March 2024

Labor Market Analysis

Construction

Prepared by Central Valley/Mother Lode Center of Excellence

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Summary

The Central Valley/Mother Lode Center of Excellence developed this report for Fresno City College to determine whether there is demand in the local labor market that is not being met by the supply from postsecondary programs. This report summarizes labor market demand, wages, skills, and postsecondary supply for:

- First-Line Supervisors of Construction Trades and Extraction Workers (47-1011)
- Miscellaneous Construction and Related Workers (47-4098)

Key Findings

- **Occupational Demand —** In 2022, there were 4,485 jobs for the two construction-related occupations. Between 2022 and 2027, this number is projected to increase by 416 – a 9% growth in the SCV/SML region. Projections show there will be approximately 464 annual job openings in the South Central Valley/Southern Mother Lode (SCV/SML) subregion.

- **Wages —** Average entry-level earnings of $25.14/hour for *construction-related occupations* are higher than the living wage in the SCV/SML subregion[1]

- **Employers and Job Titles —** Employers in the SCV/SML subregion include AIT Worldwide Logistics and Sunrun. The most common job title is Electrical Foremen.

- **Skills and Certifications —** The top baseline skill is communication; the top specialized skill is construction; and the top software skill is Microsoft Excel. The most in-demand certification is a CPR Certification.

- **Education —** A high school diploma or equivalent is typically required for both construction occupations.

- **Supply and Demand Analysis —** Based on 464 annual openings (i.e., demand) and 27 postsecondary degrees awarded (i.e., supply), an analysis of supply and demand suggests there is an undersupply of 437 workers in the SCV/SML subregion. In the CVML region, 27 awards were conferred suggesting an undersupply of 751 workers (based on 778 annual openings in the CVML region).

Recommendation

Based on a comparison of demand and supply, there is an undersupply of trained workers in the SCV/SML subregion and the CVML region. The Center of Excellence recommends that Fresno City College work with the regional directors, the college's advisory board, and local industry in the expansion of programs to address the shortage of *construction workers*.

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[1] The term "living wage" in Center of Excellence reports is calculated by averaging the self-sufficiency wages from the Insight Center's California Family Needs Calculator for each county in the subregion: https://insightcced.org/tools-metrics/self-sufficiency-standard-tool-for-california/.

Introduction

The Central Valley/Mother Lode Center of Excellence developed this report to provide Fresno City College with labor market information for *construction*. The geographical focus for this report is the South Central Valley/Southern Mother Lode (SCV/SML) subregion, but regional demand and supply data has been included for broader applicability and use. Analysis of the program and occupational data related to *Construction* is included in the report. The Standard Occupational Classification (SOC) System codes and occupational titles used in this report from the Bureau of Labor Statistics and O*NET OnLine are shown below.

First-Line Supervisors of Construction Trades and Extraction Workers (SOC 47-1011)

- **Job description:** Directly supervise and coordinate activities of construction or extraction workers.
- **Knowledge:** Administration and Management, Building and Construction, Mechanical, Customer and Personal Service, English Language
- **Skills:** Coordination, Active Listening, Speaking, Critical Thinking, Management of Personnel Resources

Miscellaneous Construction and Related Workers (SOC 47-4098)

- **Job description:** N/A
- **Knowledge:** N/A
- **Skills:** N/A

Employment

Exhibit 1a shows employment trends for *construction-related occupations* in the SCV/SML subregion. Between 2022 to 2027, the number of jobs for *construction-related occupations* is projected to increase by 416, growing by 9%.

