










Public Safety Management Occupations

Labor Market Analysis: San Diego County

January 2023

Summary

NEW PROGRAM RECOMMENDATION?	EVIDENCE OF A SUPPLY GAP?	AT OR ABOVE THE LIVING WAGE?	EXPECTED EDUCATION FOR MAJORITY OF OCCUPATIONS ANALYZED
 Do Not Proceed with New Program	 	 	<input type="checkbox"/> Bachelor's Degree+ <input type="checkbox"/> Associate Degree <input checked="" type="checkbox"/> Some College or Certificate <input type="checkbox"/> HS Diploma or Equivalent <input type="checkbox"/> Less than a HS Diploma <input type="checkbox"/> Apprenticeship
SUPPORT FOR PROGRAM MODIFICATION?	NUMBER OF INSTITUTIONS THAT PROVIDE TRAINING	NUMBER OF ANNUAL JOB OPENINGS	
 	MEDIUM 	LOW 	

This brief provides labor market information about *Public Safety Management Occupations* to assist the San Diego and Imperial Counties Community Colleges with program development and strategic planning. *Public Safety Management Occupations* include “Emergency Management Directors,” “Emergency Medical Technicians,” “Fire Inspectors and Investigators,” “Firefighters,” and “First-Line Supervisors of Firefighting and Prevention Workers.” According to available labor market information, *Public Safety Management Occupations* in San Diego County have a labor market demand of 388 annual job openings (while average demand for a single occupation in San Diego County is 245 annual job openings), and four institutions supply 751 awards for these occupations, suggesting that there is an oversupply in the labor market. On average, entry-level and median wages are above the living wage. This brief recommends not proceeding with developing a **new** program but supports a program modification because 1) there is an estimated oversupply in the region and 2) a low number of annual job openings exist for these occupations. **Colleges should note that employers typically require a postsecondary non-degree award as the minimum educational requirement for most of these occupations. Additionally, based on online job postings, the majority of employers (51 percent) requested high school or vocational training for these occupations.**

Introduction

This report provides labor market information in San Diego County for the following occupational codes in the Standard Occupational Classification (SOC)¹ system:

- **Emergency Management Directors** (SOC 11-9161): Plan and direct disaster response or crisis management activities, provide disaster preparedness training, and prepare emergency plans and procedures for natural (e.g., hurricanes, floods, earthquakes), wartime, or technological (e.g., nuclear power plant emergencies or hazardous materials spills) disasters or hostage situations.
- **Emergency Medical Technicians** (SOC 29-2042): Assess injuries and illnesses and administer basic emergency medical care. May transport injured or sick persons to medical facilities.
- **Fire Inspectors and Investigators** (SOC 33-2021): Inspect buildings to detect fire hazards and enforce local ordinances and state laws or investigate and gather facts to determine cause of fires and explosions.
- **Firefighters** (SOC 33-2011): Control and extinguish fires or respond to emergency situations where life, property, or the environment is at risk. Duties may include fire prevention, emergency medical service, hazardous material response, search and rescue, and disaster assistance.
- **First-Line Supervisors of Firefighting and Prevention Workers** (SOC 33-1021): Directly supervise and coordinate activities of workers engaged in firefighting and fire prevention and control.

For the purpose of this report, these occupations are referred to as *Public Safety Management Occupations*.

¹ The Standard Occupational Classification (SOC) system is used by federal statistical agencies to classify workers into occupational categories for the purpose of collecting, calculating, or disseminating data. [bls.gov/soc](https://www.bls.gov/soc).

Projected Occupational Demand

Between 2021 and 2026, *Public Safety Management Occupations* are projected to increase by 106 net jobs or two percent (Exhibit 1 a). Employers in San Diego County will need to hire 388 workers annually to fill new jobs and backfill jobs due to attrition caused by turnover and retirement, for example.

