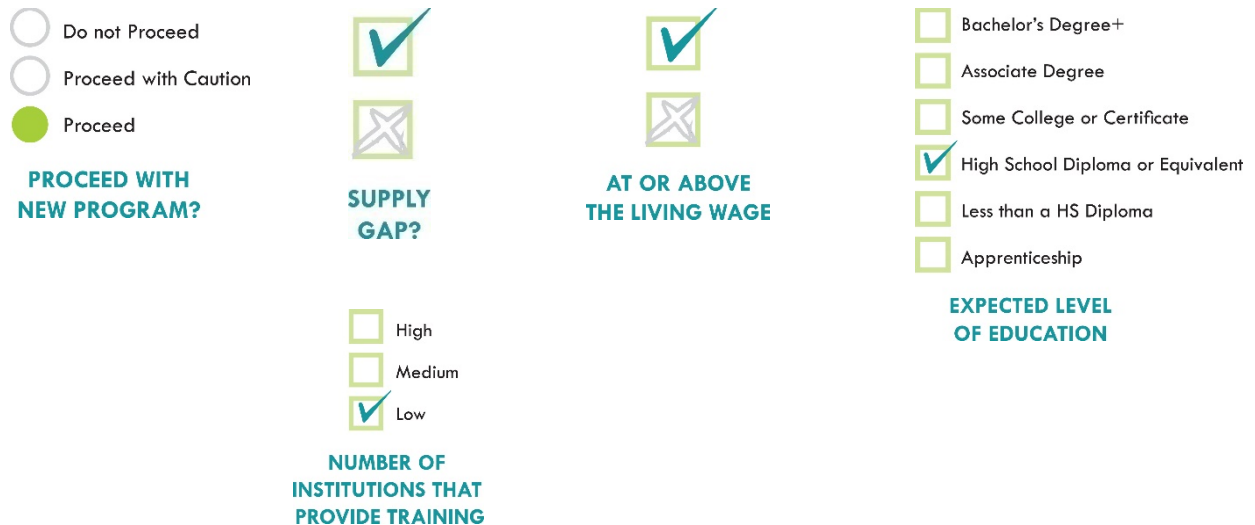


Sheet Metal and Structural Metal

Labor Market Analysis for San Diego Continuing Education

September 2019

Summary



This report provides labor market information for occupation(s) selected by San Diego Continuing Education for its *Sheet Metal and Structural Metal* program. The training provided by this program is likely to lead to employment as *Sheet Metal Workers*. According to available labor market information, the occupation has a labor market demand of 152 annual job openings, while average demand for an occupation in San Diego County is 277 annual job openings. Two community colleges supply the region with 29 for-credit awards: Palomar College and San Diego City College. Both institutions primarily awarded certificates with 30 to < 60 units in the past three program years. Only San Diego Continuing Education supplies noncredit awards for this occupation, which averaged two awards in the same period. In short, the region supplies 31 for-credit and noncredit awards for 152 annual job openings, suggesting that there is a labor market supply gap. Additionally, entry-level and median wages are above the living wage, suggesting that students who successfully complete a program and obtain employment in a related field may earn a living wage. Expected level of education for this occupation is a high school diploma or equivalent.

Introduction

This report provides labor market information (LMI) in San Diego County for occupations related to the six-digit Taxonomy of Programs¹ (TOP) code, Sheet Metal and Structural Metal (TOP 095640). The purpose of this brief is to assist noncredit program providers in the region, such as San Diego Continuing Education (SDCE), with program development and review. SDCE identified one occupation from the Standard Occupational Classification (SOC)² system for *Sheet Metal and Structural Metal*, which will be the focus of this report:

Sheet Metal Workers (SOC 47-2211): Fabricate, assemble, install, and repair sheet metal products and equipment, such as ducts, control boxes, drainpipes, and furnace casings. Work may involve any of the following: setting up and operating fabricating machines to cut, bend, and straighten sheet metal; shaping metal over anvils, blocks, or forms using hammer; operating soldering and welding equipment to join sheet metal parts; or inspecting, assembling, and smoothing seams and joints of burred surfaces. Includes sheet metal duct installers who install prefabricated sheet metal ducts used for heating, air conditioning, or other purposes. Sample reported job titles include:

