

# Sheet Metal Workers

## Labor Market Analysis: San Diego County

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December 2017

### Summary

The following list summarizes findings from the labor market analysis below for *Sheet Metal Workers*:

- Between 2016 and 2021, *Sheet Metal Workers* are projected to increase by 124 jobs (or eight percent) in San Diego County.
- Employers in San Diego County will need to hire 197 workers annually to fill new jobs and to backfill jobs due to attrition such as retirement or turnover.
- Between 2010 and 2017, there was an average of 81 online job postings per year for *Sheet Metal Workers* in San Diego County.
- Sheet Metal Workers earn median hourly earnings of \$27.19, more than the self-sufficiency wage (\$13.09 per hour) for a single adult in San Diego County.
- According to the California Community Colleges Chancellor's Office Management Information System (MIS) Data Mart, four community colleges supply the region with an annual average of 359 awards for this occupation: Imperial Valley College, Palomar College, San Diego City College and San Diego Continuing Ed.
- Comparing the labor demand (annual openings) with labor supply from the region's community colleges, there is an oversupply for this occupation in San Diego County, with 287 annual openings and 359 related awards. However, the majority of this labor supply is from the program, Environmental Control Technology (TOP094600). If labor demand is compared with only Sheet Metal and Structural Metal (TOP095640), then there is a supply gap. Comparatively, there are 1,869 annual openings in California and 56 completions.
- Between January 1, 2015 and November 30, 2017, the top five employers in San Diego County for this occupation were Naval Air Systems Command, Affordable Engineering Services, Countywide Mechanical Systems, BAE Systems and Zenetex.
- The typical on-the-job training for this profession is apprenticeship. The typical entry-level education is a high school diploma or equivalent.

### Introduction

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

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<sup>1</sup> 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](http://bls.gov/soc).

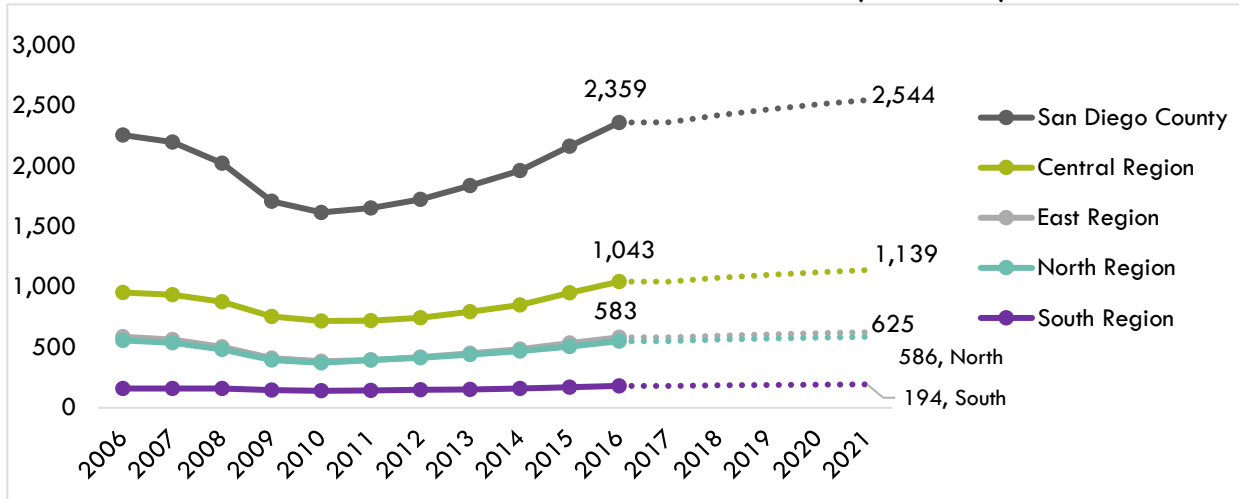
**Sheet Metal Workers (SOC 47-2211):** Fabricate, assemble, install and repair sheet metal products and equipment, such as ducts, control boxes, drainpipes and furnace casings. Work may involve any of the following: setting up and operating fabricating machines to cut, bend, and straighten sheet metal; 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 Worker
- Sheet Metal Mechanic
- Sheet Metal Installer
- Sheet Metal Fabricator
- Sheet Metal Layout Mechanic
- Sheet Metal Journeyman
- Sheet Metal Foreman
- Sheet Metal Apprentice
- Journeyman Sheet Metal Worker
- HVAC Sheet Metal Installer

