

Labor Market Analysis for Program Modification: 2102.00/Public Administration (Public Administration)

Orange County Center of Excellence, October 2023



CENTERS OF EXCELLENCE
FOR LABOR MARKET RESEARCH

Summary

Program LMI Endorsement	Endorsed: All LMI Criteria Met <input checked="" type="checkbox"/>	Endorsed: Some LMI Criteria Met <input type="checkbox"/>	Not LMI Endorsed <input type="checkbox"/>
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Program LMI Endorsement Criteria

	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Supply Gap:	<i>Comments:</i> There is projected to be 2,371 annual job openings throughout Los Angeles and Orange counties for these middle skill public administration occupations, which is more than the 387 awards conferred by educational institutions.	
Living Wage: (Entry-Level, 25 th)	<i>Comments:</i> The majority (88%) of annual job openings for these middle skill public administration occupations have entry-level hourly wages above the OC living wage of \$20.63.	
Education:	<i>Comments:</i> The typical entry level education for these middle skill public administration occupations range from a high school diploma or equivalent to an associate degree. Additionally, a significant percentage 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 five public administration occupations:

- Middle-Skill
 - Environmental Science and Protection Technicians, including Health (19-4042)
 - Eligibility Interviewers, Government Programs (43-4061)
 - Construction and Building Inspectors (47-4011)
- Above Middle-Skill – denoted with an asterisk (*) throughout this report.
 - Compliance Officers (13-1041)*
 - Management Analysts (13-1111)*

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 a supply gap for middle skill public administration occupations in the region. Additionally, the majority of annual openings have typical entry-level wages above the living wage and typical education requirements align with a community college education. Therefore, **due to all 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
Eligibility Interviewers, Government Programs (43-4061)	LA: 1,260	LA: 0		High School Diploma or Equivalent	40%
	OC: 313	OC: 0	OC: \$22.85		
	TTL: 1,572	TTL: 0			
Construction and Building Inspectors (47-4011)	LA: 401	LA: 18		High School Diploma or Equivalent	43%
	OC: 179	OC: 41	OC: \$27.47		
	TTL: 580	TTL: 59			
Environmental Science and Protection Technicians, including Health (19-4042)	LA: 152	LA: 128		Associate degree	34%
	OC: 66	OC: 200	OC: \$19.99		
	TTL: 218	TTL: 328			
Middle-Skill Total	2,371	387	N/A	N/A	N/A
Management Analysts (13-1111)*	LA: 3,414	LA: 13,843		Bachelor's degree	16%
	OC: 1,486	OC: 6,805	OC: \$27.74		
	TTL: 4,900	TTL: 20,648			
Compliance Officers (13-1041)*	LA: 1,118	LA: 122		Bachelor's degree	25%
	OC: 398	OC: 36	OC: \$28.78		
	TTL: 1,515	TTL: 158			
Above Middle-Skill Total	6,415	20,806	N/A	N/A	N/A
Total	8,786	21,193	N/A	N/A	N/A

*Denotes an above middle-skill occupation

Demand:

- The number of jobs related to these middle-skill public administration occupations are projected to increase 4% through 2027, equating to 2,371 annual job openings.
- Hourly entry-level wages for these middle-skill public administration occupations range from \$19.99 to \$27.47 in Orange County; 88% of annual job openings have entry-level wages above the living wage.
- There were 1,982 online job postings for these middle-skill public administration occupations over the past 12 months. The highest number of postings were for environmental technicians, inspectors, enrollment specialists, and building and home inspectors.
- The typical entry-level education for these middle-skill public administration occupations ranges from a high school diploma or equivalent to an associate degree.
- Approximately 34% to 43% of workers in these middle-skill public administration occupations have completed some college or an associate degree as their highest level of educational attainment.

Supply:

- There was an average of 9,524 awards conferred by 29 community colleges in Los Angeles and Orange Counties from 2019 to 2022. Of those, 4% (387) were for the middle-skill public administration occupations.
- Non-community college institutions conferred an average of 11,669 awards from 2019 to 2021. Of those, none were for the middle-skill occupations.
- It is important to note that general business programs prepare students for a variety of business administration and management roles, and not solely the above middle-skill occupation *management analysts*. Therefore, supply is overstated for *management analysts*.
- Due to the low number of students enrolled in public administration programs, there was insufficient data to determine the median annual wage of students who exited public administration programs in Orange County during the 2020-21 academic year, the percentage of students who attained the regional living wage, or the percentage of students working in a job closely related to their field of study.

Demand

Occupational Projections:

Exhibit 2 shows the annual percent change in jobs for these five public administration occupations from 2017 through 2027. Though there was a 7% decline across all occupations from 2019 to 2020 due to the COVID-19 pandemic, employment in these public administration occupations increased during the same period. From 2020-2022, employment in these occupations increased 5%, 6%, and 4% respectively in Orange County. These public administration occupations are projected to grow at a similar rate compared to all occupations through 2027.