- Sheet Metal Installer
- Fabricator
- Sheet Metal Layout Mechanic
- HVAC Sheet Metal Installer (Heating, Ventilation, and Air Conditioning Sheet Metal Installer)
- Sheet Metal Mechanic
- Sheet Metal Fabricator
- Welder
- Sheet Metal Journeyman
- Sheet Metal Foreman

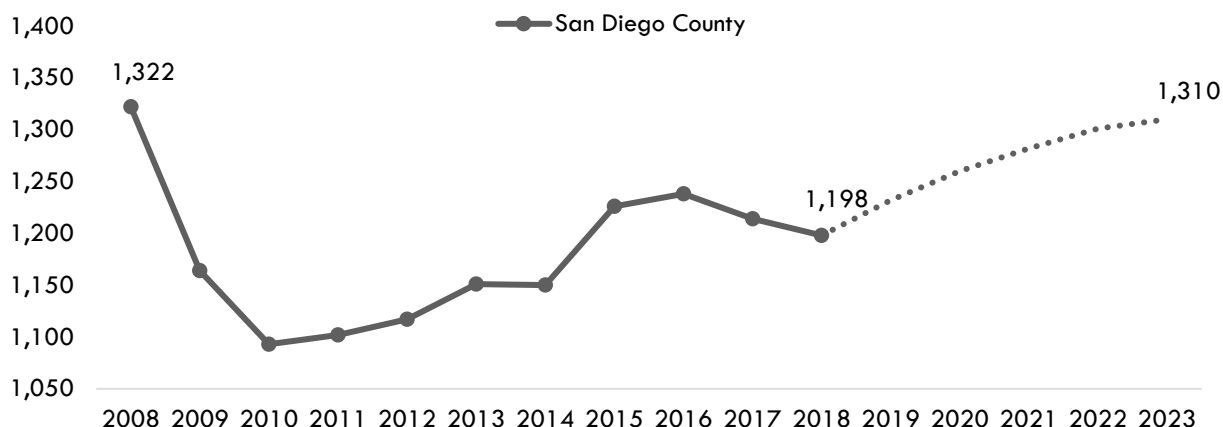
Projected Occupational Demand

Between 2018 and 2023, *Sheet Metal Workers* are projected to increase by 112 net jobs or nine percent (Exhibit 1). Employers in San Diego County will need to hire 152 workers annually to fill new jobs and backfill jobs due to attrition caused by turnover and retirement, for example.

¹ Taxonomy of Programs (TOP) is a system of codes used by the California Community Colleges for the purpose of collecting, calculating, or disseminating data about similar training programs.

² 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).

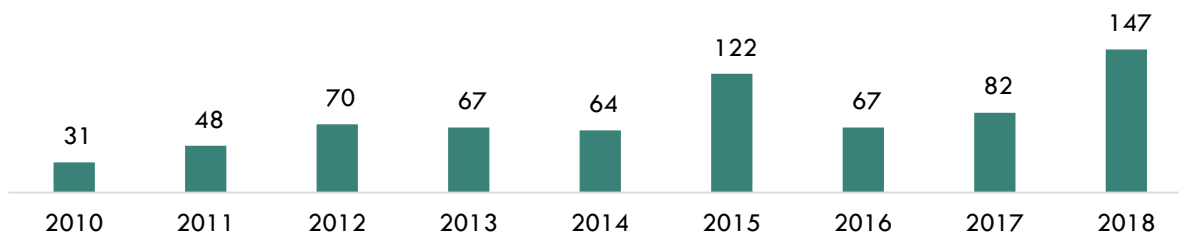
Exhibit 1: Number of Jobs for Sheet Metal Workers (2008-2023)³



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 demand that are not captured by historical data. Between 2010 and 2018, there was an average of 78 online job postings per year for *Sheet Metal Workers* in San Diego County (Exhibit 2).

