










Construction Occupations

Labor Market Analysis: San Diego County

April 2024

Summary

NEW PROGRAM RECOMMENDATION?	EVIDENCE OF A SUPPLY GAP?	AT OR ABOVE THE LIVING WAGE?	EXPECTED LEVEL OF EDUCATION
 Proceed with New Program	 	 	<input type="checkbox"/> Doctorate Degree <input type="checkbox"/> Master's Degree <input checked="" type="checkbox"/> Bachelor's Degree <input type="checkbox"/> Associate Degree <input type="checkbox"/> Some College or Certificate <input checked="" 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	
 	<p>MEDIUM</p> 	<p>HIGH</p> 	

The San Diego & Imperial Center of Excellence (COE) developed this brief to assist the region’s community colleges with strategic planning and program development. *Construction Occupations* include “Construction Managers” and “First-Line Supervisors of Construction Trades and Extraction Workers.” According to available data, *Construction Occupations* in San Diego County have a labor market demand of 1,275 annual job openings (while average demand for a single occupation in San Diego County is 289 annual job openings), and seven institutions supply 238 awards for these occupations, suggesting that there is a supply gap in the labor market. On average, entry-level wages are above the living wage for these occupations, and recent online job postings (2021-2023) show that average median earnings posted by employers are also above the living wage. This brief recommends proceeding with developing a new program and supports a program modification because 1) a high number of annual job openings exist for these occupations; 2) there is a supply gap in San Diego County; and 3) on average, these occupations’ entry-level wages are above the living wage.

Introduction

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

- **Construction Managers (SOC 11-9021):** Plan, direct, or coordinate, usually through subordinate supervisory personnel, activities concerned with the construction and maintenance of structures, facilities, and systems. Participate in the conceptual development of a construction project and oversee its organization, scheduling, budgeting, and implementation. Includes managers in specialized construction fields, such as carpentry or plumbing.
- **First-Line Supervisors of Construction Trades and Extraction Workers (SOC 47-1011):** Directly supervise and coordinate activities of construction or extraction workers.

For the purpose of this report, these occupations are referred to as *Construction 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 2023 and 2028, employers in San Diego County will need to hire 1,275 workers annually to fill new jobs and backfill jobs in *Construction Occupations* due to attrition caused by turnover and retirement, for example (Exhibit 1). “First-Line Supervisors of Construction Trades and Extraction Workers” are projected to have the most labor market demand between 2023 and 2028, with 732 annual job openings.

Exhibit 1: Number of Jobs for Construction Occupations (2023-2028)²

Occupational Title	2023 Jobs	2028 Jobs	2023 – 2028 Net Jobs Change	2023 - 2028 % Net Jobs Change	Annual Job Openings (Demand)
First-Line Supervisors of Construction Trades and Extraction Workers	7,690	8,144	454	6%	732
Construction Managers	6,382	6,794	412	6%	543
Total	14,072	14,938	866	6%	1,275

Earnings

According to traditional³ labor market information (LMI), entry-level hourly earnings for *Construction Occupations* range from \$25.07 to \$31.92 (Exhibit 2).

Exhibit 2: Hourly Earnings for Construction Occupations in San Diego County⁴

Occupational Title	Entry-Level Hourly Earnings (25 th Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75 th Percentile)
First-Line Supervisors of Construction Trades and Extraction Workers	\$31.92	\$40.23	\$51.79
Construction Managers	\$25.07	\$44.30	\$61.78

