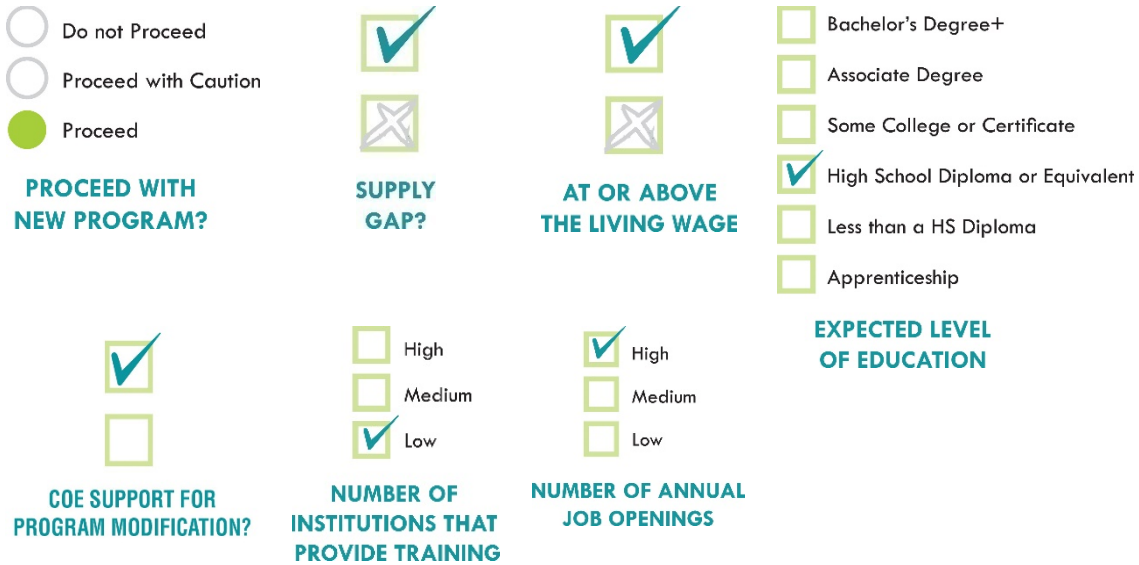


Bus and Truck Mechanics and Diesel Engine Specialists

Labor Market Analysis: San Diego County

February 2021

Summary



The San Diego-Imperial Center of Excellence for Labor Market Research (COE) developed this brief to assist the region's community colleges with strategic planning and program development. According to available labor market information, *Bus and Truck Mechanics and Diesel Engine Specialists* in San Diego County have a labor market demand of 191 annual job openings (while average demand for a single occupation in San Diego County is 277 annual job openings), and two educational institutions in San Diego County supply 92 awards for this occupation, suggesting that there is a supply gap in the labor market. Entry-level and median wages for this occupation are above the living wage. This brief recommends proceeding with a new program modification because 1) entry-level and median earnings are above the living wage and 2) a supply gap exists for these positions.

Introduction

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

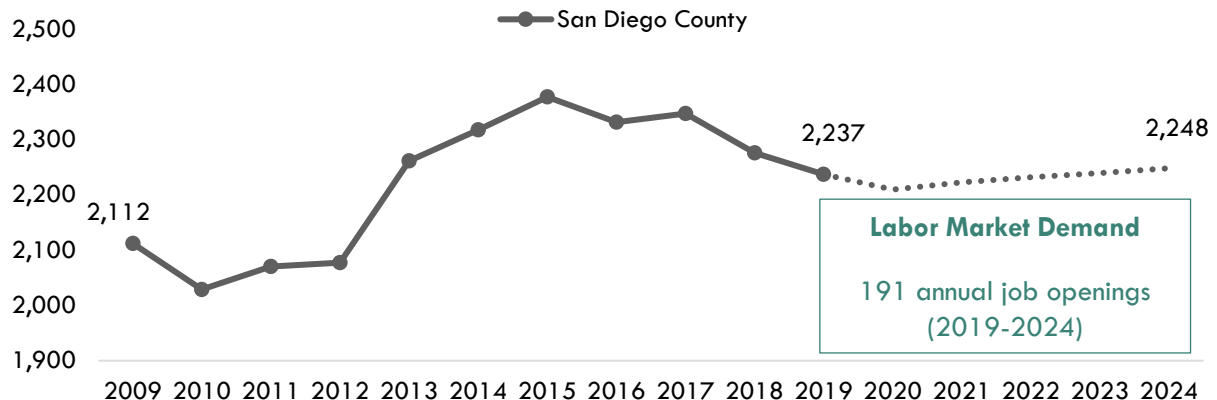
Bus and Truck Mechanics and Diesel Engine Specialists (SOC 49-3031): Diagnose, adjust, repair, or overhaul buses and trucks, or maintain and repair any type of diesel engines. Includes mechanics working primarily with automobile or marine diesel engines. Sample reported job titles include:

