer	Job Postings	Percentage of Job Postings
Amgen	85	3%
GPAC	78	2%
CVS Health	70	2%
Northrop Grumman	47	1%
Granite Construction	34	1%
Lockheed Martin	28	1%
Enterprise Mobility	24	1%
Raytheon Technologies	23	1%
United States Postal Service	23	1%
AppleOne	21	1%

The top specialized, soft, and computer skills listed by those most frequently mentioned in job postings (denoted in parentheses) are shown in Exhibit 11.

Exhibit 11: Top Skills by Number of Job Postings (n=3,150)

Top Specialized Skills	Top Soft Skills	Top Computer Skills
Project Administration (526)	Operations (1,719)	Microsoft Excel (613)
Inventory Administration (461)	Communication (1,655)	Microsoft Office (573)
Supply Chain (460)	Administration (1,436)	Microsoft PowerPoint (333)
Operations Administration (451)	Leadership (1,200)	SAP Applications (282)
Continuous Improvement Process (399)	Customer Service (1,158)	Microsoft Outlook (205)
Purchasing (389)	Sales (828)	Microsoft Word (136)
Finance (338)	Planning (754)	Dashboard (82)
Procurement (338)	Problem Solving (728)	Tableau (Business Intelligence Software) (71)
Auditing (313)	Detail Oriented (668)	Spreadsheets (64)
Marketing (307)	Microsoft Excel (613)	Inventory Administration System (61)

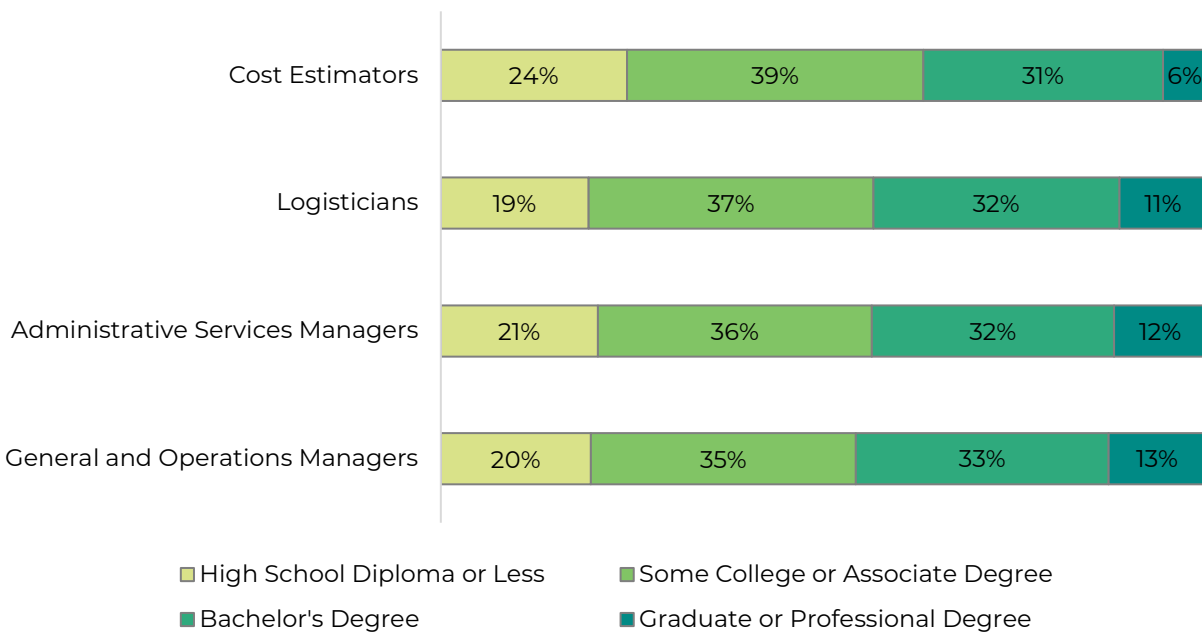
Educational Attainment:

The Bureau of Labor Statistics (BLS) lists the following as the typical entry-level education for these business administration occupations:

- Bachelor's Degree
 - *General and Operations Managers (11-1021)*
 - *Administrative Services Managers (11-3012)*
 - *Cost Estimators (13-1051)*
 - *Logisticians (13-1081)*

The national-level educational attainment data indicates between 35% and 39% of workers in the field have completed some college or an associate degree as their highest level of education. Exhibit 12 shows the educational attainment for each occupation, sorted by highest community college educational attainment to lowest.