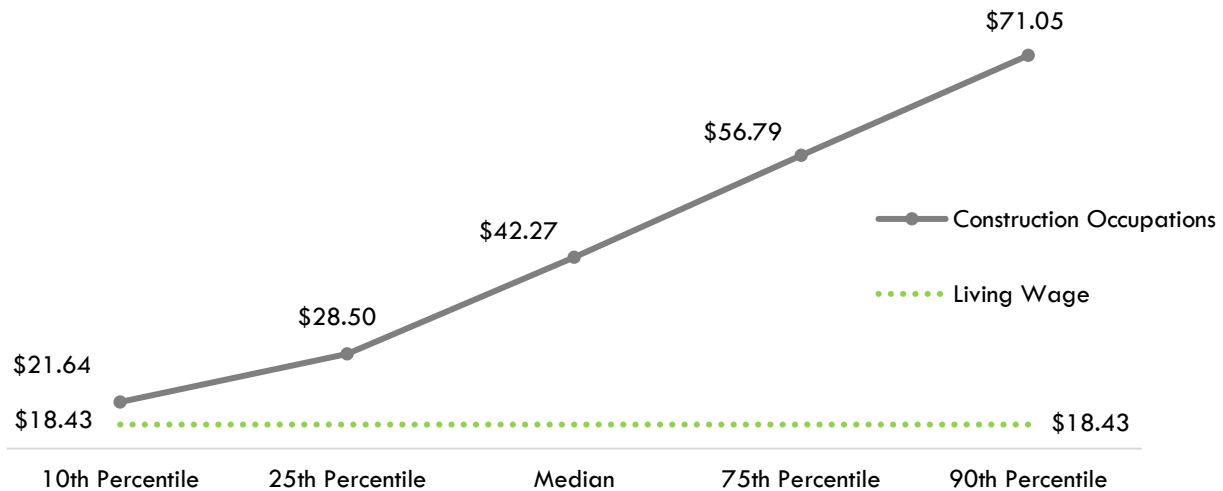
² Lightcast 2024.01; QCEW, Non-QCEW, Self-Employed.

³ Traditional LMI is generally historical data captured by the U.S. Bureau of Labor Statistics (BLS) or the California Employment Development Department (EDD). It does not account for recent technological, economic, or legislative changes that may affect labor market demand and wages.

⁴ Lightcast 2024.01; QCEW, Non-QCEW, Self-Employed.

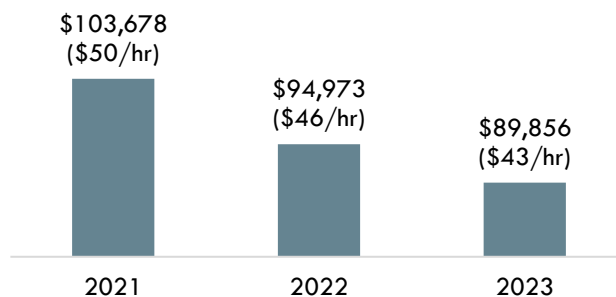
On average, the entry-level hourly earnings are \$28.50—or \$59,280 annual salary⁵; this is more than the living wage for a single adult in San Diego County, which is \$18.43 per hour (Exhibit 3).⁶

Exhibit 3: Hourly Earnings⁷ for Construction Occupations in San Diego County⁸



Between January 1, 2021 and December 30, 2023, employers advertised between \$43 to \$50 per hour in online job postings for *Construction Occupations* in San Diego County (Exhibit 4).⁹ This suggests that employers in recent years increased wages due to labor market forces that may not be captured by traditional LMI, but these wages have decreased over the last three years.

Exhibit 4: Median Advertised Salaries in Online Job Postings for Construction Occupations in San Diego County (2021-2023)



⁵ Annualized salaries assume a full-time position with 2,080 hours. Multiplying the hourly wage with 2,080 yields the annual salary.
⁶ "Family Needs Calculator (formerly the California Family Needs Calculator)," Insight: Center for Community Economic Development, last updated 2022. insightcced.org/family-needs-calculator.
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 Lightcast 2024.01; QCEW, Non-QCEW, Self-Employed.
⁹ Lightcast 2024.01; "Job Posting Analytics." 2021-2023.

Expected Level of Education

According to traditional LMI, *Construction Occupations* have a national educational attainment of a high school diploma or equivalent to a bachelor’s degree.¹⁰ (Exhibit 5).