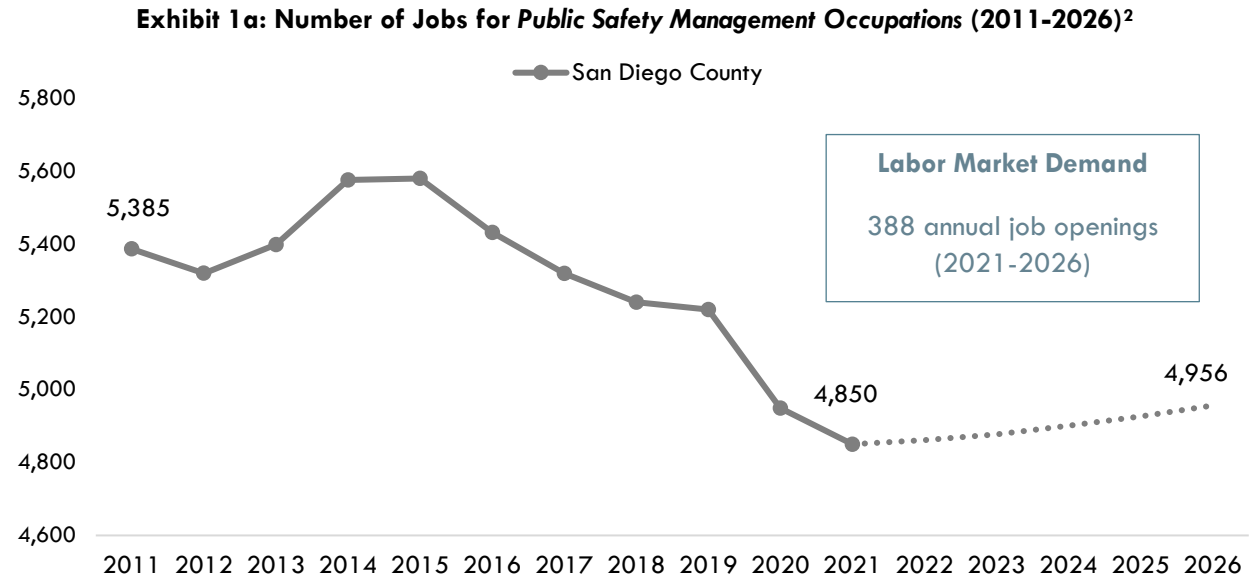


Exhibit 1b disaggregates the projected number of jobs change by occupation. “Firefighters” are projected to have the most labor market demand between 2021 and 2026, with 258 annual job openings.

Exhibit 1b: Number of Jobs for Public Safety Management Occupations in San Diego County (2021-2026)³

Occupational Title	2021 Jobs	2026 Jobs	2021 - 2026 Net Jobs Change	2021- 2026 % Net Jobs Change	Annual Job Openings (Demand)
Firefighters	3,009	3,146	137	5%	258
Emergency Medical Technicians	1,374	1,320	-54	-4%	87
First-Line Supervisors of Firefighting and Prevention Workers	238	263	25	11%	21
Emergency Management Directors	154	147	-7	-5%	13
Fire Inspectors and Investigators	75	80	5	7%	9
Total	4,850	4,956	106	2%	388

² Lightcast 2022.03; QCEW, Non-QCEW, Self-Employed.

³ Lightcast 2022.03; QCEW, Non-QCEW, Self-Employed.

Earnings

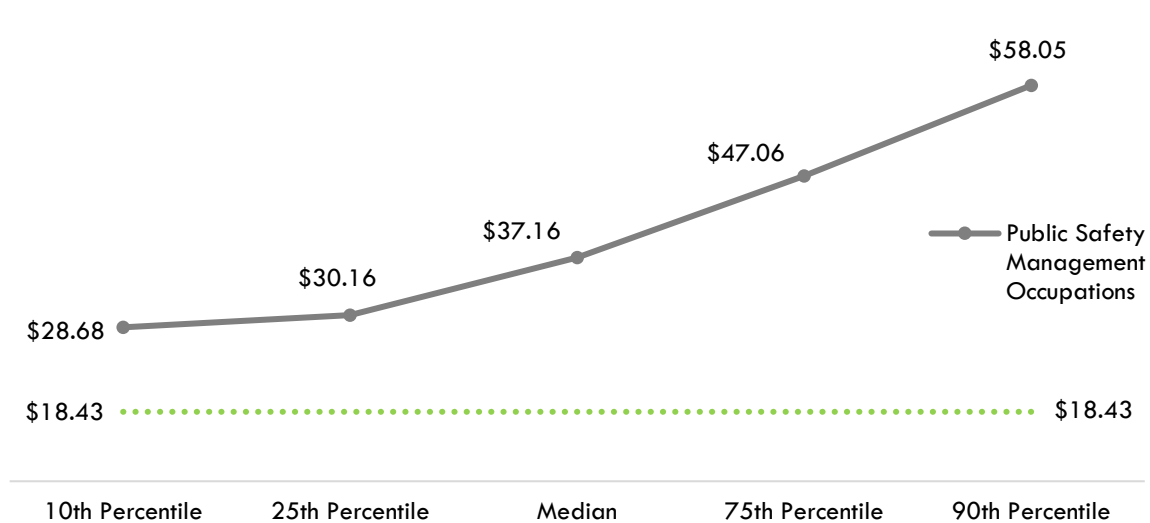
Exhibit 2a disaggregates hourly earnings by occupation. The entry-level hourly earnings for *Public Safety Management Occupations* range from \$14.38 to \$42.80.