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

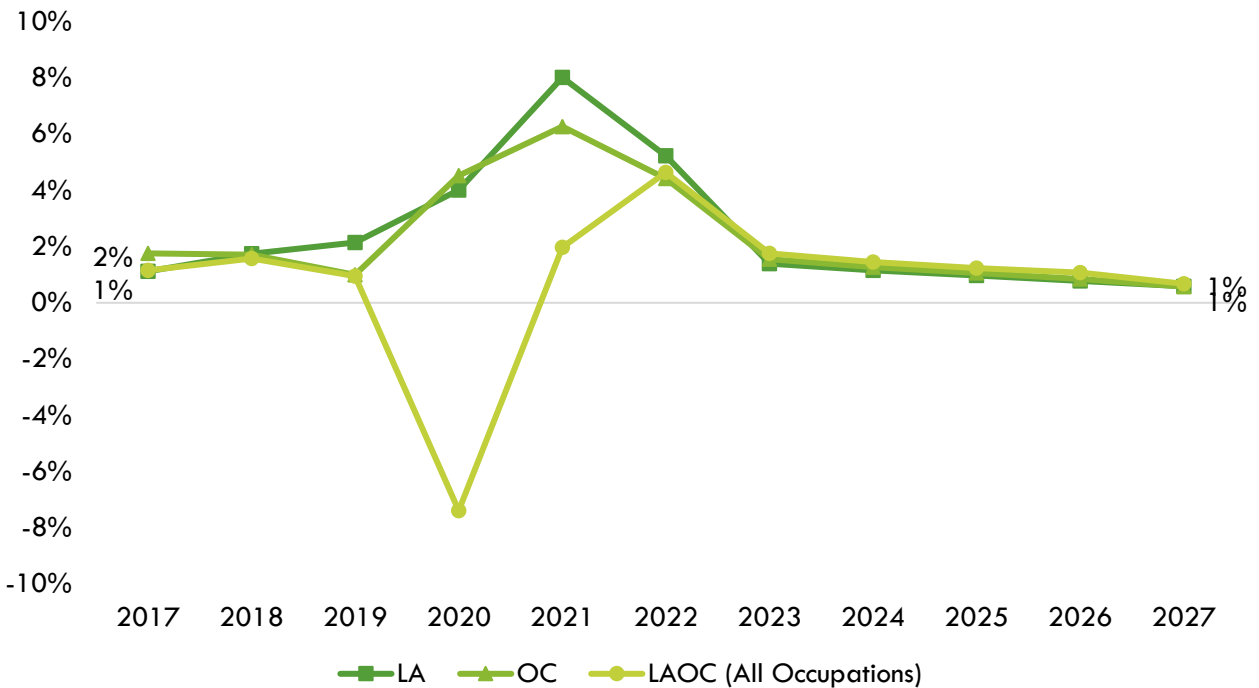


Exhibit 3 shows the five-year occupational demand projections for the three middle-skill public administration occupations examined in this report. In Los Angeles/Orange County, the number of jobs related to these occupations is projected to increase by 4% through 2027. There is projected to be 2,371 jobs available annually.

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	16,324	16,853	529	4%	1,813
Orange	4,741	4,974	233	5%	558
Total	21,065	21,827	762	4%	2,371

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 *compliance officers* and *management analysts*, the two above middle-skill public administration occupations examined in this report. In Los Angeles/Orange County, the number of jobs related to these occupations is projected to increase by 5% through 2027. There is projected to be 6,415 jobs available annually.

Exhibit 4: Above Middle-Skill Occupational Demand in Los Angeles and Orange Counties²

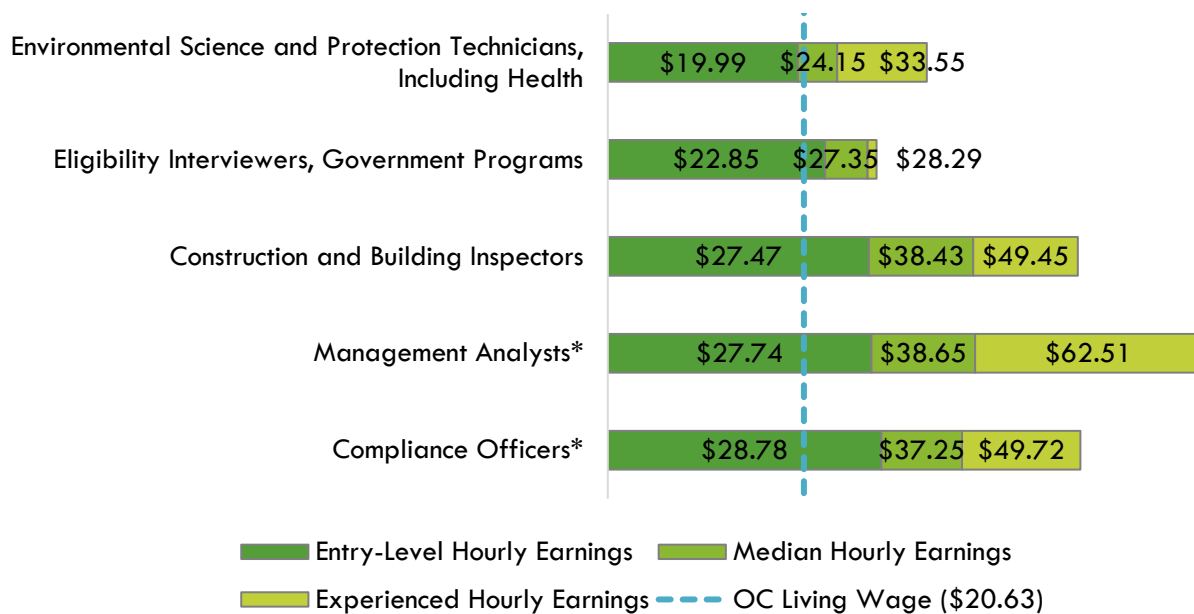
Geography	2022 Jobs	2027 Jobs	2022-2027 Change	2022-2027 % Change	Annual Openings
Los Angeles	44,770	47,282	2,511	5%	4,531
Orange	18,553	19,579	1,026	5%	1,884
Total	63,323	66,861	3,537	5%	6,415

Wages:

The labor market endorsement in this report considers the entry-level hourly wages for these public administration 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.

The majority (88%) of annual openings for the three middle-skill public administration occupations have entry-level wages above the living wage for one adult in Orange County (\$20.63). Typical entry-level hourly wages for these middle-skill occupations range between \$19.99 and \$27.47. Orange County's average wages (\$32.06) are below the average statewide wage of \$34.21 for these middle-skill occupations. Exhibit 5 shows the wage range for each of these public administration occupations in Orange County and how they compare to the regional living wage, sorted from lowest to highest entry-level wage.

