










Fire Fighting Occupations

Labor Market Analysis: Imperial County

May 2021

Summary

NEW PROGRAM RECOMMENDATION?	EVIDENCE OF A SUPPLY GAP?	AT OR ABOVE THE LIVING WAGE?	EXPECTED EDUCATION FOR MAJORITY OF OCCUPATIONS ANALYZED
 Proceed with Caution	 	 	<input type="checkbox"/> Bachelor's Degree <input type="checkbox"/> Associate Degree <input checked="" type="checkbox"/> Some College or Certificate
SUPPORT FOR PROGRAM MODIFICATION?	NUMBER OF INSTITUTIONS THAT PROVIDE TRAINING	NUMBER OF ANNUAL JOB OPENINGS	<input type="checkbox"/> HS Diploma or Equivalent <input type="checkbox"/> Less than a HS Diploma
 	MEDIUM 	MEDIUM 	<input type="checkbox"/> Apprenticeship

This brief provides labor market information about *Fire Fighting Occupations* to assist the San Diego and Imperial Counties Community Colleges with program development and strategic planning. *Fire Fighting Occupations* include “First-Line Supervisors of Firefighting and Prevention Workers” and “Firefighters.” According to available labor market information, *Fire Fighting Occupations* in Imperial County have a labor market demand of 15 annual job openings (while average demand for a single occupation in Imperial County is 14 annual job openings), and one college in Imperial County supplies 14 awards for these occupations, suggesting that supply is met in the labor market. Entry-level wages and median wages for this occupation are above the living wage. This brief recommends proceeding with caution when developing a new program, but supports a program modification because 1) supply is met for these occupations and 2) entry-level and median earnings are above the living wage.

Introduction

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

- **First-Line Supervisors of Firefighting and Prevention Workers** (SOC² 33-1021): Directly supervise and coordinate activities of workers engaged in firefighting and fire prevention and control.
- **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.

For the purpose of this report, these occupations are referred to as *Fire Fighting 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).

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Projected Occupational Demand

Between 2020 and 2025, *Fire Fighting Occupations* are projected to increase by 15 net jobs or nine percent (Exhibit 1a). Employers in Imperial County will need to hire 15 workers annually to fill new jobs and backfill jobs due to attrition caused by turnover and retirement, for example.

Exhibit 1a: Number of Jobs for Fire Fighting Occupations (2010-2025)³

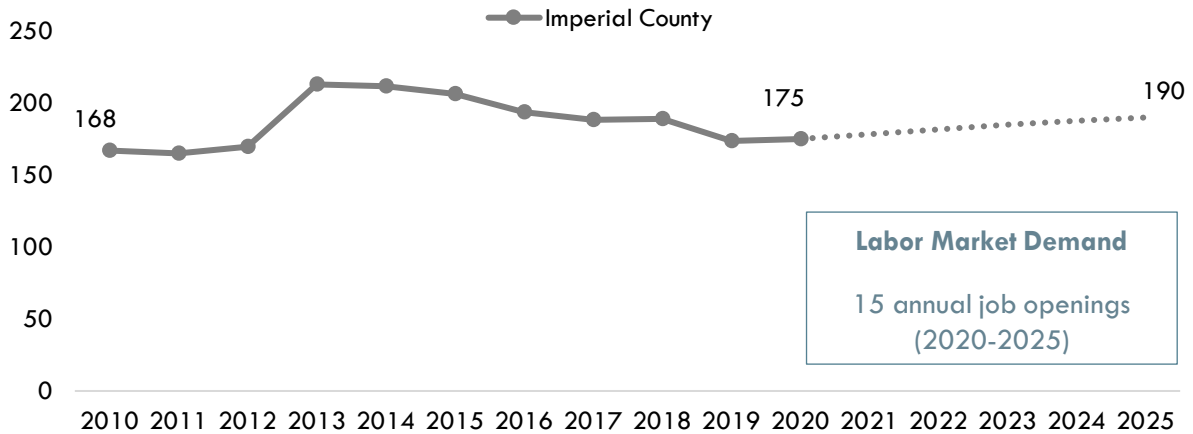


Exhibit 1b breaks down the projected number of jobs change by occupation. “Firefighters” are projected to have the most labor market demand between 2020 and 2025, with 12 annual job openings (Exhibit 1b).