Exhibit 12: National-level Educational Attainment for Occupations



Of the 64% of the cumulative job postings for these business administration occupations that listed a minimum education requirement in the SCC Region, 44% (878) requested a high school diploma or an associate degree, 54% (1,087) requested a bachelor's degree, and 2% (37) requested a graduate or professional degree.

Educational Supply

Community College Supply:

Exhibit 13 shows the three-year average number of awards conferred by community colleges in the related TOP codes:

- Business and Commerce, General (0501.00)
- Banking and Finance (0504.00)
- Business Administration (0505.00)
- Business Administration (0506.00)
- Administration Development and Supervision (0506.30)
- Small Business and Entrepreneurship (0506.40)
- International Business and Trade (0508.00)
- Office Administration (0514.40)

No awards were conferred for the following TOP codes:

- Purchasing (0509.20)
- Logistics and Materials Transportation (0510.00)

The colleges with the most completions in the region are Cuesta (702), College of the Canyons (423), and Moorpark (323).

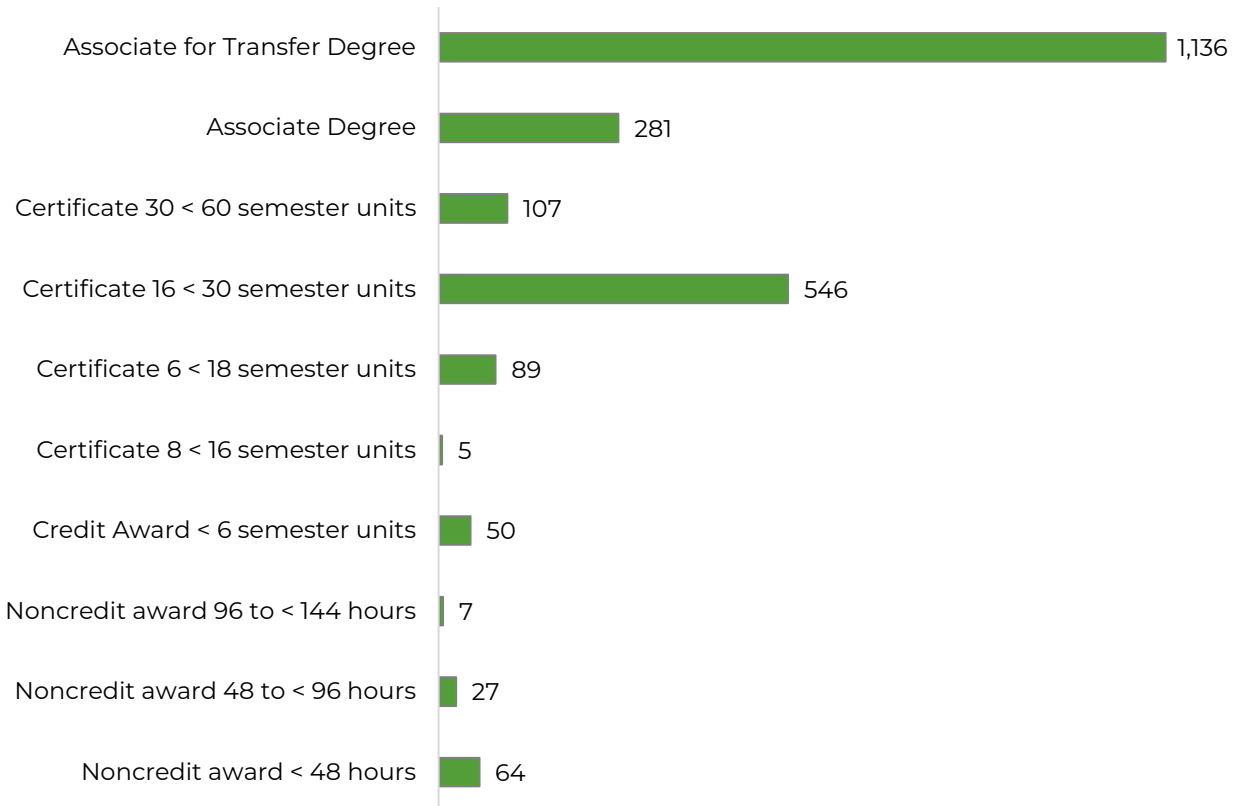
Exhibit 13: Regional Community College Awards (Certificates and Degrees), 2021-2024