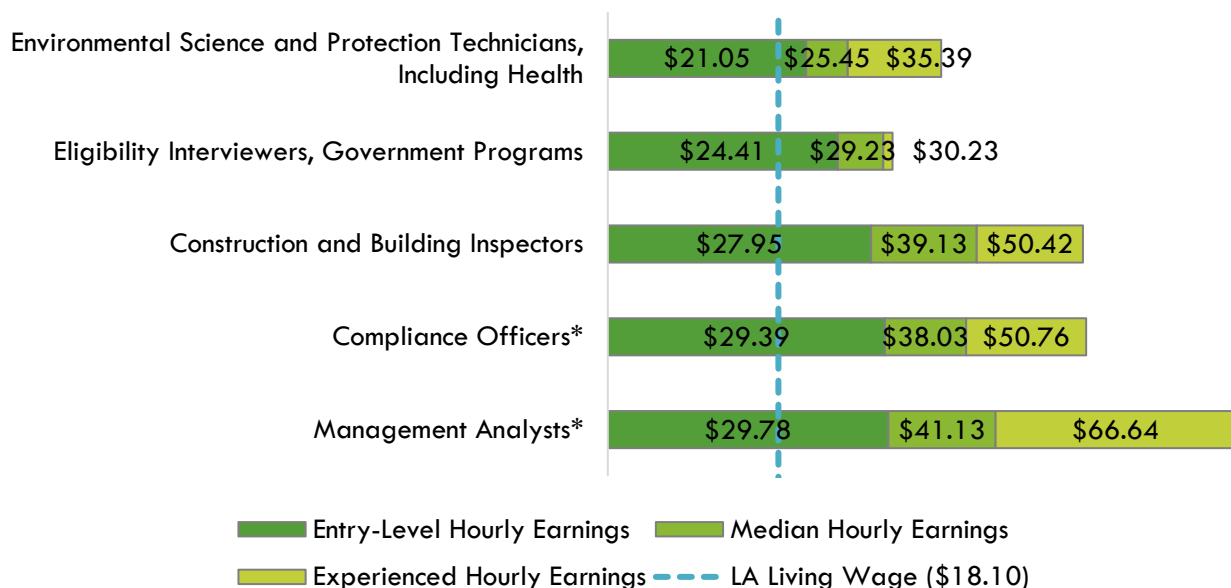
Exhibit 5: Wages by Occupation in Orange County



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.

All annual openings for the three middle-skill public administration occupations have entry-level wages above the living wage for one adult in Los Angeles County (\$18.10). Typical entry-level hourly wages range between \$21.05 and \$29.78 for these middle-skill occupations. Los Angeles County's average wages (\$33.41) are below the average statewide wage of \$34.21 for these middle-skill occupations. Exhibit 6 shows the wage range for each of these public administration 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



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 of phrases; determining differences in words that can be used as nouns, verbs, and/or adjectives; and misspellings or grammatical errors.³ 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 9,732 online job postings related to these five public administration occupations listed in the past 12 months. Of those, 20% (1,982) were for middle skill public administration occupations. Exhibit 7 shows the number of job postings by occupation.

³ 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=9,732)

Occupation	Job Postings	Percentage of Job Postings
Management Analysts*	7,689	79%
Construction and Building Inspectors	800	8%
Environmental Science and Protection Technicians, including Health	700	7%
Eligibility Interviewers, Government Programs	482	5%
Compliance Officers*	61	1%
Total Postings	9,732	100%

The top employers for the three middle-skill public administration 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=1,982)

Employer	Job Postings	Percentage of Job Postings
Aerotek	64	3%
Clean Harbors	63	3%
A Buyer's Choice Home Inspections	46	2%
Orkin	35	2%
Montrose Environmental Group	30	2%
Interwest Consulting Group	26	1%
Harsco Corporation	25	1%
Bureau Veritas	21	1%
University of California	21	1%
Alltech Environmental Services	18	1%

The top employers in the region for the above middle skill occupations, *compliance officers* and *management analysts*, by number of job postings, are shown in Exhibit 9.

Exhibit 9: Top Above Middle-Skill Employers by Number of Job Postings (n=7,750)

Employer	Job Postings	Percentage of Job Postings
Northrop Grumman	326	4%
United Health Group	182	2%
Kaiser Permanente	118	2%
Robert Half	95	1%
Elevance Health	86	1%
Randstad	86	1%
University of California	82	1%
Accenture	70	1%
Royal Bank of Canada	66	1%
Fidelity Investments	61	1%

The top specialized, soft, and computer skills listed by those most frequently mentioned in job postings (denoted in parentheses) for the three middle-skill public administration occupations in this report are shown in Exhibit 10.

