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Labor Market Analysis

Automotive Technician



Prepared by Central Valley/Mother Lode Center of Excellence



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Summary

The Central Valley/Mother Lode Center of Excellence developed this report for Reedley College to determine whether there is demand in the local labor market that is not being met by the supply from postsecondary programs. This report summarizes labor market demand, wages, skills, and postsecondary supply for *Automotive Technician*, which includes:

- Automotive Service Technicians and Mechanics (SOC 49-3023)
- Electrical and Electronics Installers and Repairers, Transportation Equipment (SOC 49-2093)
- Electronic Equipment Installers and Repairers, Motor Vehicles (SOC 49-2096)

Key Findings

- **Occupational Demand** — Occupations related to *Automotive Technician* have a labor market demand of 641 annual job openings in the South Central Valley/Southern Mother Lode (SCV/SML) subregion. Between 2021 and 2026, *Automotive Service Technicians and Mechanics* are projected to have the most demand with 619 annual job openings – 9% growth in the SCV/SML region.
- **Wages** — Average entry-level earnings of \$20.71/hour for *Automotive Technician* occupations are higher than the living wage in the SCV/SML subregion, which is \$11.91/hour for a single adult.¹ *Electrical and Electronics Installers and Repairers, Transportation Equipment* earn the highest entry-level wage, \$31.83/hour.
- **Employers and Job Titles** — Employers in the SCV/SML subregion include Walmart, Waste Management, and Pep Boys. The most common job title is automotive technician.
- **Skills and Certifications** — The top baseline skill is customer service, the top specialized skill is automotive services, and the top software skill is fleet maintenance software. The most in-demand certification is an Automotive Service Excellence (ASE) certification.
- **Education** — A high school diploma or equivalent is typically required for *Electronic Equipment Installers and Repairers, Motor Vehicles*, while a postsecondary nondegree award is typically required for *Automotive Service Technicians and Mechanics*, as well as for *Electrical and Electronics Installers and Repairers, Transportation Equipment*
- **Supply and Demand Analysis** — Based on 641 annual openings (i.e., demand) and 222 postsecondary degrees awarded (i.e., supply), an analysis of supply and demand suggests there is an undersupply of 419 workers in the SCV/SML subregion. In the CVML region, 347 awards were conferred suggesting an undersupply of 729 workers (based on 1,076 annual openings in the CVML region).

Recommendation

Based on a comparison of demand and supply, there is an undersupply of trained workers in the SCV/SML subregion and the CVML region. The Center of Excellence recommends that Reedley College work with the regional directors, the college's advisory board, and local industry in the expansion of programs to address the shortage of Automotive Technician workers.

¹ The term "living wage" in Center of Excellence reports is calculated by averaging the self-sufficiency wages from the Insight Center's California Family Needs Calculator for each county in the subregion: <https://insightccd.org/tools-metrics/self-sufficiency-standard-tool-for-california/>.

Introduction

The Central Valley/Mother Lode Center of Excellence developed this report to provide Reedley College with labor market information for *Automotive Technicians*. The geographical focus for this report is the South Central Valley/Southern Mother Lode (SCV/SML) subregion, but regional demand and supply data has been included for broader applicability and use. Analysis of the program and occupational data related to *Automotive Technician* is included in the report. The Standard Occupational Classification (SOC) System codes and occupational titles used in this report from the Bureau of Labor Statistics and O*NET OnLine are shown below.

Automotive Service Technicians and Mechanics (SOC 49-3023)

- **Job description:** Diagnose, adjust, repair, or overhaul automotive vehicles.
- **Knowledge:** Mechanical, Computer & Electronics, Customer and Personal Service, Engineering and Technology
- **Skills:** Repairing, Troubleshooting, Critical thinking, Operations Monitoring, Equipment Maintenance

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

- **Job description:** Install, adjust, or maintain mobile electronics communication equipment, including sound, sonar, security, navigation, and surveillance systems on trains, watercraft, or other mobile equipment.
- **Knowledge:** Engineering and Technology, Computers and Electronics, Mathematics, Public Safety and Security, Mechanical
- **Skills:** Critical Thinking, Active Listening, Operations Monitoring, Quality Control Analysis, Complex Problem Solving

