

Electrical and Electronics Installers and Repairers, Transportation Equipment Labor Market Analysis: San Diego County

January 2018

Summary

The following list summarizes findings from the labor market analysis below for *Electrical and Electronics Installers and Repairers, Transportation Equipment*:

- Between 2016 and 2021, *Electrical and Electronics Installers and Repairers, Transportation Equipment* are projected to increase by 11 jobs (or three percent) in San Diego County.
- Employers in San Diego County will need to hire 21 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 one online job posting per year for *Electrical and Electronics Installers and Repairers, Transportation Equipment* in San Diego County.
- *Electrical and Electronics Installers and Repairers, Transportation Equipment* earn median hourly earnings of \$28.21, 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, 10 colleges supply the region with an annual average of 887 awards for this occupation: ITT Technical Institute – National City, San Diego Continuing Ed, Imperial Valley College, San Diego City College, CET – El Centro, Cuyamaca College, MiraCosta College, Palomar College, San Diego Miramar College and Southwestern College.
- Comparing the labor market demand against labor supply, there is an oversupply for this occupation in San Diego County, with 21 annual openings and 887 awards. Comparatively, there are 190 annual openings in California and 4,892 completions.
- Between January 1, 2010 and December 31, 2017, job postings did not contain employer information.
- The typical on-the-job training for this profession is long-term. The typical entry-level education is a post-secondary non-degree award.

Introduction

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

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.

Electrical and Electronics Installers and Repairers, Transportation Equipment (SOC 49-2093): Install, adjust or maintain mobile electronics communication equipment, including sound, sonar, security, navigation and surveillance systems on trains, watercraft or other mobile equipment. Excludes "Avionics Technicians" (49-2091) and "Electronic Equipment Installers and Repairers, Motor Vehicles" (49-2096).

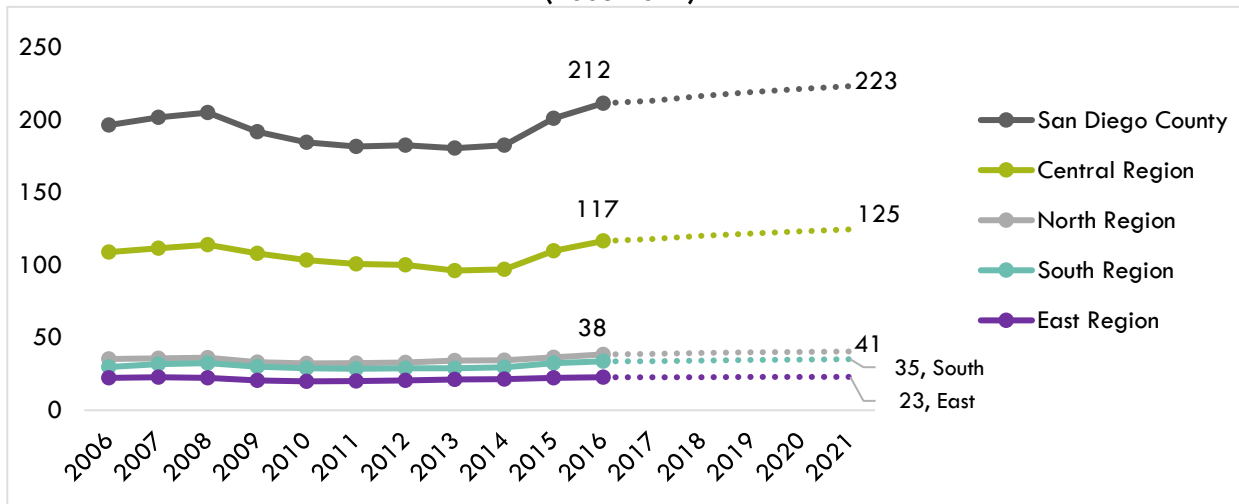
Sample reported job titles include:

- Locomotive Electrician
- Troubleshooter
- Ship Yard Electrical Person
- Radio Technician
- Motor Home Electrical
- Marine Electrician
- Foreman
- Mechanical Electrical Plumbing Supervisor (MEP Supervisor)
- Electronics Mechanic
- Electronic Technician
- Electronic Bench Technician

Projected Occupational Demand

Between 2016 and 2021, *Electrical and Electronics Installers and Repairers, Transportation Equipment* are projected to increase by 11 jobs (or three percent) in San Diego County (Exhibit 1a and Exhibit 1b).²