Exhibit 1a. Historical employment and projected demand for *construction-related occupations* in the SCV/SML subregion, 2012-2027
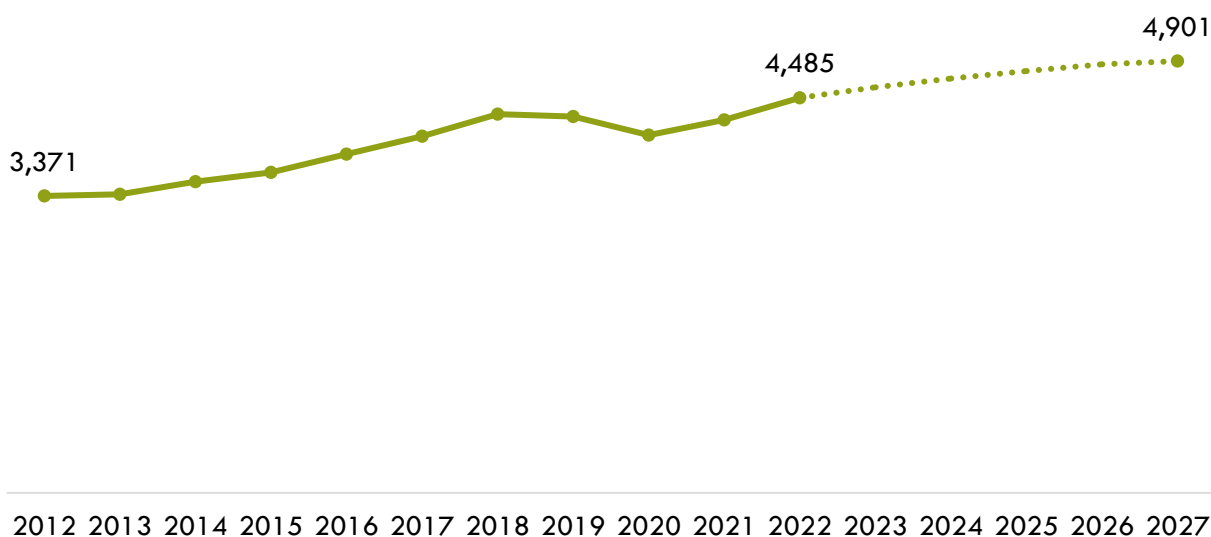
There were 4,485 *construction workers* employed in the SCV/SML subregion in 2022 (Exhibit 1b). These occupations are projected to have 464 annual job openings.

Exhibit 1b. Current employment and projected demand for *construction-related occupations* in the SCV/SML subregion, 2022-2027

| Occupation (SOC)	2022 Jobs	2027 Jobs	5-Year Change	5-Year % Change	Annual Openings
First-Line Supervisors of Construction Trades and Extraction Workers (47-1011)	4,329	4,732	403	9%	447
Miscellaneous Construction and Related Workers (47-4098)	155	169	14	9%	17
TOTAL	4,485	4,901	416	9%	464

Wages

Exhibit 2a shows the hourly wages for the two construction-related occupations.

Exhibit 2a. Hourly wages for *construction-related occupations* in the SCV/SML subregion

Occupation	25th Percentile Hourly Earnings	Median Hourly Earnings	75th Percentile Hourly Earnings
First-Line Supervisors of Construction Trades and Extraction Workers (47-1011)	$29.49	$37.16	$48.39
Miscellaneous Construction and Related Workers (47-4098)	$20.79	$29.40	$50.84

Exhibit 2b shows the average hourly wages for c*onstruction-related occupations*; all hourly wages for this occupation are well above the living wage for the SCV/SML subregion.

