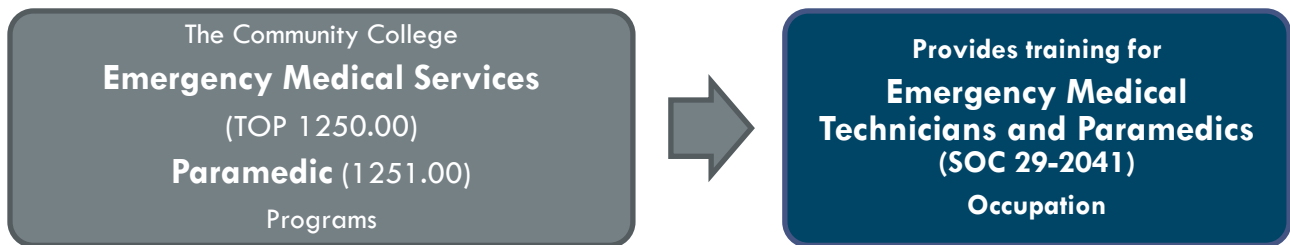


Emergency Medical Technicians and Paramedics

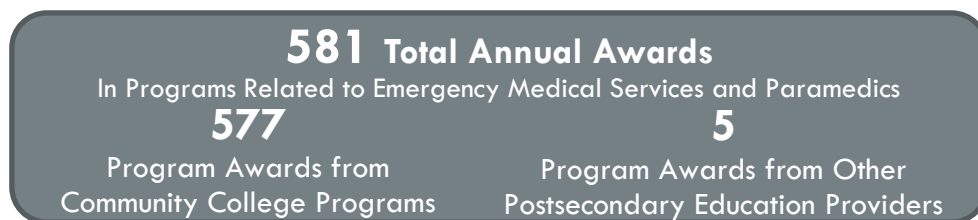
Inland Empire/Desert Region (Riverside and San Bernardino counties)

This workforce demand report uses state and federal job projection data developed before the economic impact of COVID-19. The COE is monitoring the situation and will provide more information as it becomes available. Please consult with local employers to understand their current employment needs.

Summary



Over the next five years (2020-2025), emergency medical technician and paramedic employment is projected to




The Inland Empire/Desert Centers of Excellence

 **Recommends**

EMS/Paramedic Program Expansion
to meet the need for more workers and skills training

Introduction

This report provides labor market occupational demand and wage research and postsecondary program outcomes related to emergency medical technicians and paramedics. Emergency medical technicians and paramedics are most likely to be trained by California Community College emergency medical services (TOP 1250.00) and paramedic (1251.00) programs. Emergency medical services (1250.00) programs

prepare students for employment through the instruction of the pre-hospital, emergency medical diagnostic procedure, treatment, and comprehensive care in medical crises, including emergency vehicle operation and patient transportation procedures, including training specific to the certification standards for the EMT-1 or EMT-2 certifications (Taxonomy of Programs, 2012). Paramedic (1251.00) programs prepare students for employment through training specific to the certification standards for EMT-P (Paramedic) (Taxonomy of Programs, 2012). The knowledge, skills, and abilities trained by emergency medical services and paramedic programs lead to the combined emergency medical technician and paramedic occupation.

Emergency Medical Technicians and Paramedics (SOC 29-2041)

Assess injuries and illnesses and administer basic emergency medical care. May transport injured or sick persons to medical facilities. 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.

Sample job titles: Emergency Medical Technician (EMT), First Responder, First Responder, Flight Paramedic

Entry-Level Educational Requirement: Postsecondary nondegree award

Work Experience Required: None

Training Requirement: None

Incumbent workers with a Community College Award or Some Postsecondary Coursework: 66%

Emergency medical technician and paramedic skills and training are also necessary or beneficial for other occupations to enter employment. While this report focuses solely on the emergency medical technician and paramedic occupation, a special section on EMT and Paramedic Certification Demand for Other Occupations for online job ads is available on page 7.

