

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"/>
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Program LMI Endorsement Criteria

	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Supply Gap:	<i>Comments:</i> There is projected to be 13,578 annual job openings throughout Los Angeles and Orange counties for these middle-skill management occupations, which is less than the 23,782 awards conferred by educational institutions . However, the related educational programs train for an additional 30+ occupations spanning a wide range of industries and sectors that account for over 66,000 annual job openings. Therefore, supply is overstated for these management occupations.	
Living Wage: (Entry-Level, 25 th)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
	<i>Comments:</i> All annual job openings for these middle-skill management occupations have entry-level hourly wages above the OC living wage of \$20.63.	
Education:	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
	<i>Comments:</i> The majority (92%) of annual job openings for these middle-skill management occupations typically require a bachelor's degree. However, between 29% and 36% of workers in the field have completed some college or an associate degree as their highest level of education.	

Emerging Occupation(s)

Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<i>Comments:</i> N/A	

The Orange County Center of Excellence for Labor Market Research (OC COE) prepared this report to determine whether there is a supply gap in the Los Angeles/Orange County regional labor market related to the following five management occupations:

- Middle-Skill
 - General and Operations Managers (11-1021)
 - Administrative Services Managers (11-3012)
 - Industrial Production Managers (11-3051)
 - Transportation, Storage, and Distribution Managers (11-3071)
- Above Middle-Skill – denoted with an asterisk (*) throughout this report.
 - Sales Managers (11-2022)*

Middle-skill occupations typically require a community college education while above middle-skill occupations typically require at least a bachelor's degree.

Based on the available data, there appears to be an oversupply for middle-skill management occupations in the region. However, supply is overstated because the related educational programs that train for these management occupations also train for over 30 other occupations not included in this report. Additionally, typical entry-level wages for these middle-skill management occupations are above the living wage. Although the typical entry-level education for three of the four middle-skill occupations is a bachelor's degree, between 29% and 36% of workers in the field have completed some college or an associate degree as their highest level of education. **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 five management 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)	LA: 7,671	LA: 15,114	OC: \$37.02	Bachelor's degree	35%
	OC: 2,956	OC: 7,098			
	TTL: 10,627	TTL: 22,212			
Administrative Services Managers (11-3012)	LA: 968	LA: 199	OC: \$40.26	Bachelor's degree	36%
	OC: 352	OC: 422			
	TTL: 1,320	TTL: 621			
Industrial Production Managers (11-3051)	LA: 419	<i>Accounted for Above</i>	OC: \$40.71	Bachelor's degree	29%
	OC: 191				
	TTL: 610				
Transportation, Storage, and Distribution Managers (11-3071)	LA: 782	LA: 10	OC: \$35.45	High school diploma or equivalent	36%
	OC: 239	OC: 45			
	TTL: 1,021	TTL: 55			
Middle-Skill Total	13,578	22,888	N/A	N/A	N/A
Sales Managers (11-2022)	LA: 2,156	LA: 773	OC: \$37.29	Bachelor's degree	29%
	OC: 900	OC: 121			
	TTL: 3,056	TTL: 894			
Above Middle-Skill Total	3,056	894	N/A	N/A	N/A
Total	16,634	23,782	N/A	N/A	N/A

*Denotes an above middle-skill occupation

Demand:

- The number of jobs related to these middle-skill management occupations are projected to increase 6% through 2027. There is projected to be 13,578 annual job openings.
- Hourly entry-level wages for these middle-skill management occupations range from \$35.45 to \$40.71 in Orange County, which are above the living wage of \$20.63.
- There were 26,154 online job postings for these middle-skill management occupations over the past 12 months. The highest number of postings were for operations managers, general managers, operations supervisors, production managers, and warehouse supervisors.
- The typical entry-level education for these middle-skill management occupations ranges from a high school diploma or equivalent to a bachelor's degree.
- Between 29% and 36% of workers in these middle-skill occupations have completed some college or an associate degree as their highest level of educational attainment.

Supply:

- There was an average of 10,901 awards conferred by 28 community colleges, plus one noncredit institution, in Los Angeles and Orange Counties from 2019 to 2022. Of those, 97% (10,614) were for the middle-skill occupations.
- Non-community college institutions conferred an average of 12,881 awards from 2019 to 2021. Of those, 95% (12,274) were for the middle-skill occupations.
- Orange County community college students that exited business management programs in the 2020-2021 academic year had a median annual wage of \$39,264 after exiting the program and 44% attained the living wage.
- Throughout Orange County, 67% of business management students that exited their program in 2019-2020 reported that they are working in a job closely related to their field of study.

Demand

Occupational Projections:

Exhibit 2 shows the annual percent change in jobs for all five of the management occupations researched in this report from 2017 through 2027. Employment in these management occupations declined 9% from 2019 to 2020 in Orange County, which is higher than the 7% decline across all occupations due to the COVID-19 pandemic. However, there was a notable 14% increase in employment for these management occupations in Orange County between 2020 and 2021. Employment in these occupations is projected to grow at a similar rate when compared to all occupations through 2027.