- Diesel Mechanic
- Trailer Mechanic
- Fleet Mechanic
- Diesel Technician
- Service Technician
- Transportation Mechanic
- Transit Mechanic
- General Repair Mechanic

Projected Occupational Demand

Between 2019 and 2024, *Bus and Truck Mechanics and Diesel Engine Specialists* are projected to increase by 11 net jobs or zero percent (Exhibit 1). Employers in San Diego County will need to hire 191 workers annually to fill new jobs and backfill jobs due to attrition caused by turnover and retirement, for example.

Exhibit 1: Number of Jobs for *Bus and Truck Mechanics and Diesel Engine Specialists* (2009-2024)²



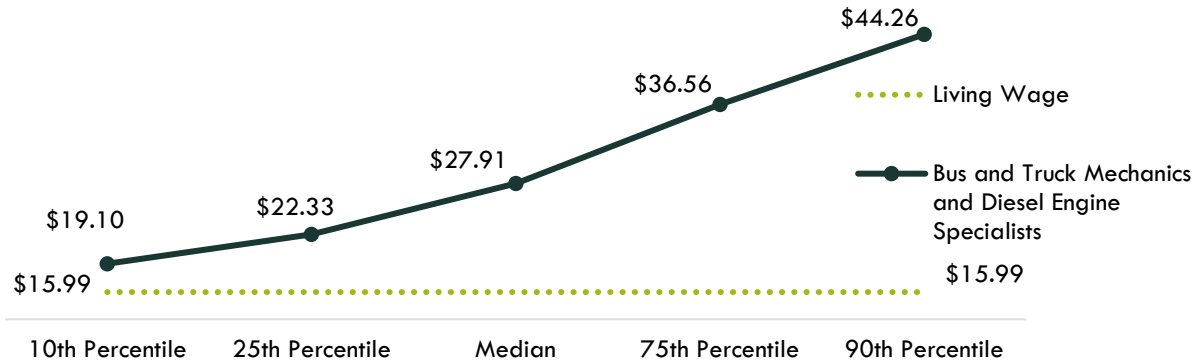
¹ The Standard Occupational Classification (SOC) system is used by federal statistical agencies to classify workers into occupational categories for the purpose of collecting, calculating or disseminating data. [bls.gov/soc](https://www.bls.gov/soc/).

² Emsi 2021.01; QCEW, Non-QCEW, Self-Employed.

Earnings

Bus and Truck Mechanics and Diesel Engine Specialists receive entry-level hourly earnings of **\$22.33**; this is more than the living wage for a single adult in San Diego County, which is **\$15.99** per hour (Exhibit 2).³

Exhibit 2: Hourly Earnings⁴ for *Bus and Truck Mechanics and Diesel Engine Specialists* in San Diego County⁵



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.⁶ There is **one** TOP code and **three** CIP codes related to *Bus and Truck Mechanics and Diesel Engine Specialists* (Exhibit 3).

Exhibit 3: Related TOP and CIP Codes for *Bus and Truck Mechanics and Diesel Engine Specialists*

Bus and Truck Mechanics and Diesel Engine Specialists

TOP 0947.00: Diesel Technology

CIP 47.0302: Heavy Equipment Maintenance Technology/Technician

CIP 47.0605: Diesel Mechanics Technology/Technician

CIP 49.0202: Construction/Heavy Equipment/Earthmoving Equipment Operation

³ "California Family Needs Calculator (formerly the Self-Sufficiency Standard)," Insight: Center for Community Economic Development, last updated 2018. insightccd.org/2018-self-sufficiency-standard.