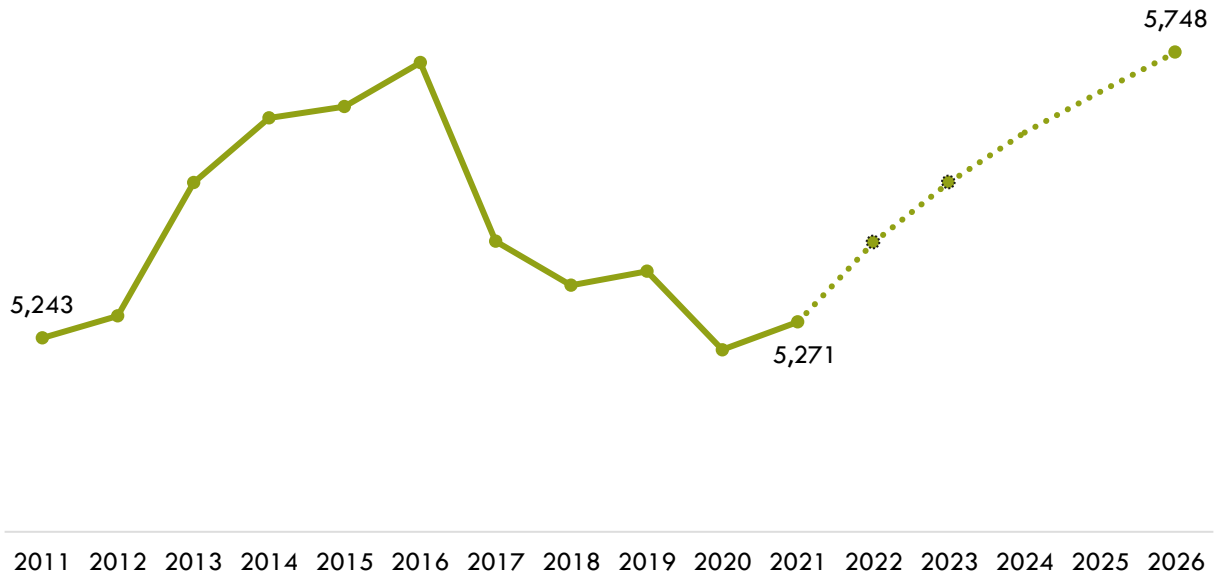
Electronic Equipment Installers and Repairers, Motor Vehicles (SOC 49-2096)

- **Job description:** Install, diagnose, or repair communications, sound, security, or navigation equipment in motor vehicles.
- **Knowledge:** Mechanical, Computers and Electronics, Customer and Personal Service, Mathematics, English Language
- **Skills:** Repairing, Troubleshooting, Critical Thinking, Operations Monitoring, Active Listening

Employment

Exhibit 1a shows trends for *Automotive Technician* in the SCV/SML subregion. Between 2021 to 2026, the number of jobs for occupations related to *Automotive Technician* is projected to increase by 477, growing by 9%.

Exhibit 1a. Historical employment and projected occupational demand for occupations related to *Automotive Technician* in the SCV/SML subregion, 2011-2026



Occupations related to *Automotive Technician* in the SCV/SML subregion employed 5,271 workers in 2021 (Exhibit 1b). *Automotive Service Technicians and Mechanics* are projected to have the largest annual openings, 619.

Exhibit 1b. Current employment and projected occupational demand for occupations related to *Automotive Technician* in the SCV/SML subregion, 2021-2026

| Occupation | 2021 Jobs | 2026 Jobs | 5-Year Change | 5-Year % Change | Annual Openings |
|---|--------------|--------------|---------------|-----------------|-----------------|
| Automotive Service Technicians and Mechanics | 5,171 | 5,612 | 441 | 9% | 619 |
| Electronic Equipment Installers and Repairers, Motor Vehicles | 56 | 73 | 17 | 31% | 11 |
| Electrical and Electronics Installers and Repairers, Transportation Equipment | 44 | 63 | 19 | 44% | 11 |
| TOTAL | 5,271 | 5,748 | 477 | 9% | 641 |