TOP Code	Program	College	2021-2022 Awards	2022-2023 Awards	2023-2024 Awards	3-Year Award Average
0501.00	Business and Commerce, General	Allan Hancock	32	17	115	55
		Antelope Valley	37	26	65	43
		Cuesta	243	705	428	459
		Moorpark	75	42	53	57
Supply Subtotal/Average			387	790	661	613
0504.00	Banking and Finance	Santa Barbara	6	7	1	5
		Supply Subtotal/Average			11	0
0505.00	Business Administration	Allan Hancock	107	94	114	105
		Antelope Valley	150	120	109	126
		Canyons	307	285	229	274
		Cuesta	159	297	250	235
		Moorpark	254	218	224	232
		Oxnard	82	78	72	77
		Santa Barbara	116	145	160	140
		Ventura	128	118	107	118
Supply Subtotal/Average			1,303	1,355	1,265	1,308

TOP Code	Program	College	2021-2022 Awards	2022-2023 Awards	2023-2024 Awards	3-Year Award Average
0506.00	Business Administration	Allan Hancock	12	14	12	13
		Antelope Valley	0	0	2	1
		Canyons	148	83	110	114
		Cuesta	4	6	8	6
		Moorpark	3	40	53	32
		Oxnard	19	9	10	13
		Santa Barbara	11	0	1	4
		Ventura	127	132	120	126
Supply Subtotal/Average			1,303	1,355	1,265	1,308
0506.30	Administration, Development, and Supervision	Santa Barbara	0	0	7	2
		Ventura	5	4	7	5
Supply Subtotal/Average			5	4	14	8
0506.40	Small Business and Entrepreneurship	Allan Hancock	1	2	2	2
		Antelope Valley	0	1	0	0
		Canyons	33	40	35	36
		Cuesta	4	1	0	2
		Santa Barbara	0	4	3	2
Supply Subtotal/Average			38	48	40	42
0508.00	International Business and Trade	Moorpark	0	1	6	2
		Santa Barbara	10	2	0	4
Supply Subtotal/Average			10	3	6	6
0514.40	Office Administration	Allan Hancock	6	7	8	7
		Antelope Valley	0	1	21	7
		Santa Barbara	11	16	0	9
Supply Subtotal/Average			17	24	29	29
Supply Total/Average			2,090	2,515	2,332	2,312

Exhibit 14 shows the annual average community college awards by type from 2021-22 to 2023-24. The plurality of the awards are for associate degrees, followed by certificates between 16 and less than 30 semester units.

Exhibit 14: Annual Average Community College Awards by Type, 2021-2024



Community College Student Outcomes:

Exhibit 15 shows the Strong Workforce Program (SWP) metrics for Business Administration (0505.00) programs at Santa Barbara City College (SBCC), the SCC Region, and California. Of the 3,553 Business Administration students throughout the region in the 2023-24 academic year, 43% (1,531) attended SBCC.

SBCC students that exited Business Administration programs in the 2022-23 academic year had lower median annual earnings (\$34,628 or \$16.65 per hour) compared to all Business Administration students in the SCC Region (\$36,792 or \$17.69 per hour); both figures are lower than statewide (\$38,642 or \$18.58 per hour). A lower percentage of SBCC (19%) and SCC Region (28%) Business Administration students attained the living wage when compared to all Business Administration students in the state (36%).