Job Counts and Projections

In 2020, there were 3,365 emergency medical technician and paramedic jobs in the Inland Empire/Desert Region. Employment for this occupation is expected to grow by 1% through 2025. Over this period, 255 annual job openings are projected for emergency medical technicians and paramedics. Exhibit 1 displays the job counts, five-year projected job growth, job openings, and the share of incumbent workers age 55 years and older in the region.

Exhibit 1: Five-year projections, 2020-2025

2020 Jobs	2025 Jobs	5-Yr % Change	5-Yr Openings (New + Replacement Jobs)	Annual Openings (New + Replacement Jobs)	% of workers age 55+
3,365	3,400	1%	1,276	255	8%

Source: Emsi 2022.1

Traditional labor market statistics combine the emergency medical technician and paramedic jobs roles into a single occupation due to the similar tasks, knowledge, skills, and abilities shared by each role. The COE conducted a search of online job advertisements (ads) to isolate employer demand results for the emergency medical technician (EMTs) job and the paramedics job. Other jobs requiring or benefiting from EMT and paramedic skills were excluded from the search, e.g., firefighters, fire chief/marshal, nurses, instructors, and students. Other sections of this report reveal the details about the employers seeking these jobs, including the time it takes to fill positions, earnings information, and in-demand skills for each role.

Over the previous 12 months, from April 2021 to March 2022, 319 job ads for EMTs and 160 job ads for paramedics were posted in the region. A job title filter was applied to this search to separate ads for emergency medical technicians and paramedics to gain greater insight into employer preferences for emergency medical technician jobs and paramedic jobs.

Exhibit 2 shows the number of job ads posted during the last 12 months in the region and the regional and statewide average time to fill this job. On average, employers in the local region fill online job advertisements for EMTs and paramedics in 34 days, the same as the statewide average time to fill. Time to fill information indicates that employers in the region experience similar challenges filling open positions as other employers in California.

Exhibit 2: Job ads and time to fill

Occupation	Job Ads	Regional Average Time to Fill (Days)	Statewide Average Time to Fill (Days)
Emergency Medical Technician	319	34	34
Paramedic	160	34	34