Exhibit 2a: Hourly Earnings for *Public Safety Management Occupations* in San Diego County⁴

Occupational Title	Entry-Level Hourly Earnings (25 th Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75 th Percentile)
Emergency Management Directors	\$42.80	\$52.55	\$67.37
First-Line Supervisors of Firefighting and Prevention Workers	\$38.36	\$51.98	\$66.15
Fire Inspectors and Investigators	\$31.40	\$37.28	\$44.92
Firefighters	\$23.86	\$29.39	\$38.49
Emergency Medical Technicians	\$14.38	\$14.59	\$18.38

On average, the entry-level hourly earnings for *Public Safety Management Occupations* are \$30.16; this is more than the living wage for a single adult in San Diego County, which is \$18.43 per hour (Exhibit 2b).⁵

Exhibit 2b: Average Hourly Earnings⁶ for *Public Safety Management Occupations* in San Diego County⁷



⁴ Lightcast 2022.03; QCEW, Non-QCEW, Self-Employed.

⁵ "Family Needs Calculator (formerly the California Family Needs Calculator)," Insight: Center for Community Economic Development, last updated 2021. insightccd.org/family-needs-calculator/.

⁶ 10th and 25th percentiles could be considered entry-level wages, and 75th and 90th percentiles could be considered experienced wages for individuals who may have been in the occupation longer, received more training than others, etc.

⁷ Lightcast 2022.03; QCEW, Non-QCEW, Self-Employed.

Educational Supply

Educational supply for an occupation can be estimated by analyzing the number of awards in related Taxonomy of Programs (TOP) or Classification of Instructional Programs (CIP) codes.⁸ There are **five** TOP codes and **nine** CIP codes related to *Public Safety Management Occupations* (Exhibit 3).

Exhibit 3: Related TOP and CIP Codes for Public Safety Management Occupations⁹

TOP or CIP Code	TOP or CIP Program Title
TOP 1250.00	Emergency Medical Services
TOP 1251.00	Paramedic
TOP 2133.00	Fire Technology
TOP 2133.10	Wildland Fire Technology
TOP 2133.50	Fire Academy
CIP 03.0208	Environmental/Natural Resources Law Enforcement and Protective Services
CIP 43.0201	Fire Prevention and Safety Technology/Technician
CIP 43.0202	Fire Services Administration
CIP 43.0203	Fire Science/Fire-fighting
CIP 43.0204	Fire Systems Technology
CIP 43.0205	Fire/Arson Investigation and Prevention
CIP 43.0206	Wildland/Forest Firefighting and Investigation
CIP 51.0904	Emergency Medical Technology/Technician (EMT Paramedic)
CIP 52.0206	Non-Profit/Public/Organizational Management

⁸ TOP data comes from the California Community Colleges Chancellor's Office MIS Data Mart (datamart.cccco.edu) and CIP data comes from the Integrated Postsecondary Education Data System (nces.ed.gov/ipeds/use-the-data).

⁹ This brief uses a conservative estimate of program supply and only calculates awards from the TOP codes in Exhibit 3.

According to TOP data, three community colleges supply the region with awards for these occupations: Palomar College, San Diego Miramar College, and Southwestern College. According to CIP data, two non-community-college institutions supply the region with awards, National University and Point Loma Nazarene University (Exhibit 4).