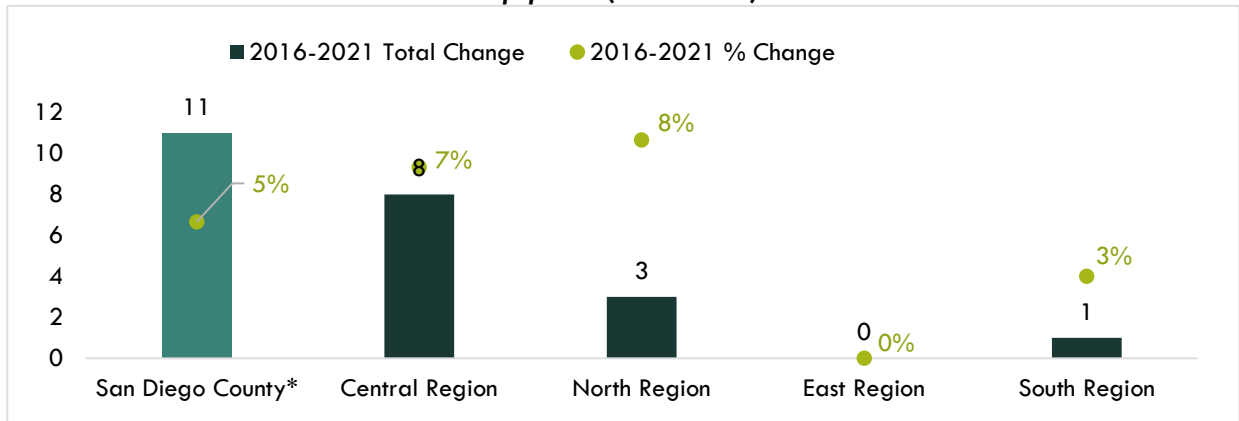
Exhibit 1a: Number of Jobs for *Electrical and Electronics Installers and Repairers, Transportation Equipment* (2006-2021)³



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

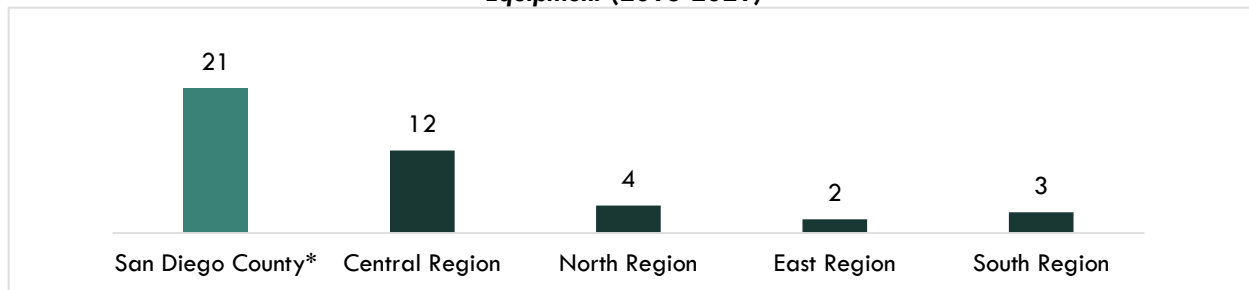
³ EMSI. San Diego County (6073). 2017.03 Class of Worker. QCEW + Non-QCEW+ Self-Employed. 2006-2021.

Exhibit 1b: Five-Year Projections for *Electrical and Electronics Installers and Repairers, Transportation Equipment* (2016-2021)⁴



Employers in San Diego County will need to hire 21 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 *Electrical and Electronics Installers and Repairers, Transportation Equipment* (2016-2021)⁵



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

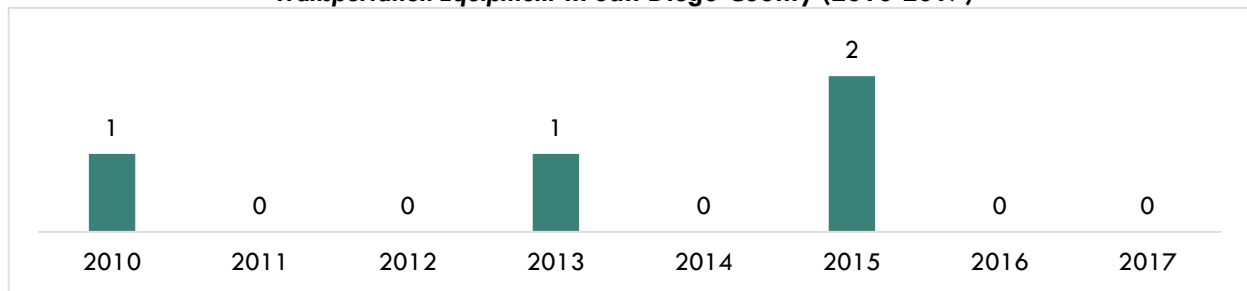
Online Job Postings

Between 2010 and 2017, there was an average of one online job postings per year for *Electrical and Electronics Installers and Repairers, Transportation Equipment* in San Diego County (Exhibit 3).

