

⚠ Endorsed: Caution Advised			
Program LMI Endorsement Criteria			
	Met <input type="checkbox"/>	Partially Met <input checked="" type="checkbox"/>	Not Met <input type="checkbox"/>
Supply Gap:	There are projected to be 718 annual job openings throughout Los Angeles and Orange counties for <i>firefighters</i> , which is less than the 1,112 awards conferred by educational institutions . These educational programs also prepare students for 3 other related occupations, which accounts for 228 additional annual job openings .		
Self-Sufficiency Standard Living Wage ¹ :	Met <input checked="" type="checkbox"/>	Partially Met <input type="checkbox"/>	Not Met <input type="checkbox"/>
	The typical entry-level wage for <i>firefighters</i> is \$35.10 , which is above the OC living wage of \$27.13 .		
Education:	Met <input checked="" type="checkbox"/>	Partially Met <input type="checkbox"/>	Not Met <input type="checkbox"/>
	Typical education requirement for <i>firefighters</i> is a postsecondary non-degree award, and 58% of workers in the field have completed some college or an associate degree as their highest level of education .		

Summary

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 and Orange counties regional labor market related to one middle-skill occupation:

- *Firefighters (33-2011)*

Based on the available data, there does not appear to be a supply gap for *firefighters*. However, typical education requirements for this occupation 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.

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; Orange County's living wage of \$27.13, was last updated in March 2024.

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

Exhibit 1: Labor Market Endorsement Summary

Occupation (SOC)	Demand (Annual Openings)	Supply (CC and Non-CC)	Entry-Level Hourly Earnings (25th Percentile)	Typical Entry-Level Education	Community College Educational Attainment
Firefighters (33-2011)	LA: 587	LA: 726	OC: \$35.10	Postsecondary non-degree award	58%
	OC: 131	OC: 386			
Total	718	1,112	N/A	N/A	N/A

Demand

- In Los Angeles and Orange counties, the number of jobs related to *firefighters* is projected to increase 9% through 2029, equating to 718 annual job openings.
- Hourly entry-level wages for *firefighters* are \$35.10 in Orange County, which is above the Self-Sufficiency Standard living wage.
- There were 120 online job postings for *firefighters* over the past 12 months. The highest number of postings were for firefighters, firefighters/paramedics, and rescue technicians.
- The typical entry-level education for *firefighters* is a postsecondary non-degree award.
- Approximately 58% of workers in the field have completed some college or an associate degree as their highest level of educational attainment.

Supply

- Between 2021 to 2024, an average of 1,110 awards were conferred by 10 community colleges for this middle-skill occupation in Los Angeles and Orange counties.
- From 2020 to 2023, non-community college institutions conferred an average of 2 awards for this middle-skill occupation.
- In the 2022-23 academic year, Orange County community college students that exited fire academy programs had a median annual wage of \$77,776 (\$37.39 per hour) post-exit, and 68% attained the regional living wage.
- In 2021-22, all (100%) of Orange County fire academy students that exited their programs reported working a job closely related to their field of study.

Demand

Occupational Projections

Exhibit 2 shows the annual percentage change in jobs for *firefighters* from 2019 through 2029. Between 2019 and 2020, employment levels across Los Angeles and Orange counties declined sharply due to the broader economic impacts of the COVID-19 pandemic. From 2021 to 2024, the region saw a fluctuation in employment for this occupation. In Orange County, job levels declined 1% in 2021, grew 4% in 2022, declined 6% in 2023, then rebounded with 10% growth in 2024. Beginning in 2025, Orange County job levels are projected to grow at a faster rate than the average for all occupations through 2029.