Exhibit 1b: Number of Jobs for Fire Fighting Occupations in Imperial County (2020-2025)⁴

Occupational Title	2020 Jobs	2025 Jobs	2020 - 2025 Net Jobs Change	2020-2025 % Net Jobs Change	Annual Job Openings (Demand)
Firefighters	140	152	12	9%	12
First-Line Supervisors of Firefighting and Prevention Workers	35	38	3	8%	3
Total	175	190	15	9%	15

³ EMSI 2021.1; QCEW, Non-QCEW, Self-Employed.

⁴ EMSI 2021.1; QCEW, Non-QCEW, Self-Employed.

Earnings

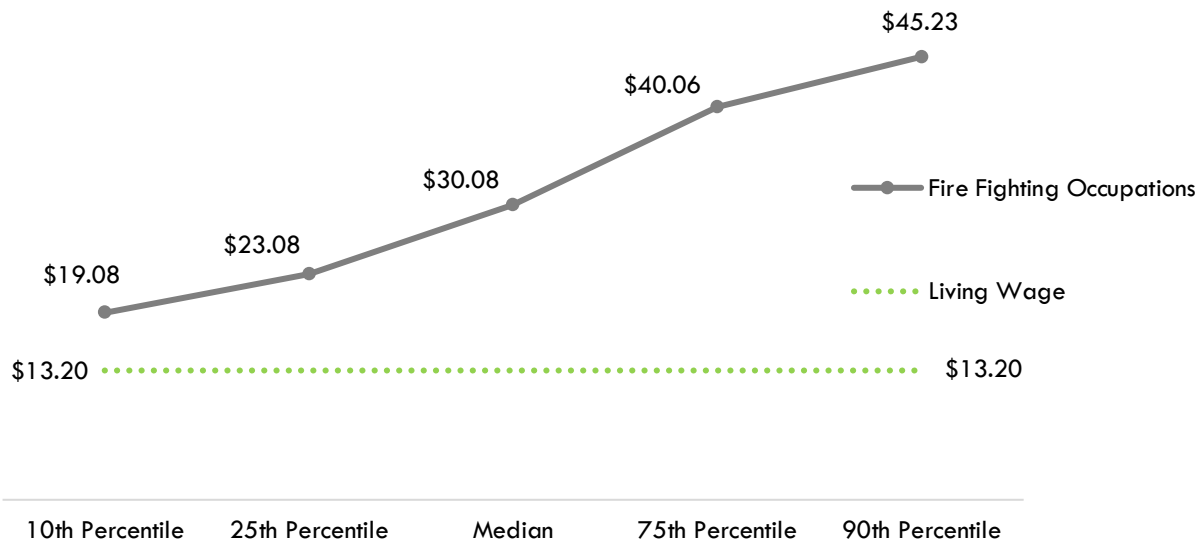
The entry-level hourly earnings for *Fire Fighting Occupations* range from \$13.81 to \$32.35 (Exhibit 2a).

Exhibit 2a: Hourly Earnings for Fire Fighting Occupations in Imperial County⁵

Occupational Title	Entry-Level Hourly Earnings (25 th Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75 th Percentile)
First-Line Supervisors of Firefighting and Prevention Workers	\$32.35	\$44.10	\$57.16
Firefighters	\$13.81	\$16.06	\$22.96

On average, the entry-level hourly earnings for *Fire Fighting Occupations* are \$23.08; this is more than the living wage for a household of two adults and two school-age children in Imperial County, which is \$13.20 per hour (Exhibit 2b).⁶

Exhibit 2b: Average Hourly Earnings⁷ for Fire Fighting Occupations in Imperial County⁸



⁵ EMSI 2021.1; QCEW, Non-QCEW, Self-Employed.

⁶ "California Family Needs Calculator (formerly the Self-Sufficiency Standard)," Insight: Center for Community Economic Development, last updated 2018. insightccd.org/2018-self-sufficiency-standard.

⁷ 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.

⁸ EMSI 2021.1; 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.⁹ There are **two** TOP codes and **four** CIP codes related to *Fire Fighting Occupations* (Exhibit 3).