Exhibit 15: Business Administration (0505.00) Strong Workforce Program Metrics, 2023-24³⁴

SWP Metric	SBCC	SCC Region	California
SWP Students	1,531	3,553	48,932
SWP Students Who Earned 9 or More Career Education Units in the District in a Single Year	30%	36%	37%
SWP Students Who Completed a Noncredit CTE or Workforce Preparation Course	92%	88%	70%
SWP Students Who Earned a Degree or Certificate or Attained Apprenticeship Journey Status	10%	31%	29%
SWP Students Who Transferred to a Four-Year Postsecondary Institution (2022-23)	6%	9%	9%
SWP Students with a Job Closely Related to Their Field of Study (2021-22)	73%	71%	74%
Median Annual Earnings for SWP Exiting Students (2022-23)	\$34,628 (\$16.65)	\$36,792 (\$17.69)	\$38,642 (\$18.58)
Median Change in Earnings for SWP Exiting Students (2022-23)	60%	50%	37%
SWP Exiting Students Who Attained the Living Wage (2022-23)	19%	28%	36%

³ All SWP metrics are for 2023-24 unless otherwise noted. Metrics data is sourced from DataVista.

⁴ Data that is not available in DataVista is denoted in Exhibit 15 as “data unavailable.” Data may not be available for various reasons, including cases where data is masked to protect personally identifiable information.

Non-Community College Supply:

To comprehensively analyze the regional supply, it is crucial to include data from other institutions offering business administration training programs. Over the past three years (2020-2023), there were 1,177 awards conferred by non-community college institutions under the related Classification of Instructional Programs (CIP) codes:

- Business Administration (52.0201)

No awards were conferred for the following TOP codes:

- Business/Commerce, General (52.0101)
- Purchasing, Procurement/Acquisitions and Contracts Administration (52.0202)
- Logistics, Materials, and Supply Chain Administration (52.0203)
- Office Administration and Supervision (52.0204)
- Operations Administration and Supervision (52.0205)
- Entrepreneurship/Entrepreneurial Studies (52.0701)
- Social Entrepreneurship (52.0704)
- Finance, General (52.0801)
- Financial Risk Administration (52.0810)
- International Business/Trade/Commerce (52.1101)

The non-community college institutions with the most completions in the region are California Polytechnic State University-San Luis Obispo (736) and California State University-Channel Islands (260). Exhibit 16 shows the number of non-community college awards conferred by institutions.

Exhibit 16: Regional Non-Community College Awards, 2020-2023

CIP Code	Program	College	2020-2021 Awards	2021-2022 Awards	2022-2023 Awards	3-Year Award Average
52.0201	Business Administration and Administration, General	Antioch University-Santa Barbara	1	3	8	4
		California Lutheran University	105	87	130	107
		California Polytechnic State University-San Luis Obispo	766	753	689	736
		California State University-Channel Islands	307	213	260	260
		Laurus College	43	80	78	67
		Ventura Adult and Continuing Education	4	1	4	3
		Supply Total/Average	1,176	1,137	1,169	1,177

Regional Demographics

This section examines demographic data for SCC community college students in Business Administration programs compared to the SCC labor force, along with occupational data, to identify potential diversity and equity issues addressable by community college programs.