**Exhibit 4: Number of Awards (Certificates and Degrees) Conferred by Postsecondary Institutions
(Program Year 2017-18 through Program Year 2020-21 Average)**

TOP6 or CIP Code	TOP6 or CIP Program Title	3-Yr Annual Average CC Awards (PY18-19 to PY20-21)	Other Educational Institutions 3-Yr Annual Average Awards (PY17-18 to PY19-20)	3-Yr Total Average Supply (PY17-18 to PY20-21)
1250.00	Emergency Medical Services	32	0	32
	• San Diego Miramar	0	0	
	• Southwestern	32	0	
1251.00	Paramedic	333	0	333
	• Palomar	323	0	
	• Southwestern	10	0	
2133.00	Fire Technology	185	0	185
	• Palomar	119	0	
	• San Diego Miramar	45	0	
	• Southwestern	21	0	
2133.50	Fire Academy	80	0	80
	• Palomar	74	0	
	• Southwestern	6	0	
51.0904	Emergency Medical Technology/Technician (EMT Paramedic)	0	120	120
	• National University	0	120	
52.0206	Non-Profit/Public/Organizational Management	0	1	1
	• Point Loma Nazarene University	0	1	
			Total	751

Demand vs. Supply

Comparing labor demand (annual openings) with labor supply¹⁰ suggests that there is an **oversupply** for these occupations in San Diego County, with **388** annual openings and **751** awards. Comparatively, there are **4,492** annual openings in California and **7,216** awards, suggesting that there is also an oversupply across the state¹¹ (Exhibit 5).

Exhibit 5: Labor Demand (Annual Openings) Compared with Labor Supply (Average Annual Awards)

	Demand (Annual Openings)	Supply¹² (Total Annual Average Supply)	Supply Gap or Oversupply
San Diego	388	751	363
California	4,492	7,216	2,724

Please note: This is a basic analysis of supply and demand of labor. The data does not include workers currently in the labor force who could fill these positions or workers who are not captured by publicly available data. This data should be used to discuss the potential gaps or oversupply of workers; however, it should not be the only basis for determining whether or not a program should be developed.

¹⁰ Labor supply can be found from two different sources: Lightcast or the California Community Colleges Chancellor's Office MIS Data Mart. Lightcast uses CIP codes while MIS uses TOP codes. Different coding systems result in differences in the supply numbers.

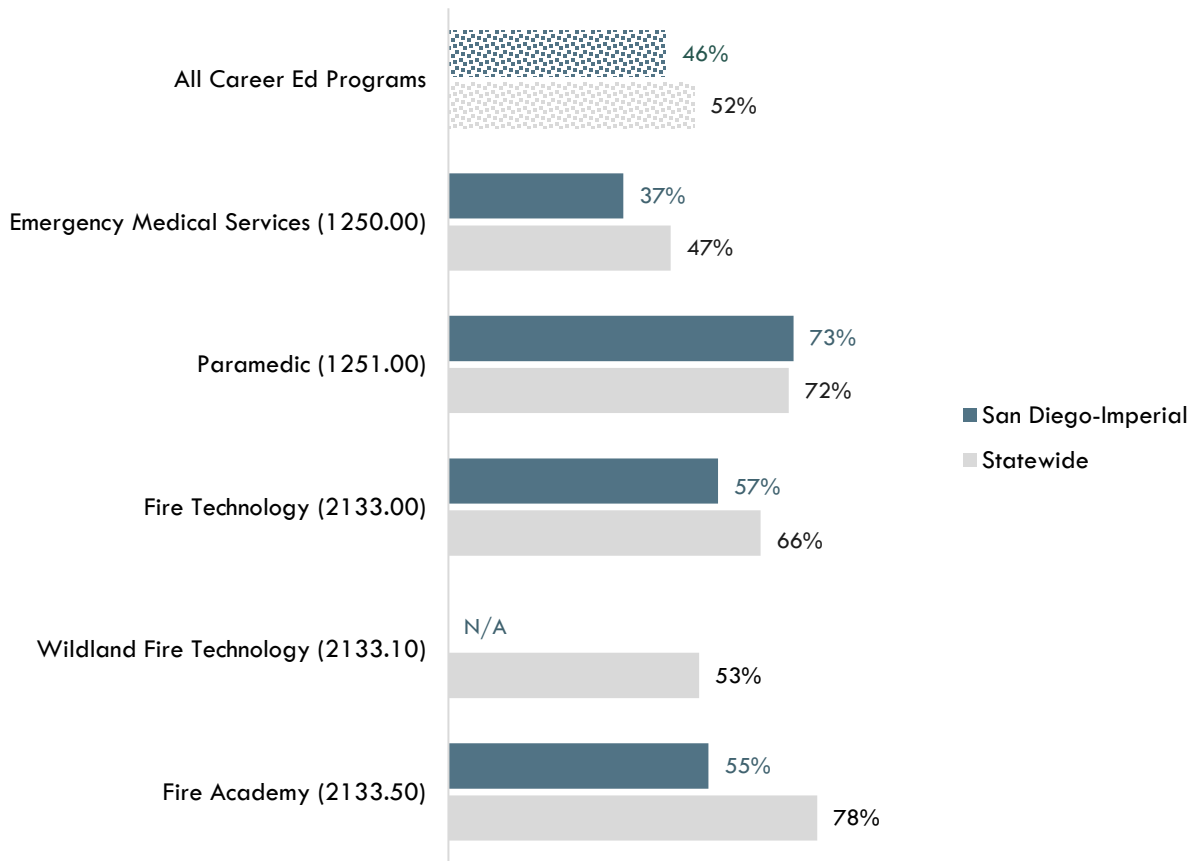
¹¹ "Supply and Demand," Centers of Excellence Student Outcomes, <https://coecc.net/our-resources/>.

