**Automotive Occupations**

**Labor Market Information**

**Bay Region**

Prepared by the San Francisco Bay Center of Excellence

for Labor Market Research

August 2020

# Recommendation

Based on all available data, there appears to be an undersupply of Automotive workers compared to the demand for this cluster of occupations in the Bay region. There is a projected annual gap of about 1,645 students in the Bay region.

This report also provides student outcomes data on employment and earnings for TOP 0948.00-Automotive Technology, TOP 0949.00 - Automotive Collision Repair and TOP 0947.00 Diesel Technology, programs in the state and region. It is recommended that these data be reviewed to better understand how outcomes for students taking courses on this TOP code compare to potentially similar programs at colleges in the state and region, as well as to outcomes across all CTE programs in the region.

# Introduction

This report profiles Automotive Occupations in the 12 county Bay region.

|  |
| --- |
| * **Automotive Service Technicians and Mechanics (49-3023):** Diagnose, adjust, repair, or overhaul automotive vehicles. Excludes “Automotive Body and Related Repairers" (49-3021), "Bus and Truck Mechanics and Diesel Engine Specialists" (49-3031), and "Electronic Equipment Installers and Repairers, Motor Vehicles" (49-2096).
 |
| Entry-Level Educational Requirement: Postsecondary nondegree award |
| Training Requirement: Short-term on-the-job training |
| Percentage of Community College Award Holders or Some Postsecondary Coursework: 33% |
|  |
| * **Bus and Truck Mechanics and Diesel Engine Specialists (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.
 |
| Entry-Level Educational Requirement: High *school* diploma or equivalent |
| Training Requirement: Long-termon-the-job training |
| Percentage of Community College Award Holders or Some Postsecondary Coursework: 37*%* |
|  |
| * **Automotive Body and Related Repairers (49-3021):** Repair and refinish automotive vehicle bodies and straighten vehicle frames. Excludes “Painters, Transportation Equipment" (51-9122) and "Automotive Glass Installers and Repairers" (49-3022).
 |
| Entry-Level Educational Requirement: High school diploma or equivalent |
| Training Requirement: Long-term on-the-job training |
| Percentage of Community College Award Holders or Some Postsecondary Coursework: 25% |
|  |

**Occupational Demand**

**Table 1. Employment Outlook for Automotive Occupations in Bay Region**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Occupation  | 2019 Jobs | 2024 Jobs | 5-Yr Change | 5-Yr % Change | 5-Yr Open-ings | Average Annual Open-ings | 25% Hourly Wage | Median Hourly Wage |
| Automotive Service Technicians and Mechanics |  18,334  |  18,399  | 66 | 0% |  9,171  |  1,834  | $18.11 | $24.53 |
| Bus and Truck Mechanics and Diesel Engine Specialists |  4,490  |  4,750  | 260 | 6% |  2,419  |  484  | $23.64 | $31.02 |
| Automotive Body and Related Repairers |  3,509  |  3,629  | 120 | 3% |  1,866  |  373  | $20.17 | $26.90 |
| **TOTAL** |  **26,333**  |  **26,778**  | **445** | **2%** |  **13,456**  |  **2,691**  | **$19.33** | **$25.95** |

*Source: EMSI 2020.3*

**Bay Region** includes: Alameda, Contra Costa, Marin, Monterey, Napa, San Benito, San Francisco, San Mateo, Santa Clara, Santa Cruz, Solano and Sonoma Counties

### Job Postings in Bay Region

**Table 3. Number of Job Postings by Occupation for latest 12 months (July 2019 - June 2020)**

| Occupation | Bay Region |
| --- | --- |
| Automotive Specialty Technicians | 5,656 |
| Bus and Truck Mechanics and Diesel Engine Specialists | 940 |
| Automotive Body and Related Repairers | 686 |
| Automotive Master Mechanics | 447 |
|  **TOTAL** | **7,729** |

*Source: Burning Glass*

**Table 4a. Top Job Titles for Automotive Occupations for latest 12 months (July 2019 - June 2020) Bay Region**

|  |  |  |  |
| --- | --- | --- | --- |
| Common Title | Bay | Common Title | Bay |
| Auto Technician | 1,051 | Personal Package Driver | 116 |
| Mechanic | 453 | Repair Technician | 85 |
| Service Technician | 445 | Shop Technician | 82 |
| Diesel Mechanic | 345 | Trailer Mechanic | 71 |
| Technician | 322 | Maintenance Technician | 69 |
| Diesel Technician | 307 | Fleet Mechanic | 68 |
| Detailer | 241 | Automotive Service Technician | 50 |
| Auto Body Technician | 241 | Inspector | 48 |
| Lube Technician | 184 | Specialist | 47 |
| Roadside Assistance Technician | 181 | Fueler | 44 |
| Automotive Service Advisor | 177 | Driving Operator | 42 |
| Automotive Technician | 168 | Auto Body Estimator | 38 |
| Auto Mechanic | 161 | Technician, Retail Industry | 35 |
| Driving Operator, Information And Technology Industry | 127 | Personal Package Driver, Warehousing Industry | 35 |