### Projected Occupational Demand

Between 2016 and 2021, *Sheet Metal Workers* are projected to increase by 185 jobs (or eight percent) in San Diego County (Exhibit 1 a and Exhibit 1 b).<sup>2</sup>

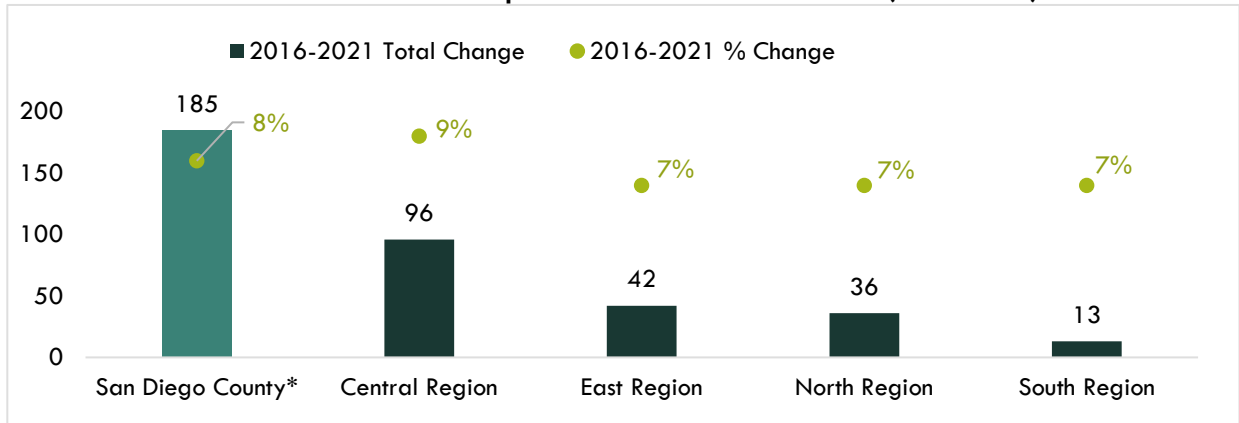
**Exhibit 1a: Number of Jobs for Sheet Metal Workers (2006-2021)<sup>3</sup>**



<sup>2</sup> South, East, Central and North Regions' ZIP codes in this report are defined by the local Workforce Development Board, the San Diego Workforce Partnership.

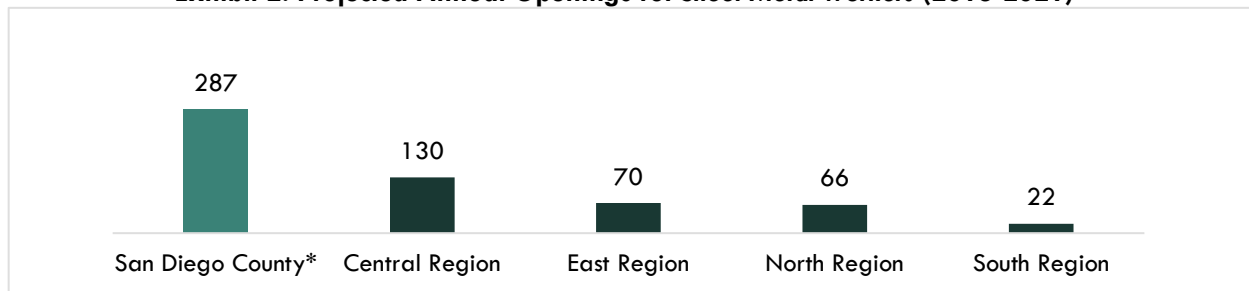
<sup>3</sup> EMSI. San Diego County (6073). 2017.03 Class of Worker. QCEW + Non-QCEW+ Self-Employed. 2006-2021.