Exhibit 2: Annual Percentage Change in Jobs for Firefighters, 2019-2029

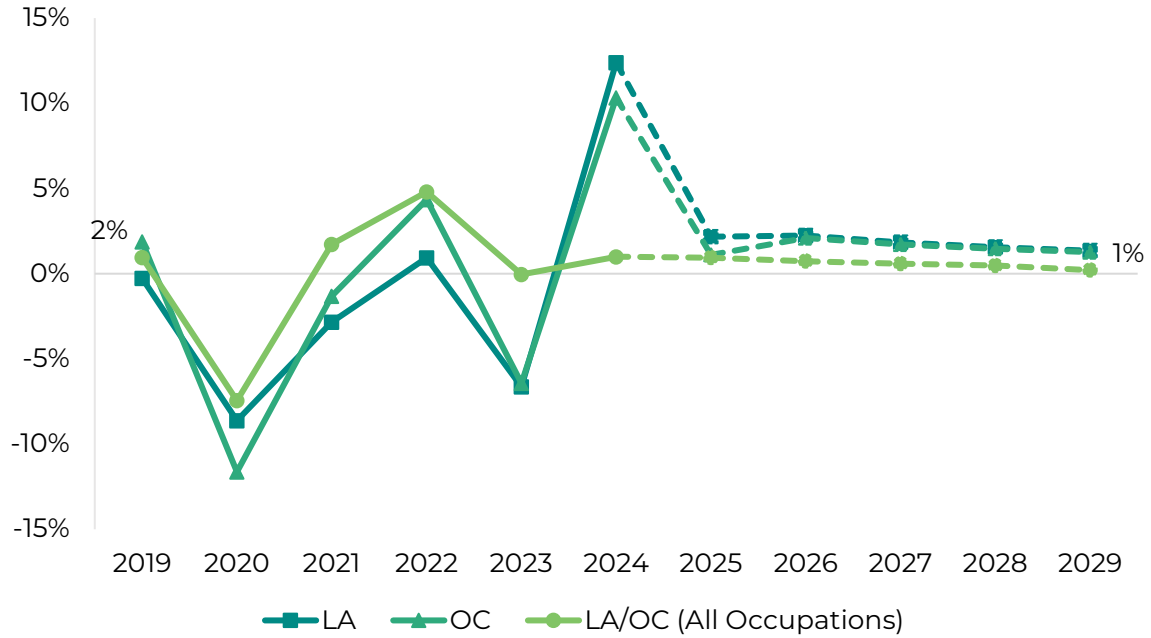


Exhibit 3 shows the five-year occupational demand projections for the middle-skill occupation *firefighters*. In Los Angeles and Orange counties, the number of jobs related to this occupation is projected to increase 9% through 2029. There is projected to be 718 available annually.

Exhibit 3: Middle-Skill Occupational Demand in Los Angeles and Orange Counties²

Geography	2024 Jobs	2029 Jobs	2024-2029 Change	2024-2029 % Change	Annual Openings
Los Angeles	6,106	6,685	579	9%	587
Orange	1,423	1,535	112	8%	131
Total	7,529	8,220	691	9%	718

Wages

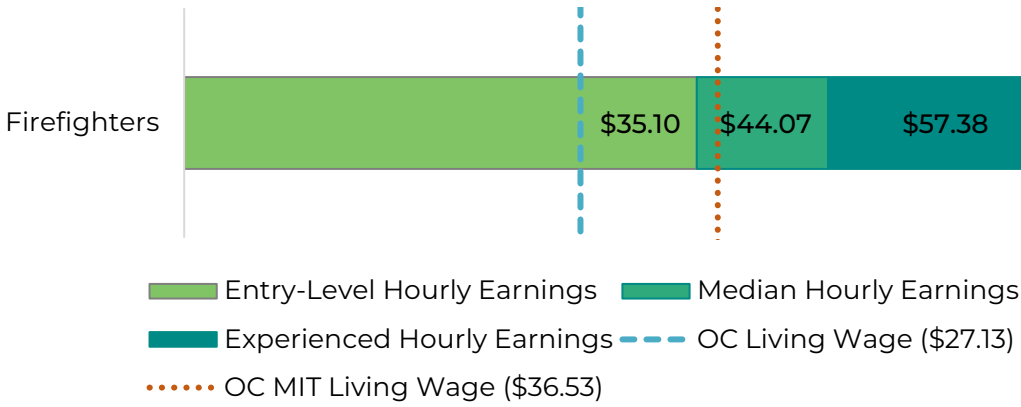
The labor market endorsement in this report considers the entry-level hourly wages for *firefighters* in Orange County as they relate to the county’s living wage. Los Angeles County wages are included below to provide a complete analysis of the LA/OC region.

In addition to the Self Sufficiency Standard living wage, data for the MIT Living Wage (updated on February 15, 2026) is provided as a reference. Currently, the MIT Living Wage in Orange County is \$36.53. 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.

In Orange County, the typical entry-level wage for *firefighters* is \$35.10, which is above the Self-Sufficiency living wage of \$27.13 for a single adult. Exhibit 4 shows the wage range for *firefighters* in Orange County and how it compares to the regional living wage.