⁴ 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.

⁵ Emsi 2021.01; QCEW, Non-QCEW, Self-Employed.

⁶ 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/).

According to TOP data, two community colleges supply the region with awards for this occupation, Palomar College and San Diego Miramar College. According to CIP data, no non-community-college institution supplies the region with awards (Exhibit 4).

Exhibit 4: Number of Awards (Certificates and Degrees) Conferred by Postsecondary Institutions (Program Year 2014-15 through PY2018-19 Average)

TOP6 or CIP	TOP6 or CIP Title	3-Yr Annual Average CC Awards (PY16-17 to PY18-19)	Other Educational Institutions 3-Yr Annual Average Awards (PY14-15 to PY16-17)	3-Yr Total Average Supply (PY14-15 to PY18-19)
0947.00	Diesel Technology	92	0	92
	<ul style="list-style-type: none"> Palomar 	16	0	
	<ul style="list-style-type: none"> San Diego Miramar 	76	0	
			Total	92

Demand vs. Supply

Comparing labor demand (annual openings) with labor supply⁷ suggests that there is a supply gap for this occupation in San Diego County, with 191 annual openings and 92 awards. Comparatively, there are 2,361 annual openings in California and 656 awards, suggesting that there is also a supply gap across the state⁸ (Exhibit 5).

Exhibit 5: Labor Demand (Annual Openings) Compared with 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	191	92	99
California	2,361	656	1,705

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.

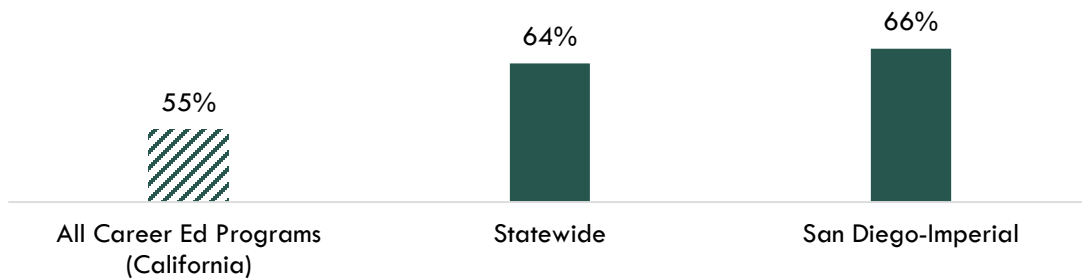
⁷ Labor supply can be found from two different sources: EMSI or the California Community Colleges Chancellor's Office MIS Data Mart. EMSI uses CIP codes while MIS uses TOP codes. Different coding systems result in differences in the supply numbers.

⁸ "Supply and Demand," Centers of Excellence Student Outcomes, coecc.net/Supply-and-Demand.aspx.

Student Outcomes and Regional Comparisons

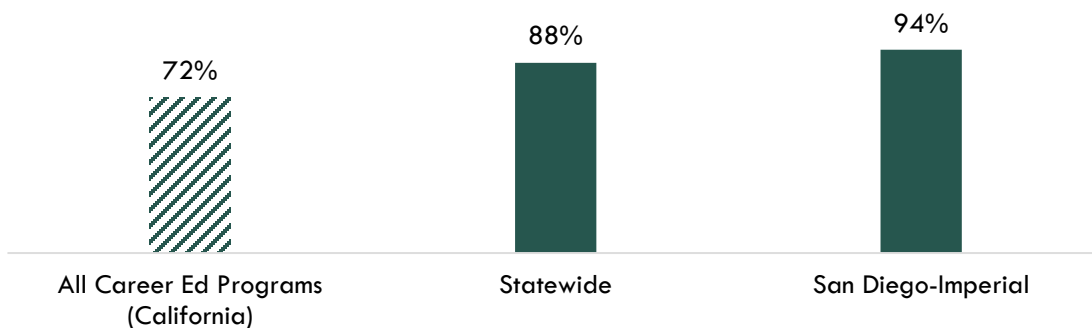
According to the California Community Colleges LaunchBoard, 66 percent of students in the San Diego-Imperial region earned a living wage after completing a Diesel Technology (TOP 0947.00) program, compared to 64 percent statewide and 55 percent of students in Career Education programs in general across the state (Exhibit 6a).⁹