Exhibit 5: National Educational Attainment for *Construction Occupations*¹¹

Occupational Title	Typical Entry-Level Education
Construction Managers	Bachelor's degree
First-Line Supervisors of Construction Trades and Extraction Workers	High school diploma or equivalent

Online job postings between January 1, 2021 and December 31, 2023 in San Diego County had a bachelor’s degree as the most requested educational requirement for *Construction Occupations*; however, employers also expected the following certifications (Exhibit 6).¹²

Exhibit 6: Top Certifications for *Construction Occupations* in San Diego County in Online Job Postings (2021-2023)¹³

1. 30-Hour OSHA General Industry Card
2. First Aid Certification
3. Cardiopulmonary Resuscitation (CPR) Certification
4. Project Management Professional Certification
5. 10-Hour OSHA General Industry Card
6. LEED Accredited Professional (AP)
7. Professional Engineer (PE) License
8. Contractor License
9. Certified Construction Manager
10. LEED Green Associate
11. Architecture License
12. Security Clearance
13. CDL Class C License
14. Safety Trained Supervisor Certification
15. Construction Health And Safety Technician

¹⁰ Lightcast 2024.01; QCEW, Non-QCEW, Self-Employed.

¹¹ Lightcast 2024.01; QCEW, Non-QCEW, Self-Employed.

¹² Lightcast 2024.01; “Job Posting Analytics.” 2021-2023.

¹³ Lightcast 2024.01; “Job Posting Analytics.” 2021-2023.

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. There are 10 TOP codes and 19 CIP codes related to *Construction Occupations* (Exhibit 7).

Exhibit 7: Related TOP and CIP Codes for Construction Occupations¹⁴

TOP or CIP Code	TOP or CIP Program Title
TOP 0952.00	Construction Crafts Technology
TOP 0952.10	Carpentry
TOP 0952.20	Electrical
TOP 0952.40	Glazing
TOP 0952.60	Masonry, Tile, Cement, Lath and Plaster
TOP 0952.70	Painting, Decorating, and Flooring
TOP 0952.90	Roofing
TOP 0957.00	Civil and Construction Management Technology
TOP 0957.20	Construction Inspection
TOP 2102.10	Public Works
CIP 15.0201	Civil Engineering Technology/Technician
CIP 15.0406	Automation Engineer Technology/Technician
CIP 46.0000	Construction Trades, General
CIP 46.0101	Mason/Masonry
CIP 46.0201	Carpentry/Carpenter
CIP 46.0302	Electrician
CIP 46.0303	Lineworker
CIP 46.0402	Concrete Finishing/Concrete Finisher
CIP 46.0403	Building/Home/Construction Inspection/Inspector
CIP 46.0406	Glazier
CIP 46.0408	Painting/Painter and Wall Coverer
CIP 46.0410	Roofer
CIP 46.0412	Building/Construction Site Management/Manager
CIP 46.0413	Carpet, Floor, and Tile Worker
CIP 46.0415	Building Construction Technology
CIP 46.0499	Building/Construction Finishing, Management, and Inspection, Other

¹⁴ This brief uses a conservative estimate of program supply and only calculates awards from the TOP code listed in Exhibit 7.

TOP or CIP Code	TOP or CIP Program Title
CIP 46.9999	Construction Trades, Other
CIP 49.0207	Flagging and Traffic Control
CIP 52.2001	Construction Management

According to TOP data, four community colleges supply the region with awards for these occupations: Palomar College, San Diego City College, San Diego Mesa College, and Southwestern College. According to CIP data, three non-community-college institutions supply the region with awards: United Education Institute-Chula Vista, United Education Institute-UEI College-Oceanside, and CET-San Diego (Exhibit 8).

**Exhibit 8: Number of Awards (Certificates and Degrees) Conferred by Postsecondary Institutions
(Program Year 2019-20 Through Program Year 2021-22 Average)**

TOP6 or CIP Code	TOP6 or CIP Program Title	3-Yr Annual Average CC Awards (PY19-20 to PY21-22)	Other Educational Institutions 2-Yr Annual Average Awards (PY19-20 to PY20-21)	Total Average Supply (PY19-20 to PY21-22)
0952.10	Carpentry	30	0	30
	Palomar	30	0	
	• Associate Degree	0	0	
	• Certificate 30 < 60 units	10	0	
	• Certificate 16 < 30 units	20	0	
0952.20	Electrical	65	0	65
	Palomar	65	0	
	• Associate Degree	2	0	
	• Certificate 30 < 60 units	63	0	
	San Diego City	0	0	
	• Certificate 16 < 30 units	0	0	
0952.60	Masonry, Tile, Cement, Lath and Plaster	5	0	5
	Palomar	5	0	
	• Certificate 30 < 60 units	5	0	