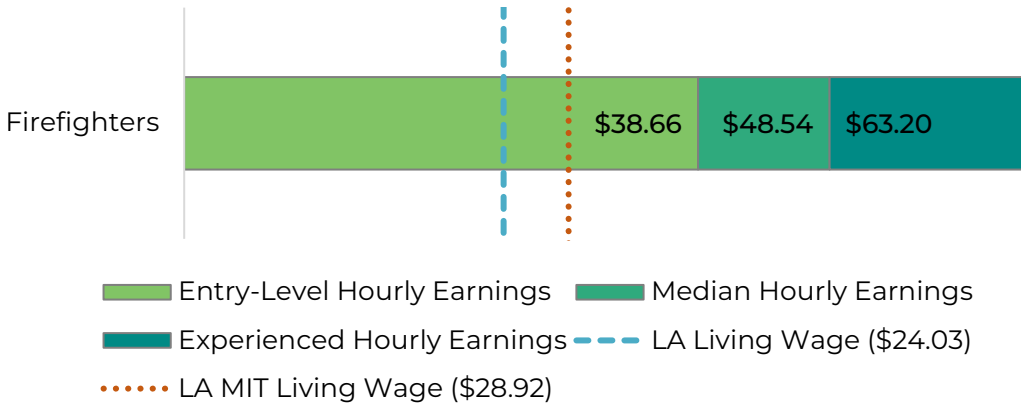
² Five-year change represents new job additions to the workforce. Annual openings include new jobs and replacement jobs that result from retirements and separations.

Exhibit 4: Wages by Occupation in Orange County



In Los Angeles County, the typical entry-level wage for *firefighters* is \$38.66, which is above the Self-Sufficiency living wage of \$24.03 for a single adult. Exhibit 5 shows the wage range for *firefighters* in Los Angeles County and how it compares to the regional living wage.

Exhibit 5: Wages by Occupation in Los Angeles County



Resilient Jobs and U.S. News & World Report Best Jobs

Exhibit 6 shows if each occupation is considered an Orange County Great Recession-Resilient, COVID-19 Pandemic Recession-Resilient Job, or a 2025 U.S. News & World Report (USN&WR) Best Job³. *Firefighters* did not meet any of the specified designation criteria.

Exhibit 6: Resilient Jobs and USN&WR Best Jobs Designations

Occupation	Great Recession-Resilient Job	COVID-19 Pandemic Recession-Resilient Job	2025 USN&WR Best Job
Firefighters	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

³ "100 Best Jobs," U.S. News & World Report, accessed January 28, 2025, <https://money.usnews.com/careers/best-jobs/rankings/the-100-best-jobs>.

Job Postings

Important Job Postings Data Note: There are limitations when analyzing job postings. A single job posting may not represent a single job opening for a variety of reasons.

There were 120 online job postings related to *firefighters* listed in the past 12 months. Exhibit 7 shows the number of job postings by occupation.

Exhibit 7: Number of Job Postings by Occupation (n=120)

Occupation	Job Postings	Percentage of Job Postings
Firefighters	120	100%
Total Postings	120	100%

The top job titles for *firefighters* in the region, by number of job postings, are shown in Exhibit 8.

Exhibit 8: Top Job Titles by Number of Job Postings for the Middle-Skill Occupation (n=120)

Job Titles	Job Postings	Percentage
Firefighters	39	33%
Firefighters/Paramedics	37	31%
Rescue Technicians	11	9%
Auxiliaries	4	3%
Firefighters/Emergency Medical Technicians	3	3%
Reserve Firefighters	3	3%
Bosses	2	2%
Construction Equipment Operators	2	2%
Academy Instructors	2	2%
Ambulance Drivers	2	2%

The top employers for *firefighters* in the region, by number of job postings, are shown in Exhibit 9.

Exhibit 9: Top Employers by Number of Job Postings for the Middle-Skill Occupation (n=120)

Employer	Job Postings	Percentage of Job Postings
Orange County Fire Authority	18	15%
Total Safety	10	8%
County Of Los Angeles	4	3%
L.N. Curtis & Sons	4	3%
City Of South Pasadena	4	3%
Los Angeles County Department Of Human Resources	3	3%
City Of Richland	3	3%
City Of Torrance	3	3%
General Atomics	3	3%
City Of Monterey Park	3	3%

The top specialized, soft, and computer skills for *firefighters* listed by those most frequently mentioned in job postings (denoted in parentheses) are shown in Exhibit 10.