**Exhibit 1b: Five-Year Projections for Sheet Metal Workers (2016-2021)<sup>4</sup>**



Employers in San Diego County will need to hire 287 workers annually to fill new jobs and backfill jobs due to attrition such as retirement or turnover (Exhibit 2).

**Exhibit 2: Projected Annual Openings for Sheet Metal Workers (2016-2021)<sup>5</sup>**



\*Total annual openings for the subregions in San Diego County may not add up exactly due to rounding.

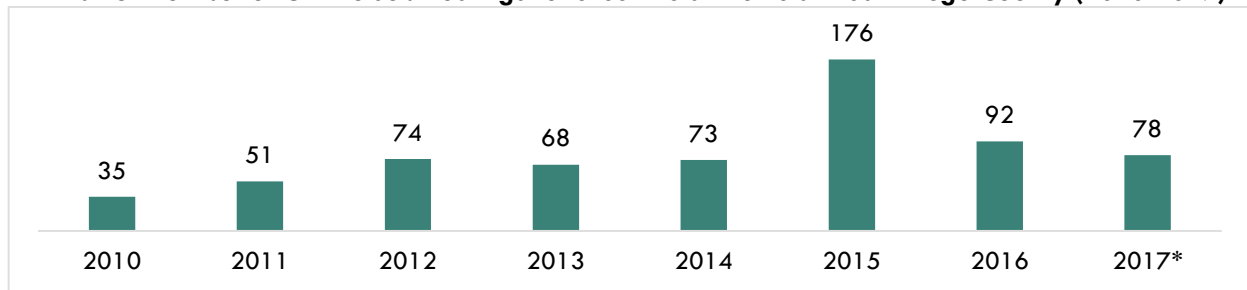
### Online Job Postings

Between 2010 and 2017, there was an average of 81 online job postings per year for Sheet Metal Workers in San Diego County (Exhibit 3).

<sup>4</sup> EMSI. San Diego County (6073). 2017.04 Class of Worker. QCEW + Non-QCEW + Self-Employed. 2016-2021.

<sup>5</sup> EMSI. San Diego County (6073). 2017.04 Class of Worker. QCEW + Non-QCEW + Self-Employed. 2016-2021.