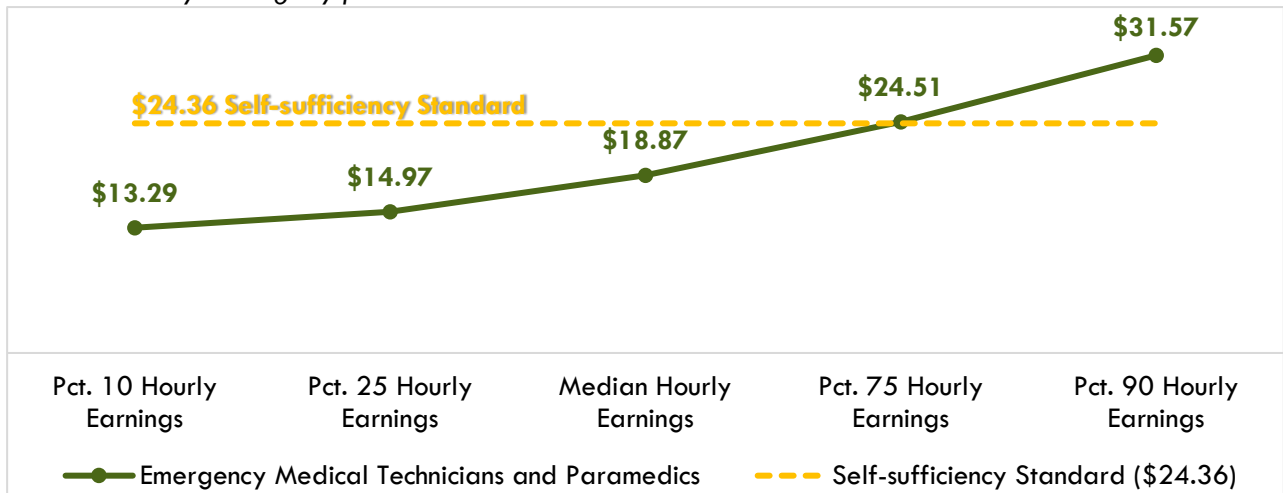
Source: Burning Glass – Labor Insights

Earnings and Benefits

Community colleges should ensure their training programs lead to employment opportunities that provide self-sustainable income. The University of Washington estimates that a self-sufficient hourly rate for a single adult with one school-age child is \$24.36 per hour or \$51,452 annually in Riverside County; \$23.73 per hour or \$50,119 annually in San Bernardino County (Pearce, 2021). For this study, the higher hourly earnings requirement in Riverside County is adopted as the self-sufficiency standard for the two-county region.

Exhibit 3 displays the hourly earnings for emergency medical technicians and paramedics in the Inland Empire/Desert Region. The median hourly earnings for emergency medical technicians and paramedics are below the regional self-sufficiency rate. The hourly earnings for this occupation do not surpass the self-sustainability rate until the 75th percentile, indicating that only the top 25% of workers earn a self-sustainable wage.

Exhibit 3: Hourly earnings by percentile



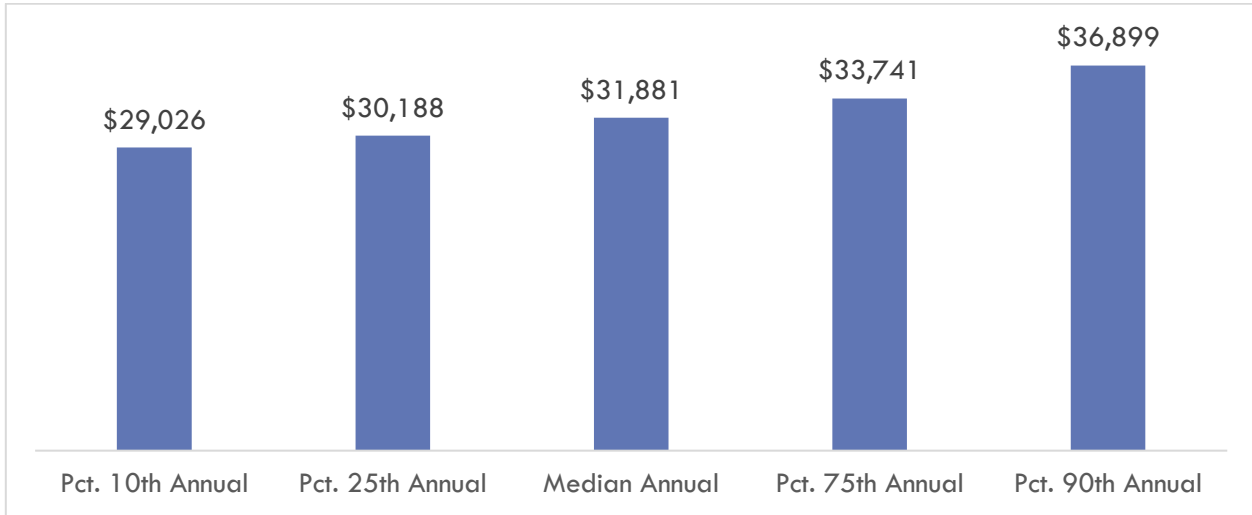
Source: Emsi 2022.1

Benefits information, provided by the occupational guides developed by the California Labor Market Information Division, reveals that benefits for emergency medical technicians and paramedics generally include medical, dental, and vision insurance as well as vacation, sick leave, and retirement plans. EMTs who work for fire or police departments typically receive the same benefits as firefighters or police officers (Detailed Occupational Guides, 2022).