Exhibit 10: Top Skills by Number of Job Postings for the Middle-Skill Occupation (n=120)

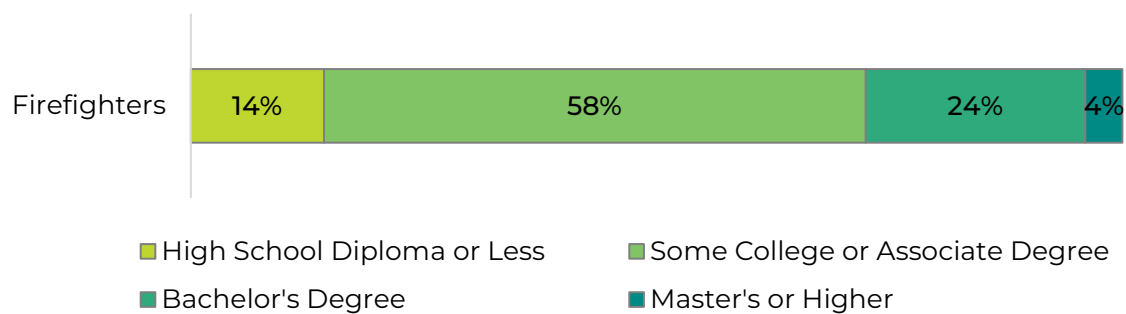
Top Specialized Skills	Top Soft Skills	Top Computer Skills
Firefighting (104)	Operations (58)	Microsoft Office (5)
Emergency Medical Services (58)	Communication (47)	SAP Applications (3)
Fire Prevention (57)	English Language (25)	Firewall (2)
Fire Suppression Systems (48)	Writing (20)	Microsoft Word (1)
Fire Service (32)	Planning (19)	Programming Tools (1)
Cardiopulmonary Resuscitation (CPR) (27)	Decision Making (17)	
Fire Science (26)	Coordinating (14)	
Lifting Ability (25)	Customer Service (13)	
Fire Safety (24)	Leadership (11)	
Emergency Response (23)	Ethical Standards And Conduct (10)	

Educational Attainment

The Bureau of Labor Statistics (BLS) lists a postsecondary non-degree award as the typical entry-level education for *firefighters*.

The national-level educational attainment data indicates that 58% of workers in the field have completed some college or an associate degree as their highest level of education. Exhibit 11 shows the educational attainment for this occupation.

Exhibit 11: National-level Educational Attainment for Occupations



Requested Minimum Education Requirement

In Los Angeles and Orange Counties, 66% (79) of job postings for *firefighters* included a stated minimum education requirement:

- 99% (78) requested a high school diploma or associate degree.
- 1% (1) requested a bachelor's degree.

Educational Supply

The following supply tables display the total supply for *firefighters* that align with these TOP and CIP codes and program needs.

Community College Supply

Exhibit 12 shows the three-year average number of awards conferred by community colleges in the related TOP codes:

- Fire Technology (2133.00)
- Wildland Fire Technology (2133.10)
- Fire Academy (2133.50)

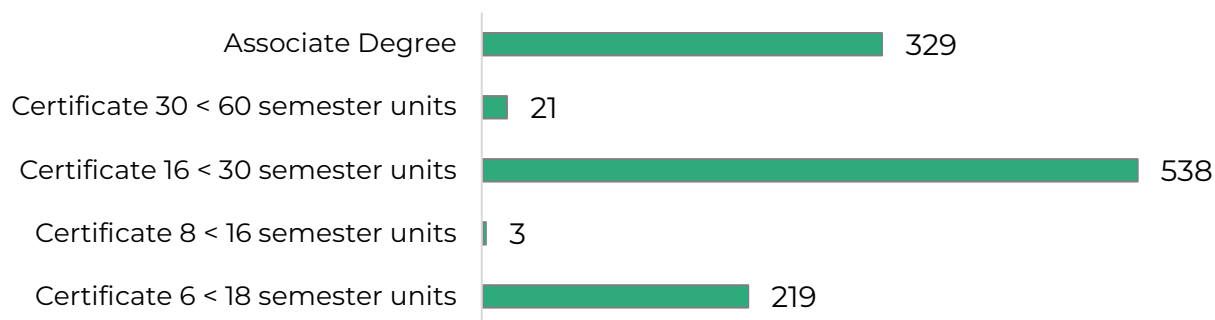
The colleges with the most completions in the region are Santa Ana (386), followed by Rio Hondo (255), and East LA (193). Over the past 12 months, there was one related program recommendation request from regional community colleges.