Exhibit 2: Number of Online Job Postings for Sheet Metal Workers in San Diego County (2010-2018)⁴



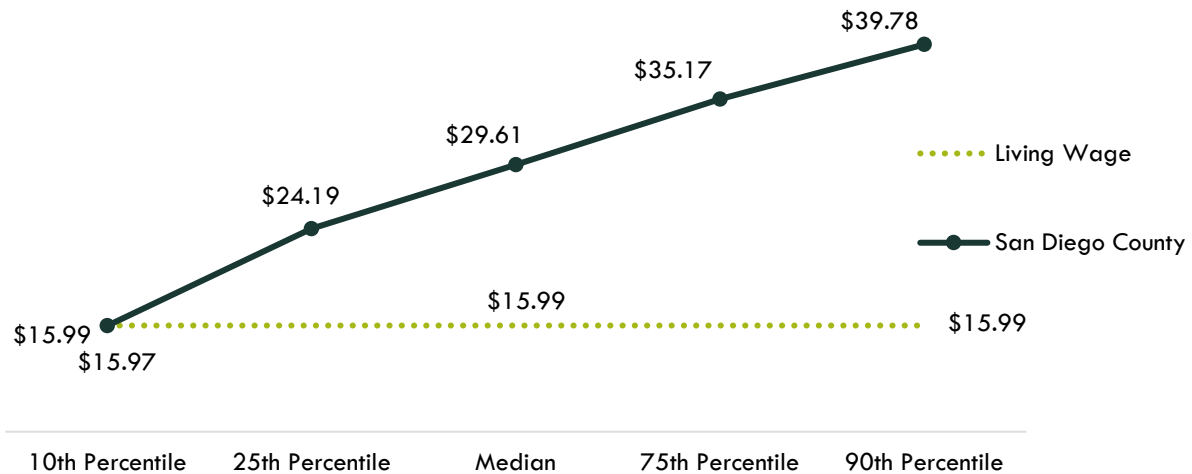
³ Emsi 2019.03; QCEW, Non-QCEW, Self-Employed.

⁴ Burning Glass Technologies, "Labor Insight Real-Time Labor Market Information Tool." 2010-2018.

Earnings

Sheet Metal Workers receive median hourly earnings of **\$29.61**; this is more than the living wage for a single adult in San Diego County, which is **\$15.99** per hour (Exhibit 3).⁵

Exhibit 3: Hourly Earnings⁶ for Sheet Metal Workers in San Diego County⁷



Educational Supply

Educational supply for an occupation can be estimated by analyzing the number of awards conferred by a course or program in related Taxonomy of Programs (TOP) or Classification of Instructional Programs (CIP) codes.⁸ According to TOP and CIP⁹ data, **two** community colleges supply the region with for-credit awards for Sheet Metal and Structural Metal (TOP 095640): **Palomar College** and **San Diego City College** (Exhibit 4a).

⁵ "California Family Needs Calculator." Insight Center for Community Economic Development, last updated 2018. insightccd.org/2018-family-needs-calculator.

⁶ 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.

⁷ Emsi 2019.03; QCEW, Non-QCEW, Self-Employed.

⁸ 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)

⁹ There is one CIP code related to Sheet Metal and Structural Metal (TOP 095640): Sheet Metal Technology/Sheet working (CIP 480506).

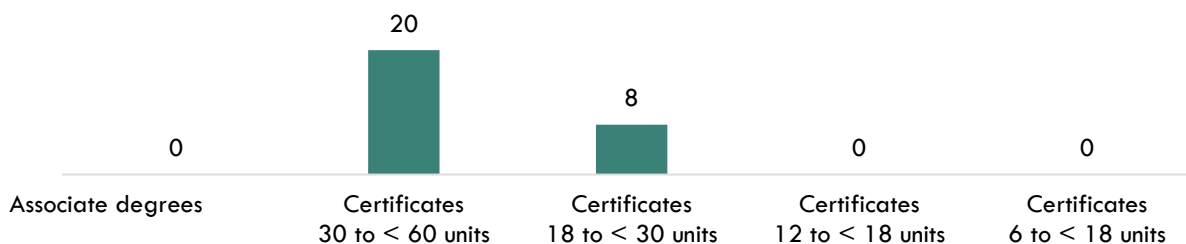
**Exhibit 4a: Number of Awards (Certificates and Degrees) Conferred by Postsecondary Institutions
(Program Years 2015-16 through 2017-18)**

College	Award Type	PY 15-16	PY 16-17	PY 17-18	3-Year Avg
Palomar	Associate of Science (A.S.) degree	0	0	1	0
	Certificate 30 to < 60 units	24	23	13	20
	Total	24	23	14	20
San Diego City	Certificate 18 to < 30 units	11	14	0	8
	Total	11	14	0	8
Total		35	37	14	29*

Note: The numbers may not add up exactly due to rounding.