**Exhibit 3: Number of Online Job Postings for Sheet Metal Workers in San Diego County (2010-2017)<sup>6</sup>**

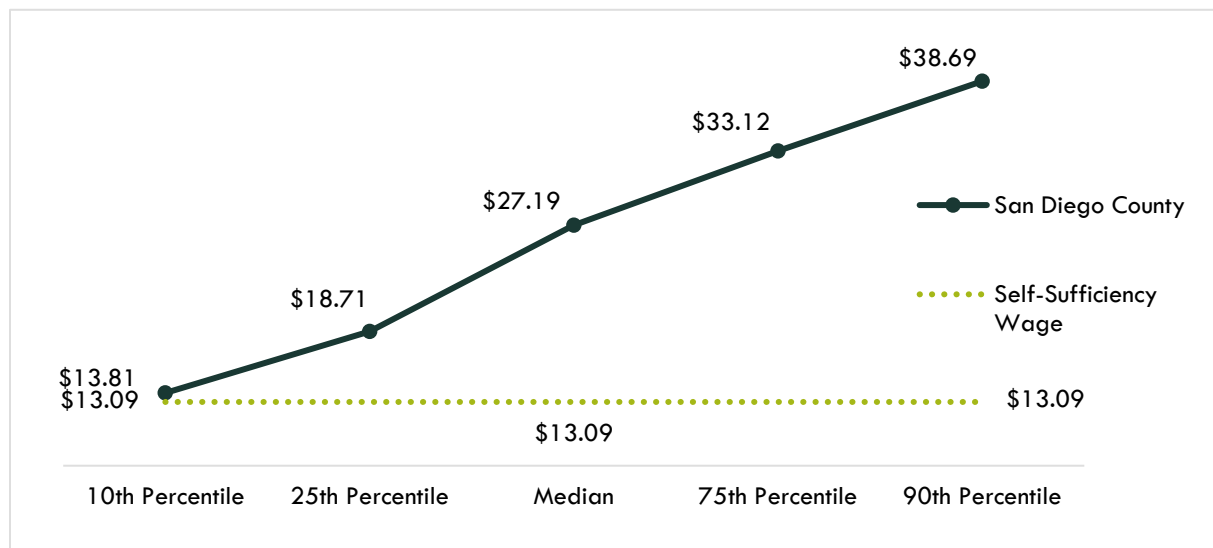


\*January 2017 through November 2017

## Earnings

Sheet Metal Workers earn median hourly earnings of **\$27.19**, more than the self-sufficiency wage (\$13.09 per hour)<sup>7</sup> for a single adult in San Diego County (Exhibit 4).

**Exhibit 4: Hourly Earnings for Sheet Metal Workers in San Diego County<sup>8</sup>**



## Educational Supply

Educational supply for an occupation can be estimated by analyzing the number of related program completers/graduates/awards in San Diego County. To determine what programs are available, Exhibit 5 lists the Taxonomy of Programs (TOP) code(s) related to the SOC code analyzed.

<sup>6</sup> Labor Insight Jobs. Burning Glass Technologies. San Diego, CA. Full years 2010, 2011, 2012, 2013, 2014, 2015 and 2016. Jan.-Nov. 2017.

<sup>7</sup> The self-sufficiency wage in San Diego for one adult is \$13.09 ([insightcced.org/tools-metrics/self-sufficiency-standard-tool-for-california](https://insightcced.org/tools-metrics/self-sufficiency-standard-tool-for-california)).

<sup>8</sup> EMSI. San Diego County (6073). 2017.04 Class of Worker. QCEW + Non-QCEW + Self-Employed. 2016-2021.

**Exhibit 5: Related TOP Codes in San Diego County**

**SOC 47-2211: Sheet Metal Workers**

TOP 094600: Environmental Control Technology

TOP 095640: Sheet Metal and Structural Metal

According to the California Community Colleges Chancellor's Office Management Information System (MIS) Data Mart, **four** community colleges supply the region with an annual average of **359** awards for this occupation: **Imperial Valley College, Palomar College, San Diego City College and San Diego Continuing Ed** (Exhibit 6).

Exhibit 6 shows the annual average regional community college awards (associate degrees and certificates) conferred during the three academic years between 2013 and 2016, as well as other awards granted outside the California Community Colleges from 2012 to 2015, with the relevant TOP code.

**Please note:** An award is not equivalent to a single person in search of a job opening because a student may earn more than one award such as an associate degree in addition to a certificate.

**Exhibit 6: Number of Awards (Certificates and Degrees) Conferred by Postsecondary Institutions by Occupation (Program Year 2012-13 through PY2015-16 Average)**

TOP06	TOP06 Title	3-Yr Annual Average Supply (PY13-14 to PY15-16)*	3-Yr Annual Average CC Awards (PY13-14 to PY15-16)*	Other Educational Institutions 3-Yr Annual Average Awards (PY12-13 to PY14-15)*
094600	Environmental Control Technology	<b>323</b>	<b>323</b>	<b>0</b>
	<ul style="list-style-type: none"> <li>• San Diego Continuing Education</li> </ul>		235	
	<ul style="list-style-type: none"> <li>• Imperial Valley College</li> </ul>		13	
	<ul style="list-style-type: none"> <li>• San Diego City College</li> </ul>		75	
095640	Sheet Metal and Structural Metal	<b>36</b>	<b>36</b>	<b>0</b>
	<ul style="list-style-type: none"> <li>• San Diego Continuing Education</li> </ul>		8	
	<ul style="list-style-type: none"> <li>• Palomar College</li> </ul>		14	
	<ul style="list-style-type: none"> <li>• San Diego City College</li> </ul>		13	
<b>TOTAL</b>		<b>359</b>		

\*Total number of awards may not add up exactly due to rounding.