Exhibit 10: Top Skills for Middle-Skill Occupations by Number of Job Postings (n=1,982)

Top Specialized Skills	Top Soft Skills	Top Computer Skills
Construction (406)	Communications (753)	Microsoft Office (321)
Plumbing (241)	Customer Service (440)	Microsoft Excel (231)
Marketing (178)	Management (371)	Microsoft Outlook (145)
Project Management (164)	Detail Oriented (326)	Microsoft PowerPoint (96)
Auditing (154)	Microsoft Office (321)	Microsoft Word (84)
Building Codes (154)	Problem Solving (321)	Spreadsheets (71)
Customer Relationship Management (135)	Writing (315)	Database Software (34)
Emergency Response (133)	Operations (278)	Geographic Information Systems (33)
OSHA (Occupational Safety and Health Administration) (129)	Microsoft Excel (231)	Salesforce (24)
Roofing (127)	Organizational Skills (226)	Google Workspace (20)

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

Exhibit 11: Top Skills for Above Middle-Skill Occupations by Number of Job Postings (n=7,750)

Top Specialized Skills	Top Soft Skills	Top Computer Skills
Project Management (2,122)	Communication (3,402)	Microsoft Excel (1,847)
Finance (1,487)	Management (3,191)	Microsoft PowerPoint (1,340)
Business Process (1,417)	Microsoft Excel (1,847)	Microsoft Office (1,197)
Data Analysis (1,282)	Operations (1,744)	SQL (Programming Language) (1,045)
Business Requirements (1,174)	Leadership (1,678)	Dashboard (551)
Accounting (1,103)	Problem Solving (1,653)	Microsoft Outlook (531)
SQL (Programming Language) (1,045)	Planning (1,589)	Tableau (Business Intelligence Software) (519)
Workflow Management (1,001)	Research (1,499)	Power BI (466)
Agile Methodology (886)	Writing (1,464)	Microsoft Visio (455)
Computer Science (865)	Presentations (1,361)	SAP Applications (452)

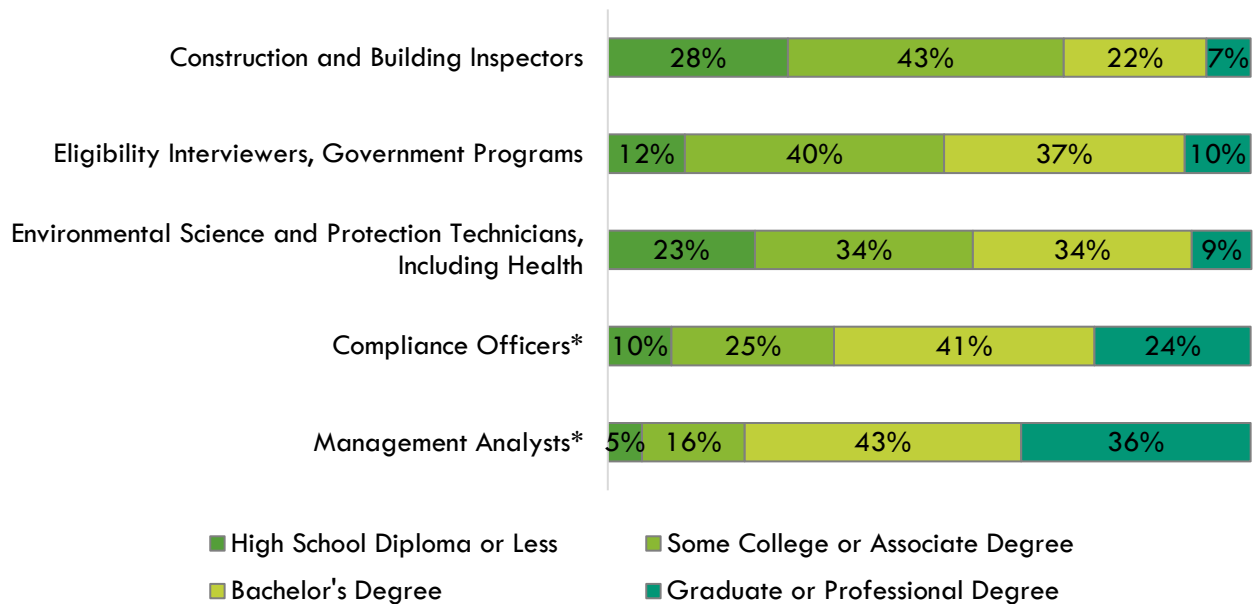
Educational Attainment:

The Bureau of Labor Statistics (BLS) lists a range of high school diploma or equivalent to a bachelor's degree as the typical entry-level education for these public administration occupations. Additionally, the national-level educational attainment data indicates between 34% to 43% of workers in the middle-skill occupations have completed some college or associate degree as their highest level of education. Between 16% and 25% of workers in the above middle-skill occupations have completed some college or an associate degree. Exhibit 12 shows the educational attainment for each occupation, sorted by highest community college educational attainment to lowest.

Of the 60% of cumulative job postings for these three middle-skill public administration occupations that listed a minimum education requirement in Los Angeles/Orange County, 79% (941) requested a high school diploma or an associate degree, and 19% (233) requested a bachelor's degree.

Of the 71% of cumulative job postings for these two above middle-skill public administration occupations that listed a minimum education requirement in Los Angeles/Orange County, 11% (614) requested a high school diploma or an associate degree, and 85% (4,693) requested a bachelor's degree.

Exhibit 12: National-level Educational Attainment for Occupations



Educational Supply

Community College Supply:

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

- Environmental Technology (0303.00)
- Business and Commerce, General (0501.00)
- Business Administration (0505.00)
- Business Management (0506.00)
- Labor and Industrial Relations (0516.00)
- Construction Inspection (0957.20)
- Water and Wastewater Technology (0958.00)

The colleges with the most completions in the region are Pasadena, Cerritos, and Coastline. Over the past 12 months, there were no other related program recommendation requests from regional community colleges.

It is important to note that the three business programs in Exhibit 13 prepare students for a variety of business administration and management roles, and not solely *management analysts*. Therefore, supply is overstated for *management analysts*.