Broken down by award type, the colleges supplied the most awards in certificates with 30 to < 60 units (20), followed by certificates with 18 to < 30 units (8) (Exhibit 4b).

Exhibit 4b: Total Number of Awards by Type for Sheet Metal and Structural Metal (TOP 095640) in San Diego County (Three-Year Average 2015-16 through 2017-18)



In terms of noncredit awards, only San Diego Continuing Education provides noncredit awards for Sheet Metal and Structural Metal (TOP 095640), with an average of **two** noncredit awards between program years 2015-16 and 2017-18 (Exhibit 5).

**Exhibit 5: Number of Noncredit Awards (Certificates and Degrees) Conferred by SDCE
(Program Years 2015-16 through 2017-18)**

Program Title	Award Type	PY 15-16	PY 16-17	PY 17-18	3-Year Avg
Metal Fabrication	Program Award	3	2	1	2

Demand vs. Supply

In short, the region supplies 31 for-credit and noncredit awards for 152 annual job openings, suggesting that there is a labor market supply gap (Exhibit 6).

Exhibit 6: Labor Demand (Annual Openings) Compared with Labor Supply (Average Annual Awards)

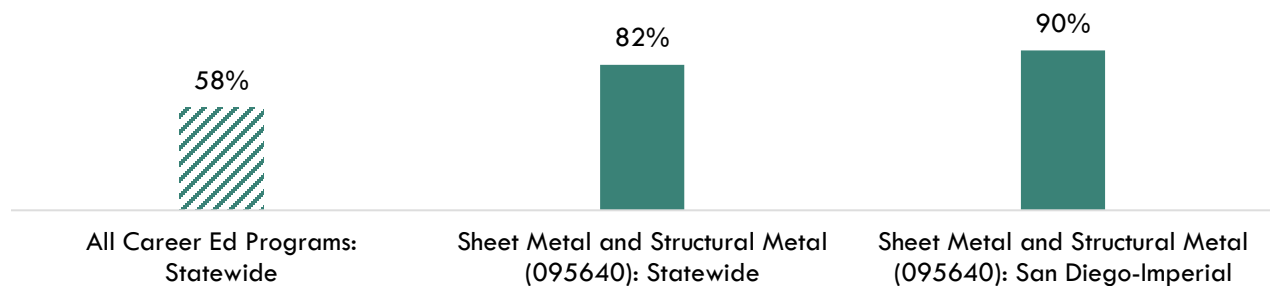
TOP6 Program	Demand (Annual Openings)	Supply (Total Annual Average Supply)		Supply Gap or Oversupply
		Noncredit	For-Credit	
Sheet Metal and Structural Metal (TOP 095640)	152	2	29	121

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.

Student Outcomes and Regional Comparisons

According to the California Community Colleges LaunchBoard, 90 percent of students in the San Diego-Imperial region earned a living wage after completing a Sheet Metal and Structural Metal (095640) program, compared to 82 percent statewide and 58 percent of students in Career Education programs in general across the state (Exhibit 7a).

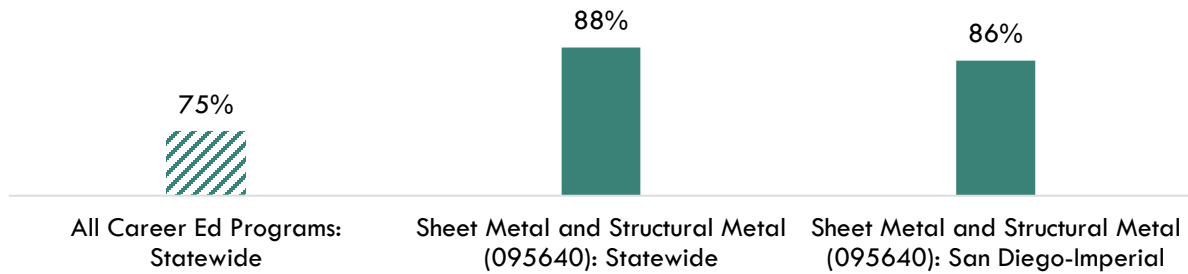
Exhibit 7a: Proportion of Students Who Earned a Living Wage, PY2015-16¹⁰



¹⁰ Among completers and skills builders who exited, the proportion of students who attained a living wage.