Wages

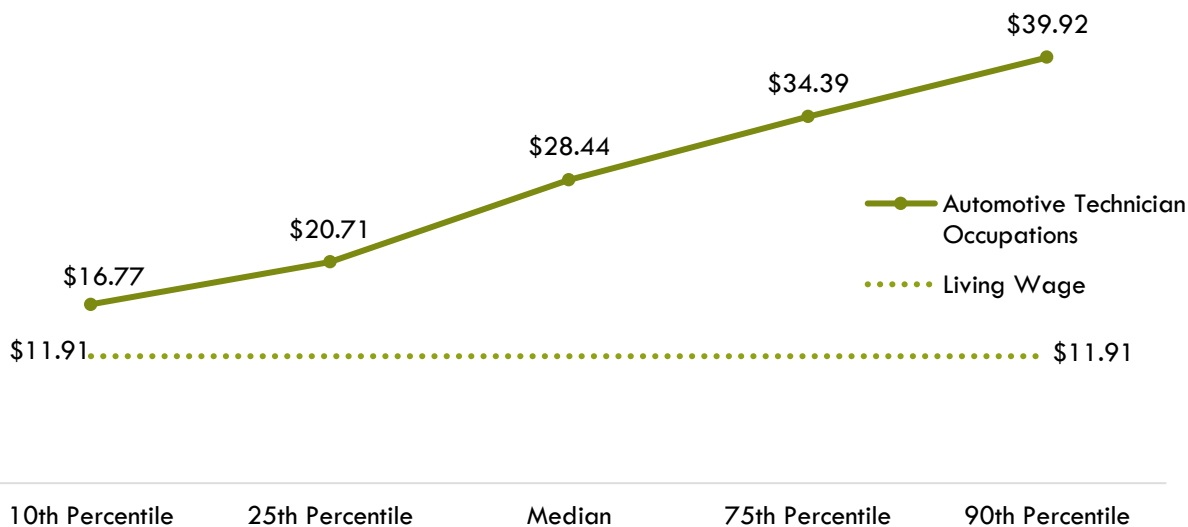
The average living wage for a single adult in the SCV/SML subregion is \$11.91/hour.² Exhibit 2a shows the hourly wages for the three occupations studied in this report. *Electronics Installers and Repairers, Transportation Equipment* has the highest entry-level wage, \$31.83/hour.³

Exhibit 2a. Hourly wages for occupations related to Automotive Technician in the SCV/SML subregion

| Occupation | 25 th Percentile Hourly Earnings | Median Hourly Earnings | 75 th Percentile Hourly Earnings |
|---|---|------------------------|---|
| Automotive Service Technicians and Mechanics | \$15.65 | \$22.67 | \$29.00 |
| Electronic Equipment Installers and Repairers, Motor Vehicles | \$14.66 | \$20.94 | \$24.50 |
| Electrical and Electronics Installers and Repairers, Transportation Equipment | \$31.83 | \$41.73 | \$49.67 |

Exhibit 2b shows the average hourly wages for *Automotive Technician* occupations; all five average wages are above the living wage for the SCV/SML subregion.

Exhibit 2b. Average hourly wages for occupations related to Automotive Technician in the SCV/SML subregion



² The term “living wage” in Center of Excellence reports is calculated by averaging the self-sufficiency wages from the Insight Center’s California Family Needs Calculator for each county in the subregion: <https://insightccd.org/tools-metrics/self-sufficiency-standard-tool-for-california/>.

³ Note: 10th and 25th percentiles are considered entry-level wages while 75th and 90th are considered experienced wages, which may be obtained through long-term employment or extra training, etc.

Job Postings

There were 2,172 unique job postings for occupations related to *Automotive Technician* in the SCV/SML subregion from March 2023 to August 2023.⁴

Top Employers

The top employers with the most job postings are listed in Exhibit 3. The top employers in online job postings were Walmart, Waste Management, and Pep Boys.

Exhibit 3. Top employers of *Automotive Technician* in job postings

| Employer |
|------------------------|
| Walmart |
| Waste Management |
| Pep Boys |
| Les Schwab Tire Center |
| Chevrolet |
| Lithia Motors |
| State of California |
| Jim Burke Ford Lincoln |
| Goodyear |

Top Job Titles

Exhibit 4 shows the most common job titles for *Automotive Technician* in the SCV/SML subregion.

Exhibit 4. Top job titles in job postings for *Automotive Technician*

| Job Title |
|--|
| Automotive Technician |
| Service Technician / Shop Technician / Lube Technician |
| Mechanic |
| Automotive Service Advisors |
| Vehicle Mechanics |
| General Service Technicians |
| Master Technicians |

⁴ Other than occupational titles and job titles, the categories below can be counted one or multiple times per job posting, and across several areas in a single posting. For example, a skill can be counted in two different skill types, and an employer can indicate more than one education level.

Education

Of the 2,172 unique job postings, 1,114 listed a preferred or minimum educational requirement for the position being filled. Among those, 81% requested a high school diploma or GED, 8% requested an associate degree, and 10% requested a bachelor's degree (Exhibit 5).

Exhibit 5. Education levels requested in job postings for Automotive Technician

| Education Level | Job Postings | % of Job Postings |
|--------------------------|--------------|-------------------|
| High school or GED | 901 | 81% |
| Associate degree | 87 | 8% |
| Bachelor's degree | 107 | 10% |
| Master's degree or above | 19 | 2% |

Baseline, Specialized, and Software Skills

Exhibit 6 depicts the top baseline, specialized, and software skills in job postings. The most requested baseline skill is customer service. The most requested specialized skill is automotive services. The most requested software skill is Fleet Maintenance Software.