Exhibit 3: Related TOP and CIP Codes for Fire Fighting Occupations

TOP or CIP Code	TOP or CIP Program Title
TOP 2133.00	Fire Technology
TOP 2133.50	Fire Academy
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

According to TOP data, **one** community college supplies the region with awards for this occupation, **Imperial Valley College**. According to CIP data, **no** non-community-college institution supplies the region with awards (Exhibit 4).

**Exhibit 4: Number of Awards (Certificates and Degrees) Conferred by Postsecondary Institutions
(Program Year 2014-15 through PY2018-19 Average)**

TOP or CIP Code	TOP or CIP Program Title	3-Yr Annual Average CC Awards (PY17-18 to PY19-20)	Other Educational Institutions 3-Yr Annual Average Awards (PY16-17 to PY18-19)	3-Yr Total Average Supply (PY16-17 to PY19-20)
2133.00	Fire Technology	2	0	2
	• Imperial Valley	2	0	
2133.50	Fire Academy	12	0	12
	• Imperial Valley	12	0	
			Total	14

⁹ 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).

Demand vs. Supply

Comparing labor demand (annual openings) with labor supply¹⁰ suggests that supply is met for this occupation in Imperial County, with 15 annual openings and 14 awards. Comparatively, there are 2,851 annual openings in California and 5,669 awards, suggesting that there is an oversupply across the state¹¹ (Exhibit 5).

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

	Demand (Annual Openings)	Supply (Total Annual Average Supply)	Supply Gap or Oversupply
San Diego	15	14	1
California	2,851	5,669	2,818

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.

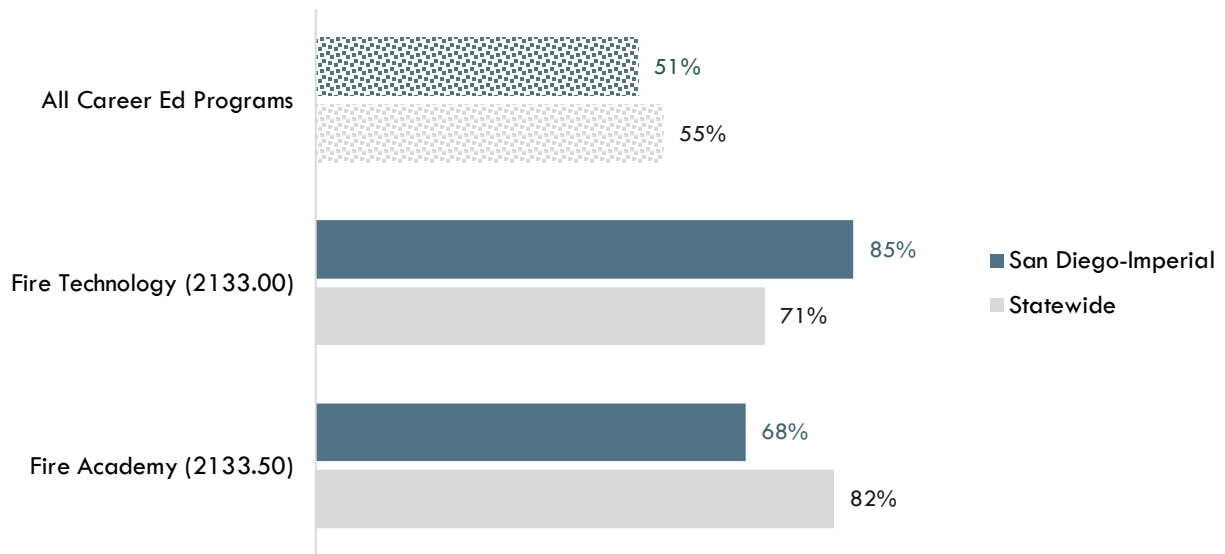
¹⁰ Labor supply can be found from two different sources: EMSI or the California Community Colleges Chancellor's Office MIS Data Mart. EMSI uses CIP codes while MIS uses TOP codes. Different coding systems result in differences in the supply numbers.

¹¹ "Supply and Demand," Centers of Excellence Student Outcomes, coecc.net/Supply-and-Demand.aspx.