According to the California Community Colleges LaunchBoard, 86 percent of students in the San Diego-Imperial region obtained a job closely related to their field of study after completing a Sheet Metal and Structural Metal (095640) program, compared to 88 percent statewide and 75 percent of students in Career Education programs in general across the state (Exhibit 7b).

Exhibit 7b: Percentage of Students in a Job Closely Related to Field of Study, PY2014-15¹¹



Top Employers and Work Locations

Between January 1, 2016 and December 31, 2018, the top five employers in San Diego County for this occupation were U.S. Navy, Countrywide Mechanical Systems, Triumph Group Incorporated, Naval Air Systems Command, and Zenetex (Exhibit 8).

Exhibit 8: Top Employers in San Diego County for Sheet Metal Workers¹²

Top Employers	
<ul style="list-style-type: none"> • U.S. Navy • Countrywide Mechanical Systems • Triumph Group Incorporated • Naval Air Systems Command • Zenetex 	<ul style="list-style-type: none"> • Tyonek Native Corporation • Navair • General Atomics • CSRA • Weldmac Manufacturing Company

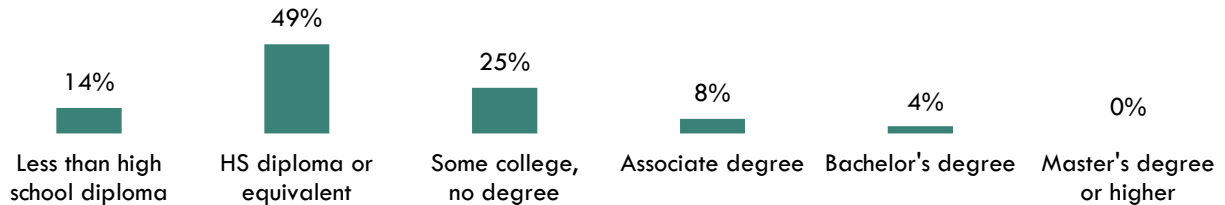
¹¹ Most recent year with available data is Program Year 2014-15. Percentage of Students in a Job Closely Related to Field of Study: Among students who responded to the CTEOS, the percentage reporting employment in the same or similar field as their program of study.

¹² Burning Glass Technologies, "Labor Insight Real-Time Labor Market Information Tool." 2016-2018.

Skills, Education, and Certifications

Exhibit 9a indicates the educational attainment for the occupation found currently in the national labor force. The typical on-the-job training for this profession is an [apprenticeship](#). The typical entry-level education is a [high school diploma or equivalent](#).¹³

Exhibit 9a: National Educational Requirements for Sheet Metal Workers¹⁴



Based on online job postings between January 1, 2016 and December 31, 2018, the top listed educational requirement for *Sheet Metal Workers* was a [high school diploma or vocational training](#) (Exhibit 9b).¹⁵

Exhibit 9b: Educational Requirements for Sheet Metal Workers in San Diego County in Online Job Postings¹⁶



¹³ Emsi 2019.03; QCEW, Non-QCEW, Self-Employed.

¹⁴ Emsi 2019.03; QCEW, Non-QCEW, Self-Employed.

¹⁵ Burning Glass Technologies, "Labor Insight Real-Time Labor Market Information Tool." 2016-2018.

¹⁶ "Educational Attainment for Workers 25 Years and Older by Detailed Occupation," Bureau of Labor Statistics, last modified October 18, 2018. 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, 2016 and December 31, 2018.

Exhibit 10: Top Skills for Sheet Metal Workers in San Diego County¹⁷

Specialized Skills	Soft Skills	Software Skills
<ul style="list-style-type: none"> • Repair • Welding • Hand tools • Power Tools • Sheet Metal Fabrication 	<ul style="list-style-type: none"> • Physical Abilities • Planning • Work Area Maintenance • Computer Literacy • Writing 	<ul style="list-style-type: none"> • Activity Server Pages (ASP) • Design (CAD) • Computer Aided Manufacturing (CAM) • Adobe Photoshop • Adobe InDesign

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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.

¹⁷ Burning Glass Technologies, “Labor Insight Real-Time Labor Market Information Tool.” 2016-2018.