Exhibit 2: Annual Percent Change in Jobs for Management Occupations, 2017-2027

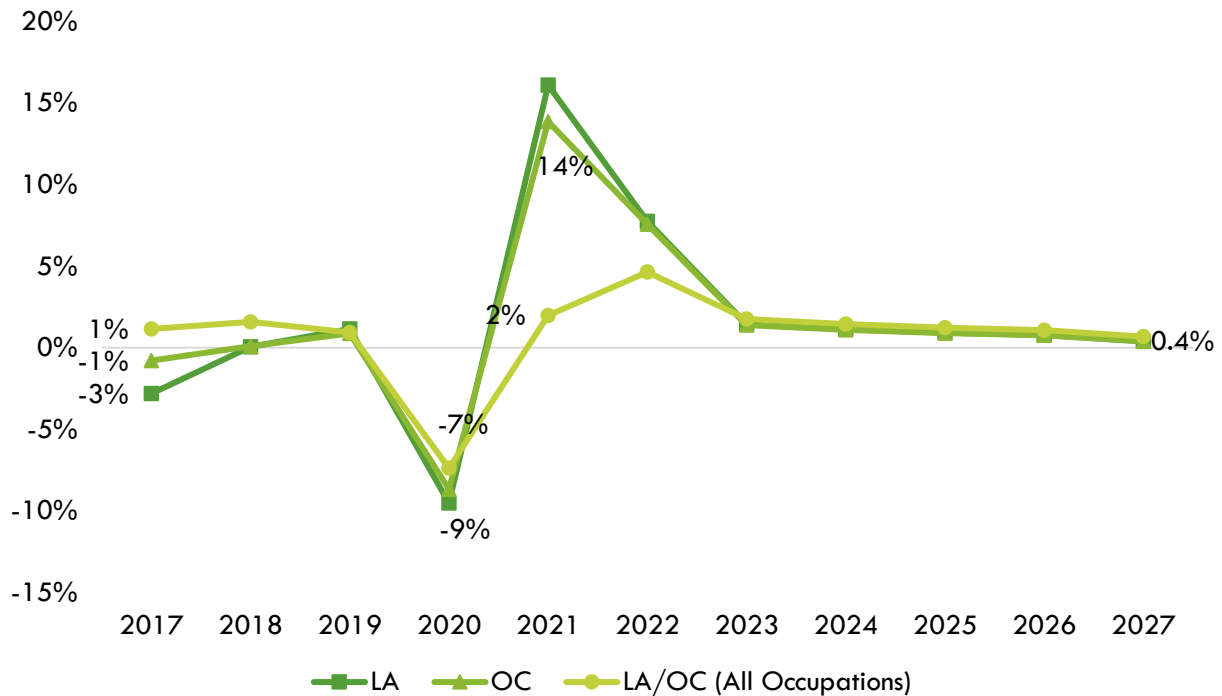


Exhibit 3 shows the five-year occupational demand projections for these middle-skill management occupations. In Los Angeles/Orange County, the number of jobs related to these occupations is projected to increase by 6% through 2027. There is projected to be 13,578 jobs available annually. Of those, 72% (9,840) are projected to be in Los Angeles County.

Exhibit 3: Middle-Skill Occupational Demand in Los Angeles and Orange Counties¹

Geography	2022 Jobs	2027 Jobs	2022-2027 Change	2022-2027 % Change	Annual Openings
Los Angeles	97,803	103,759	5,956	6%	9,840
Orange	37,425	39,687	2,262	6%	3,738
Total	135,228	143,446	8,218	6%	13,578

¹ 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 4 shows the five-year occupational demand projections for the above middle-skill occupation, *sales managers*. In Los Angeles/Orange County, the number of jobs for *sales managers* is projected to remain flat through 2027. There is projected to be 3,056 jobs available annually. Of those, 71% (2,156) are projected to be in Los Angeles County.

Exhibit 4: Above Middle-Skill Occupational Demand in Los Angeles and Orange Counties

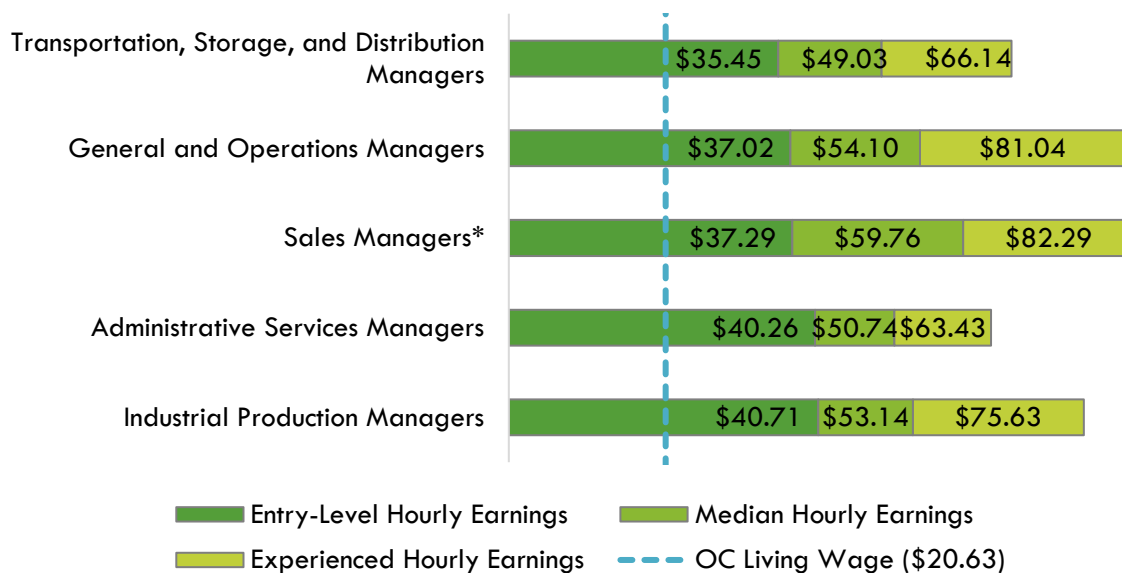
Geography	2022 Jobs	2027 Jobs	2022-2027 Change	2022-2027 % Change	Annual Openings
Los Angeles	26,163	26,115	(48)	0%	2,156
Orange	10,950	10,915	(35)	0%	900
Total	37,113	37,030	(83)	0%	3,056

Wages:

The labor market endorsement in this report considers the entry-level hourly wages for these middle-skill management occupations in Orange County as they relate to the county’s living wage. Los Angeles County wages are included below in order to provide a complete analysis of the LA/OC region.

All annual openings for these middle-skill management occupations have entry-level wages above the living wage for one adult (\$20.63 in Orange County). Typical entry-level hourly wages range from \$35.45 to \$40.71, which are above the living wage of \$20.63. Orange County’s average wage (\$49.85) is below the average statewide wage of \$52.39 for these middle-skill occupations. Exhibit 5 shows the wage range for each of these occupations in Orange County and how they compare to the regional living wage, sorted from lowest to highest entry-level wage.

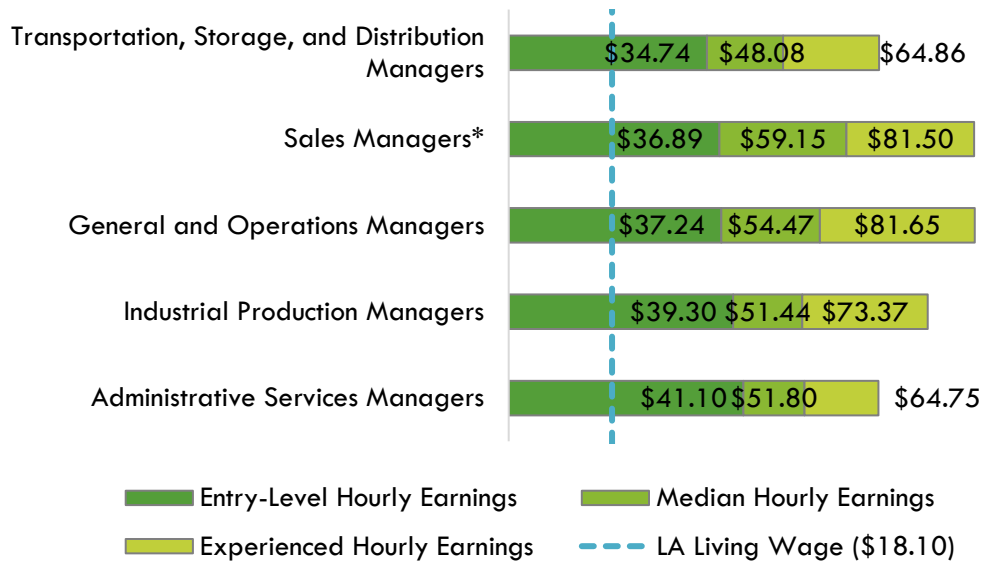
Exhibit 5: Wages by Occupation in Orange County



*Denotes an above middle-skill occupation

All annual openings for these middle-skill management occupations have entry-level wages above the living wage for one adult (\$18.10 in Los Angeles County). Typical entry-level hourly wages for these middle-skill management occupations range from \$34.74 to \$41.10. Los Angeles County’s average wage (\$50.88) is below the average statewide wage of \$52.39 for these middle-skill occupations. Exhibit 6 shows the wage range for each of these occupations in Los Angeles County and how they compare to the regional living wage, sorted from lowest to highest entry-level wage.