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

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

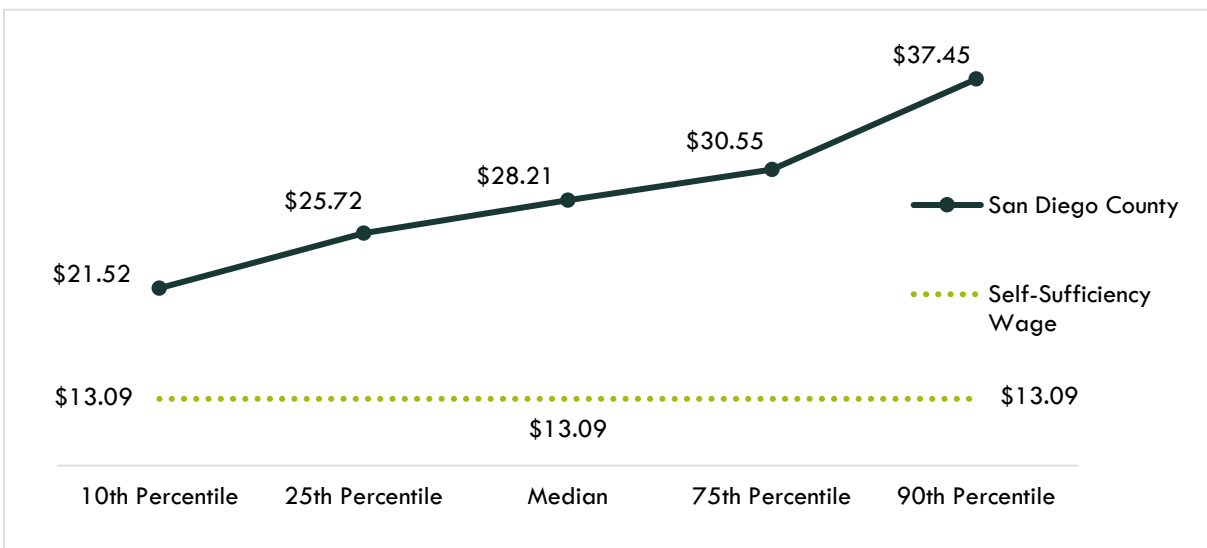
Exhibit 3: Number of Online Job Postings for *Electrical and Electronics Installers and Repairers, Transportation Equipment* in San Diego County (2010-2017)⁶



Earnings

Electrical and Electronics Installers and Repairers, Transportation Equipment earn median hourly earnings of **\$28.21**, more than the self-sufficiency wage (\$13.09 per hour)⁷ for a single adult in San Diego County (Exhibit 4).

Exhibit 4: Hourly Earnings for *Electrical and Electronics Installers and Repairers, Transportation Equipment* in San Diego County⁸



⁶ Labor Insight Jobs. Burning Glass Technologies. San Diego, CA. Full years 2010, 2011, 2012, 2013, 2014, 2015, 2016, and 2017.

⁷ The self-sufficiency wage in San Diego for one adult is \$13.09 (insightcced.org/tools-metrics/self-sufficiency-standard-tool-for-california)

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

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.

Exhibit 5: Related TOP Codes in San Diego County

SOC 49-2093: Electrical and Electronics Installers and Repairers, Transportation Equipment

TOP 093400: Electronics and Electric Technology

TOP 094800: Automotive Technology

According to the California Community Colleges Chancellor's Office Management Information System (MIS) Data Mart, 10 colleges supply the region with an annual average of 887 awards for this occupation: ITT Technical Institute – National City, San Diego Continuing Ed, Imperial Valley College, San Diego City College, CET – El Centro, Cuyamaca College, MiraCosta College, Palomar College, San Diego Miramar College and Southwestern College (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)
093400	Electronics and Electric Technology	205	113	93
	<ul style="list-style-type: none"> ITT Technical Institute – National City 			93
	<ul style="list-style-type: none"> San Diego Continuing Education 		88	
	<ul style="list-style-type: none"> Imperial Valley College 		16	
	<ul style="list-style-type: none"> San Diego City College 		8	

094800	Automotive Technology	682	643	39
	• CET – El Centro			39
	• San Diego Continuing Education		340	
	• Cuyamaca College		18	
	• Imperial Valley College		4	
	• MiraCosta College		74	
	• Palomar College		34	
	• San Diego Miramar College		144	
	• Southwestern College		30	
	TOTAL	887		

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

Demand vs. Supply

Comparing the labor demand (annual openings) with labor supply⁹ from the region's community colleges, there is an **oversupply** for this occupation in San Diego County, with **21** annual openings and **887** awards. Comparatively, there are **190** annual openings in California and **4,892** completions.¹⁰

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 Oversupply
San Diego County	21	887	866
California	190	4,892	4,702

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.