## Demand vs. Supply

Comparing the labor demand (annual openings) with labor supply<sup>9</sup> from the region's colleges, there is an **oversupply** for this occupation in San Diego County, with **287** annual openings and **359** awards. However, the majority of this labor supply is from the program Environmental Control Technology (TOP094600). If labor demand is compared with only Sheet Metal and Structural Metal (TOP095640), there is a supply gap. Comparatively, there are **1,869** annual openings in California and **56** completions.<sup>10</sup>

**Exhibit 7: Labor Demand (Annual Openings) Compared to Labor Supply (Average Annual Awards)**

Community Colleges and Other Postsecondary Educational Institutions	Demand (Annual Openings)	Supply (Total Annual Average Supply)	Supply Gap or <b>Oversupply</b>
San Diego County	287	359	<b>72</b>
California	1,869	56	<b>1,813</b>

**Please note:** This is a basic analysis of supply and demand of labor for these occupations. This data should be used to discuss the potential gaps or oversupply of workers for these occupations; however, it should not be the only basis for determining whether or not a program should be developed. Additionally, the data does not include workers who are currently in the labor force who could fill these positions or workers who are not captured by publicly available data.

## Student Outcomes

Based on the information available in the CTE LaunchBoard,<sup>11</sup> students who took courses in the related TOP codes exhibited the following outcomes (Exhibit 8).

**Exhibit 8: Strong Workforce Program Metrics for TOP 095640 Sheet Metal and Structural Metal vs. All Programs in San Diego-Imperial Region (PY2014-15)**

Metric	TOP 095640	All Programs
Number of course enrollments <sup>12</sup>	328	1,009,712
Number of students who got a degree or certificate <sup>13</sup>	21	17,536
Number of students who transferred <sup>14</sup>	0	6,269

<sup>9</sup> 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.

<sup>10</sup> EMSI. San Diego County (6073). 2017.04 Class of Worker. QCEW + Non-QCEW + Self-Employed. 2016-2021.

<sup>11</sup> [calpassplus.org/LaunchBoard/SWP.aspx](http://calpassplus.org/LaunchBoard/SWP.aspx).

<sup>12</sup> The number of enrollments in courses assigned to the TOP code in the selected year.

<sup>13</sup> The number of unduplicated students who earned a locally-issued certificate, Chancellor's Office approved certificate, associate degree, and/or California Community Colleges bachelor's degree in the selected TOP code

<sup>14</sup> Students who took non-introductory courses or completed a California Community Colleges Chancellor's Office award in the selected TOP code in selected year who subsequently enrolled for the first time in a four-year institution the following year.

Metric	TOP 095640	All Programs
Employed in the second fiscal quarter after exit <sup>15</sup>	44%	66%
Employed in the fourth fiscal quarter after exit <sup>16</sup>	N/A	65%
Job closely related to field of study <sup>17</sup>	N/A <sup>18</sup>	N/A <sup>19</sup>
Median earnings in the second fiscal quarter after exit <sup>20</sup>	\$12,532	\$9,134
Median change in earnings <sup>21</sup>	18%	31%
Attained a living wage <sup>22</sup>	67%	50%

## Top Employers

Between January 1, 2015 and November 30, 2017, the top five employers in San Diego County for this occupation were [Naval Air Systems Command](#), [Affordable Engineering Services](#), [Countywide Mechanical Systems](#), [BAE Systems](#) and [Zenetex](#) (Exhibit 9).