Exhibit 6: Wages by Occupation in Los Angeles County



*Denotes an above middle-skill occupation

Job Postings:

Important Online Job Postings Data Note: 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. 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 or phrases; determining differences in words that can be used as nouns, verbs, and/or adjectives; and misspellings or grammatical errors.² For these reasons, job postings could be assigned to the wrong employer, industry, or occupation within Lightcast’s database.

Additionally, 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.

There were 40,392 online job postings related to these management occupations listed in the past 12 months. Of those, 65% (26,154) were for middle-skill management occupations. Exhibit 7 shows the number of job postings by occupation.

² K. R. Chowdhary, Fundamentals of Artificial Intelligence (Basingstoke: Springer Nature, 2020), <https://link.springer.com/book/10.1007/978-81-322-3972-7>.

Exhibit 7: Number of Job Postings by Occupation (n=40,392)

Occupation	Job Postings	Percentage of Job Postings
General and Operations Managers	15,669	39%
Sales Managers*	14,238	35%
Industrial Production Managers	4,277	11%
Transportation, Storage, and Distribution Managers	3,825	9%
Administrative Services Managers	2,383	6%
Total	40,392	100%

The top employers for the four middle-skill management occupations in the region, by number of job postings, are shown in Exhibit 8.

Exhibit 8: Top Middle-Skill Employers by Number of Job Postings (n=26,154)

Employer	Job Postings	Percentage of Job Postings
CVS Health	321	1.2%
University of California	315	1.2%
Dollar Tree	184	0.7%
Northrop Grumman	124	0.5%
Marriott International	122	0.5%
Target	108	0.4%
California State University	102	0.4%
UnitedHealth Group	94	0.4%
The Judge Group	90	0.3%
Gold's Gym	80	0.3%

The top employers for the sole above middle-skill management occupation, *sales managers*, in the region, by number of job postings, are shown in Exhibit 9.

Exhibit 9: Top Above Middle-Skill Employers by Number of Job Postings (n=14,238)

Employer	Job Postings	Percentage of Job Postings
Moss Adams	90	0.6%
GPAC	82	0.6%
Marriott International	76	0.5%
Harbor Freight Tools	68	0.5%
Danaher	63	0.4%
Aimbridge Hospitality	63	0.4%
Spectrum	60	0.4%
Hyatt	50	0.4%
US Bank	50	0.4%
Hyundai Motor America	50	0.4%

The top specialized, soft, and computer skills listed by those most frequently mentioned in job postings (denoted in parentheses) are shown for these four middle-skill occupations in Exhibit 10.

Exhibit 10: Top Skills for Middle-Skill Occupations by Number of Job Postings (n=26,154)

Top Specialized Skills	Top Soft Skills	Top Computer Skills
Operations Management (4,510)	Operations (15,273)	Microsoft Excel (4,416)
Project Management (4,166)	Management (14,602)	Microsoft Office (3,658)
Auditing (3,976)	Communication (13,724)	Microsoft PowerPoint (2,608)
Marketing (3,256)	Leadership (11,764)	Microsoft Outlook (2,088)
Finance (3,236)	Customer Service (8,182)	Microsoft Word (1,316)
Key Performance Indicators (KPIs) (2,764)	Planning (6,892)	SAP Applications (741)
Warehousing (2,758)	Problem Solving (5,980)	Spreadsheets (675)
Supply Chain (2,524)	Detail Oriented (4,413)	Warehouse Management Systems (563)
Accounting (2,404)	Coordinating (4,074)	Dashboard (438)
Process Improvement (2,387)	Coaching (3,559)	Salesforce (432)

The top specialized, soft, and computer skills listed by those most frequently mentioned in job postings (denoted in parentheses) are shown for the above middle-skill occupation, *sales managers*, in Exhibit 11.

Exhibit 11: Top Skills for Above Middle-Skill Occupations by Number of Job Postings (n=14,238)

Top Specialized Skills	Top Soft Skills	Top Computer Skills
Marketing (5,521)	Communication (7,034)	Microsoft Office (2,619)
Sales Management (4,119)	Management (6,353)	Microsoft Excel (2,421)
Selling Techniques (3,960)	Leadership (5,234)	Microsoft PowerPoint (1,929)
Business Development (3,815)	Customer Service (4,595)	Salesforce (1,435)
Sales Prospecting (3,412)	Presentations (3,746)	Microsoft Outlook (1,212)
Customer Relationship Management (2,961)	Operations (3,320)	Microsoft Word (596)
Sales Strategy (2,071)	Planning (3,027)	Customer Relationship Management (CRM) Software (402)
Project Management (1,549)	Sales (2,754)	Spreadsheets (224)
Regional Sales (1,519)	Negotiation (2,521)	Google Workspace (208)
Finance (1,432)	Problem Solving (2,406)	Dashboard (185)

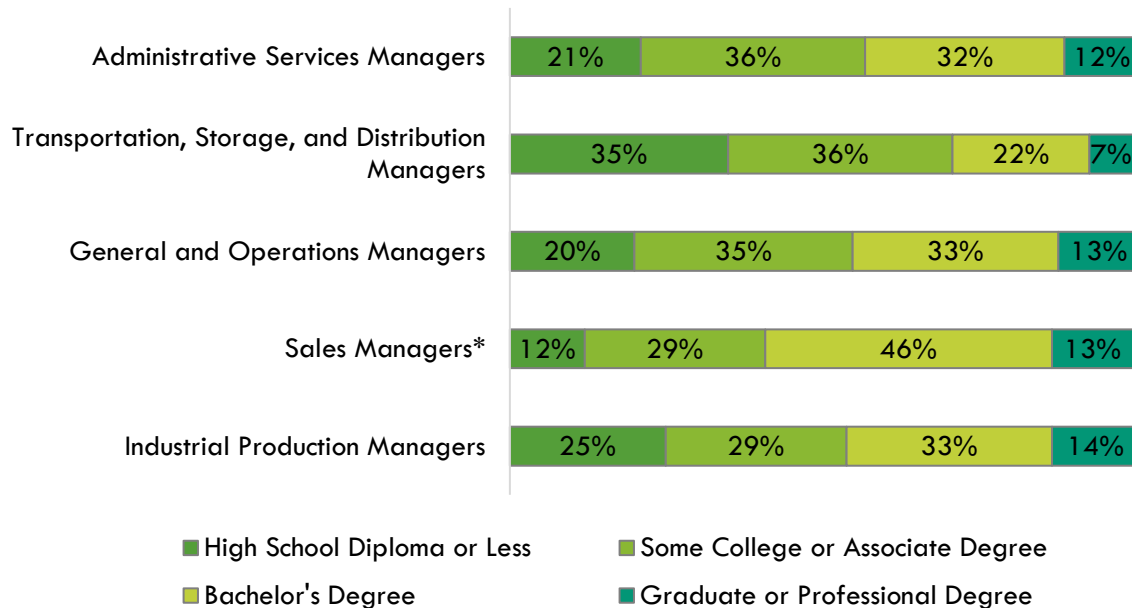
Educational Attainment:

The Bureau of Labor Statistics (BLS) lists a bachelor’s degree as the typical entry-level education for *general and operations managers; administrative services managers; industrial production managers; and sales managers*; and a high school diploma or equivalent for *transportation, storage, and distribution managers*. The national-level educational attainment data indicates that between 29% and 36% of workers in these middle-skill occupations 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.