TOP6 or CIP Code	TOP6 or CIP Program Title	3-Yr Annual Average CC Awards (PY19-20 to PY21-22)	Other Educational Institutions 2-Yr Annual Average Awards (PY19-20 to PY20-21)	Total Average Supply (PY19-20 to PY21-22)
0957.00	Civil and Construction Management Technology	9	0	9
	San Diego Mesa	6	0	
	• Associate Degree	6	0	
	Southwestern	3	0	
	• Associate Degree	2	0	
	• Certificate 30 < 60 units	1	0	
0957.20	Construction Inspection	20	0	20
	Palomar	1	0	
	• Associate Degree	1	0	
	• Certificate 16 < 30 units	0	0	
	San Diego Mesa	10	0	
	• Associate Degree	7	0	
	• Certificate 16 < 30 units	3	0	
	Southwestern	9	0	
	• Associate Degree	4	0	
	• Certificate 16 < 30 units	5	0	
2102.10	Public Works	7	0	7
	Palomar	7	0	
	• Associate Degree	2	0	
	• Certificate 30 < 60 units	1	0	
	• Certificate 16 < 30 units	4	0	
46.0302	Electrician	0	46	46
	United Education Institute-Chula Vista	0	46	
	• Certificates of at least 1 but less than 2 years	0	46	

TOP6 or CIP Code	TOP6 or CIP Program Title	3-Yr Annual Average CC Awards (PY19-20 to PY21-22)	Other Educational Institutions 2-Yr Annual Average Awards (PY19-20 to PY20-21)	Total Average Supply (PY19-20 to PY21-22)
	United Education Institute-UEI College-Oceanside	0	0	
	<ul style="list-style-type: none"> Certificates of at least 1 but less than 2 years 	0	0	
46.0415	Building Construction Technology/Technician	0	56	56
	CET-San Diego	0	56	
	<ul style="list-style-type: none"> Certificates of at least 1 but less than 2 years 	0	56	
			Total	238

Demand vs. Supply

Comparing labor demand (annual openings) with labor supply¹⁵ suggests that there is a **supply gap** for these occupations in San Diego County, with **1,275** annual openings and **238** awards. Comparatively, there are **12,806** annual openings in California and **3,727** awards, suggesting that there is a **supply gap** across the state¹⁶ (Exhibit 9).

Exhibit 9: Labor Demand (Annual Openings) Compared with Labor Supply (Average Annual Awards)

	Demand (Annual Openings)	Supply (Annual Awards)	Supply Gap or Oversupply
San Diego	1,275	238	1,037
California	12,806	3,727	9,079

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.