Exhibit 6. In-demand baseline, specialized, and software skills for Automotive Technician in job postings

| Baseline Skills | Specialized Skills | Software Skills |
|-----------------------------------|----------------------|----------------------------|
| Customer Service | Automotive Services | Fleet Maintenance Software |
| Communications | Mechanics | Microsoft Software |
| Good Driving Record | Changing Oil | Inventory Control Systems |
| Management | Tires | Business Software |
| Troubleshooting (Problem Solving) | Suspension (Vehicle) | Disassembler |

Certifications

Of the job postings listing a certification, 12% indicated a need for an Automotive Service Excellence Certification (Exhibit 7).

Exhibit 7. Top Automotive Technician certifications requested in job postings

| Certifications | % of Job Postings |
|---|-------------------|
| Automotive Service Excellence (ASE) Certification | 12% |
| Commercial Driver's License (CDL) / CDL Class A | 2% |
| ASE Advanced Engine Performance Certification | 1% |

Education, Work Experience, & Training

A high school diploma or equivalent is typically required for *Electronic Equipment Installers and Repairers, Motor Vehicles*, while a postsecondary nondegree award is typically required for *Automotive Service Technicians and Mechanics*, as well as for *Electrical and Electronics Installers and Repairers, Transportation Equipment* (Exhibit 8).

Exhibit 8. Education, work experience, training, and Current Population Survey results for occupations related to Automotive Technician⁵

| Occupation | Typical Entry-level Education | Work Experience Required | Typical On-The-Job Training | CPS |
|---|-----------------------------------|--------------------------|-----------------------------------|-----|
| Automotive Service Technicians and Mechanics | Postsecondary nondegree award | None | Short-term on-the-job training | 36% |
| Electronic Equipment Installers and Repairers, Motor Vehicles | High school diploma or equivalent | None | Moderate-term on-the-job training | 48% |
| Electrical and Electronics Installers and Repairers, Transportation Equipment | Postsecondary nondegree award | None | Long-term on-the-job training | 48% |

Supply

An analysis of program data from the Integrated Postsecondary Education Data System (IPEDS) for the last three program years shows that, on average, 222 awards were conferred in the SCV/SML subregion (Exhibits 9 and 10).

Exhibit 9. TOP and CIP codes for Automotive Technology

| TOP Titles | CIP Titles |
|---------------------------------|---|
| 0948.00 - Automotive Technology | 47.0604 – Automobile/Automotive Mechanics Technology/Technician |

⁵ "Labor Force Statistics from the Current Population Survey," Bureau of Labor Statistics, <https://www.bls.gov/cps/>.

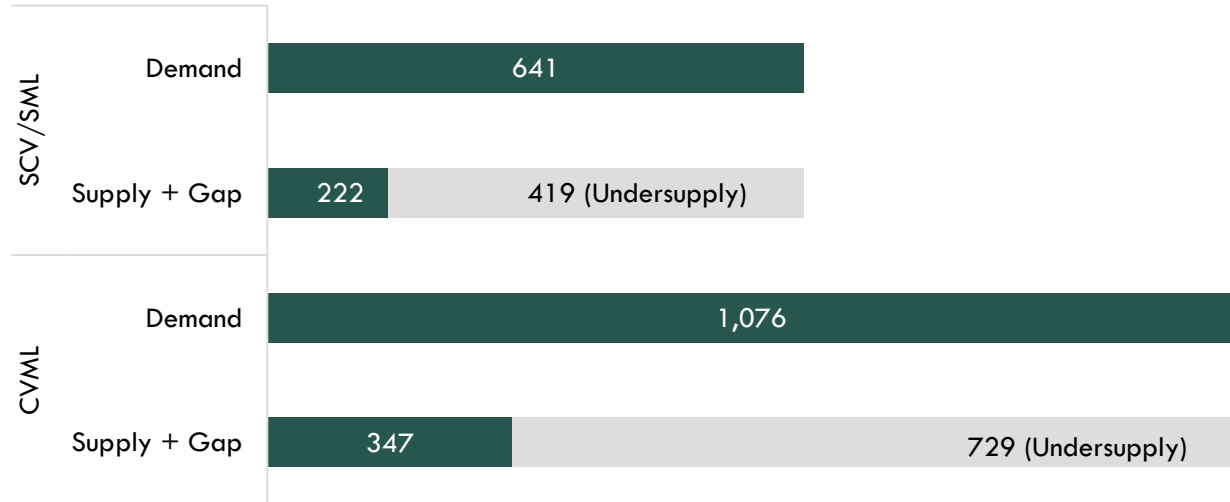
Exhibit 10. Postsecondary supply for Automotive Technology, Program Years 2019-20 through 2021-22