Student Outcomes and Regional Comparisons

According to the California Community Colleges LaunchBoard, 68 to 85 percent of students in the San Diego-Imperial region earned a living wage after completing a program related to *Fire Fighting Occupations*, compared to 71 to 82 percent statewide and 55 percent of students in Career Education programs in general across the state (Exhibit 6a).¹²

Exhibit 6a: Percentage of Students Who Earned a Living Wage by Program, PY2017-18¹³

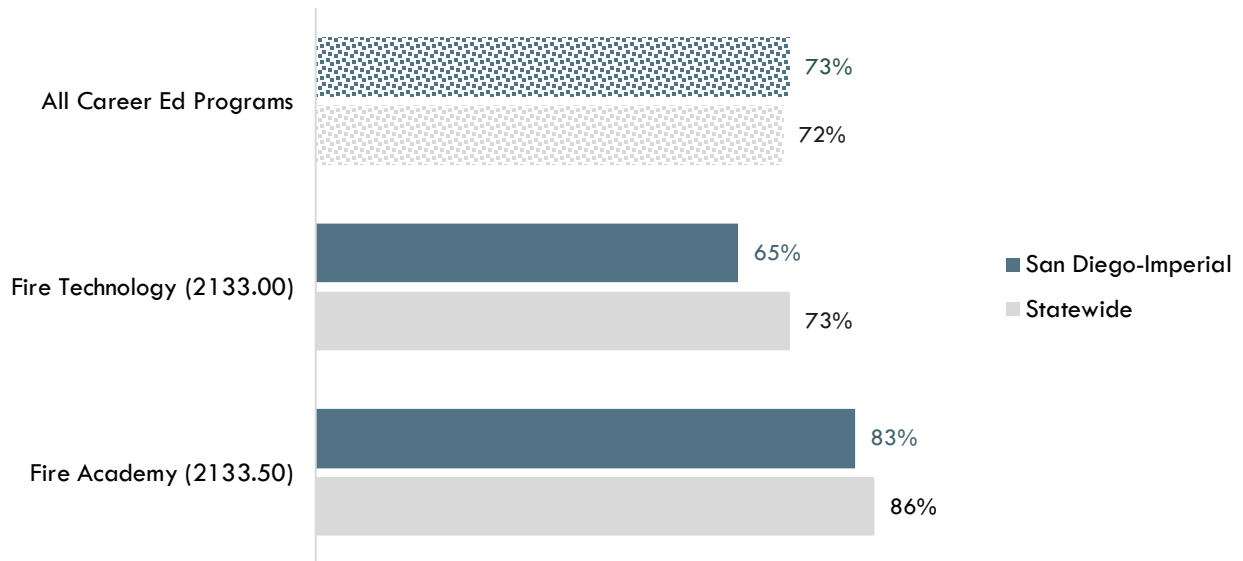


¹² "California Community Colleges Strong Workforce Program," California Community Colleges, calpassplus.org/LaunchBoard/SWP.aspx.

¹³ Among completers and skills builders who exited, the proportion of students who attained a living wage.

According to the California Community Colleges LaunchBoard, 65 to 83 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 *Fire Fighting Occupations*, compared to 73 to 86 percent statewide and 72 percent of students in Career Education programs in general across the state (Exhibit 6b).¹⁴

Exhibit 6b: Percentage of Students in a Job Closely Related to Field of Study by Program, PY2016-17¹⁵



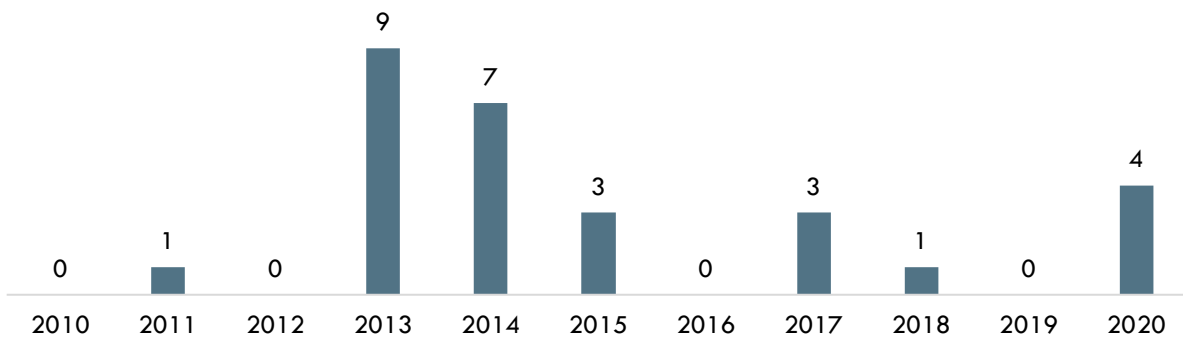
¹⁴ "California Community Colleges Strong Workforce Program," California Community Colleges, calpassplus.org/LaunchBoard/SWP.aspx.