¹² Awards included: associate degree; award <1 year; award 1<2 years; and postsecondary awards.

Student Outcomes and Regional Comparisons

According to the California Community Colleges LaunchBoard, 37 to 73 percent of students in the San Diego-Imperial region earned a living wage after completing a program related to *Public Safety Management Occupations*, compared 47 to 78 percent statewide and 52 percent of students in Career Education programs in general across the state (Exhibit 6a).¹³

Exhibit 6a: Percentage of Students Who Earned a Living Wage by Program, PY2019-20¹⁴



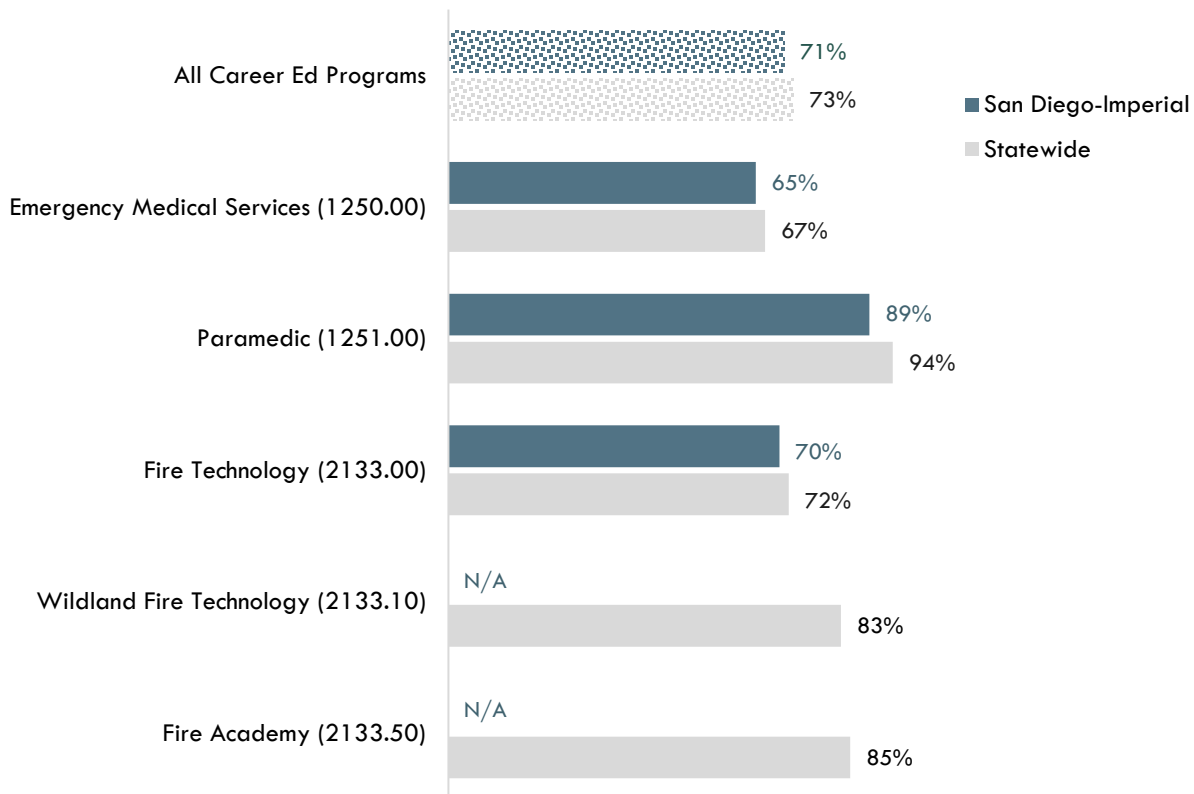
"N/A" indicates insufficient data

¹³ "California Community Colleges Strong Workforce Program," California Community Colleges, calpassplus.org/LaunchBoard/SWP.aspx.