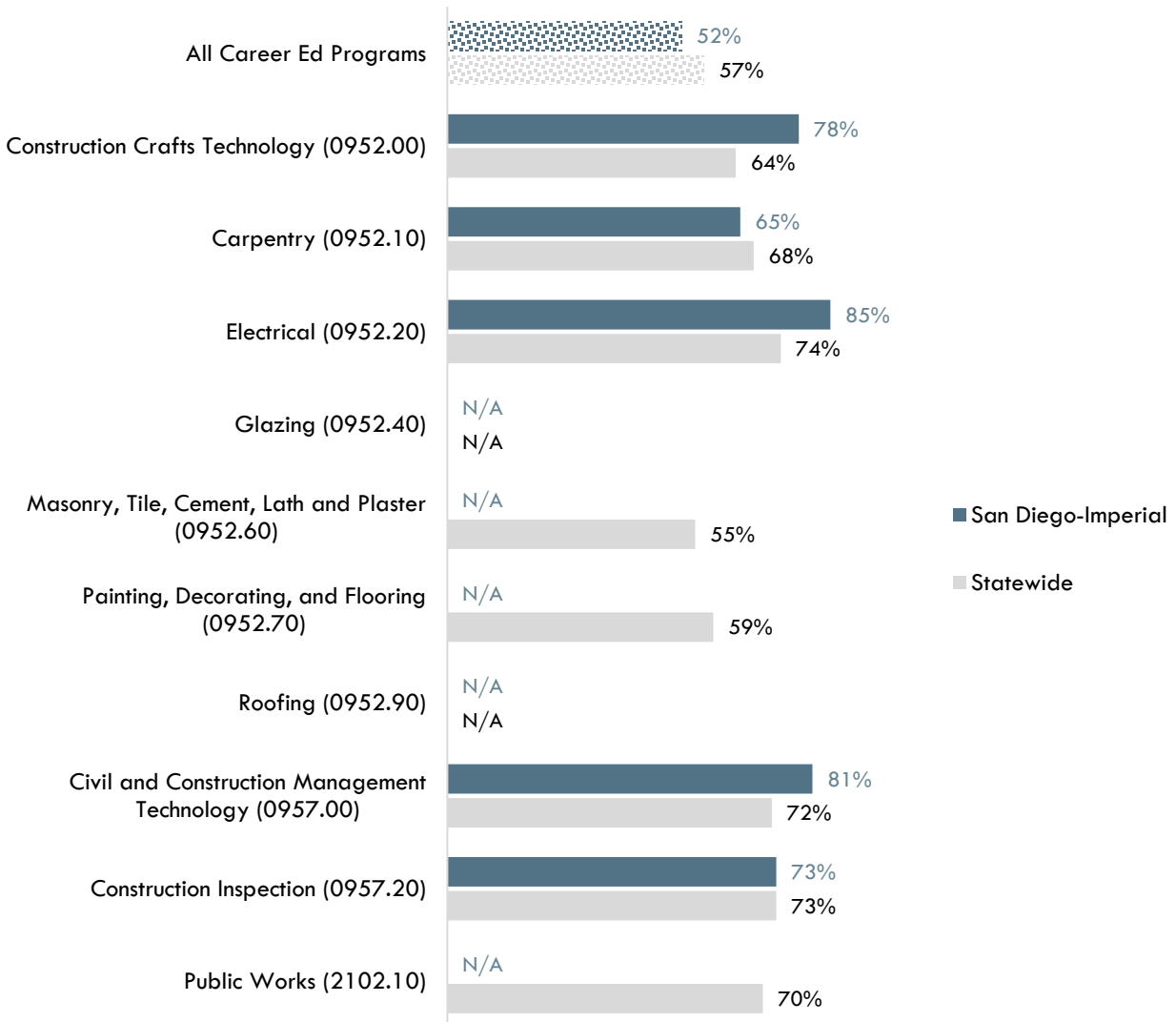
¹⁵ Labor supply can be found from two different sources: Lightcast or the California Community Colleges Chancellor's Office MIS Data Mart. Lightcast uses CIP codes while MIS uses TOP codes. Different coding systems result in differences in the supply numbers.

¹⁶ "Supply and Demand," Centers of Excellence Student Outcomes, coecc.net/our-resources.

Student Outcomes and Regional Comparisons

According to the California Community Colleges LaunchBoard, 65 to 85 percent of students in the San Diego-Imperial region earned a living wage after completing a program related to *Construction Occupations*, compared 55 to 74 percent statewide and 57 percent of students in Career Education programs in general across the state (Exhibit 10).¹⁷

Exhibit 10: Percentage of Students Who Earned a Living Wage by Program, PY2020-21¹⁸