Salary from Online Job Ads

Exhibits 4 and 5 display online job ad salary data for EMTs and paramedics over the last 12 months. Online job ad salary information reveals that employers are willing to pay a median annual salary of \$31,881 EMTs and paramedics \$39,139 annually. Multiple paramedics online job ads mentioned an up to \$15,000 sign-on bonus and opportunities for overtime pay.

Exhibit 4: EMT advertised market salary by percentile, last 12 months



Source: Burning Glass – Labor Insights

Exhibit 5: Paramedic advertised market salary by percentile, last 12 months



Source: Burning Glass – Labor Insights

Employers, Skills, Education, and Work Experience

Exhibit 6 displays the employers that posted ten or more job ads for emergency medical technicians and paramedics in the region over the last 12 months. Showing employer names provides some insight into where students may find employment after completing a program. Global Medical Response (GMR) posted the most job ads for emergency medical technicians and paramedics in the region over the last 12 months.

Exhibit 6: Employers posting the most job ads for emergency medical technicians and paramedics

Occupation	Employers
Emergency Medical Technician (n=297)	<ul style="list-style-type: none"> Global Medical Response Covid Clinic Prime Healthcare Services American Medical Response (AMR)
Paramedic (n=150)	<ul style="list-style-type: none"> Global Medical Response (Inc) American Medical Response (AMR) Air Methods

Source: Burning Glass – Labor Insights

Exhibit 7 lists a sample of specialized and employability skills employers' seek when looking for workers to fill emergency medical technician and paramedic positions. Specialized skills are occupation-specific skills that employers request for industry or job competency. Employability skills are foundational skills that transcend industries and occupations; this category is often referred to as "soft skills." The skills requested in job ads may be utilized to guide curriculum development.

Exhibit 7: Sample of in-demand skills from employer job ads

Occupation	Specialized skills	Employability skills
Emergency Medical Technician (n=284)	<ul style="list-style-type: none"> Cardiopulmonary Resuscitation (CPR) Patient Care Advanced Cardiac Life Support (ACLS) 	<ul style="list-style-type: none"> Teamwork/Collaboration English Communication Skills
Paramedic (n=152)	<ul style="list-style-type: none"> Advanced Cardiac Life Support (ACLS) Cardiopulmonary Resuscitation (CPR) Medical Triage Patient Care Electrocardiogram (EKG/ECG) Public Health and Safety Patient Interviewing Motor Vehicle Operation 	<ul style="list-style-type: none"> Physical Abilities Leadership

Source: Burning Glass – Labor Insights

Exhibit 8 displays the typical entry-level education, educational attainment, and minimum advertised education requirements for the emergency medical technicians and paramedics occupation. According to the Bureau of Labor Statistics, approximately 66% of incumbent workers in this field hold a community college-level of educational attainment; "some college, no degree" and an "associate degree." Nearly all job advertisements for EMTs and paramedics sought candidates with a high school diploma or vocational training.

Exhibit 8: Typical entry-level education, educational attainment, and minimum advertised education requirements

Occupation	Typical Entry-Level Education Requirement	CC-Level Educational Attainment*	Number of Job Ads	Real-Time Minimum Advertised Education Requirement		
				High school or vocational training	Associate degree	Bachelor's degree or higher
Emergency Medical Technician	Postsecondary nondegree award	66%	219	98%	2%	-
Paramedic	Postsecondary nondegree award	66%	132	100%	-	-

Source: Emsi 2022.1, Burning Glass – Labor Insights

*Percentage of incumbent workers with a Community College Award or Some Postsecondary Coursework

Certifications

Exhibit 9 displays the certifications most frequently requested by employers in job advertisements. The job ads for emergency medical technicians sought candidates with EMT-1 and EMT-2 certifications. Approximately 76% of paramedic employer job ads sought candidates with the EMT-P certification. According to the California Emergency Medical Services Authority (EMSA), to obtain an EMT-1, EMT-2, and EMT-P certifications, individuals must complete an approved EMT training program and pass the National Registry (NREMT) cognitive and psychomotor examinations and apply for certification at a local EMS agency (EMSA, 2022). For more information regarding emergency medical technician and paramedic licensure, please visit the EMSA website (EMSA, 2022).