# Industry Concentration

**Table 5. Industries Hiring Automotive Workers in Bay Region**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Industry – 6 Digit NAICS (No. American Industry Classification) Codes | Jobs in Industry (2019) | Jobs in Industry (2024) | % Change (2019-24) | % Occupation Group in Industry (2019) |
| General Automotive Repair (811111) | 7,187 | 7,365 | 2% | 27% |
| New Car Dealers (441110) | 5,358 | 5,370 | 0% | 20% |
| Automotive Body, Paint, and Interior Repair and Maintenance (811121) | 3,266 | 3,250 | 0% | 12% |
| Local Government, Excluding Education and Hospitals (903999) | 1,008 | 1,015 | 1% | 4% |
| Automotive Parts and Accessories Stores (441310) | 656 | 562 | -14% | 2% |
| Other Automotive Mechanical and Electrical Repair and Maintenance (811118) | 581 | 548 | -6% | 2% |
| Car Washes (811192) | 462 | 465 | 1% | 2% |
| Tire Dealers (441320) | 414 | 428 | 3% | 2% |
| Used Car Dealers (441120) | 376 | 468 | 24% | 1% |
| All Other Automotive Repair and Maintenance (811198) | 359 | 362 | 1% | 1% |
| Automotive Glass Replacement Shops (811122) | 272 | 276 | 1% | 1% |
| Passenger Car Rental (532111) | 270 | 280 | 4% | 1% |
| Motor Vehicle Supplies and New Parts Merchant Wholesalers (423120) | 264 | 292 | 11% | 1% |
| Taxi Service (485310) | 256 | 355 | 39% | 1% |
| Federal Government, Military (901200) | 254 | 246 | -3% | 1% |

*Source: EMSI 2020.3*

**Table 6. Top Employers Posting Automotive Occupations in Bay Region (July 2019 - June 2020)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Employer** | **Bay** | **Employer** | **Bay** |
| United Parcel Service Incorporated | 302 | Chevrolet | 52 |
| Allstate | 211 | Toyota Motors | 51 |
| Amerit Fleet Solutions | 173 | Ryder System Incorporated | 51 |
| Transdev Inc | 149 | Caliber Collision Centers | 49 |
| Bridgestone / Firestone | 142 | Sonic Automotive | 46 |
| Penske | 104 | FedEx | 44 |
| Chrysler | 98 | Gc Auto Body | 42 |
| Big O Tires | 89 | Transdevna | 41 |
| Mopar Cap Student Program | 79 | Carmax | 41 |
| Autonation | 72 | Jiffy Lube | 40 |
| Tesla Motors | 68 | Honda | 39 |
| Pep Boys | 68 | First Transit | 38 |
| Goodyear | 67 | Transdev | 35 |
| Tesla | 63 | The Home Depot Incorporated | 35 |
| Caliber Collision | 63 | Best Buy | 35 |
| Pacific Gas and Electric Company | 55 | Subaru | 33 |
| Lithia Motors Incorporated | 52 | Qvale Auto Group | 33 |

*Source: Burning Glass*

# Educational Supply

There are 14 community colleges in the Bay Region issuing 897 awards on average annually (last 3 years ending 2018-19) on TOP 0948.00-Automotive Technology.

There are three (3) community colleges in the Bay Region issuing 60 awards on average annually (last 3 years) on TOP 0947.00 Diesel Technology.

There five (5) programs issuing 38 awards on average annually (last 3 years ending 2018-19) on TOP 0949.00 - Automotive Collision Repair.

There are two (2) Other Educational Institutions in the Bay Region issuing 51 awards on average annually (last 3 years ending 2016-17) on TOP 0948.00-Automotive Technology and TOP 0947.00 Diesel Technology combined.