Of the 67% of the cumulative job postings for these middle-skill management occupations that listed a minimum education requirement in Los Angeles/Orange County, 28% (4,952) requested a high school diploma or an associate degree, 67% (11,811) requested a bachelor’s degree, and 4% (768) requested a master’s degree or higher.

Conversely, of the 68% of the postings for sales managers that listed a minimum education requirement, 18% (1,741) requested a high school diploma or an associate degree, 80% (7,807) requested a bachelor’s degree, and 2% (188) requested a master’s degree or higher.

Exhibit 12: National-level Educational Attainment for Occupations



*Denotes an above middle-skill occupation

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 Management (0506.00)
- Management Development and Supervision (0506.30)
- Small Business and Entrepreneurship (0506.40)
- Retail Store Operations and Management (0506.50)
- International Business and Trade (0508.00)
- Marketing and Distribution (0509.00)
- Insurance (0512.00)
- Office Management (0514.40)
- Civil and Construction Management Technology (0957.00)
- Hospital and Health Care Administration (1202.00)
- Lodging Management (1307.20)
- Aviation and Airport Management and Services (3020.00)
- Aviation and Airport Management (3020.10)

The colleges with the most completions in the region are Pasadena, Cerritos, and Coastline. Over the past 12 months, there were five other related program recommendation requests from regional community colleges.

Exhibit 13: Regional Community College Awards (Certificates and Degrees), 2019-2022

TOP Code	Program	College	2019-2020 Awards	2020-2021 Awards	2021-2022 Awards	3-Year Award Average
0501.00	Business and Commerce, General	Cerritos	5	4	1	3
		Glendale	46	61	73	60
		LA City	116	50	60	75
		LA Harbor	10	12	12	11
		LA Mission	-	-	1	0
		LA Pierce	17	13	24	18
		LA Southwest	29	29	24	27
		Long Beach	237	189	195	207
		Mt San Antonio	117	117	136	123
		Santa Monica	5	12	14	10
		West LA	44	67	83	65
		LA Subtotal	626	554	623	601
		Coastline	6	5	4	5
		Saddleback	19	39	73	44
OC Subtotal	25	44	77	49		
Supply Subtotal/Average			651	598	700	650
0504.00	Banking and Finance	Glendale	3	3	3	3
		LA City	21	12	7	13

TOP Code	Program	College	2019-2020 Awards	2020-2021 Awards	2021-2022 Awards	3-Year Award Average		
		LA Pierce	5	9	3	6		
		LA Southwest	2	-	-	1		
		LA Valley	34	36	40	37		
		Long Beach	1	3	1	2		
		Pasadena	1	2	5	3		
		LA Subtotal	67	65	59	64		
		Santa Ana	-	-	1	0		
		OC Subtotal	-	-	1	0		
Supply Subtotal/Average			67	65	60	64		
0505.00	Business Administration	Cerritos	250	222	299	257		
		Citrus	399	416	386	400		
		Compton	29	31	22	27		
		East LA	247	391	309	316		
		El Camino	306	342	325	324		
		Glendale	241	217	221	226		
		LA City	91	151	112	118		
		LA Harbor	83	87	68	79		
		LA Mission	88	89	89	89		
		LA Pierce	208	255	266	243		
		LA Southwest	56	45	38	46		
		LA Trade-Tech	7	28	32	22		
		LA Valley	147	172	197	172		
		Long Beach	293	319	296	303		
		Mt San Antonio	269	337	281	296		
		Pasadena	1,191	1,240	859	1,097		
		Rio Hondo	276	246	254	259		
		Santa Monica	334	337	370	347		
		West LA	156	134	127	139		
				LA Subtotal	4,671	5,059	4,551	4,760
				Coastline	592	432	410	478
				Cypress	244	232	206	227
				Fullerton	373	319	367	353
				Golden West	166	194	186	182
				Irvine Valley	349	299	383	344
				Orange Coast	443	368	412	408
				Saddleback	382	315	327	341
		Santa Ana	220	198	187	202		
		Santiago Canyon	157	153	143	151		
		OC Subtotal	2,926	2,510	2,621	2,686		
Supply Subtotal/Average			7,597	7,569	7,172	7,446		
0506.00	Business Management	Cerritos	516	387	276	393		
		East LA	18	17	18	18		
		El Camino	33	49	22	35		

TOP Code	Program	College	2019-2020 Awards	2020-2021 Awards	2021-2022 Awards	3-Year Award Average		
		Glendale	13	15	28	19		
		LA City	39	18	16	24		
		LA Mission	1	4	6	4		
		LA Pierce	2	7	14	8		
		LA Valley	36	30	39	35		
		Long Beach	29	44	28	34		
		Mt San Antonio	145	150	188	161		
		LA Subtotal	832	721	635	729		
		Coastline	72	307	33	137		
		Cypress	3	7	1	4		
		Fullerton	12	11	19	14		
		Golden West	8	11	13	11		
		Irvine Valley	14	5	23	14		
		North Orange Adult	36	19	32	29		
		Orange Coast	16	19	16	17		
		Santa Ana	71	40	39	50		
		Santiago Canyon	24	55	25	35		
		OC Subtotal	256	474	201	310		
		Supply Subtotal/Average			1,088	1,195	836	1,040
		0506.30	Management Development and Supervision	Cerritos	32	50	59	47
LA Pierce	4			5	11	7		
LA Southwest	9			15	21	15		
LA Trade-Tech	4			8	12	8		
LA Valley	20			18	17	18		
Pasadena	3			10	6	6		
Rio Hondo	25			18	16	20		
Santa Monica	19			19	30	23		
LA Subtotal	116			143	172	144		
Coastline	247			7	142	132		
Cypress	-			1	11	4		
Irvine Valley	-			3	-	1		
Saddleback	27			53	38	39		
Santa Ana	11			9	9	10		
Santiago Canyon	2			1	1	1		
OC Subtotal	287			74	201	187		
Supply Subtotal/Average			403	217	373	331		
0506.40	Small Business and Entrepreneurship	Cerritos	38	18	15	24		
		Citrus	-	-	1	0		
		East LA	4	1	36	14		
		Glendale	1	1	-	1		
		LA City	5	4	7	5		
		LA Pierce	4	6	5	5		