Exhibit 2b. Average hourly wages for *construction-related occupations* in the SCV/SML subregion
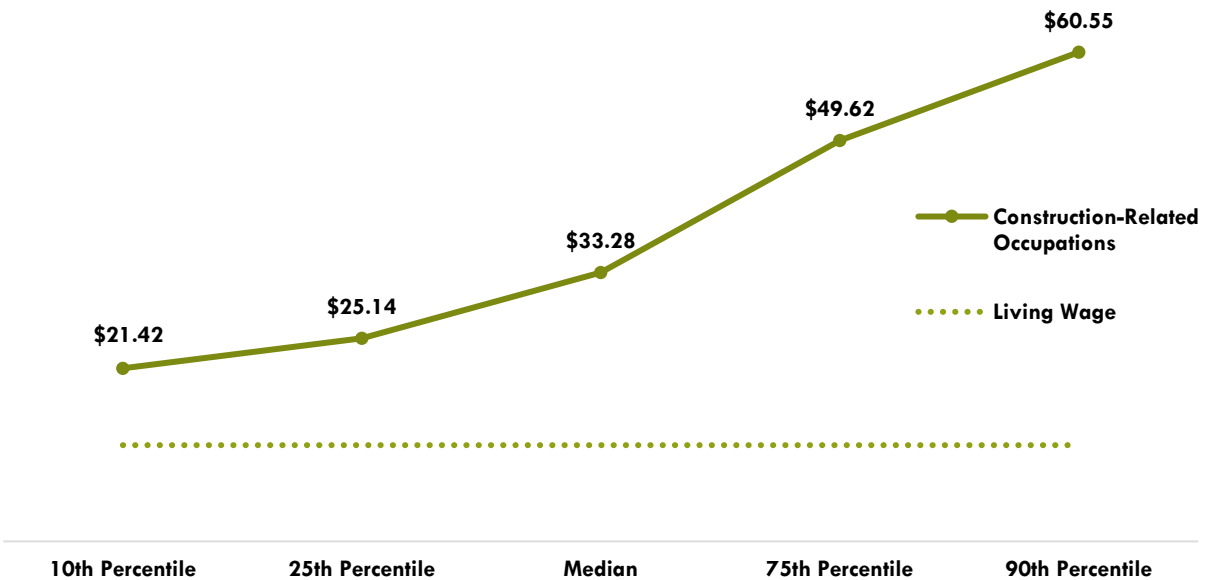
Job Postings

There were 351 unique job postings for the two *construction-related occupations* in the SCV/SML subregion from April 2023 to March 2024.[2]

Top Employers

The top employers with the most job postings are listed in Exhibit 3. The top employers in online job postings were AIT Worldwide Logistics and Sunrun.

Exhibit 3. Top employers of *Construction workers* in job postings

Employer
AIT Worldwide Logistics
Sunrun
Community Action Partnership of Kern
Roto Rooter Plumbing
Student Conservation Association
Winegard Energy
Fresno County Economic Opportunities Commission
Fresno Economic Opportunities Commission (Fresno EOC)
Browning Contractors
Community Services and Employment Training (CSET)

Top Job Titles

Exhibit 4 shows the most common job titles for *Construction workers* in the SCV/SML subregion.

Exhibit 4. Top job titles in job postings for *Construction workers*

Job Title
Electrical Foremen
Delivery and Assembly Technicians
Construction Foremen
Subcontractors
Plumbing Supervisors
Weatherization Technicians
Field Supervisors
Construction Coordinators
Weatherization Installers
Concrete Foremen

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[2] Other than occupational titles and job titles, the categories below can be counted one or multiple times per job posting, and across several areas in a single posting. For example, a skill can be counted in two different skill types, and an employer can indicate more than one education level.

Salaries

Exhibit 5 shows the "Market Salaries" for *Construction workers*. These are calculated by Lightcast using a machine learning model built from millions of job postings every year. This accounts for adjustments based on location, industry, skills, experience, education, among other variables.

Exhibit 5. Market salaries for job postings for *Construction workers*

Market Salary	Job Postings
$35,000-$41,999	29
$42,000-$48,999	25
$49,000-$55,999	22
$56,000-$62,999	37
$63,000-$69,999	17
$70,000-$76,999	44
$77,000-$83,999	14
$84,000-$90,999	14
$91,000+	50

Education

Of the 351 unique job postings, 45% listed a preferred or minimum educational requirement for the position being filled. Among those, 108 requested a high school diploma or GED, 17 requested an associate degree, and 30 requested a bachelor's degree (Exhibit 6).

Exhibit 6. Education levels requested in job postings for *Construction workers*

Education Level	Job Postings
High school or GED	108
Associate degree	17
Bachelor's degree	30
Master's degree	4

Baseline, Specialized, and Software Skills

Exhibit 7 depicts the top baseline, specialized, and software skills in job postings. The most requested baseline skill is communication. The most requested specialized skill is construction. The most requested software skill is Microsoft Excel.

Exhibit 7. In-demand baseline, specialized, and software skills for *Construction workers* in job postings

Baseline Skills	Specialized Skills	Software Skills
Communication	Construction	Microsoft Excel
Customer Service	Project Management	Microsoft Office
Leadership	Subcontracting	Microsoft Outlook
Management	Power Tool Operation	Microsoft Word
Operations	Weatherization	Business Software

Certifications

Of the job postings listing a certification, 15% indicated a need for a CPR Certification (Exhibit 8).