**Table 7a. Awards on TOP 0948.00 - Automotive Technology in Bay Region**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| College | Sub-Region | Associates | Certificate 18+ Units | Certificate Low Unit | Noncredit | Total |
| Alameda | East Bay | 9 |  | 21 |  | 30 |
| Chabot Hayward | East Bay | 15 |  | 36 |  | 51 |
| Contra Costa | East Bay | 4 |  | 19 |  | 23 |
| De Anza | Silicon Valley | 38 |  | 113 |  | 151 |
| Evergreen Valley | Silicon Valley | 8 |  | 29 |  | 37 |
| Hartnell | SC - Monterey | 10 |  | 5 |  | 15 |
| Las Positas | East Bay | 4 |  | 3 |  | 7 |
| Los Medanos | East Bay | 11 |  | 46 |  | 57 |
| Marin | North Bay | 2 | 6 | 17 |  | 25 |
| Monterey | SC - Monterey | 3 |  | 19 |  | 22 |
| San Francisco | Mid-Peninsula | 6 |  | 87 |  | 93 |
| Santa Rosa | North Bay | 7 |  | 132 | 76 | 215 |
| Skyline | Mid-Peninsula | 6 |  | 149 |  | 155 |
| Solano | North Bay | 2 |  | 14 |  | 16 |
| **Total Bay Region** | **125** | **6** | **690** | **76** | **897** |

# Source: Data Mart

Note: The annual average for awards is 2016-17 to 2018-19.

**Table 7b. Awards on TOP 0947.00 - Diesel Technology in Bay Region**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| College | Sub-Region | Associates | Certificate Low Unit | Total |
| Alameda | East Bay | 1 | 10 | 11 |
| Hartnell | SC - Monterey | 1 | 1 | 2 |
| Santa Rosa | North Bay | 1 | 46 | 47 |
| **Total Bay Region** | **3** | **57** | **60** |

**Table 7c. Awards on TOP 0949.00 - Automotive Collision Repair in Bay Region**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| College | Sub-Region | Associates | Certificate Low Unit | Noncredit | Total |
| Alameda | East Bay | 4 | 10 |  | 14 |
| Contra Costa | East Bay | 1 | 3 |  | 4 |
| Los Medanos | East Bay |  |  | 9 | 9 |
| Marin | North Bay |  | 3 |  | 3 |
| San Francisco | Mid-Peninsula |  | 8 |  | 8 |
| **Total Bay Region** | **5** | **24** | **9** | **38** |

**Table 7d. Other Educational Institutions Awards on TOP 0948.00-Automotive Technology and TOP 0947.00 -Diesel Technology**

|  |  |  |  |
| --- | --- | --- | --- |
| **College** | **TOP Code** | **Sub-Region** | **Award < 1 academic yr.** |
| CET-Sobrato | 0948.00 | Silicon Valley | 27 |
| CET-Soledad | 0947.00 | SC - Monterey | 24 |
| **Total Bay Region** |  |  | **51** |

# Source: Data Mart

Note: The annual average for awards is 2014-15 to 2016-17.

# Gap Analysis

Based on the data included in this report, there is a large labor market gap in the Bay region with 2,691 annual openings for the Automotive occupational cluster and 1,046 annual (3-year average) awards (combined on three TOP codes) from community colleges and Other Educational institutions for an annual undersupply of 1,645 students.

# Student Outcomes

**Table 8a. Four Employment Outcomes Metrics for Students Who Took Courses on TOP 0948.00-Automotive Technology**

|  |  |  |  |
| --- | --- | --- | --- |
| **2017-18** | **Bay All CTE Programs** | **State** (0948.00) | **Bay** (0948.00) |
| % Employed Four Quarters After Exit | 74% | 67% | 69% |
| Median Quarterly Earnings Two Quarters After Exit | $10,550 | $7,122 | $9,621 |
| Median % Change in Earnings | 46% | 45% | 52% |
| % of Students Earning a Living Wage | 63% | 44% | 41% |

*Source: Launchboard Pipeline (version available on (8/17/20)*

**Table 8b. Four Employment Outcomes Metrics for Students Who Took Courses on TOP 0947.00 Diesel Technology**

|  |  |  |  |
| --- | --- | --- | --- |
| **2017-18** | **Bay All CTE Programs** | **State** (0947.00) | **Bay** (0947.00) |
| % Employed Four Quarters After Exit | 74% | 72% | 72% |
| Median Quarterly Earnings Two Quarters After Exit | $10,550 | $12,005 | $12.005 |
| Median % Change in Earnings | 46% | 88% | 88% |
| % of Students Earning a Living Wage | 63% | 74% | 74% |

*Source: Launchboard Pipeline (version available on (8/17/20)*

**Table 8c. Four Employment Outcomes Metrics for Students Who Took Courses on 0949.00 - Automotive Collision Repair**

|  |  |  |  |
| --- | --- | --- | --- |
| **2017-18** | **Bay All CTE Programs** | **State** (0949.00) | **Bay** (0949.00) |
| % Employed Four Quarters After Exit | 74% | 59% | 56% |
| Median Quarterly Earnings Two Quarters After Exit | $10,550 | $7,200 | $10,680 |
| Median % Change in Earnings | 46% | 40% | 49% |
| % of Students Earning a Living Wage | 63% | 44% | 33% |