Exhibit 9: Certifications most frequently required by employers

Occupation	Certification
Emergency Medical Technician (n=316)	<ul style="list-style-type: none"> • Emergency Medical Technician (EMT-1, EMT-2) • Driver's License • American Heart Association Certification • Basic Life Support (BLS)
Paramedic (n=151)	<ul style="list-style-type: none"> • Advanced Cardiac Life Support (ACLS) Certification • Driver's License • Paramedic Certification (EMT-P) • American Heart Association Certification

Source: Burning Glass – Labor Insights

EMT and Paramedic Certification Demand for Other Occupations

Paramedic and EMT certifications may be held by individuals not working as emergency medical technicians and paramedics. This section details the regional demand for paramedic and EMT certifications. Over the last twelve months, EMT certifications were requested in 929 job ads, while 307 employer job ads sought individuals with the paramedic certification. In the previous twelve months, 1,108 job ads contained EMT or

paramedic certifications. Exhibit 10 displays the occupations with more than 20 job ads with EMT or paramedic certifications.

Exhibit 10: Occupations requiring EMT and paramedic certifications

Occupation	Job Ads	Sample Job Titles
Emergency Medical Technicians and Paramedics	476	<ul style="list-style-type: none"> Emergency Medical Technician Paramedic
Medical Dosimetrists, Medical Records Specialists, and Health Technologists and Technicians, All Other	130	<ul style="list-style-type: none"> Emergency Department Technician
Nursing Assistants	75	<ul style="list-style-type: none"> Nursing Assistant/EMT
Firefighters	63	<ul style="list-style-type: none"> Firefighter/Paramedic
Registered Nurses	43	<ul style="list-style-type: none"> Registered Nurse/EMT
Cardiovascular Technologists and Technicians	43	<ul style="list-style-type: none"> Critical Care Transport (CCT) Nurse
Licensed Vocational Nurses	28	<ul style="list-style-type: none"> Licensed Vocational Nurse/Paramedic
Clinical Laboratory Technologist and Technicians	24	<ul style="list-style-type: none"> Emergency Department Technician
<i>All other occupations (non-Emergency Medical Technicians and Paramedics)</i>	226	-
Total	1,108	

Source: Burning Glass – Labor Insights

Student Completions and Programs Outcomes

Exhibit 11 displays student completions for emergency medical services (TOP 1250.00) programs over the last three academic years (2018-2021). Over this period, regional community colleges have issued 411 awards annually in emergency medical services programs. Program completion and student outcome methodologies are found in the appendix.

Exhibit 11: 2018-21, Annual average community college awards for emergency medical services programs in the region

TOP 1250.00 – Emergency Medical Services	Academic Year 2018-19	Academic Year 2019-20	Academic Year 2020-21	Total CC Annual Average Awards, Academic Years 2018-21
Chaffey				2
Certificate (18 to < 30 units)	2	0	0	1
Certificate (16 to < 30 units)	0	1	2	1
Crafton Hills				201
Certificate (6 to < 18 units)	211	229	162	201
Desert				1
Certificate (18 to < 30 units)	1	0	0	0

TOP 1250.00 – Emergency Medical Services	Academic Year 2018-19	Academic Year 2019-20	Academic Year 2020-21	Total CC Annual Average Awards, Academic Years 2018-21
Certificate (16 to < 30 units)	0	1	2	1
Moreno Valley				117
Certificate (8 to < 16 units)	0	3	78	27
Certificate (6 to < 18 units)	136	131	2	90
Victor Valley				90
Certificate (16 to < 30 units)	0	0	13	4
Certificate (8 to < 16 units)	0	1	258	86
Total	350	366	517	411

Source: MIS Data Mart

California program outcome data may provide a useful insight into the likelihood of success for the proposed program. Community college student outcome information based on the selected TOP code and region is provided in Exhibit 12.