Exhibit 12: 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
2133.00	Fire Technology	East LA	24	21	14	20
		El Camino	46	26	45	39
		Glendale	20	23	15	19
		LA Valley	13	8	16	12
		Long Beach	56	89	55	67
		Mt San Antonio	124	100	96	107
		Pasadena	3	0	10	4
		Rio Hondo	176	180	156	171
		West LA	4	8	8	7
		LA Subtotal	466	455	415	445
		Santa Ana	378	360	420	386
		OC Subtotal	378	360	420	386
Supply Subtotal/Average			844	815	835	831
2133.10	Wildland Fire Technology	Rio Hondo	11	11	14	12
		LA Subtotal	11	11	14	12
		-	-	-	-	
		OC Subtotal	-	-	-	-
Supply Subtotal/Average			11	11	14	12
2133.50	Fire Academy	East LA	180	180	160	173
		El Camino	39	10	14	21
		Rio Hondo	65	77	74	72
		LA Subtotal	284	267	248	266
		-	-	-	-	
		OC Subtotal	-	-	-	-
Supply Subtotal/Average			284	267	248	266
Supply Total/Average			1,139	1,093	1,097	1,110

Exhibit 13 shows the annual average community college awards by type from 2021-22 to 2023-24. The plurality of the awards are for certificates between 16 and 30 semester units, followed by associate degrees.

Exhibit 13: Annual Average Community College Awards by Type, 2021-2024



Community College Student Outcomes

Exhibit 14 shows the Strong Workforce Program (SWP) metrics for fire academy programs in the Coast Community College District (CCCD), the Orange County Region, and California. There are no active fire academy programs currently reported by DataVista at the district level. Therefore, student outcomes data is available only at statewide and regional levels.

Students across Orange County who exited fire academy programs in the 2022-23 academic year had lower median annual earnings (\$77,776 or \$37.39 per hour) compared to all fire academy students across California (\$85,524 or \$41.12). Additionally, a lower percentage of fire academy students in Orange County attained the living wage (68%) when compared to all fire academy students across California (76%).

Exhibit 14: Fire Academy (2133.50) Strong Workforce Program Metrics, 2021-24⁴

SWP Metric	CCCD	OC Region	California
SWP Students	Insufficient Data	1,542	8,240
SWP Students Who Earned 9 or More Career Education Units in the District in a Single Year	Insufficient Data	17%	42%
SWP Students Who Completed a Noncredit CTE or Workforce Preparation Course	Insufficient Data	Insufficient Data	47%
SWP Students Who Earned a Degree or Certificate or Attained Apprenticeship Journey Status	Insufficient Data	38	1,351
SWP Students Who Transferred to a Four-Year Postsecondary Institution (2022-23)	Insufficient Data	27	87
SWP Students with a Job Closely Related to Their Field of Study (2021-22)	Insufficient Data	100%	85%
Median Annual Earnings for SWP Exiting Students (2022-23)	Insufficient Data	\$77,776 (\$37.39)	\$85,524 (\$41.12)
Median Change in Earnings for SWP Exiting Students (2022-23)	Insufficient Data	76%	53%
SWP Exiting Students Who Attained the Living Wage (2022-23)	Insufficient Data	68%	76%

⁴ All SWP metrics are for 2023-24 unless otherwise noted.

Non-Community College Supply

To comprehensively analyze the regional supply, it is crucial to include data from other institutions offering fire academy programs. Exhibit 15 displays the annual and three-year average awards granted by these institutions under the related Classification of Instructional Programs (CIP) code: Fire Science/Fire-fighting (43.0203).

No awards were conferred under the following related CIP codes:

- Fire Prevention and Safety Technology/Technician (43.0201)
- Wildland/Forest Firefighting and Investigation (43.0206)

The available data covers 2020 to 2023. During this period, non-community college institutions in the region conferred an average of 2 awards annually in related program.