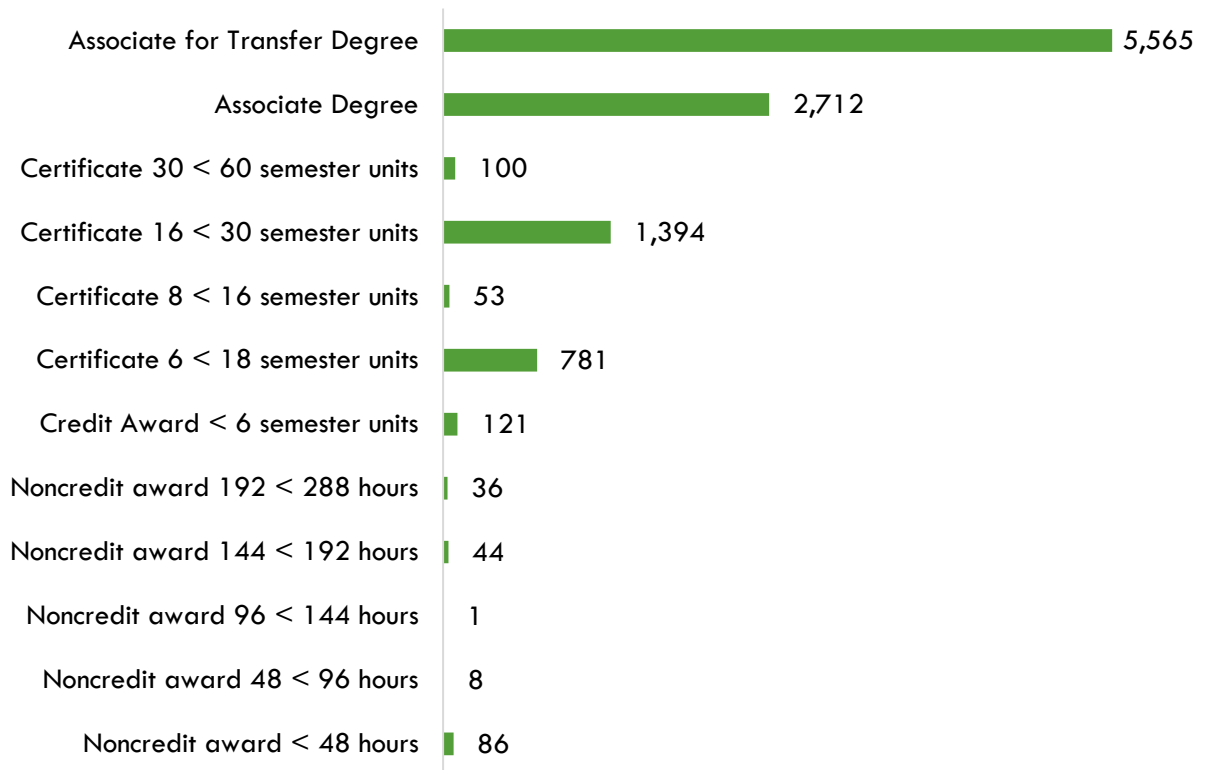
TOP Code	Program	College	2019-2020 Awards	2020-2021 Awards	2021-2022 Awards	3-Year Award Average
		LA Trade-Tech	6	9	3	6
		LA Valley	-	-	99	33
		Long Beach	-	2	-	1
		Mt San Antonio	26	19	36	27
		Pasadena	9	22	186	72
		Rio Hondo	6	4	6	5
		Santa Monica	19	22	28	23
		West LA	4	1	5	3
		LA Subtotal	122	109	427	219
		Coastline	4	16	4	8
		Cypress	7	4	-	4
		Fullerton	3	6	5	5
		Golden West	13	2	3	6
		Irvine Valley	56	11	233	100
		Orange Coast	-	-	8	3
		Saddleback	14	8	10	11
		Santa Ana	5	6	1	4
		Santiago Canyon	-	-	1	0
		OC Subtotal	102	53	265	140
		Supply Subtotal/Average			224	162
0506.50	Retail Store Operations and Management	Cerritos	206	198	192	199
		El Camino	2	2	4	3
		LA City	2	-	1	1
		LA Trade-Tech	1	2	1	1
		LA Valley	3	2	5	3
		Mt San Antonio	1	2	1	1
		Pasadena	1	2	9	4
		Rio Hondo	1	3	4	3
		LA Subtotal	217	211	217	215
		Coastline	1	-	-	0
		Golden West	-	-	1	0
		Saddleback	-	2	1	1
		OC Subtotal	1	2	2	2
		Supply Subtotal/Average			218	213
0508.00	International Business and Trade	Cerritos	15	9	8	11
		East LA	8	6	1	5
		Glendale	5	6	6	6
		LA Harbor	-	3	-	1
		LA Pierce	1	1	-	1
		Long Beach	7	15	15	12
		Mt San Antonio	29	17	32	26
		Pasadena	4	7	23	11
		Rio Hondo	2	3	2	2

TOP Code	Program	College	2019-2020 Awards	2020-2021 Awards	2021-2022 Awards	3-Year Award Average		
		Santa Monica	4	4	3	4		
		LA Subtotal	75	71	90	79		
		Fullerton	3	2	2	2		
		Saddleback	8	5	11	8		
		Santa Ana	112	31	30	58		
		OC Subtotal	123	38	43	68		
Supply Subtotal/Average			198	109	133	147		
0509.00	Marketing and Distribution	Cerritos	18	14	26	19		
		Compton	-	-	1	0		
		East LA	5	8	6	6		
		El Camino	6	9	6	7		
		Glendale	1	3	4	3		
		LA City	15	15	13	14		
		LA Harbor	-	-	1	0		
		LA Pierce	8	8	10	9		
		LA Trade-Tech	3	7	4	5		
		LA Valley	19	24	27	23		
		Long Beach	5	15	18	13		
		Mt San Antonio	5	12	9	9		
		Pasadena	6	3	17	9		
		Rio Hondo	9	11	7	9		
		Santa Monica	28	54	61	48		
		West LA	1	1	4	2		
				LA Subtotal	129	184	214	176
				Cypress	5	4	-	3
				Fullerton	4	8	4	5
				Golden West	6	4	6	5
				Orange Coast	69	48	20	46
		Saddleback	27	15	19	20		
		Santa Ana	-	2	1	1		
		Santiago Canyon	18	57	17	31		
		OC Subtotal	129	138	67	111		
Supply Subtotal/Average			258	322	281	287		
0512.00	Insurance	Glendale	4	3	1	3		
		LA Pierce	4	1	2	2		
		LA Valley	-	14	13	9		
		Santa Monica	1	-	1	1		
		LA Subtotal	9	18	17	15		
Supply Subtotal/Average			9	18	17	15		
0514.40	Office Management	El Camino	1	1	-	1		
		Santa Monica	-	1	4	2		
		LA Subtotal	1	2	4	2		
		Cypress	1	-	-	0		