¹⁴ Most recent year with available data is Program Year 2019-20. Among completers and skills builders who exited, the percentage of students who attained a living wage.

According to the California Community Colleges LaunchBoard, 65 to 89 percent of students in the San Diego-Imperial region obtained a job closely related to their field of study after completing a program related to *Public Safety Management Occupations*, compared to 67 to 94 percent statewide and 73 percent of students in Career Education programs in general across the state (Exhibit 6b).¹⁵

Exhibit 6b: Percentage of Students in a Job Closely Related to Field of Study by Program, PY2018-19¹⁶



"N/A" indicates insufficient data

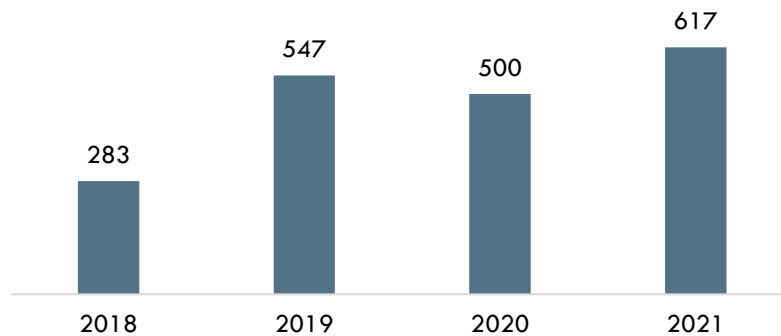
¹⁵ "California Community Colleges Strong Workforce Program," California Community Colleges, calpassplus.org/LaunchBoard/SWP.aspx.

¹⁶ Most recent year with available data is Program Year 2018-19. Percentage of Students in a Job Closely Related to Field of Study: Among students who responded to the CTEOS, the percentage reporting employment in the same or similar field as their program of study.

Online Job Postings

This report analyzes not only historical and projected (traditional LMI) data, but also recent data from online job postings (real-time LMI). Online job postings may provide additional insight about recent changes in the labor market that are not captured by historical data. Between 2018 and 2021, there was an average of 487 online job postings per year for *Public Safety Management Occupations* in San Diego County (Exhibit 7). Please note that online job postings do **not** equal labor market demand; demand is represented by annual job openings (see Exhibit 1 b). While this brief includes online jobs postings data to help with curriculum development, the community colleges should note that this type of data is impacted by several variables: employers may post a position multiple times to increase the pool of applicants; a job posting can remain posted after a business decides not to fill a position; or an employer may use one posting to fill multiple positions, for example.

Exhibit 7: Number of Online Job Postings for *Public Safety Management Occupations* in San Diego County (2018-2021)¹⁷



¹⁷ Lightcast; "Job Posting Analytics." 2018-2021.

Top Employers

Between January 1, 2019 and December 31, 2021, the top five employers in San Diego County for *Public Safety Management Occupations* were [Prime Healthcare Services](#), [Loyal Source](#), [Booz Allen Hamilton](#), [United States Navy](#), and [San Diego Community College District](#) based on online job postings (Exhibit 8).

Exhibit 8: Top Employers for *Public Safety Management Occupations* in San Diego County¹⁸

Top Employers	
<ul style="list-style-type: none">• Prime Healthcare Services• Loyal Source• Booz Allen Hamilton• United States Navy• San Diego Community College District	<ul style="list-style-type: none">• Scripps Health• Sycuan Casino• Global Medical Response• University of California San Diego• American Medical Response

Education, Skills, and Certifications

Public Safety Management Occupations have a national educational attainment ranging from a [postsecondary non-degree award](#) to a [bachelor's degree](#) (Exhibit 9a).