*Source: Launchboard Pipeline (version available on (8/17/20)*

# Skills, Certifications and Education

**Table 9. Top Skills for Automotive Occupations in Bay Region (July 2019 - June 2020)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Skill** | **Postings** | **Skill** | **Postings** | **Skill** | **Postings** |
| Repair | 4,805 | Lifting Ability | 353 | Machinery | 207 |
| Auto Repair | 1,997 | Cleaning | 340 | Quality Assurance and Control | 207 |
| Customer Service | 1,339 | Hydraulics | 340 | Schematic Diagrams | 207 |
| Automotive Services Industry Knowledge | 1,212 | Motor Vehicle Operation | 335 | Highway Maintenance | 203 |
| Hand Tools | 768 | Sales | 332 | Data Entry | 201 |
| Welding | 708 | Occupational Health and Safety | 311 | Manual Dexterity | 196 |
| Vehicle Maintenance | 674 | Automotive Industry Knowledge | 308 | Test Equipment | 186 |
| Scheduling | 638 | Brake Work | 302 | Engine Repair | 180 |
| Predictive / Preventative Maintenance | 591 | Forklift Operation | 282 | Technical Training | 175 |
| Oil Changes | 587 | Automotive Painting | 262 | Painting | 172 |
| Power Tools | 528 | Commercial Driving | 248 | Inspection Records | 167 |
| Customer Contact | 517 | Tire Repairs | 246 | Equipment Repair | 164 |
| Electrical Systems | 494 | Roadside Assistance | 244 | Soldering | 164 |
| Vehicle Inspection | 374 | Transmission Repair | 241 | Personal Protective Equipment  | 162 |
| Mechanical Repair | 357 | Fleet Preventive Maintenance | 211 | Retail Industry Knowledge | 160 |

*Source: Burning Glass*

**Table 10. Certifications for Automotive Occupations in Bay Region (July 2019 - June 2020)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Certification** | **Postings** | **Certification** | **Postings** |
| Driver's License | 4,186 | Mobile Electronics Certified Professional | 37 |
| Automotive Service Excellence (ASE) Certification | 1,127 | Occupational Safety and Health Administration Certification | 35 |
| Air Brake Certified | 289 | Hazardous Materials Certification | 35 |
| CDL Class A | 192 | MECP Basic Installation | 33 |
| First Aid CPR AED | 49 | MECP Advanced Certification | 30 |
| Epa 609 | 48 | Project Management Certification | 25 |
| CDL Class C | 46 | Diesel Mechanic Certification | 25 |
| CDL Class B | 44 | Advanced Engine Performance Certified | 23 |
| Chrysler Certified | 42 | Welding Certification | 21 |
| I-Car | 40 | Environmental Protection Agency Certification | 21 |
| Good Conduct | 40 | OSHA Forklift Certification | 14 |
| Mobile Electronics Certified Professional (MECP) | 37 | Air Conditioning (AC) Certification | 13 |

*Source: Burning Glass*

**Table 11. Education Requirements for Automotive Occupations in Bay Region**

Note: 64% of records have been excluded because they do not include a degree level. As a result, the chart below may not be representative of the full sample.

|  |  |  |
| --- | --- | --- |
| **Education (minimum advertised)** | **Latest 12 Mos. Postings** | **Percent 12 Mos. Postings** |
| High school or vocational training | 2,745 | 97% |
| Associate Degree | 75 | 3% |
| Bachelor’s Degree or Higher | 0 | 0% |

*Source: Burning Glass*

# Methodology

Occupations for this report were identified by use of skills listed in O\*Net descriptions and job descriptions in Burning Glass. Labor demand data is sourced from Economic Modeling Specialists International (EMSI) occupation data and Burning Glass job postings data. Educational supply and student outcomes data is retrieved from multiple sources, including CTE Launchboard and CCCCO Data Mart.

# Sources

O\*Net Online

Labor Insight/Jobs (Burning Glass)

Economic Modeling Specialists International (EMSI)

CTE LaunchBoard [www.calpassplus.org/Launchboard/](http://www.calpassplus.org/Launchboard/)

Statewide CTE Outcomes Survey

Employment Development Department Unemployment Insurance Dataset

Living Insight Center for Community Economic Development

Chancellor’s Office MIS system

# Contacts

For more information, please contact:

* Doreen O’Donovan, Research Analyst, for Bay Area Community College Consortium (BACCC) and Centers of Excellence (CoE), doreen@baccc.net or (831) 479-6481
* John Carrese, Director, San Francisco Bay Center of Excellence for Labor Market Research, jcarrese@ccsf.edu or (415) 267-6544