Exhibit 15: Regional Non-Community College Awards, 2020-2023

CIP Code	Program	College	2020-2021 Awards	2021-2022 Awards	2022-2023 Awards	3-Year Award Average
43.0203	Fire Science/ Fire-fighting	University of Antelope Valley	4	0	3	2
Supply Total/Average			4	0	3	2

Regional Demographics

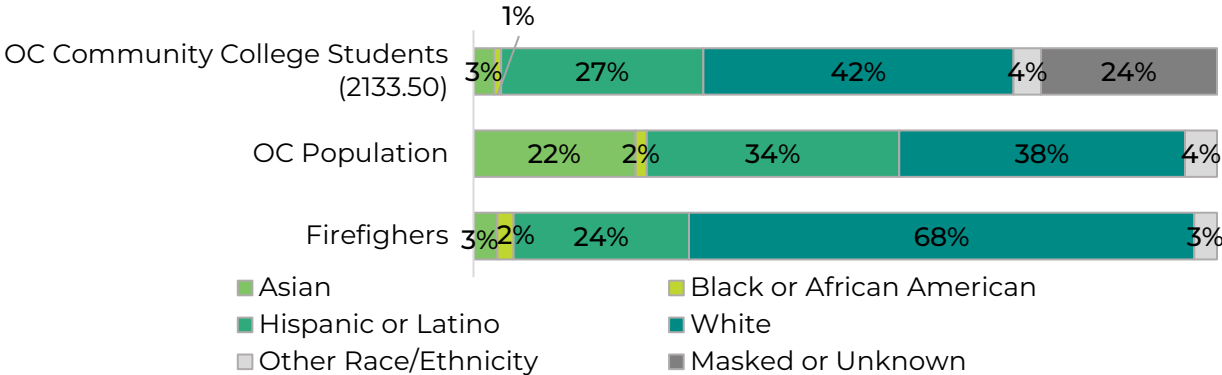
The following section presents occupational, community college program, and population demographic data for Orange County. This comparison can help identify possible equity gaps between the local workforce and the student pipeline who are preparing for this occupation. These insights can inform program development, outreach, and support strategies to better align community college programs with current labor market needs.

Ethnicity

Exhibit 16 compares the ethnicity of Orange County community college students enrolled in fire academy programs, the overall Orange County population, and occupation-specific data for firefighters.

Although 92% of active firefighters identify as either Hispanic/Latino (68%) or White (24%), this concentration is slightly less pronounced among fire academy students, where these groups represent 69% of the total (42% Hispanic or Latino and 27% White). Additionally, there is a notable gap regarding Asian representation. Despite making up nearly 22% of the Orange County population, Asian individuals account for only 3% of fire academy students and 3% of the active firefighter workforce. These differences highlight potential differences in who has interest in and access to fire academy programs, and who primarily gains employment in professional firefighting roles.

Exhibit 16: Program and County Demographics by Ethnicity

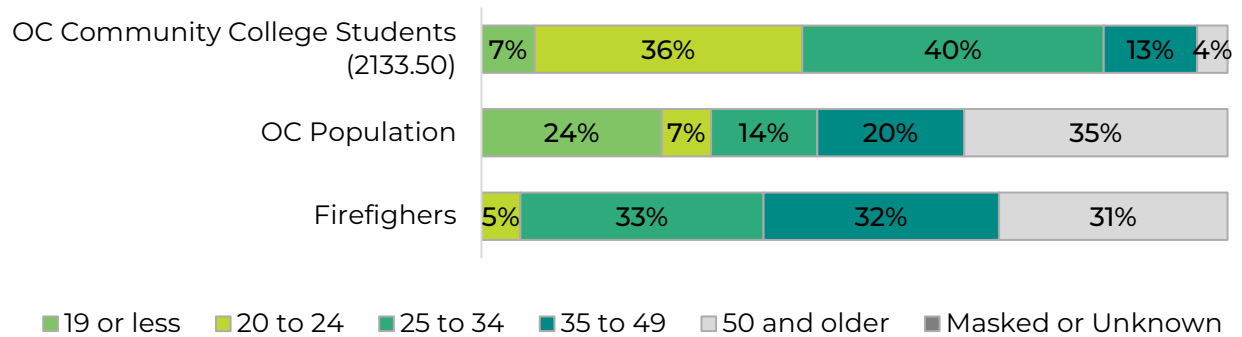


Age

Exhibit 17 compares the age of Orange County community college students enrolled in Fire academy programs, the overall Orange County population, and occupation-specific data for firefighters.