TOP Code	Program	College	2019-2020 Awards	2020-2021 Awards	2021-2022 Awards	3-Year Award Average
		Santa Ana	-	-	1	0
		OC Subtotal	1	-	1	1
		Supply Subtotal/Average	2	2	5	3
0957.00	Civil and Construction Management Technology	Citrus	-	6	5	4
		East LA	1	-	-	0
		LA Valley	13	5	5	8
		Mt San Antonio	11	13	10	11
		LA Subtotal	25	24	20	23
		Fullerton	11	7	14	11
		Santa Ana	-	-	2	1
		OC Subtotal	11	7	16	11
		Supply Subtotal/Average	36	31	36	34
1202.00	Hospital and Health Care Administration	Cypress	1	-	-	0
		Golden West	295	185	83	188
		OC Subtotal	296	185	83	188
		Supply Subtotal/Average	296	185	83	188
1307.20	Lodging Management	West LA	-	21	71	31
		LA Subtotal	-	21	71	31
		Cypress	61	24	13	33
		Orange Coast	3	-	4	2
		OC Subtotal	64	24	17	35
		Supply Subtotal/Average	64	45	88	66
3020.00	Aviation and Airport Management and Services	Cypress	-	7	7	5
		Orange Coast	10	9	24	14
		OC Subtotal	10	16	31	19
		Supply Subtotal/Average	10	16	31	19
3020.10	Aviation and Airport Management	Glendale	6	13	11	10
		LA Subtotal	6	13	11	10
		Cypress	33	30	16	26
		OC Subtotal	33	30	16	26
		Supply Subtotal/Average	39	43	27	36
		Supply Total/Average	11,160	10,790	10,753	10,901

Exhibit 14 shows the annual average community college awards by type from 2019-20 through 2021-22. The plurality of the awards are for associate for transfer degrees (5,565), followed by associate degrees (2,712), and certificates between 16 and less than 30 semester units (1,394).

Exhibit 14: Annual Average Community College Awards by Type, 2019-2022



Community College Student Outcomes:

Exhibit 15 shows the Strong Workforce Program (SWP) metrics for business management programs in Coast Community College District (CCCD), the Orange County Region, and California. Of the 5,591 business management students in Orange County, 4% (250) attended a CCCD college.

CCCD students who exited business management programs in the 2020-21 academic year had higher median annual earnings (\$43,674) compared to all business management students in Orange County (\$39,264). A higher percentage of CCCD business management students attained the living wage (50%) when compared to all business management students in Orange County (44%). However, both figures are lower than the percentage of business management students who attained the living wage statewide (60%).

Exhibit 15: Business Management (0506.00) Strong Workforce Program Metrics, 2020-21³

SWP Metric	CCCD	OC Region	California
SWP Students	250	5,591	39,942
SWP Students Who Earned 9 or More Career Education Units in the District in a Single Year	48%	32%	37%
SWP Students Who Completed a Noncredit CTE or Workforce Preparation Course	Insufficient Data	88%	88%

³ All SWP metrics are for 2019-20 unless otherwise noted.

SWP Metric	CCCD	OC Region	California
SWP Students Who Earned a Degree or Certificate or Attained Apprenticeship Journey Status	209	282	1,967
SWP Students Who Transferred to a Four-Year Postsecondary Institution (2019-20)	20	585	3,569
SWP Students with a Job Closely Related to Their Field of Study (2019-20)	60%	67%	75%
Median Annual Earnings for SWP Exiting Students	\$43,674 (\$21.00)	\$39,264 (\$18.88)	\$42,944 (\$20.65)
Median Change in Earnings for SWP Exiting Students	34%	27%	22%
SWP Exiting Students Who Attained the Living Wage	50%	44%	60%

Non-Community College Supply:

For a comprehensive regional supply analysis, it is also important to consider the supply from other institutions in the region that provide training programs for these management occupations. Exhibit 16 shows the annual and two-year average number of awards conferred by these institutions in the related Classification of Instructional Programs (CIP) Codes:

- Business/Commerce, General (52.0101)
- Business Administration and Management, General (52.0201)
- Entrepreneurship/Entrepreneurial Studies (52.0701)
- Finance, General (52.0801)
- International Business/Trade/Commerce (52.1101)
- Marketing/Marketing Management, General (52.1401)

Due to different data collection periods, the most recent two-year period of available data is from 2019 to 2021. Between 2019 and 2021, non-community colleges in the region conferred an average of 12,881 awards annually in related training programs.

Exhibit 16: Regional Non-Community College Awards, 2019-2021

CIP Code	Program	College	2019-2020 Awards	2020-2021 Awards	2-Year Award Average
52.0101	Business/Commerce, General	Azusa Pacific University	16	10	13
		Loyola Marymount University	2	1	2
		Mount Saint Mary's University	-	-	-
Supply Subtotal/Average			18	11	15
52.0201	Business Administration and Management, General	Abraham Lincoln University	-	1	1
		American Jewish University	3	5	4
		Angeles College	6	10	8
		Azusa Pacific University	106	100	103
		Bethesda University	26	28	27
		Biola University	137	122	130
		California Intercontinental University	4	5	5
		California State Polytechnic University-Pomona	1,401	1,644	1,523
		California State University-Dominguez Hills	575	624	600
		California State University-Fullerton	2,374	2,451	2,413
		California State University-Long Beach	1,443	1,557	1,500
		California State University-Los Angeles	1,131	865	998
		California State University-Northridge	740	806	773
Chapman University	474	471	473		

CIP Code	Program	College	2019-2020 Awards	2020-2021 Awards	2-Year Award Average
		Concordia University-Irvine	87	76	82
		Fremont College	1	6	4
		Hope International University	57	35	46
		InterCoast Colleges-Santa Ana	18	-	9
		InterCoast Colleges-West Covina	-	1	1
		Learnet Academy Inc	3	10	7
		Life Pacific University	15	17	16
		Los Angeles Pacific College	7	3	5
		Los Angeles Pacific University	-	4	2
		Loyola Marymount University	29	52	41
		Marymount California University	59	42	51
		Mount Saint Mary's University	51	33	42
		Pacific College	-	-	-
		Pacific Oaks College	7	1	4
		Pacific States University	1	1	1
		Pathways College	-	2	1
		Pepperdine University	185	174	180
		Platt College-Anaheim	14	9	12
		Platt College-Los Angeles	11	4	8
		Presbyterian Theological Seminary in America	-	-	-
		The Master's University and Seminary	64	53	59
		University of Antelope Valley	26	18	22
		University of California-Irvine	306	379	343
		University of La Verne	294	296	295
		University of Massachusetts Global	155	268	212
		University of Southern California	1,020	1,035	1,028
		University of the People	205	283	244
		University of the West	7	11	9
		Vanguard University of Southern California	51	66	59
		Westcliff University	71	107	89
		Whittier College	64	64	64
		Woodbury University	21	29	25