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

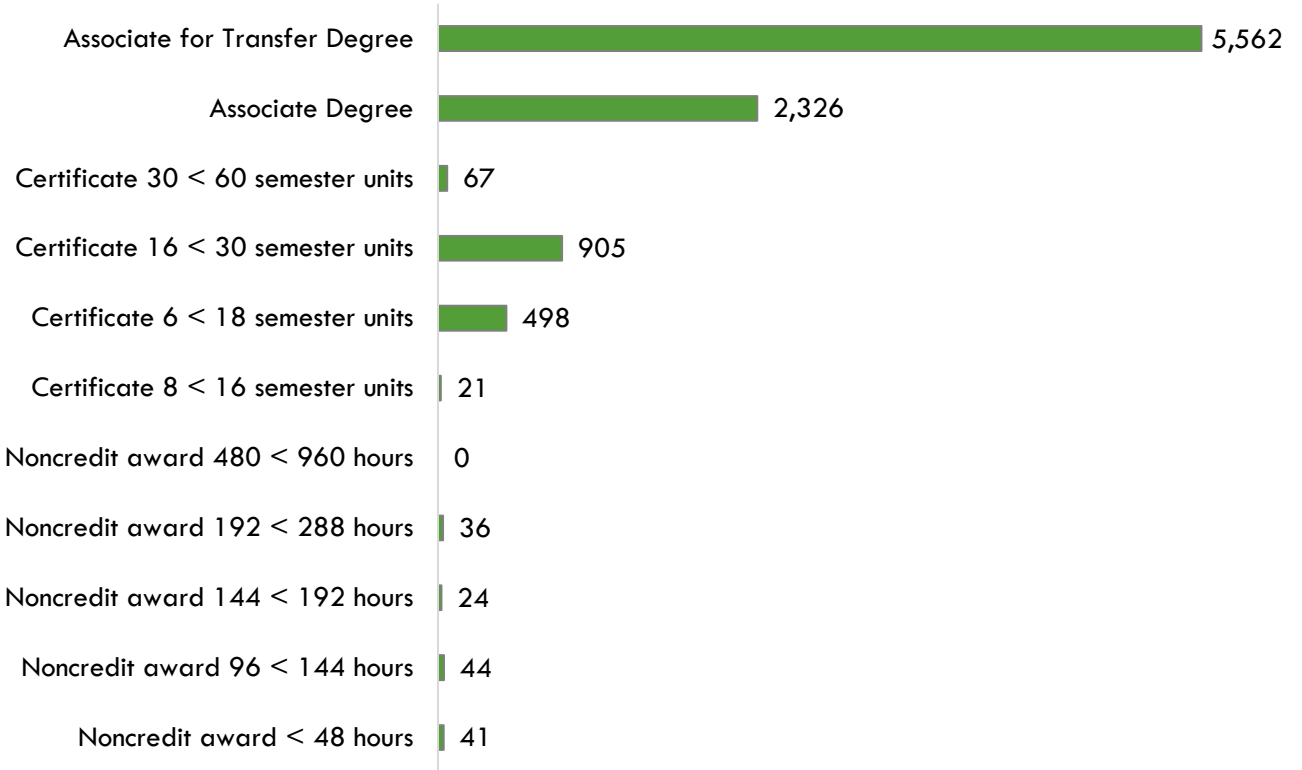
TOP Code	Program	College	2019-2020 Awards	2020-2021 Awards	2021-2022 Awards	3-Year Award Average
0303.00	Environmental Technology	Rio Hondo	9	4	14	8
		Santa Monica	37	74	57	56
		LA Subtotal	46	78	71	64
		Irvine	4	9	8	7
		Saddleback	0	0	1	0
		Santiago Canyon	3	0	2	1
		OC Subtotal	7	9	11	8
Supply Subtotal/Average			53	87	82	72
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	0	0	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	599

TOP Code	Program	College	2019-2020 Awards	2020-2021 Awards	2021-2022 Awards	3-Year Award Average		
		Coastline	6	5	4	5		
		Saddleback	19	39	73	43		
		OC Subtotal	25	44	77	48		
		Supply Subtotal/Average	651	598	700	647		
0505.00	Business Administration	Cerritos	250	222	299	256		
		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	88		
		LA Pierce	208	255	266	243		
		LA Southwest	56	45	38	46		
		LA Trade	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	4,758
				Coastline	592	432	410	477
				Cypress	244	232	206	227
				Fullerton	373	319	367	353
				Golden West	166	194	186	182
				Irvine	349	299	383	343
				Orange Coast	443	368	412	408
				Saddleback	382	315	327	341
				Santa Ana	220	198	187	201
				Santiago Canyon	157	153	143	151
				OC Subtotal	2,926	2,510	2,621	2,683
		Supply Subtotal/Average	7,597	7,569	7,172	7,441		
0506.00	Business Management	Cerritos	516	387	276	393		
		East LA	18	17	18	18		
		El Camino	33	49	22	35		
		Glendale	13	15	28	18		
		LA City	39	18	16	25		

TOP Code	Program	College	2019-2020 Awards	2020-2021 Awards	2021-2022 Awards	3-Year Award Average
		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	160
		LA Subtotal	832	721	635	730
		Coastline	72	307	33	138
		Cypress	3	7	1	3
		Fullerton	12	11	19	13
		Golden West	8	11	13	10
		Irvine	14	5	23	14
		North Orange Adult	36	19	32	29
		Orange Coast	16	19	16	18
		Santa Ana	71	40	39	50
		Santiago Canyon	24	55	25	34
		OC Subtotal	256	474	201	309
Supply Subtotal/Average			1,088	1,195	836	1,039
0516.00	Labor and Industrial Relations	LA Trade	9	12	11	10
		LA Subtotal	9	12	11	10
Supply Subtotal/Average			9	12	11	10
0957.20	Construction Inspection	Pasadena	21	20	14	18
		LA Subtotal	21	20	14	18
		Coastline	11	12	14	13
		Fullerton	4	5	10	6
		Saddleback	15	8	1	8
		Santiago Canyon	15	17	11	14
		OC Subtotal	45	42	36	41
Supply Subtotal/Average			66	62	50	59
0958.00	Water and Wastewater Technology	Citrus	32	53	37	40
		LA Trade	27	21	23	24
		LA Subtotal	59	74	60	64
		Santiago Canyon	94	369	111	192
		OC Subtotal	94	369	111	192
Supply Subtotal/Average			153	443	171	256
Supply Total/Average			9,617	9,966	9,022	9,524

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 degrees for transfer (5,562), followed by associate degrees (2,326) and certificates between 16 and less than 30 semester units (905).