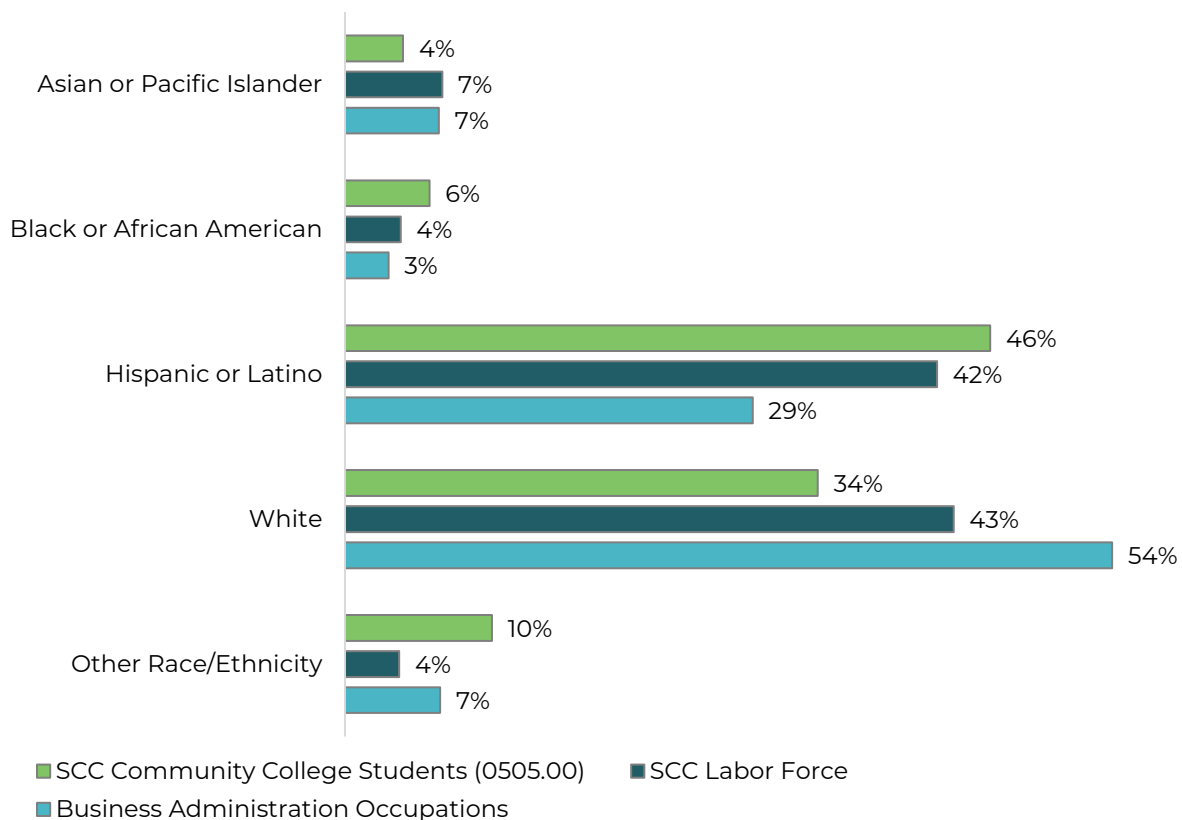
Ethnicity:

Exhibit 17 compares the ethnicity of SCC community college students enrolled in Business Administration programs, the overall SCC labor force, and occupation-specific data for the four business administration occupations included in this report.

Notably, 54% of workers employed in these business administration occupations are white, which is much higher than the labor force (43%) and community college Business Administration students (34%). Conversely, 46% of community college Business Administration students are Hispanic or Latino, which is higher compared to the labor force (42%) and nearly double these business administration occupations (29%).

Examining disaggregated data for each occupation (not shown), *Logisticians (13-1081)* has a significantly higher percentage of Black or African American workers (21%) compared to the three other occupations, where Black or African American individuals make up less than 3% of workers.