CIP Code	Program	College	2019-2020 Awards	2020-2021 Awards	2-Year Award Average
Supply Subtotal/Average			11,249	11,768	11,509
52.0701	Entrepreneurship/ Entrepreneurial Studies	Azusa Pacific University	4	3	4
		California Intercontinental University	1	2	2
		Hussian College-Los Angeles	1	-	1
		Loyola Marymount University	70	62	66
		Mount Saint Mary's University	-	1	1
Supply Subtotal/Average			76	68	72
52.0801	Finance, General	California State University-Northridge	402	399	401
		Loyola Marymount University	105	117	111
		Pepperdine University	13	26	20
Supply Subtotal/Average			520	542	531
52.1101	International Business/Trade/ Commerce	Azusa Pacific University	8	8	8
		California State University-Fullerton	77	72	75
		Mount Saint Mary's University	4	3	4
		Pepperdine University	28	31	30
		University of La Verne	2	3	3
		University of Southern California	46	14	30
Supply Subtotal/Average			165	131	148
52.1401	Marketing/ Marketing Management, General	California State University-Northridge	384	406	395
		FIDM-Fashion Institute of Design & Merchandising-Los Angeles	27	28	28
		Fremont College	4	1	3
		Loyola Marymount University	154	149	152
		Mount Saint Mary's University	9	3	6
		Vanguard University of Southern California	8	12	10
		Woodbury University	19	9	14
Supply Subtotal/Average			605	608	607
Supply Total/Average			12,633	13,128	12,881

Regional Demographics

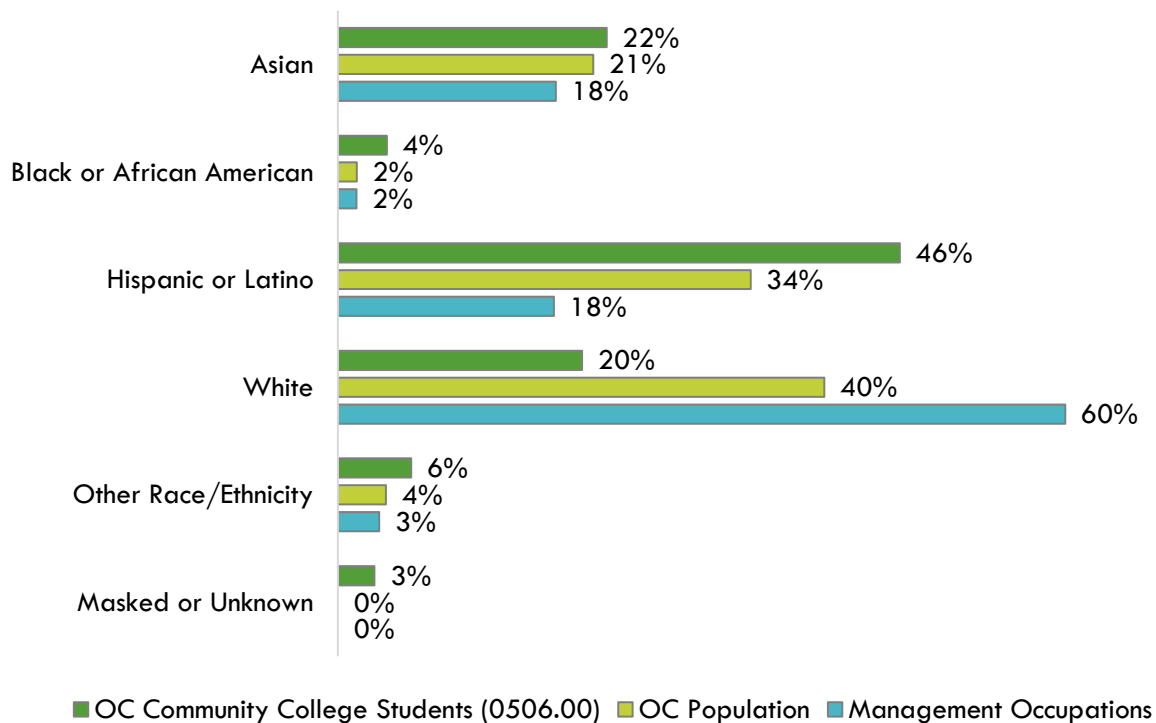
This section analyzes demographic data for Orange County community college students enrolled in business management programs compared to the OC population, as well occupational data, for the purpose of identifying potential diversity and equity issues that can be addressed by community college programs.

Ethnicity:

Exhibit 17 shows the ethnicity of Orange County community college students enrolled in business management programs compared to the overall Orange County population, as well as the five management occupations included in this report. More than half (60%) of workers in these management occupations are white, which is considerably higher than the population (40%) and significantly higher than the number of community college business management students (20%). The next largest group of workers employed in these occupations are Asian (18%), similar to the population (21%) and community college business management students (22%). Notably, Hispanic or Latino students comprise the largest group of business management students (46%), yet only represent 18% of management occupations.

Examining disaggregated data for each occupation (not shown), white workers comprise the largest group of workers in four of the five management occupations, representing 70% of *sales managers*; 59% of *general and operations managers*; 54% of *administrative services managers*; and 52% of *industrial production managers*. The remaining occupation – *transportation, storage, and distribution managers* – is largely made up of Hispanic or Latino workers (41%) followed by white workers (40%).

