

**Labor Market Analysis for Program Recommendation**

**Public Safety Occupations**

**College of Marin**

## Prepared by the San Francisco Bay Center of Excellence for Labor Market Research

## March 2024

## Recommendation

Based on all available data, there appears to be an “undersupply” of Public Safety workers compared to the demand for this cluster of occupations in the Bay region and in the North Bay sub-region (Marin, Napa, Solano, Sonoma counties). There is a projected annual gap of about 967 students in the Bay region and 159 students in the North Bay Sub-Region.

## Introduction

This report provides student outcomes data on employment and earnings for TOP 2133.00 - Fire Technology programs in the state and region. It is recommended that these data be reviewed to better understand how outcomes for students taking courses on this TOP code compare to potentially similar programs at colleges in the state and region, as well as to outcomes across all CTE programs at College of Marin and in the region.

This report profiles Public Safety Occupations in the 12 county Bay region and in the North Bay sub-region for two proposed new stackable Certificates of Achievement in Fire Technology and Public Safety at College of Marin.

* **Emergency Medical Technicians (29-2042):** Assess injuries and illnesses and administer basic emergency medical care. May transport injured or sick persons to medical facilities.
  Entry-Level Educational Requirement: Postsecondary nondegree award
  Training Requirement: None
  Percentage of Community College Award Holders or Some Postsecondary Coursework: 62%
* **Paramedics (29-2043):** Administer basic or advanced emergency medical care and assess injuries and illnesses. May administer medication intravenously, use equipment such as EKGs, or administer advanced life support to sick or injured individuals.
  Entry-Level Educational Requirement: Postsecondary nondegree award
  Training Requirement: None
  Percentage of Community College Award Holders or Some Postsecondary Coursework: 66%
* **Firefighters (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.
  Entry-Level Educational Requirement: Postsecondary nondegree award
  Training Requirement: Long-term on-the-job training
  Percentage of Community College Award Holders or Some Postsecondary Coursework: 60%

## Occupational Demand

**Table 1. Employment Outlook for Public Safety Occupations in Bay Region**

| **Occupation** | **2021 Jobs** | **2026 Jobs** | **5-yr Change** | **5-yr % Change** | **5-yr Total Openings** | **Annual Openings** | **25% Hourly Earning** | **Median Hourly Wage** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Emergency Medical Technicians | 4,888 | 5,327 | 439 | 9% | 2,457 | 491 | $17 | $20 |
| Paramedics | 2,285 | 2,537 | 252 | 11% | 902 | 180 | $21 | $25 |
| Firefighters | 6,902 | 7,277 | 375 | 5% | 3,210 | 642 | $36 | $44 |
| **Total** | **14,076** | **15,142** | **1,066** | **8%** | **6,568** | **1,313** |  |  |
| Source: Lightcast 2022.3 |
| **Bay Region includes:** Alameda, Contra Costa, Marin, Monterey, Napa, San Benito, San Francisco, San Mateo, Santa Clara, Santa Cruz, Solano and Sonoma Counties |

**Table 2. Employment Outlook for Public Safety Occupations in North Bay Sub-region**

| **Occupation** | **2021 Jobs** | **2026 Jobs** | **5-yr Change** | **5-yr % Change** | **5-yr Total Openings** | **Annual Openings** | **25% Hourly Earning** | **Median Hourly Wage** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Emergency Medical Technicians | 1,065 | 1,035 | -30 | -3% | 442 | 88 | $15 | $19 |
| Paramedics | 344 | 349 | 5 | 1% | 108 | 22 | $24 | $25 |
| Firefighters | 1,123 | 1,202 | 79 | 7% | 543 | 109 | $31 | $39 |
| **Total** | **2,532** | **2,586** | **54** | **2%** | **1,093** | **219** |  |  |
| Source: Lightcast 2022.3 |
| **North Bay Sub-Region includes:** Marin, Napa, Solano, Sonoma Counties |

### Job Postings in Bay Region and North Bay Sub-Region

**Table 3. Number of Job Postings by Occupation for latest 12 months (Mar. 2023 - Feb. 2024)**

| **Occupation** | **Bay Region** | **North Bay** |
| --- | --- | --- |
| Paramedics | 1,365 | 374 |
| Emergency Medical Technicians | 1,086 | 164 |
| Firefighters | 131 | 65 |
| Source: Lightcast |