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 public administration programs in Rancho Santiago Community College District (RSCCD), the Orange County Region, and California. Currently, Santiago Canyon College is the only college in Orange County that offers public administration programs. Therefore, all metrics for the Orange County region are identical to those for RSCCD.

Due to the low number of students enrolled in RSCCD public administration programs in the 2020-21 academic year (23), data on the SWP metrics listed below are unavailable for RSCCD students.

Exhibit 15: Public Administration (2102.00) Strong Workforce Program Metrics, 2020-21⁴

SWP Metric	RSCCD	OC Region	California
SWP Students	23	Same as RSCCD	184
SWP Students Who Earned 9 or More Career Education Units in the District in a Single Year	Insufficient Data	Same as RSCCD	30%
SWP Students Who Completed a Noncredit CTE or Workforce Preparation Course	Insufficient Data	Same as RSCCD	Insufficient Data
SWP Students Who Earned a Degree or Certificate or Attained Apprenticeship Journey Status	Insufficient Data	Same as RSCCD	13
SWP Students Who Transferred to a Four-Year Postsecondary Institution (2019-20)	Insufficient Data	Same as RSCCD	33
SWP Students with a Job Closely Related to Their Field of Study (2019-20)	Insufficient Data	Same as RSCCD	Insufficient Data
Median Annual Earnings for SWP Exiting Students	Insufficient Data	Same as RSCCD	\$56,108 (\$26.98)
Median Change in Earnings for SWP Exiting Students	Insufficient Data	Same as RSCCD	30%
SWP Exiting Students Who Attained the Living Wage	Insufficient Data	Same as RSCCD	75%

⁴ All SWP metrics are for 2020-21 unless otherwise noted.

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 public administration 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: Public Administration (44.0401), Business/Commerce, General (52.0101), and Business Administration and Management, General (52.0201).

Due to different data collection periods, the most recent two-year period of available data is presented, from 2019 to 2021. Between 2019 and 2021, four-year colleges in the region conferred an average of 11,675 awards annually in related training programs.

It is important to note that the two business programs in Exhibit 16 prepare students for a variety of business administration and management roles, and not solely *management analysts*. Therefore, supply is overstated for *management analysts*.

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

CIP Code	Program	College	2019-2020 Awards	2020-2021 Awards	2-Year Award Average
44.0401	Public Administration	California State University-Dominguez Hills	42	47	44
		California State University-Fullerton	40	33	36
		California State University-Northridge	41	44	42
		University of La Verne	25	27	26
Supply Subtotal/Average			148	151	148
52.0101	Business/Commerce, General	Azusa Pacific University	16	10	13
		Loyola Marymount University	2	1	2
		Mount Saint Mary's University	0	0	0
		University of Southern California	1	1	1
Supply Subtotal/Average			19	12	16
52.0201	Business Administration and Management, General	Abraham Lincoln University	0	1	0
		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

CIP Code	Program	College	2019-2020 Awards	2020-2021 Awards	2-Year Award Average
		California State Polytechnic University-Pomona	1,401	1,644	1,522
		California State University-Dominguez Hills	575	624	600
		California State University-Fullerton	2,374	2,451	2,412
		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	472
		Concordia University-Irvine	87	76	82
		Fremont College	1	6	4
		Hope International University	57	35	46
		InterCoast Colleges-Santa Ana	18	0	9
		InterCoast Colleges-West Covina	0	1	0
		Learnet Academy Inc	3	10	6
		Life Pacific University	15	17	16
		Los Angeles Pacific College	7	3	5
		Los Angeles Pacific University	0	4	2
		Loyola Marymount University	29	52	40
		Marymount California University	59	42	50
		Mount Saint Mary's University	51	33	42
		Pacific College	0	0	0
		Pacific Oaks College	7	1	4
		Pacific States University	1	1	1
		Pathways College	0	2	1
		Pepperdine University	185	174	180
		Platt College-Anaheim	14	9	12

CIP Code	Program	College	2019-2020 Awards	2020-2021 Awards	2-Year Award Average
		Platt College-Los Angeles	11	4	7
		Presbyterian Theological Seminary in America	0	0	0
		The Master's University and Seminary	64	53	58
		University of Antelope Valley	26	18	22
		University of California-Irvine	306	379	342
		University of La Verne	294	296	295
		University of Massachusetts Global	155	268	211
		University of Southern California	1,020	1,035	1,028
		University of the People	205	283	244
		University of the West	11	17	14
		Vanguard University of Southern California	51	66	58
		Westcliff University	71	107	89
		Whittier College	64	64	64
		Woodbury University	21	29	25
		Supply Subtotal/Average	11,253	11,774	11,511
		Supply Total/Average	11,420	11,937	11,675

Regional Demographics

This section analyzes demographic data for Orange County community college students enrolled in public administration 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.