Exhibit 17: Program and County Demographics by Ethnicity

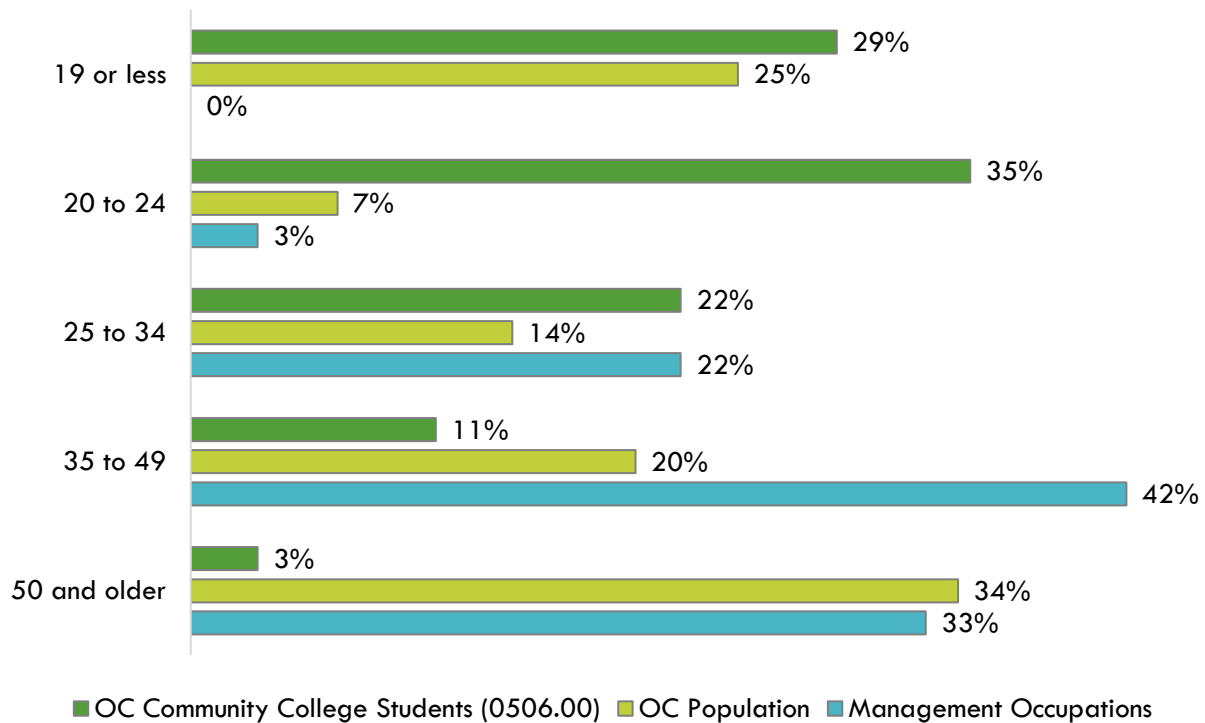


Age:

Exhibit 18 shows the age of Orange County community college students enrolled in business management programs compared to the overall Orange County population, as well as the five management occupations included in this report. The plurality (42%) of workers in these management occupations are age 35 to 49 years, followed by 33% of workers age 50 and older. This is more than the population, with those 35 years or older comprising 54% of the Orange County population. Community college business management students are largely younger, with 86% of students aged 34 years or younger.

Examining disaggregated data for each occupation (not shown), 35 to 49 is the largest age group for three of the five occupations: *general and operations managers* (45%), *sales managers* (43%), and *industrial production managers* (37%). Conversely, 43% of *administrative services managers* and 36% of *transportation, storage, and distribution managers* are 50 and older.

Exhibit 18: Program and County Demographics by Age



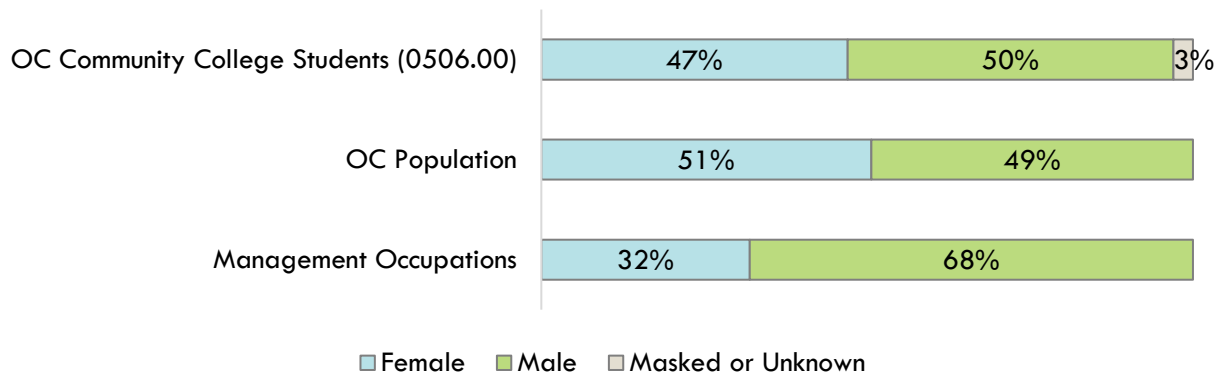
Sex:

Exhibit 19 shows the sex of Orange County community college students enrolled in business management programs compared to the overall Orange County population as well as the five management occupations included in this report.

While men and women are almost evenly represented among the population and business management students, more men (68%) than women (32%) are employed in these management occupations.

Examining disaggregated data for each occupation (not shown), male workers are the majority in four of the five occupations: *transportation, storage, and distribution managers* (85%), *general and operations managers* (68%), *industrial production managers* (67%), and *sales managers* (65%). Conversely, 64% of *administrative services managers* are women.

Exhibit 19: Program and County Demographics by Sex



Appendix A: Methodology

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

Using a TOP-SOC crosswalk, the OC 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 OC 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.

Data included in this analysis represent the labor market demand for relevant positions most closely related to the proposed program as expressed by the requesting college in consultation with the OC 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. 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.

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.

Appendix B: Data Sources

Data Type	Source
Occupational Projections, Wages, and Job Postings	<p>Traditional labor market information data is sourced from Lightcast, a labor market analytics firm. Lightcast occupational employment data are based on final Lightcast industry data and final Lightcast staffing patterns. Wage estimates are based on Occupational Employment Statistics and the American Community Survey. For more information, see https://lightcast.io/</p>
Living Wage	<p>The living wage is derived from the Insight Center’s California Family Needs Calculator, which measures the income necessary for an individual of family to afford basic expenses. The data assesses the cost of housing, food, child care, health care, transportation, and taxes. For more information, see: https://insightccd.org/family-needs-calculator/</p> <p>The living wage for one adult in Orange County is \$20.63 per hour (\$42,910.40 annually). This figure is used by the CCCCCO to calculate the percentage of students that attained the regional living wage.</p>
Typical Education and Training Requirements, and Educational Attainment	<p>The Bureau of Labor Statistics (BLS) provides information about education and training requirements for hundreds of occupations. 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. For more information, see https://www.bls.gov/emp/documentation/education/tech.htm</p>
Emerging Occupation Descriptions, Additional Education Requirements, and Employer Preferences	<p>The O*NET database includes information on skills, abilities, knowledges, work activities, and interests associated with occupations. For more information, see https://www.onetonline.org/help/online/</p>
Educational Supply	<p>The CCCCCO Data Mart provides information about students, courses, student services, outcomes and faculty and staff. For more information, see: https://datamart.cccco.edu</p> <p>The National Center for Education Statistics (NCES) Integrated Postsecondary Integrated Data System (IPEDS) collects data on the number of postsecondary awards earned (completions). For more information, see https://nces.ed.gov/ipeds/use-the-data/survey-components/7/completions</p>
Student Metrics and Demographics	<p>LaunchBoard, a statewide data system supported by the California Community Colleges Chancellor's Office and hosted by Cal-PASS Plus, provides data on progress, success, employment, and earnings outcomes for California community college students. For more information, see: https://www.calpassplus.org/LaunchBoard/Home.aspx</p>

Data Type	Source
Population and Occupation Demographics	<p>The Census Bureau's American Community Survey (ACS) is the premier source for detailed population and housing information. For more information, see: https://www.census.gov/programs-surveys/acs</p> <p>Data is sourced from IPUMS USA, a database providing access to ACS and other Census Bureau data products. For more information, see: https://usa.ipums.org/usa/about.shtml</p>

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