Exhibit 8. Top certifications requested in job postings

Certifications	% of Job Postings
Cardiopulmonary Resuscitation (CPR) Certification	15%
First Aid Certification	12%
30-Hour OSHA General Industry Card	11%
10-Hour OSHA General Industry Card	11%

Education, Work Experience, & Training

A high school diploma or equivalent is typically required for the two *construction-related occupations* (Exhibit 9).

Exhibit 9. Education, work experience, training, and Current Population Survey results for *Construction occupations*[3]

Occupation	Typical Entry-level Education	Work Experience Required	Typical On-The-Job Training	CPS
First-Line Supervisors of Construction Trades and Extraction Workers	High school diploma or equivalent	5 years or more	None	29%
Miscellaneous Construction and Related Workers	High school diploma or equivalent	None	Moderate-term	25%

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[3] "Labor Force Statistics from the Current Population Survey," Bureau of Labor Statistics, https://www.bls.gov/cps/.

Supply

An analysis of program data from the Integrated Postsecondary Education Data System (IPEDS) for the last three program years shows that, on average, 27 awards were conferred in the SCV/SML subregion (Exhibits 10 and 11).

Exhibit 10. TOP and CIP codes for Construction Crafts Technology

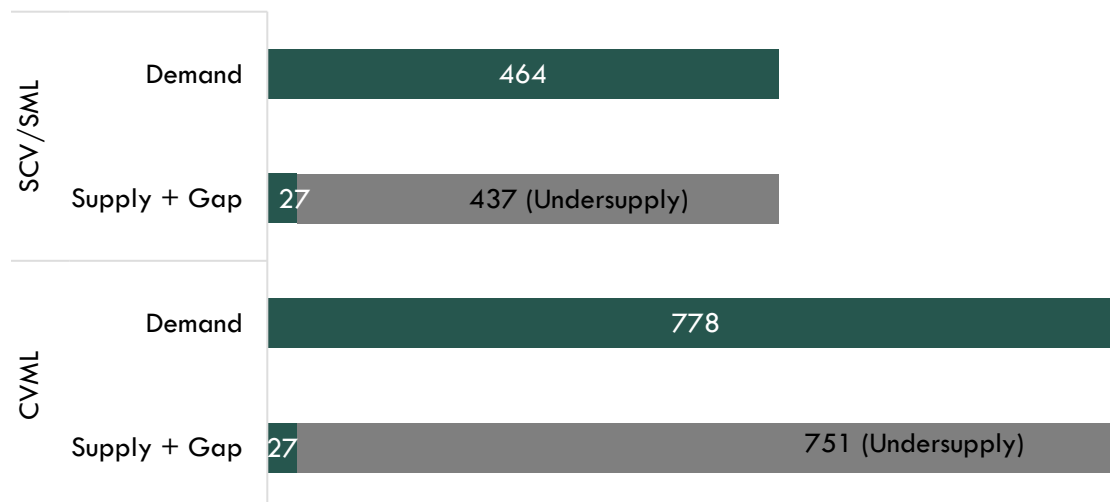| TOP Titles	CIP Titles
0952.00 – Construction Crafts Technology	46.0415 – Building Construction Technology/Technician.

Exhibit 11. Postsecondary supply for Construction Crafts Technology Programs Years 2019 through 2022

TOP/CIP Code-Title	College	Associate Degree	Certificate 30 < 60 semester Units	Certificate 16 < 30 semester Units	Certificate 6 < 18 semester Units	TOTAL
0952.00 – Construction Crafts Technology	Bakersfield		1			1*
	Fresno City	5	1	12		18*
	Sequoias	3	2		3	8*
CVML TOTAL						**27**

*SCV/SML awards

There is an undersupply of *437 Construction workers* in the SCV/SML subregion and an undersupply of 751 workers in the CVML region (Exhibit 12).