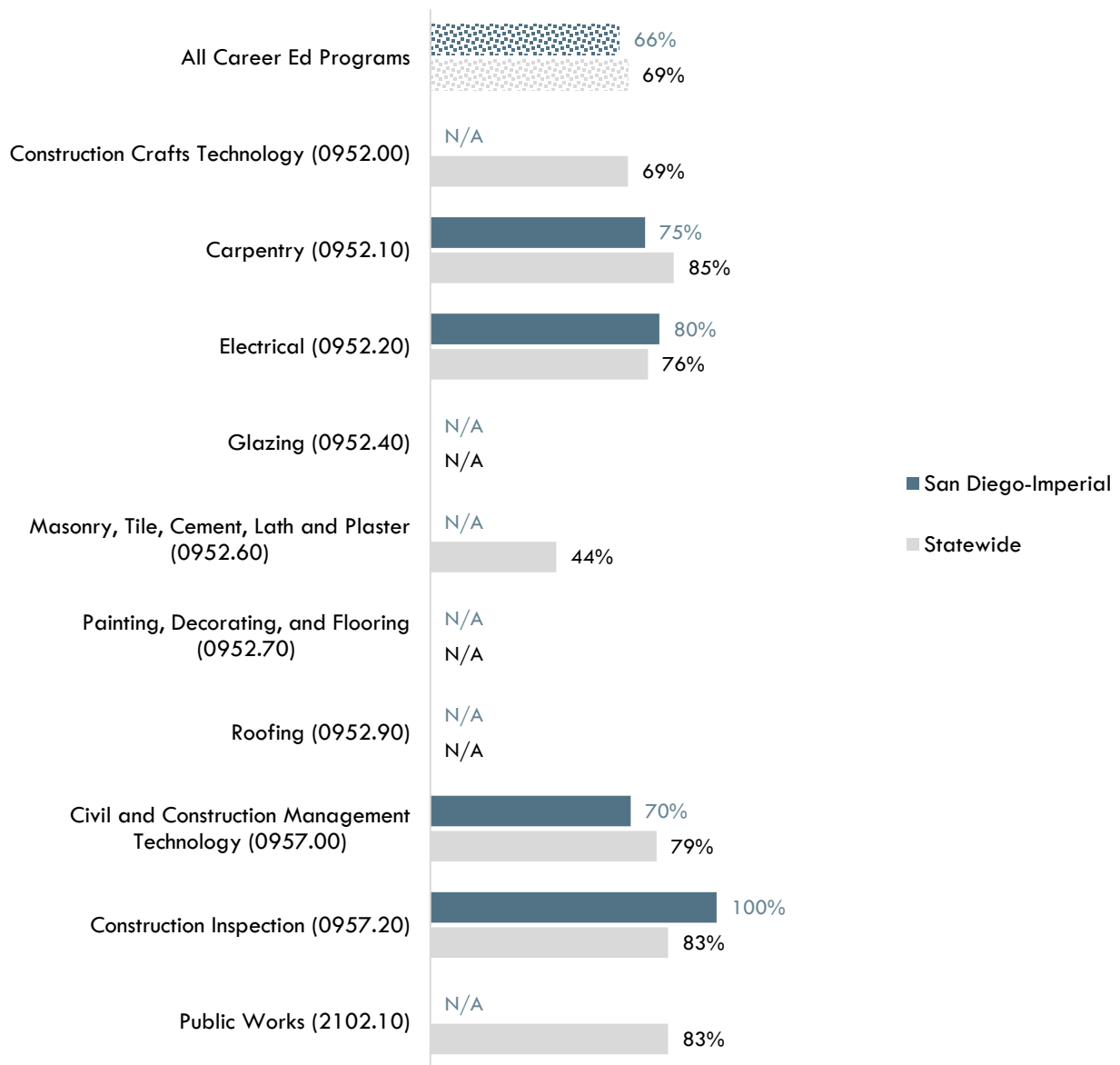
"N/A" indicates insufficient data

¹⁷ "California Community Colleges Strong Workforce Program," California Community Colleges, calpassplus.org/LaunchBoard/SWP.aspx.

¹⁸ Most recent year with available data is Program Year 2020-21. Among completers and skills builders who exited, the percentage of students who attained a living wage.

According to the California Community Colleges LaunchBoard, 75 to 100 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 *Construction Occupations*, compared to 44 to 85 percent statewide and 69 percent of students in Career Education programs in general across the state (Exhibit 11).¹⁹

Exhibit 11: Percentage of Students in a Job Closely Related to Field of Study by Program, PY2019-20²⁰



"N/A" indicates insufficient data

¹⁹ "California Community Colleges Strong Workforce Program," California Community Colleges, calpassplus.org/LaunchBoard/SWP.aspx.