¹⁵ Most recent year with available data is Program Year 2016-17. 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 2010 and 2020, there was an average of **three** online job postings per year for *Fire Fighting Occupations* in Imperial County (Exhibit 7). Please note that online job postings do **not** equal labor market demand; demand is represented by annual job openings (see Exhibit 1b). Employers may post a position multiple times for various reasons, such as increasing the pool of applicants, for example.

Exhibit 7: Number of Online Job Postings for Fire Fighting Occupations in Imperial County (2010-2020)¹⁶



Top Employers

Between January 1, 2018 and December 31, 2020, the top employers in Imperial County for *Fire Fighting Occupations* were **Commander**, **Indian Health Service**, and **Imperial County** based on online job postings (Exhibit 8).

Exhibit 8: Top Employers in Imperial County for Fire Fighting Occupations¹⁷

Top Employers

- Commander
- Indian Health Service
- Imperial County

¹⁶ Burning Glass Technologies, "Labor Insight Real-Time Labor Market Information Tool." 2010-2020.

¹⁷ Burning Glass Technologies, "Labor Insight Real-Time Labor Market Information Tool." 2018-2020.

Education, Skills, and Certifications

The typical entry-level education for *Fire Fighting Occupations* is a **postsecondary non-degree award** (Exhibit 9a).¹⁸

Exhibit 9a: National Educational Attainment for *Fire Fighting Occupations*¹⁹

Occupational Title	Typical Entry-Level Education
First-Line Supervisors of Firefighting and Prevention Workers	Postsecondary non-degree award
Firefighters	Postsecondary non-degree award

Based on online job postings between January 1, 2018 and December 31, 2020 in Imperial County, employers posted an **associate degree** and a **bachelor's degree** as the educational requirement for *Fire Fighting Occupations* (Exhibit 9b).²⁰

Exhibit 9b: Educational Requirements for *Fire Fighting Occupations* in Imperial County²¹



*May not add up to 100 percent due to rounding.

¹⁸ EMSI 2021.1; QCEW, Non-QCEW, Self-Employed.

¹⁹ EMSI 2021.1; QCEW, Non-QCEW, Self-Employed.

²⁰ Burning Glass Technologies, "Labor Insight Real-Time Labor Market Information Tool." 2018-2020.

²¹ "Educational Attainment for Workers 25 Years and Older by Detailed Occupation," Bureau of Labor Statistics, last modified September 4, 2019. bls.gov/emp/tables/educational-attainment.htm.

Exhibit 10 lists the top specialized, soft, and software skills that appeared in online job postings between January 1, 2018 and December 31, 2020.

Exhibit 10: Top Skills for Fire Fighting Occupations in Imperial County²²

Specialized Skills	Soft Skills	Software Skills
<ul style="list-style-type: none"> • Personnel Management • Fire Protection • Scheduling • Anesthesiology • Appointment Setting • Budget Preparation • Budgeting • Contract Preparation • Educational Programs • Emergency Preparedness • Emergency Services • Fire Suppression • HAZMAT • Hydraulics • Influenza 	<ul style="list-style-type: none"> • Building Effective Relationships • English • Physical Abilities • Planning • Written Communication 	<ul style="list-style-type: none"> • N/A

Exhibit 11 lists the top certifications that appeared in online job postings between January 1, 2018 and December 31, 2020.

Exhibit 11: Top Certifications for Fire Fighting Occupations in Imperial County²³

Top Certifications in Online Job Postings
<ol style="list-style-type: none"> 1. Fire Fighter I 2. Fire Instructor II 3. Fire Inspector II 4. Fire Officer III 5. Airport Firefighter

²² Burning Glass Technologies, "Labor Insight Real-Time Labor Market Information Tool." 2018-2020.

²³ Burning Glass Technologies, "Labor Insight Real-Time Labor Market Information Tool." 2018-2020.

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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.

This workforce demand report uses state and federal job projection data that was 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.