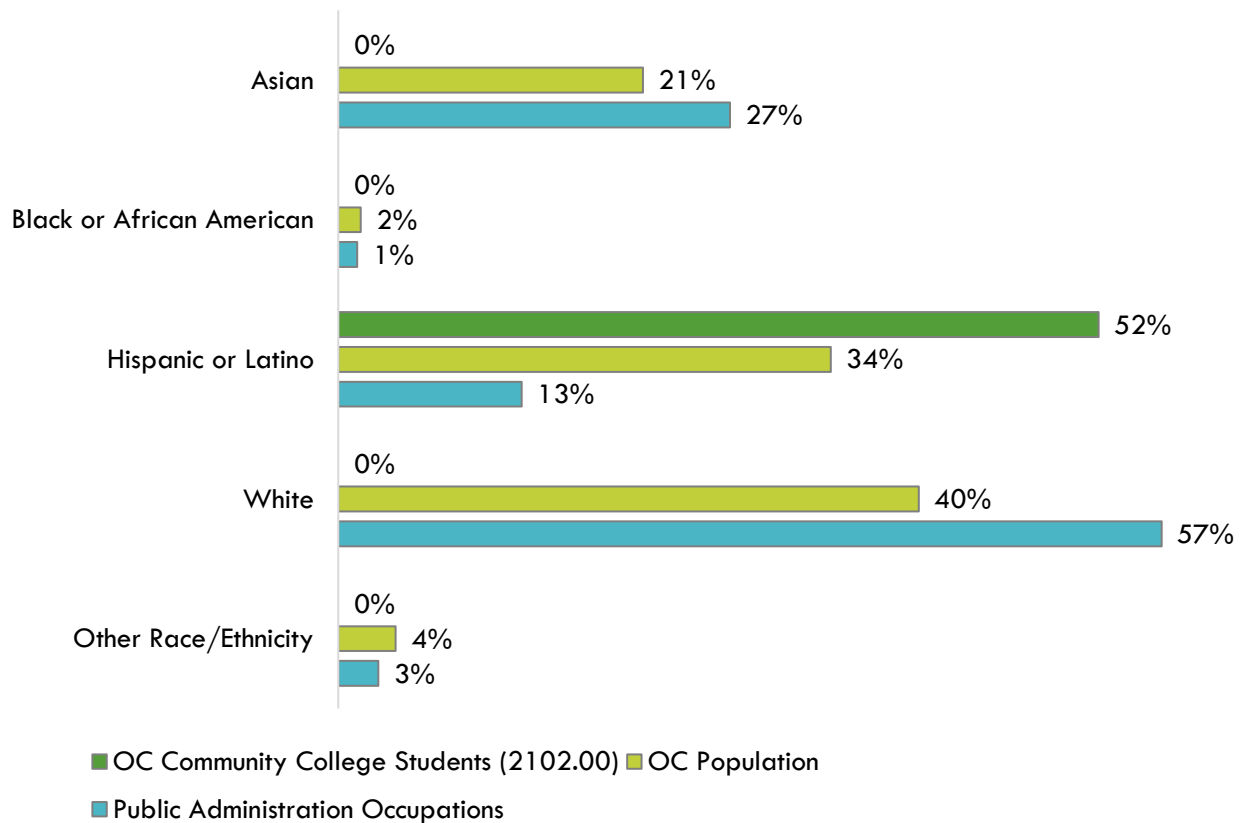
Ethnicity:

Exhibit 17 shows the ethnicity of Orange County community college students enrolled in public administration programs compared to the overall Orange County population, as well as the five public administration occupations included in this report. More than half (57%) of workers in these public administration occupations are white, higher than the population (40%). The next largest group of workers employed in these occupations are Asian (32%), also higher than the population (21%).

Notably, though white and Asian workers are the two largest groups employed in public administration occupations, data on the enrollment of white or Asian students in public administration programs are unavailable due to low or no enrollment numbers. Conversely, Hispanic or Latino students comprise the largest group of public administration students (52%), yet only represent 13% of workers in public administration occupations.

Examining disaggregated data for each occupation (not shown), white workers comprise the largest group of *construction and building inspectors* (67%), *management analysts* (59%), and *compliance officers* (58%). Asian workers comprise the largest group among *environmental science and protection technicians, including health* (51%), while Hispanic or Latino workers represent the largest group among *eligibility interviews, government programs* (42%).