Exhibit 6a: Proportion of Students Who Earned a Living Wage (Diesel Technology, PY2017-18)¹⁰



According to the California Community Colleges LaunchBoard, 94 percent of students in the San Diego-Imperial region obtained a job closely related to their field of study after completing a Diesel Technology (TOP 0947.00) program, compared to 88 percent statewide and 72 percent of students in Career Education programs in general across the state (Exhibit 6b).¹¹

Exhibit 6b: Percentage of Students in a Job Closely Related to Field of Study (Diesel Technology, PY2016-17)¹²



⁹ "California Community Colleges Strong Workforce Program," California Community Colleges, calpassplus.org/LaunchBoard/SWP.aspx.

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

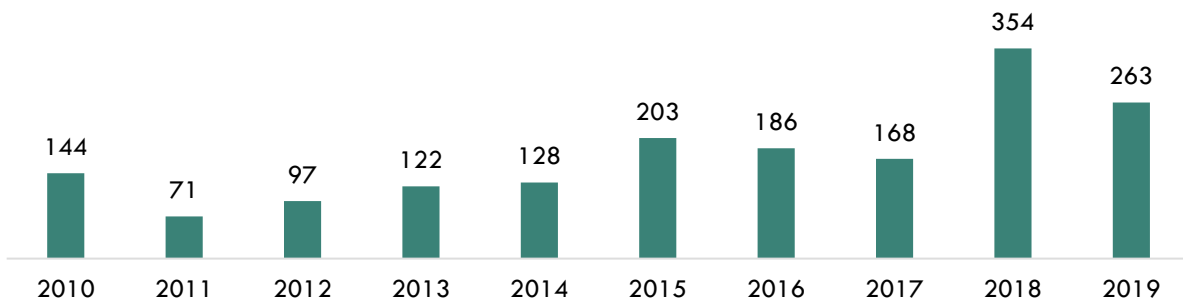
¹¹ "California Community Colleges Strong Workforce Program," California Community Colleges, calpassplus.org/LaunchBoard/SWP.aspx.

¹² Most recent year with available data is Program Year 2016-17. 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 2010 and 2019, there was an average of 174 online job postings per year for *Bus and Truck Mechanics and Diesel Engine Specialists* in San Diego County (Exhibit 7). Please note that online job postings do **not** equal labor market demand; demand is represented by annual job openings (see Exhibit 1). Employers may post a position multiple times for various reasons, such as increasing the pool of applicants, for example.

Exhibit 7: Number of Online Job Postings for *Bus and Truck Mechanics and Diesel Engine Specialists* in San Diego County (2010-2019)¹³



Top Employers

Between January 1, 2018 and December 31, 2020, the top five employers in San Diego County for this occupation were *Sysco*, *Rush Truck Centers*, *Penske*, *Amerit Fleet Solutions*, and *Waste Management* based on online job postings (Exhibit 8).

Exhibit 8: Top Employers in San Diego County for *Bus and Truck Mechanics and Diesel Engine Specialists*¹⁴

Top Employers	
<ul style="list-style-type: none">• Sysco Corporation• Rush Truck Centers• Penske• Amerit Fleet Solutions• Waste Management	<ul style="list-style-type: none">• Mechanics Hub• Ryder System Incorporated• T.K. Services Incorporated• Epsilon Systems Solutions Incorporated• United Rentals

¹³ Burning Glass Technologies, "Labor Insight Real-Time Labor Market Information Tool." 2010-2019.

¹⁴ Burning Glass Technologies, "Labor Insight Real-Time Labor Market Information Tool." 2018-2020.