Exhibit 12: 1250.00 – Emergency medical services strong workforce program outcomes

Strong Workforce Program Metrics: 1250.00 – Emergency Medical Services Academic Year 2018-19, unless noted otherwise	Inland Empire/Desert Region	California
Unduplicated count of enrolled students (2019-20)	1,821	18,940
Completed 9+ career education units in one year (2019-20)	35%	31%
Perkins Economically disadvantaged students (2019-20)	76%	69%
Students who attained a noncredit workforce milestone in a year (2019-20)	-	68%
Students who earned a degree, certificate, or attained apprenticeship (2019-20)	-	199
Transferred to a four-year institution (transfers)	52	762
Job closely related to the field of study (2017-18)	72%	66%
Median annual earnings (all exiters)	\$28,350	\$32,064
Median change in earnings (all exiters)	21%	28%
Attained a living wage (completers and skills-builders)	54%	48%

Sources: LaunchBoard Community College Pipeline and Strong Workforce Program Metrics

Exhibit 13 displays student completions for paramedic (TOP 1251.00) programs over the last three academic years (2018-2021). Over this period, regional community colleges have issued 166 awards annually in paramedic programs. Program completion and student outcome methodologies are found in the appendix.

Exhibit 13: 2018-21, Annual average community college awards for paramedic programs in the region

TOP 1251.00 – Paramedic	Academic Year 2018-19	Academic Year 2019-20	Academic Year 2020-21	Total CC Annual Average Awards, Academic Years 2018-21
Crafton Hills				24
Associate Degree	4	5	7	5
Certificate (30 to < 60 units)	17	38	2	19
Moreno Valley				25
Associate Degree	6	6	9	7
Certificate (30 to < 60 units)	24	10	20	18
Victor Valley				116
Associate Degree	11	13	8	11
Certificate (30 to < 60 units)	41	23	53	39
Certificate (8 to < 16 units)	0	0	200	67
Total	103	95	299	166

Source: MIS Data Mart, COCI

California program outcome data may provide a useful insight into the likelihood of success for the proposed program. Community college student outcome information based on the selected TOP code and region is provided in Exhibit 14.

Exhibit 14: 1251.00 – Paramedic strong workforce program outcomes

Strong Workforce Program Metrics: 1251.00 – Paramedic Academic Year 2018-19, unless noted otherwise	Inland Empire/Desert Region	California
Unduplicated count of enrolled students (2019-20)	342	1,804
Completed 9+ career education units in one year (2019-20)	61%	65%
Perkins Economically disadvantaged students (2019-20)	84%	74%
Students who attained a noncredit workforce milestone in a year (2019-20)	-	51%
Students who earned a degree, certificate, or attained apprenticeship (2019-20)	81	405
Transferred to a four-year institution (transfers)	-	46
Job closely related to the field of study (2017-18)	100%	93%
Median annual earnings (all exiters)	\$51,636	\$54,260
Median change in earnings (all exiters)	67%	49%
Attained a living wage (completers and skills-builders)	79%	78%

Sources: LaunchBoard Community College Pipeline and Strong Workforce Program Metrics

Exhibit 15 displays the awards reported by other postsecondary education providers in emergency medical technology/technician (EMT Paramedic) (CIP 51.0904) programs. Completion data is compiled from the Integrated Postsecondary Education Data System (IPEDS) for the most recent three years available. On average, one other postsecondary education institution in the region issued five awards annually over the last three academic years.