Exhibit 17: Program and County Demographics by Ethnicity

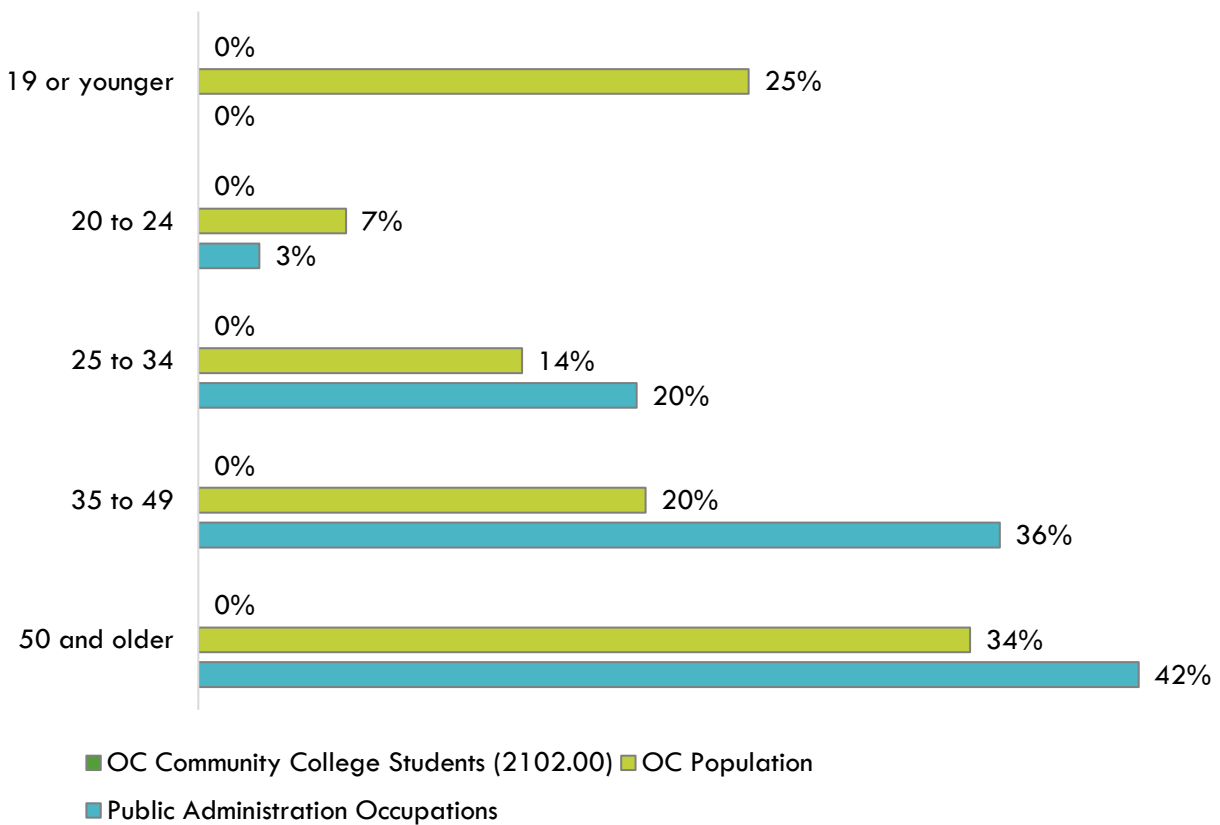


Age:

Exhibit 18 shows the age of workers in these five public administration occupations compared to the overall Orange County population. Due to low enrollment numbers, data on the age range of students in public administration students are unavailable. The vast majority of workers (98%) in these public administration occupations are 25 years or older, and more than three-quarters (78%) of workers are 35 years or older. This is higher than the population, with those 25 years or older comprising 69% of the Orange County population.

Similar trends are reflected in disaggregated data for each occupation (not shown), with workers aged 40 years and older comprising the largest group among *compliance officers (72%), construction and building inspectors (72%), management analysts (65%) and eligibility interviewers, government programs (54%)*. In addition, 62% of *construction and building inspectors* are aged 50 years or older. While the majority (54%) of *environmental science and protection technicians, including health workers* are age 50 years or older, the second largest group of workers in this occupation are aged 20 to 24 years (35%).

Exhibit 18: Program and County Demographics by Age

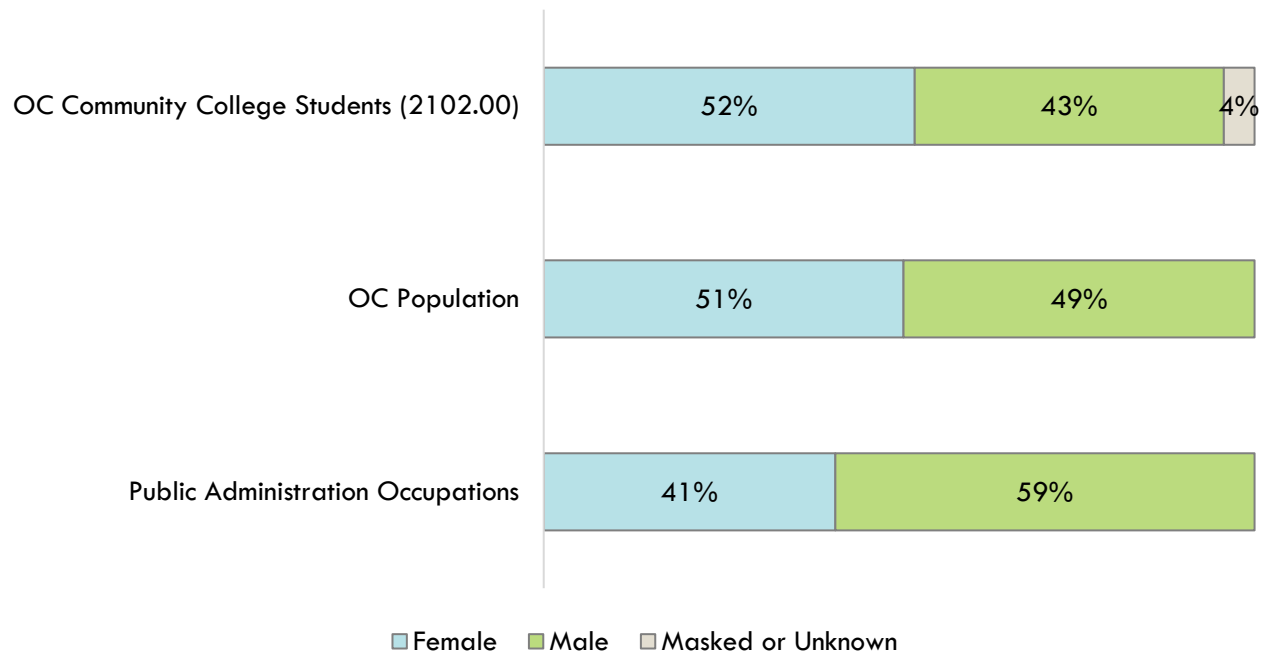


Sex:

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

While men and women are almost evenly represented among the population, slightly more public administration students are men (52%) compared to women (43%), and men comprise considerably more than half (59%) of workers in public administration occupations. Examining disaggregated data for each occupation (not shown) also indicates that men represent greater numbers of *construction and building inspectors* (89%), *environmental science and protection techniques, including health* (81%) and *management analyst** (63%). Conversely, more than three-quarters of *eligibility interviewers, government programs* (77%) are women, and *compliance officers* are equally represented by men and 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>

This labor market analysis was supported by Strong Workforce Program funds through the Orange County Regional Consortium.

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October 2023