Education, Skills and Certifications

Exhibit 9 indicates the educational attainment for the occupation found currently in the national labor force. The typical entry-level education is a [high school diploma or equivalent](#).¹⁵

Exhibit 9: National Educational Attainment of *Bus and Truck Mechanics and Diesel Engine Specialists*¹⁶

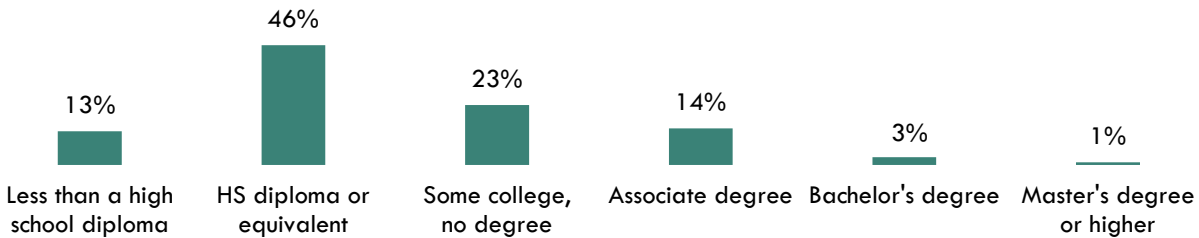


Exhibit 10 lists the top specialized, soft and software skills that appeared in online job postings between January 1, 2018 and December 31, 2020.

Exhibit 10: Top Skills for *Bus and Truck Mechanics and Diesel Engine Specialists* in San Diego County¹⁷

Specialized Skills	Soft Skills	Software Skills
<ul style="list-style-type: none"> • Repair • Predictive / Preventative Maintenance • Electrical Systems • Welding • Fleet Preventive Maintenance • Occupational Health and Safety • HVAC • Vehicle Inspection • Hand Tools • Vehicle Maintenance • Technical Training • Vehicle Systems • Dollies • Cost Efficiency • Ignition Systems 	<ul style="list-style-type: none"> • Preventive Maintenance • Physical Abilities • Computer Literacy • Troubleshooting • Communication Skills • Work Area Maintenance • Building Effective Relationships • Verbal / Oral Communication • Problem Solving • Writing • Typing • Organizational Skills • Research • Teamwork / Collaboration • English 	<ul style="list-style-type: none"> • SAP • Microsoft Excel • Oracle • Microsoft Word • Word Processing • Active Server Pages • Microsoft Outlook • Computer Engineering • Customer Relationship Management • Django • Flask • Linux • Microsoft Project • Microsoft Visio • MySQL

¹⁵ Emsi 2021.01; QCEW, Non-QCEW, Self-Employed.

¹⁶ "Educational Attainment for Workers 25 Years and Older by Detailed Occupation," Bureau of Labor Statistics, last modified September 4, 2019. bls.gov/emp/tables/educational-attainment.htm.

¹⁷ Burning Glass Technologies, "Labor Insight Real-Time Labor Market Information Tool." 2018-2020.

Exhibit 11 lists the top certifications that appeared in online job postings between January 1, 2018 and December 31, 2020.

Exhibit 11: Top 15 Certifications for *Bus and Truck Mechanics and Diesel Engine Specialists* in San Diego County¹⁸

Top Certifications in Online Job Postings

1. Automotive Service Excellence (ASE) Certification
 2. CDL Class A
 3. Brake Inspector Certification
 4. Diesel Mechanic Certification
 5. Air Brake Certified
 6. Security Clearance
 7. CDL Class B
 8. Project Management Certification
 9. CDL Class C
 10. Hazardous Materials Certification
 11. Electric Vehicle Technician (EVT)
 12. Certified in Small Engine Repair
 13. Welding Certification
 14. Fluid Power Certification
 15. Workplace Hazardous Materials Information System
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¹⁸ Burning Glass Technologies, "Labor Insight Real-Time Labor Market Information Tool." 2018-2020.

Prepared by:

Tina Ngo Bartel, Director

John Edwards, Research Analyst

San Diego-Imperial Center of Excellence for Labor Market Research

tngobartel@miracosta.edu

jedwards@miracosta.edu



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.

This workforce demand report uses state and federal job projection data that was developed before the economic impact of COVID-19. The COE is monitoring the situation and will provide more information as it becomes available. Please consult with local employers to understand their current employment needs.