**Table 4a. Top Job Titles for Public Safety Occupations for latest 12 months (Mar. 2023 - Feb. 2024) - Bay Region**

| **Title** | **Bay** | **Title** | **Bay** |
| --- | --- | --- | --- |
| Paramedics | 929 | Emergency Medical Responders | 29 |
| Emergency Medical Technicians - Basic | 420 | Reimbursement Managers | 12 |
| Emergency Medical Technicians | 304 | Critical Care Paramedics | 9 |
| Emergency Response Managers | 168 | Emergency Medical Technician Security Officers | 8 |
| Paramedic Specialists | 112 | First Aid Sales Representatives | 8 |
| AMR Emergency Medical Technicians | 95 | Heavy Equipment Operators | 8 |
| Gamers | 74 | Reserve Firefighters | 8 |
| Firefighters/Paramedics | 60 | Emergency Department Technicians | 7 |
| Firefighters | 42 | Emergency Medical Technician Paramedics | 7 |
| Source: Lightcast |

**Table 4b. Top Job Titles for Public Safety Occupations for latest 12 months (Mar. 2023 - Feb. 2024) - North Bay Sub-Region**

| **Title** | **North Bay** | **Title** | **North Bay** |
| --- | --- | --- | --- |
| Paramedics | 279 | Emergency Medical Technician Instructors | 4 |
| Emergency Response Managers | 78 | Emergency Medical Technician Security Officers | 4 |
| Emergency Medical Technicians | 55 | Flight Paramedics | 4 |
| Emergency Medical Technicians - Basic | 48 | Police Technicians | 4 |
| Firefighters/Paramedics | 36 | Emergency Veterinary Technicians | 3 |
| Emergency Medical Responders | 17 | Americorps Volunteers | 2 |
| Firefighters | 14 | Emergency Department Technicians | 2 |
| AMR Emergency Medical Technicians | 7 | Heavy Equipment Operators | 2 |
| Captains/Firefighters | 4 | Incident Responders | 2 |
| Source: Lightcast |

## Industry Concentration

**Table 5. Industries hiring Public Safety Workers in Bay Region**

| **Industry - 6 Digit NAICS (No. American Industry Classification) Codes** | **Jobs in Industry (2021)** | **Jobs in Industry (2026)** | **% Change (2021-26)** | **% Occupation Group in Industry (2022)** |
| --- | --- | --- | --- | --- |
| Local Government, Excluding Education and Hospitals | 8,042 | 8,944 | 11% | 59% |
| Ambulance Services | 3,285 | 3,864 | 18% | 25% |
| General Medical and Surgical Hospitals | 416 | 455 | 9% | 3% |
| Federal Government, Military | 380 | 363 | -5% | 2% |
| Hospitals (Local Government) | 276 | 380 | 38% | 2% |
| All Other Support Services | 230 | 211 | -8% | 1% |
| HMO Medical Centers | 205 | 183 | -11% | 1% |
| State Government, Excluding Education and Hospitals | 99 | 126 | 27% | 1% |
| Convention and Trade Show Organizers | 65 | 96 | 48% | 1% |
| Packaging and Labeling Services | 80 | 77 | -3% | 1% |
| Source: Lightcast 2022.3 |

**Table 6. Top Employers Posting Public Safety Occupations in Bay Region and North Bay Sub-Region (Mar. 2023 - Feb. 2024)**

| **Employer** | **Bay** | **Employer** | **North Bay** |
| --- | --- | --- | --- |
| AMR | 1,664 | AMR | 384 |
| Global Medical Response | 95 | Lifewest Ambulance Services | 45 |
| Lifewest Ambulance Services | 57 | Global Medical Response | 16 |
| Lifeguard Air Ambulance | 29 | County Of Marin | 10 |
| Pro-Transport | 29 | On-Site Health & Safety | 10 |
| Falcon Critical Care Transport | 27 | City Of Santa Rosa | 9 |
| Source: Lightcast |

## Educational Supply

There are 11 community colleges in the Bay Region issuing 346 awards on average annually (last 3 years ending 2021-22) on TOP 2133.00 - Fire Technology. In the North Bay Sub-Region, there are two (2) community colleges that issued 60 awards on average annually (last 3 years) on this TOP code.

**Table 7. Community College Awards on TOP 2133.00 - Fire Technology in Bay Region**

| **College** | **Subregion** | **Associate Degree** | **High unit Certificate** | **Low unit Certificate** | **Total** |
| --- | --- | --- | --- | --- | --- |
| Cabrillo | SC-Monterey | 17 | 0 | 0 | 17 |
| Chabot  | East Bay | 9 | 3 | 0 | 12 |
| Las Positas | East Bay | 25 | 0 | 27 | 52 |
| Los Medanos | East Bay | 34 | 0 | 42 | 76 |
| Merritt | East Bay | 4 | 0 | 5 | 9 |
| Mission | Silicon Valley | 28 | 0 | 0 | 28 |
| Monterey | SC-Monterey | 6 | 0 | 0 | 6 |
| San Francisco | Mid-Peninsula | 19 | 0 | 47 | 66 |
| San Mateo | Mid-Peninsula | 17 | 3 | 0 | 20 |
| Santa Rosa | North Bay | 32 | 11 | 0 | 43 |
| Solano | North Bay | 13 | 4 | 0 | 17 |
| **Total** |  | **204** | **21** | **121** | **346** |
| Source: Data Mart |
| Note: The annual average for awards is 2019-20 to 2021-22. |

## Gap Analysis

Based on the data included in this report, there is a labor market gap in the Bay region with 1,313 annual openings for the Public Safety occupational cluster and 346 annual (3-year average) awards for an annual undersupply of 967 students. In the North Bay Sub-Region, there is also a gap with 219 annual openings and 60 annual (3-year average) awards for an annual undersupply of 159 students.