Exhibit 12. Workforce demand (annual job openings), postsecondary awards (supply), and additional students needed to fill gap in the SCV/SML subregion and region

SCV/SML
- Demand: 464
- Supply + Gap: 27 | 437 (Undersupply)

CVML
- Demand: 778
- Supply + Gap: 27 | 751 (Undersupply)

Recommendation

This report suggests there is a shortage of 437 workers in the SCV/SML subregion and a shortage of 751 workers in the CVML region for *construction workers*. Based on these findings, it is recommended that Fresno City College work with the regional directors, the college's advisory board, and local industry in the expansion of programs to address the shortage of *construction workers* in the region.

Appendix: Methodology & Data Sources

Data Sources

Labor market and educational supply data compiled in this report derive from a variety of sources. Data were drawn from external sources, including the Economic Modeling Specialists, Inc., the California Community Colleges Chancellor's Office Management Information Systems Data Mart and the National Center for Educational Statistics (NCES) Integrated Postsecondary Education Data System (IPEDS). Below is the summary of the data sources found in this study.

Data Type	Source
Labor Market Information/Population Estimates and Projections/Educational Attainment	Economic Modeling Specialists, Intl. (Lightcast). Lightcast occupational employment data are based on final Lightcast industry data and final Lightcast staffing patterns. Wage estimates are based on Occupational Employment Statistics (QCEW and Non-QCEW Employees classes of worker) and the American Community Survey (Self-Employed and Extended Proprietors). Occupational wage estimates also affected by county-level Lightcast earnings by industry: economicmodeling.com.
Typical Education Level and On-the-job Training	Bureau of Labor Statistics (BLS) uses a system to assign categories for entry-level education and typical on-the-job training to each occupation for which BLS publishes projections data: https://www.bls.gov/emp/tables/educational-attainment.htm.
LaunchBoard	Chancellor's LaunchBoard. https://www.calpassplus.org/LaunchBoard/SWP.aspx
Labor Force, Employment and Unemployment Estimates	California Employment Development Department, Labor Market Information Division: labormarketinfo.edd.ca.gov.
Job Posting and Skills Data	Lightcast: https://lightcast.io/.
Additional Education Requirements/ Employer Preferences	The O*NET Job Zone database includes over 900 as well as information on skills, abilities, knowledge, work activities and interests associated with specific occupations: onetonline.org.

Annual Job Openings: Annual openings are calculated by dividing the number of years in the projection period by total job openings.

Education Attainment Level: The highest education attainment level of workers age 25 years or older.

Employment Estimate: The total number of workers currently employed.

Employment Projections: Projections of employment are calculated by a proprietary Economic Modeling Specialists, Intl. (LIGHTCAST) formula that includes historical employment and economic indicators along with national, state and local trends.

LaunchBoard (Attained the Living Wage): Among SWP students who exited college and did not transfer to any postsecondary institution, the proportion who attained the district county living wage for a single adult measured immediately following academic year of exit.

LaunchBoard (Median Annual Earnings): Among SWP students who exited the community college system and who did not transfer to any postsecondary institution, median earnings following the academic year of exit.

LaunchBoard (Median Change in Earnings): Among SWP students who exited and who did not transfer to any postsecondary institution, median change in earnings between the second quarter prior to the beginning of the academic year of entry and the second quarter after the end of the academic year of exit from the last college attended.

LaunchBoard (Job Closely Related to Field of Study): Among SWP students who responded to the CTE Outcomes Survey and did not transfer to any postsecondary institution, the proportion who reported that they are working in a job very closely or closely related to their field of study.

Living Wage: The cost of living in a specific community or region for one adult and no children. The cost increases with the addition of children.

Occupation: An occupation is a grouping of job titles that have a similar set of activities or tasks that employees perform.

Percent Change: Rate of growth or decline in the occupation for the projected period; this does not factor in replacement openings.

Replacements: Estimate of job openings resulting from workers retiring or otherwise permanently leaving an occupation. Workers entering an occupation often need training. These replacement needs, added to job openings due to growth, may be used to assess the minimum number of workers who will need to be trained for an occupation.

Total Job Openings (New + Replacements): Sum of projected growth (new jobs) and replacement needs. When an occupation is expected to lose jobs, or retain the current employment level, number of openings will equal replacements.

Typical Education Requirement: represents the typical education level most workers need to enter an occupation.

Typical On-The-Job Training: indicates the typical on-the-job training needed to attain competency in the skills needed in the occupation.

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