Exhibit 17: Program and County Demographics by Ethnicity

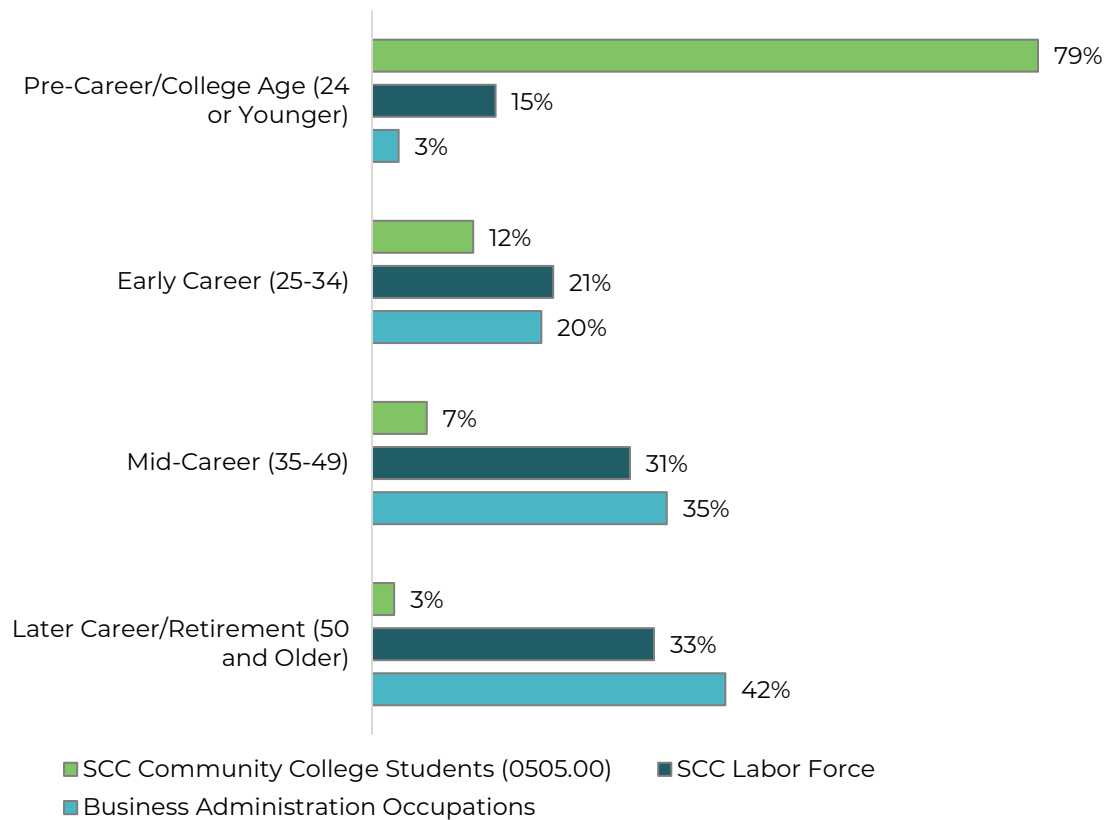


Age:

Exhibit 18 compares the age of SCC community college students enrolled in Business administration programs, the overall SCC labor force, and occupation-specific data for the four business administration occupations included in this report.

Approximately 42% of workers in these business administration occupations are Later Career/Retirement (50 and Older) age, which is significantly higher than the labor force (33%) and community college Business Administration students (3%). Conversely, 79% of community college Business Administration students are Pre-Career/College Age (24 or Younger), which is significantly higher than both the SCC labor force (15%) and these business administration occupations (3%).