## Student Outcomes

**Table 8. Four Employment Outcomes Metrics for Students Who Took Courses on TOP 2133.00 - Fire Technology**

| **Metric Outcomes** | **Bay All CTE Programs** | **College of Marin All CTE Programs** | **State 2133.00** | **Bay 2133.00** | **North Bay 2133.00** | **College of Marin 2133.00** |
| --- | --- | --- | --- | --- | --- | --- |
| Students with a Job Closely Related to Their Field of Study | 74% | 71% | 72% | 74% | 86% | N/A |
| Median Annual Earnings for SWP Exiting Students | $53,090 | $45,210 | $59,478 | $67,353 | $57,586 | N/A |
| Median Change in Earnings for SWP Exiting Students | 24% | 23% | 27% | 24% | 53% | N/A |
| Exiting Students Who Attained the Living Wage | 54% | 29% | 68% | 62% | 70% | N/A |
| Source: Launchboard Strong Workforce Program Median of 2018 to 2021. |

## Skills, Certifications and Education

**Table 9. Top Skills for Public Safety Occupations in Bay Region (Mar. 2023 - Feb. 2024)**

| **Skill** | **Posting** | **Skill** | **Posting** |
| --- | --- | --- | --- |
| Ambulances | 1,919 | Emergency Response | 273 |
| Medical Equipment | 1,787 | Healthcare Industry Knowledge | 162 |
| Defibrillation | 1,285 | Hoisting | 162 |
| Electrocardiography | 1,285 | Firefighting | 127 |
| Intravenous Hydration | 1,280 | Emergency Medicine | 112 |
| Emergency Medical Services | 757 | Trauma Care | 87 |
| Cardiopulmonary Resuscitation (CPR) | 594 | Vital Signs | 64 |
| Medical Assistance | 530 | National Incident Management Systems | 63 |
| Office Equipment | 517 | Critical Care | 57 |
| Patient Rights | 515 | Fire Prevention | 53 |
| Source: Lightcast |

**Table 10. Certifications for Public Safety Occupations in Bay Region (Mar. 2023 - Feb. 2024)**

| **Certification** | **Posting** | **Certification** | **Posting** |
| --- | --- | --- | --- |
| Valid Driver's License | 1,822 | Nationally Registered Emergency Medical Technician (NREMT) | 81 |
| Basic Life Support (BLS) Certification | 1,790 | Firefighter I Certification | 65 |
| Advanced Cardiovascular Life Support (ACLS) Certification | 1,244 | Certified First Responder (CFR) | 46 |
| Pediatric Advanced Life Support (PALS) | 1,237 | Registered Nurse (RN) | 41 |
| Paramedic (EMT-P) | 1,109 | Certified Cardiographic Technician (CCT) | 36 |
| Emergency Medical Technician (EMT) | 1,002 | First Aid Certification | 32 |
| Basic Trauma Life Support (BTLS) | 731 | Emergency Medical Responder (EMR) | 32 |
| Emergency Medical Technician - Basic (EMT-B) | 341 | Automated External Defibrillator (AED) Certification | 29 |
| Advanced Life Support | 154 | American Red Cross (ARC) Certification | 23 |
| Cardiopulmonary Resuscitation (CPR) Certification | 84 | CDL Class C License | 20 |
| Source: Lightcast |

**Table 11. Education Requirements for Public Safety Occupations in Bay Region**

| **Education Level** | **Job Postings** | **% of Total** |
| --- | --- | --- |
| High school or GED | 2,143 | 95% |
| Associate degree | 41 | 2% |
| Bachelor's degree & higher | 74 | 3% |
| Source: Lightcast |
| Note: 15% of records have been excluded because they do not include a degree level. As a result, the chart above may not be representative of the full sample. |

## Methodology

Occupations for this report were identified by use of job descriptions and skills listed in O\*Net. Labor demand data is sourced from Lightcast occupation and job postings data. Educational supply and student outcomes data is retrieved from multiple sources, including CCCCO Data Mart and CTE Launchboard.

## Sources

O\*Net Online
Lightcast
CTE LaunchBoard www.calpassplus.org
Launchboard
Statewide CTE Outcomes Survey
Employment Development Department Unemployment Insurance Dataset
Living Insight Center for Community Economic Development
Chancellor’s Office MIS system

## Contacts

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