Exhibit 9a: National Educational Attainment for *Public Safety Management Occupations*¹⁹

Occupational Title	Typical Entry-Level Education
Emergency Management Directors	Bachelor's degree
Emergency Medical Technicians	Postsecondary non-degree award
Fire Inspectors and Investigators	Postsecondary non-degree award
Firefighters	Postsecondary non-degree award
First-Line Supervisors of Firefighting and Prevention Workers	Postsecondary non-degree award

¹⁸ Lightcast, "Job Posting Analytics." 2019-2021.

¹⁹ Lightcast 2022.03; QCEW, Non-QCEW, Self-Employed.

Based on online job postings between January 1, 2019 and December 31, 2021 in San Diego County, employers posted a **high school diploma or equivalent** as the educational requirement for *Public Safety Management Occupations* (Exhibit 9b).²⁰

Exhibit 9b: Educational Requirements for *Public Safety Management Occupations* in San Diego County²¹

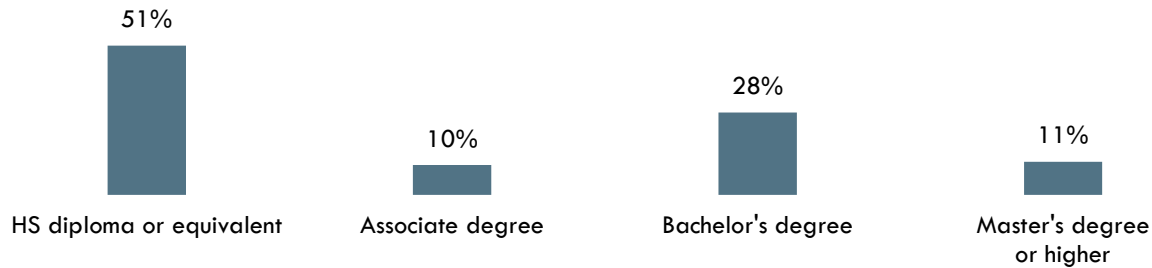


Exhibit 10 lists the top specialized, soft, and software skills that appeared in online job postings between January 1, 2019 and December 31, 2021.

Exhibit 10: Top Skills for *Public Safety Management Occupations* in San Diego County²²

Specialized Skills	Soft Skills	Software Skills
<ul style="list-style-type: none"> • Emergency Medical Services • Cardiopulmonary Resuscitation • Firefighting • Fire Prevention • Trauma Care • Fire Protection • Ambulances • Fire Alarm Systems • Fire Suppression Systems • Fire Service • Vital Signs • Emergency Response • Fire Safety • Fire Science • Patient Transport 	<ul style="list-style-type: none"> • Management • Communications • Operations • Customer Service • Writing • First Aid • Planning • Leadership • Coordinating • Professionalism • Computer Literacy • Presentations • Program Management • Research • Problem Solving 	<ul style="list-style-type: none"> • Microsoft Excel • Microsoft PowerPoint • Microsoft Word • Microsoft Outlook • TrackWise

²⁰ Lightcast; "Job Posting Analytics." 2019-2021.

²¹ "Educational Attainment for Workers 25 Years and Older by Detailed Occupation," Bureau of Labor Statistics, last modified April 9, 2021. bls.gov/emp/tables/educational-attainment.htm.

²² Lightcast; "Job Posting Analytics." 2019-2021.

Exhibit 11 lists the top certification that appeared in online job postings between January 1, 2019 and December 31, 2021.

Exhibit 11: Top Certification for *Public Safety Management Occupations* in San Diego County²³

Top Certification in Online Job Postings

1. Basic Life Support (BLS) Certification
 2. Advanced Cardiovascular Life Support (ACLS) Certification
 3. Pediatric Advanced Life Support
 4. National Registry Emergency Medical Technician
 5. Security Clearance
 6. Firefighter I Certification
 7. Secret Clearance
 8. Certified First Responder
 9. CDL Class C License
 10. Firefighter II Certification
 11. Advanced Life Support
 12. Certified Fire Inspector II
 13. Hazardous Materials Certification - Operations Level
 14. Project Management Professional Certification
 15. Certified Fire Inspector I
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²³ Lightcast; "Job Posting Analytics." 2019-2021.

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Important Disclaimers

All representations included in this report have been produced from primary research and/or secondary review of publicly and/or privately available data and/or research reports. This study examines the most recent data available at the time of the analysis; 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 the report 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.