⁹ 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.

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

Student Outcomes

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

Exhibit 8: Strong Workforce Program Metrics for TOP 093400 Electronics & Electric Technology and TOP 094800 Automotive Technology vs. All Programs in San Diego-Imperial Region (PY2014-15)

Metric	TOP 093400 Electronics & Electric Technology	TOP 094800 Automotive Technology	All Programs
Number of course enrollments ¹²	1,152	5,390	1,009,712
Number of students who got a degree or certificate ¹³	93	330	17,536
Number of students who transferred ¹⁴	7	20	6,269
Employed in the second fiscal quarter after exit ¹⁵	70%	67%	66%
Employed in the fourth fiscal quarter after exit ¹⁶	68%	66%	65%
Job closely related to field of study ¹⁷	N/A ¹⁸	N/A ¹⁹	N/A ²⁰
Median earnings in the second fiscal quarter after exit ²¹	\$8,470	\$6,116	\$9,134
Median change in earnings ²²	26%	51%	31%
Attained a living wage ²³	58%	40%	50%

Top Employers and Work Locations

Between January 1, 2010 and December 31, 2017, there were no employers with job postings listed (Exhibit 9).

¹¹ calpassplus.org/LaunchBoard/SWP.aspx.

¹² The number of enrollments in courses assigned to the TOP code in the selected year.

¹³ 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

¹⁴ 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.

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

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

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

¹⁸ Data for this metric has not been released for PY2014-15; in PY2013-14, there were fewer than three students, so this metric has been suppressed.

¹⁹ Data for this metric has not been released for PY2014-15; however, in PY2013-14, the result was 67%.

²⁰ Data for this metric has not been released for PY2014-15; however, in PY2013-14, the result was 81%.

²¹ Among exiting students, the median second-quarter earnings one year after the year in which they exited California Community Colleges.

²² Among exiting students with a valid SSN, the percentage change in earnings one year before and one year after exiting California Community Colleges.

²³ Among completers and skills-builders who exited, the proportion of students who attained a living wage.

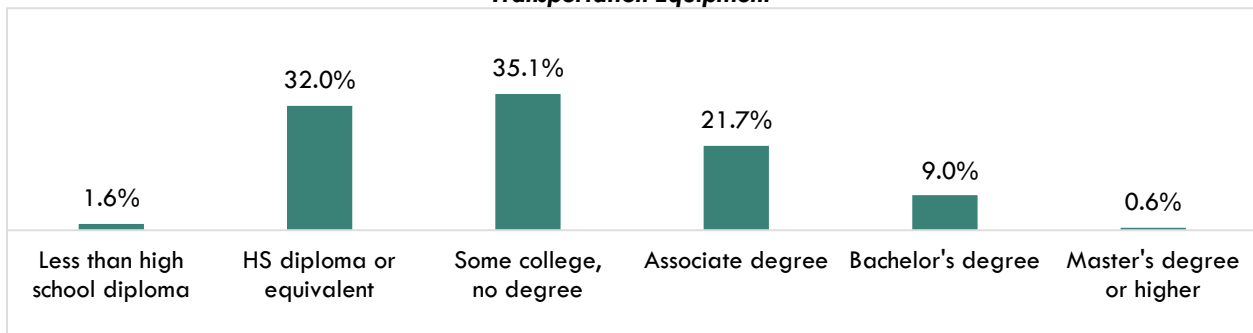
Exhibit 9: Top Industries and Employers in San Diego County for *Electrical and Electronics Installers and Repairers, Transportation Equipment*

Top Employers	Top Industries
<ul style="list-style-type: none"> None listed 	<ul style="list-style-type: none"> Building Equipment Contractors

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 occupation is **long-term on-the-job training**. The typical entry-level education is a **postsecondary non-degree award**.²⁴

Exhibit 10: National Educational Attainment of *Electrical and Electronics Installers and Repairers, Transportation Equipment*



No skills were listed in job postings between January 1, 2010 and December 31, 2017.

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²⁴ EMSI. San Diego County (6073). 2017.04 Class of Worker. QCEW + Non-QCEW + Self-employed. 2016-2021.