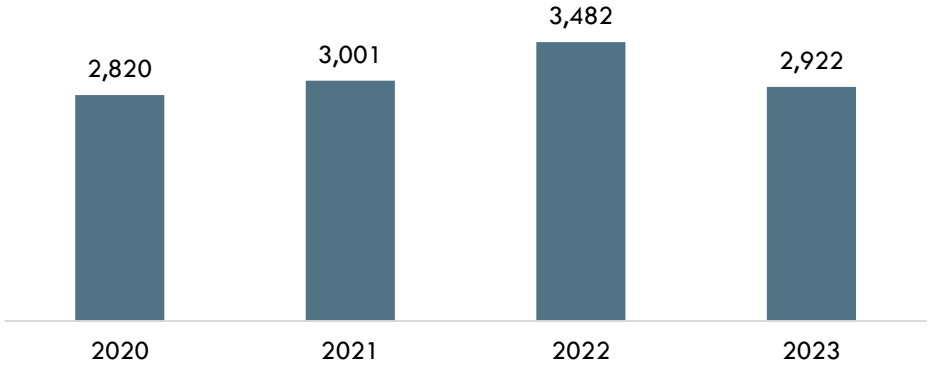
²⁰ Most recent year with available data is Program Year 2019-20. Percentage of Students in a Job Closely Related to Field of Study: Among students who responded to the CTEOS, the percentage reporting employment in the same or similar field as their program of study.

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 2020 and 2023, there was an average of 3,056 online job postings per year for *Construction Occupations* in San Diego County (Exhibit 12). Please note that online job postings do **not** equal labor market demand; demand is represented by annual job openings (see Between 2023 and 2028, employers in San Diego County will need to hire 1,275 workers annually to fill new jobs and backfill jobs in *Construction Occupations* due to attrition caused by turnover and retirement, for example (Exhibit 1). “First-Line Supervisors of Construction Trades and Extraction Workers” are projected to have the most labor market demand between 2023 and 2028, with 732 annual job openings.

Exhibit 1). 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 12: Number of Online Job Postings for *Construction Occupations* in San Diego County (2020-2023)²¹



²¹ Lightcast 2024.01; “Job Posting Analytics.” 2020-2023.

Employers

Between January 1, 2021 and December 31, 2023, the top five employers in San Diego County for *Construction Occupations* were GPAC, University of California San Diego, RQ Construction, Actalent, and CDM Smith based on online job postings (Exhibit 13).

Exhibit 13: Top Employers for Construction Occupations in San Diego County²²

Top Employers	
<ul style="list-style-type: none"> • GPAC • University of California San Diego • RQ Construction • Actalent • CDM Smith 	<ul style="list-style-type: none"> • Aerotek • Prevost Construction • Turner Construction Company • PageGroup • Sunrun

Skills

Exhibit 14 lists the top specialized, soft, and software skills that appeared in online job postings between January 1, 2021 and December 31, 2023.

Exhibit 14: Top Skills for Construction Occupations in San Diego County²³

Specialized Skills	Soft Skills	Software Skills
<ul style="list-style-type: none"> • Construction • Project Management • Subcontracting • Construction Management • Change Orders • Project Schedules • Submittals • Procurement • Commercial Construction • Renovation • Invoicing • Purchasing • Accounting • Procore • Punch Work 	<ul style="list-style-type: none"> • Communication • Management • Scheduling • Leadership • Coordinating • Operations • Planning • Quality Control • Customer Service • Detail Oriented • Problem Solving • Computer Literacy • Budgeting • Writing • Time Management 	<ul style="list-style-type: none"> • Microsoft Excel • Microsoft Outlook • Microsoft Project • Procore • Microsoft Word • Project Management Software • Microsoft PowerPoint • Primavera • Autodesk Revit • AutoCAD • Spreadsheets • Construction Management Software • Sage 300 Construction And Real Estate • Microsoft Access • SketchUp

²² Lightcast 2024.01; "Job Posting Analytics." 2021-2023.

²³ Lightcast 2024.01; "Job Posting Analytics." 2021-2023.

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