Exhibit 18: Program and County Demographics by Age

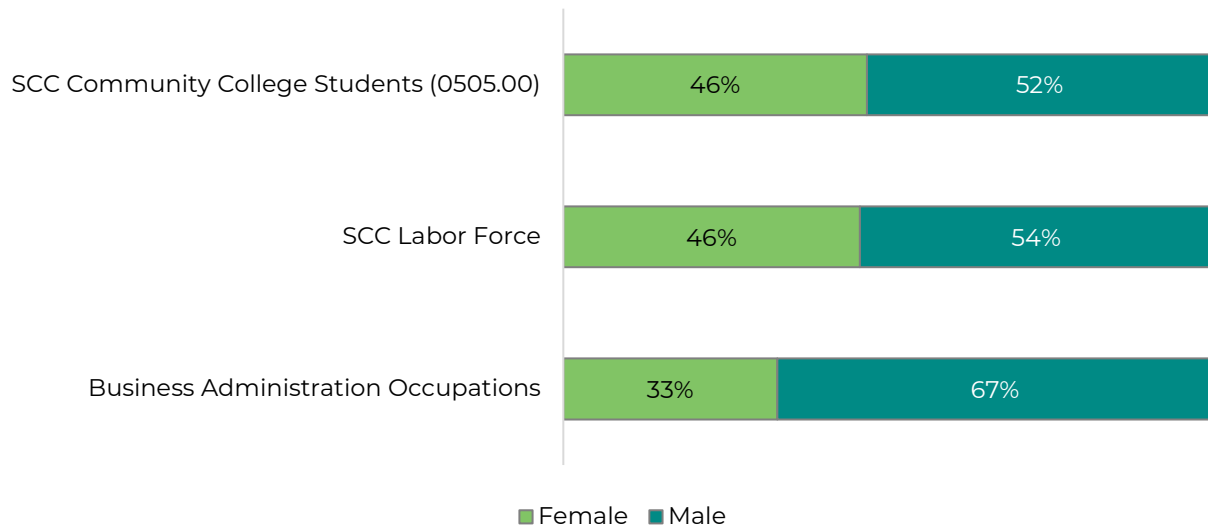


Sex:

Exhibit 19 compares the sex of SCC community college students enrolled in Business administration programs, the overall SCC labor force, and occupation-specific data for these business administration occupations.

Approximately one-third (33%) of workers in these business administration occupations are women, which is lower than both the labor force (46%) and community college business administration students (46%). Notably, women represent the majority of only one occupation: *Administrative Services Managers (11-3012)* (81%).

Exhibit 19: Program and County Demographics by Sex



Appendix A: Methodology

Traditional Labor Market Data

The SCC COE prepared this report by analyzing data from occupations and education programs. Occupational data is derived from Lightcast, a labor market analytics firm that consolidates data from the California Employment Development Department (EDD), U.S. Bureau of Labor Statistics (BLS) and other government agencies.

Data included in this analysis represents the labor market demand for relevant positions most closely related to the proposed program as expressed by the requesting college in consultation with the SCC COE. Traditional labor market information was used to show current and projected employment based on data trends, as well as annual average awards granted by regional community colleges.

Program supply data is drawn from two systems: Taxonomy of Programs (TOP) and Classification of Instructional Programs (CIP).

Using a TOP-SOC crosswalk, the SCC COE identified middle-skill jobs for which programs within these TOP codes train. Middle-skill jobs include:

- 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.

The SCC COE determined labor market supply for an occupation or SOC code by analyzing the number of program completers or awards in a related TOP or CIP code. The COE developed a "supply table" with this information, which is the source of the program supply data for this report. TOP code data comes from the California Community Colleges Chancellor's Office MIS Data Mart (datamart.cccco.edu) and CIP code data comes from the Integrated Postsecondary Education Data System (nces.ed.gov/ipeds/use-the-data), also known as IPEDS.

TOP is a system of numerical codes used at the state level to collect and report information on California community college programs and courses throughout the state that have similar outcomes. CIP codes are a taxonomy of academic disciplines at institutions of higher education in the United States and Canada. Institutions outside of the California Community College system do not use TOP codes in their reporting systems.

Online Job Postings Data

Online job postings data, also known as real-time labor market information, captures job post advertisements for occupations relevant to the field of study which can signal demand and show what employers are looking for in potential employees but is not a perfect measure of the quantity of open positions. Online job postings data is sourced from Lightcast, a labor market analytics firm that scrapes, collects, and organizes data from online job boards such as LinkedIn, Indeed, Glassdoor, Monster, GovernmentJobs.com, and thousands more.

There are several limitations when analyzing job postings. A single job posting may not represent a single job opening, as employers may be creating a pool of candidates for future openings or hiring for multiple positions with a single posting. Additionally, not all jobs are posted online, and jobs may be filled through other methods such as internal promotion, word-of-mouth advertising, physical job boards, or a variety of other channels.

Additionally, Lightcast uses natural language processing (NLP) to determine the related company, industry, occupation, and other information for each job posting. However, NLP has limitations that include understanding contextual words of phrases; determining differences in words that can be used as nouns, verbs, and/or adjectives; and misspellings or grammatical errors.⁵ For these reasons, job postings could be assigned to the wrong employer, industry, or occupation within Lightcast’s database.

Geography

The South Central Coast region encompasses San Luis Obispo, Santa Barbara, and Ventura counties, as well as parts of Northern Los Angeles County. Exhibit 20 shows the 34 ZIP codes used to define Northern Los Angeles County.