### Exhibit 9: Top Employers in San Diego County for Sheet Metal Workers

Top Employers	
<ul style="list-style-type: none"> <li>• Naval Air Systems Command</li> <li>• Affordable Engineering Services</li> <li>• Countywide Mechanical Systems</li> <li>• BAE Systems</li> <li>• Zenetex</li> </ul>	<ul style="list-style-type: none"> <li>• Navair</li> <li>• U.S. Navy</li> <li>• Naval Facilities Engineering Command</li> <li>• Triumph Group Incorporated</li> <li>• Weldmac Manufacturing Company</li> </ul>

## Skills, Education and Certifications

Exhibit 10 indicates the educational attainment for the occupation found currently in the national labor force. The typical on-the-job training for this profession is [apprenticeship](#). The typical entry-level education is a [high school diploma or equivalent](#).<sup>23</sup>

<sup>15</sup> Among all exiters with a valid SSN, the percentage who were employed two quarters after exiting California Community Colleges.

<sup>16</sup> Among exiting students with a valid SSN, the percentage who were employed four quarters after exiting California Community Colleges.

<sup>17</sup> Among students who responded to the CTEOS, the percentage reporting employment in the same or similar field as their program of study.

<sup>18</sup> Data for this metric has not been released for PY2014-15; however, in PY2013-14, the result was 100%.

<sup>19</sup> Data for this metric has not been released for PY2014-15; however, in PY2013-14, the result was 81%.

<sup>20</sup> Among exiting students, the median second -quarter earnings one year after the year in which they exited California Community Colleges

<sup>21</sup> Among exiting students with a valid SSN, the percentage change in earnings one year before and one year after exiting California Community Colleges.

<sup>22</sup> Among completers and skills-builders who exited, the proportion of students who attained a living wage.

<sup>23</sup> EMSI. San Diego County (6073). 2017.04 Class of Worker. QCEW + Non-QCEW + Self-Employed. 2016-2021.

**Exhibit 10: National Educational Attainment of Sheet Metal Workers**

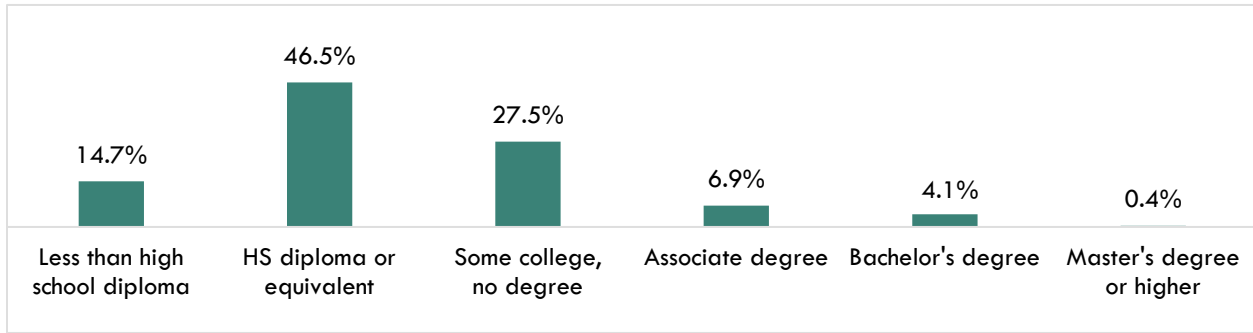


Exhibit 11 lists the top specialized, soft and software skills that appeared in online job postings between January 1, 2015 and November 30, 2017.

**Exhibit 11: Top Skills for Sheet Metal Workers in San Diego County<sup>24</sup>**

Specialized Skills	Soft Skills	Software Skills
<ul style="list-style-type: none"> <li>• Electrical Work</li> <li>• Repair</li> <li>• Electrical Systems</li> <li>• Wiring</li> <li>• Hand Tools</li> </ul>	<ul style="list-style-type: none"> <li>• Troubleshooting</li> <li>• Physical Demand</li> <li>• Communication Skills</li> <li>• Writing</li> <li>• Mathematics</li> </ul>	<ul style="list-style-type: none"> <li>• Microsoft Vista</li> <li>• Microsoft Office</li> <li>• Microsoft Excel</li> <li>• Adobe Acrobat</li> <li>• Adobe Creative Suite</li> </ul>

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<sup>24</sup> Labor Insight Jobs. Burning Glass Technologies. San Diego, CA. Full years 2015 and 2016. Jan.-Nov. 2017.