The majority of fire academy students (66%) are between the ages of 20 and 34 compared to 38% of firefighters. Instead, firefighters tend to be 35 and older (62%) compared to fire academy students (17%). This suggests the field may attract mid-career individuals or require some level of prior training and experience for entry.

Exhibit 17: Program and County Demographics by Age

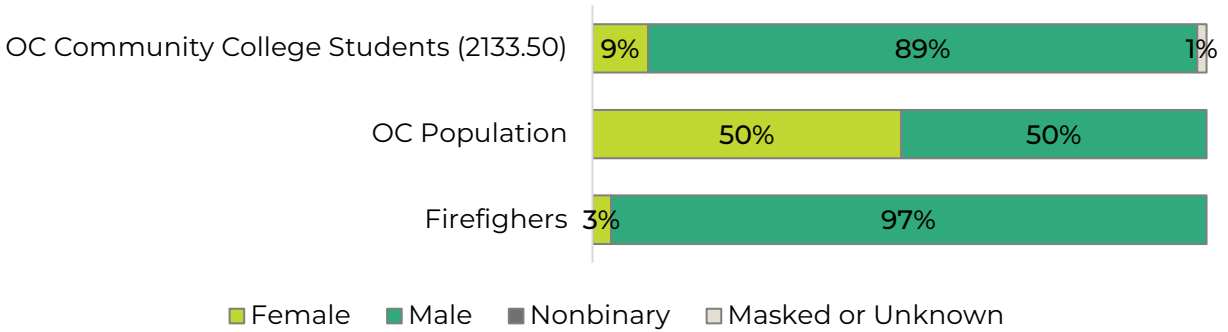


Sex

Exhibit 18 compares the sex of Orange County community college students enrolled in fire academy programs, the overall Orange County population, and occupation-specific data for firefighters.

Although the gender distribution in the general population is relatively balanced, women represent only 3% of firefighters and 9% of fire academy students. This underrepresentation highlights large and persistent gender disparities in this field.

Exhibit 18: Program and County Demographics by Sex



Appendix A: Methodology

OC COE prepared this report by analyzing occupational and educational program data. Occupational data comes from Lightcast, a labor market analytics firm which compiles information from the California Employment Development Department (EDD), U.S. Bureau of Labor Statistics (BLS), and other agencies. Analysis of emerging occupations is predicated on online job postings data combined with Occupational Information Network (O*NET) profile descriptions. Program supply data was sourced from the California Community Colleges Chancellor's Office Data Mart (MIS Data Mart) (datamart.cccco.edu) and the Integrated Postsecondary Education Data System (nces.ed.gov/ipeds/use-the-data), also known as IPEDS, which was integrated into the COE's Supply Table. (IPEDS).

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 have 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 each occupation (SOC code) by analyzing the number of 3-year average program completers or awards in related TOP and CIP codes. TOP code data comes from MIS Data Mart and CIP code data comes from the IPEDS. The 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 throughout the United States and Canada. The California Community Colleges are the only system that use TOP codes.

The analysis reflects labor market demand for occupations closely related to the proposed program as expressed by the requesting college in consultation with the OC COE. assess current and projected employment based on data trends for detailed occupations, as well as annual average awards granted by regional postsecondary educational institutions. Real-time labor market information (online job postings) assesses employer preferences but cannot be used to measure the quantity of open positions, number of jobs, or annual openings.

All findings are based on the most current available data and a combination of primary and secondary sources. While care was taken to ensure accuracy, the OC COE, its host district, and the California Community Colleges Chancellor's Office are not responsible for individual decisions made based on this report.

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 (v.2026.1), a labor market analytics firm.
Living Wage	<p>Per the CCCC's this report's endorsement criteria uses the University of Washington's Center for Women's Welfare Self-Sufficiency Standard last updated in March 2024, which is \$27.13 per hour (\$57,294 annually) in Orange County.</p> <p>The MIT Living Wage, updated on February 15, 2026, is a nationally recognized living wage metric and is provided for reference. The current MIT Living Wage in Orange County is \$36.53.</p>
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	<p>The CCCCO Data Mart provides information about students, courses, student services, outcomes and faculty and staff.</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).</p>
Student Metrics and Demographics	The Data Vista (v.2.0), 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	<p>The Census Bureau's American Community Survey (ACS) is the premier source for detailed population and housing information.</p> <p>Data is sourced from IPUMS USA, a database providing access to ACS and other Census Bureau data products.</p>

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April 2026



FOR LABOR MARKET RESEARCH

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