Exhibit 20: Northern Los Angeles ZIP Codes

ZIP Code	Primary City	ZIP Code	Primary City
91310	Castaic	93532	Lake Hughes
91321	Newhall	93534	Lancaster
91322	Newhall	93535	Lancaster
91350	Santa Clarita	93536	Lancaster
91351	Canyon Country	93539	Lancaster
91354	Valencia	93543	Littlerock
91355	Valencia	93544	Llano
91380	Santa Clarita	93550	Palmdale
91381	Stevenson Ranch	93551	Palmdale
91382	Santa Clarita	93552	Palmdale
91383	Santa Clarita	93553	Pearblossom
91384	Castaic	93563	Valyermo
91385	Valencia	93584	Lancaster
91386	Canyon Country	93586	Lancaster
91387	Canyon Country	93590	Palmdale
91390	Santa Clarita	93591	Palmdale
93510	Acton	93599	Palmdale

Though traditional labor market information is available at the ZIP code level, it does not always add up to data reported at the county level for multiple reasons:

- ZIP codes are not official geographically bounded areas, unlike states and counties.
- ZIP codes may cross county lines, such as ZIP code 93461, which is primarily in San Luis Obispo County, but also crosses into Kern County.

⁵ K. R. Chowdhary, *Fundamentals of Artificial Intelligence* (Basingstoke: Springer Nature, 2020), <https://link.springer.com/book/10.1007/978-81-322-3972-7>.

For these reasons, the number of jobs and average annual openings for each county may not add up to the total for the SCC Region. However, considering jobseekers may cross county lines for opportunities, the traditional labor market data is reflective of opportunities available to jobseekers in the SCC Region.

Additionally, job postings data is available only at the city or county level. To analyze job postings for the entire SCC region, the SCC COE developed a list of cities available in Lightcast for analysis. Additionally, demographic data is not available at the ZIP code level but is available at the Census Bureau’s Public Use Microdata Area (PUMA) level. Demographic data was sourced via IPUMS and analyzed by the SCC COE.

Appendix B: Data Sources

Data Type	Source
Occupational Projections, Wages, and Job Postings	Traditional and real-time labor market information are captured using data from Lightcast , a labor market analytics firm.
Living Wage	Per the CCCCCO, this report’s endorsement criteria uses the University of Washington’s Center for Women’s Welfare Self-Sufficiency Standard last updated in March 2024. The MIT Living Wage , updated on February 10, 2025, is a nationally recognized living wage metric and is provided for reference.
Typical Education and Training Requirements, and Educational Attainment	The Bureau of Labor Statistics (BLS) uses a system to assign categories for entry-level education, work experience in a related occupation, and typical on-the-job training to each occupation for which BLS publishes projections data.
Emerging Occupation Descriptions, Additional Education Requirements, and Employer Preferences	The O*NET database includes information on skills, abilities, knowledges, work activities, and interests associated with occupations.
Educational Supply	The CCCCCO Data Mart provides information about students, courses, student services, outcomes and faculty and staff. The National Center for Education Statistics (NCES) Integrated Postsecondary Integrated Data System (IPEDS) collects data on the number of postsecondary awards earned (completions).
Student Metrics and Demographics	Data Vista , a statewide data system supported by the California Community Colleges Chancellor’s Office provides data on progress, success, employment, and earnings outcomes for California community college students.
Population and Occupation Demographics	The Census Bureau’s American Community Survey (ACS) is the premier source for detailed population and housing information. Data is sourced from IPUMS USA , a database providing access to ACS and other Census Bureau data products.

All representations have been produced from primary research and/or secondary review of publicly and/or privately available data and/or research reports. The most recent data available at the time of the analysis was examined; however, data sets are updated regularly and may not be consistent with previous reports. Efforts have been made to qualify and validate the accuracy of the data and findings; however, neither the Centers of Excellence for Labor Market Research (COE), COE host district, nor California Community Colleges Chancellor's Office are responsible for the applications or decisions made by individuals and/or organizations based on this study or its recommendations.

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