Exhibit 15: Other educational provider emergency medical technology/technician (EMT Paramedic) programs, three-year annual average credentials in the Inland Empire/Desert Region

51.0904 – Emergency Medical Technology/Technician (EMT Paramedic)	Academic Year 2016-17	Academic Year 2017-18	Academic Year 2018-19	Other Educational Providers Annual Average Credentials, Academic Years 2016-19
Loma Linda University				5
Bachelor's Degree	11	2	1	5
Total	11	2	1	5

Source: IPEDS

Recommendation

Community college emergency medical services and paramedic programs provide the knowledge, skills, and abilities that lead to the emergency medical technician and paramedic occupation. Employment for emergency medical technicians and paramedics is expected to increase by 1% through 2025, with 255 job openings expected annually. The median hourly earnings for emergency medical technicians and paramedics are below the regional self-sufficiency rate. The hourly earnings for this occupation do not surpass the self-sustainability rate until the 75th percentile, indicating that only the top 25% of workers earn a self-sustainable wage.

Regional community colleges have issued 411 awards annually over the last three academic years in emergency medical services (TOP 1250.00) programs and 166 awards annually in paramedic (1251.00) programs. One other postsecondary education provider in the region has issued five awards annually in programs related to emergency medical technicians and paramedics.

Centers of Excellence recommends expanding emergency medical technicians and paramedic programs to meet the need for more EMT and paramedic workers and provide training to workers that require these skills (e.g., firefighters). Colleges considering this program should have a strong partnership with relevant employers and document their demand for workers and the skills needed for students to secure work that provides self-sustainable earnings shortly after exiting these programs.

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Appendix: Methodology

Exhibits 11 and 13 display the average annual California Community College (CCC) awards conferred during the three academic years between 2018 and 2021 from the California Community Colleges Chancellor's Office Management Information Systems (MIS) Data Mart. Awards are the combined total of associate degrees and certificates issued during the timeframe, divided by three in this case to calculate an annual average. This is done to minimize the effect of atypical variation that might be present in a single year.

Community college student outcome information is from LaunchBoard and based on the selected TOP code and region. These metrics are based on records submitted to the California Community Colleges Chancellor's Office Management Information Systems (MIS) by community colleges, which come from self-reported student information from CCC Apply and the National Student Clearinghouse. Employment and earnings metrics are sourced from records provided by California's Employment Development Department's Unemployment Insurance database. When available, outcomes for completers are reported to demonstrate the impact that earning a degree or certificate can have on employment and earnings. For more information on the types of students included for each metric, please see the web link for LaunchBoard's Strong Workforce Program Metrics Data Element Dictionary in the References section (LaunchBoard, 2021 a). Finally, employment in a job closely related to the field of study comes from self-reported student responses on the CTE Employment Outcomes Survey (CTEOS), administered by Santa Rosa Junior College (LaunchBoard, 2021 a).

Job advertisement data is limited to the information provided by employers and the ability of artificial intelligence search engines to identify this information. Additionally, preliminary calculations by Georgetown Center on Education and the Workforce found that "just 30 to 40 percent of openings for candidates with some college or an associate degree, and only 40 to 60 percent of openings for high school diploma holders appear online" (Carnevale et al., 2014). Online job advertisements often do not reveal employers' hiring intentions; it is unknown if employers plan to hire one or multiple workers from a single online job ad or if they are collecting resumes for future hiring needs. A closed job ad may not be the result of a hired worker.

Table 1. 2020 to 2025 job growth, wages, entry-level education, training, and work experience required for emergency medical technicians and paramedics in the Inland Empire/Desert Region (Riverside and San Bernardino counties combined)

Occupation (SOC)	2020 Jobs	5-Year Change	5-Year % Change (New Jobs)	Annual Openings (New + Replacement Jobs)	Entry-Experienced Hourly Wage (10 th to 90 th percentile)	Median Hourly Wage (50 th percentile)	Average Annual Earnings	Entry-Level Education & On-The-Job-Training	Work Experience Required
Emergency Medical Technicians and Paramedics (29-2041)	3,365	35	1%	255	\$13.29 to \$31.57	\$18.87	\$43,200	Postsecondary nondegree award & None	None

Source: Emsi 2022.1