| TOP/CIP Code- Title | College | Associate Degree | Certificate 60+ semester units | Certificate 30 < 60 Semester Units | Certificate 16 < 30 Semester Units | Certificate 8 < 16 Semester Units | Certificate 6 < 18 Semester Units | Noncredit award 960+ hours | TOTAL |
|--|-------------------|------------------|--------------------------------|------------------------------------|------------------------------------|-----------------------------------|-----------------------------------|----------------------------|------------|
| 0948.00 - Automotive Technology | Bakersfield | 17 | | 18 | 54 | | | | 89* |
| | Columbia | 2 | 1 | 2 | | 4 | 3 | | 11 |
| | Fresno City | 12 | | | | | | 7 | 20* |
| | Merced | 6 | | 33 | 22 | | | | 61 |
| | Modesto | 9 | | 2 | 9 | 2 | | | 22 |
| | Reedley College | 9 | | 27 | | | | | 36* |
| | San Joaquin Delta | 8 | | 9 | 14 | | | | 31 |
| | Sequoias | 10 | | | | | | 67 | 77* |
| SCV/ SML TOTAL | | 48 | 1 | 45 | 54 | 0 | 67 | 7 | 222 |
| CVML TOTAL | | 73 | 1 | 91 | 99 | 6 | 70 | 7 | 347 |

*SCV/SML awards

There is an undersupply of 419 *Automotive Technician* workers in the SCV/SML subregion and an undersupply of 729 workers in the CVML region (Exhibit 11).

Exhibit 11. *Automotive Technician* workforce demand (annual job openings), postsecondary awards (supply), and additional students needed to fill gap in the SCV/SML subregion and region



Recommendation

This report suggests there is a shortage of 419 workers in the SCV/SML subregion and a shortage of 729 workers in the CVML region for *Automotive Technician*. Based on these findings, it is recommended that Reedley College work with the regional directors, the college’s advisory board, and local industry in the expansion of programs to address the shortage of *Automotive Technician* workers in the region.

Appendix: Methodology & Data Sources

Data Sources

Labor market and educational supply data compiled in this report derive from a variety of sources. Data were drawn from external sources, including the Economic Modeling Specialists, Inc., the California Community Colleges Chancellor’s Office Management Information Systems Data Mart and the National Center for Educational Statistics (NCES) Integrated Postsecondary Education Data System (IPEDS). Below is the summary of the data sources found in this study.

| Data Type | Source |
|--|---|
| Labor Market Information/Population Estimates and Projections/Educational Attainment | Economic Modeling Specialists, Intl. (Lightcast). Lightcast occupational employment data are based on final Lightcast industry data and final Lightcast staffing patterns. Wage estimates are based on Occupational Employment Statistics (QCEW and Non-QCEW Employees classes of worker) and the American Community Survey (Self-Employed and Extended Proprietors). Occupational wage estimates also affected by county-level Lightcast earnings by industry: economicmodeling.com. |
| Typical Education Level and On-the-job Training | Bureau of Labor Statistics (BLS) uses a system to assign categories for entry-level education and typical on-the-job training to each occupation for which BLS publishes projections data: https://www.bls.gov/emp/tables/educational-attainment.htm . |
| LaunchBoard | Chancellor’s LaunchBoard. https://www.calpassplus.org/LaunchBoard/SWP.aspx |
| Labor Force, Employment and Unemployment Estimates | California Employment Development Department, Labor Market Information Division: labormarketinfo.edd.ca.gov . |
| Job Posting and Skills Data | Lightcast: https://lightcast.io/ . |
| Additional Education Requirements/ Employer Preferences | The O*NET Job Zone database includes over 900 as well as information on skills, abilities, knowledge, work activities and interests associated with specific occupations: onetonline.org . |

Key Terms and Concepts

Annual Job Openings: Annual openings are calculated by dividing the number of years in the projection period by total job openings.

Education Attainment Level: The highest education attainment level of workers age 25 years or older.

Employment Estimate: The total number of workers currently employed.

Employment Projections: Projections of employment are calculated by a proprietary Economic Modeling Specialists, Intl. (LIGHTCAST) formula that includes historical employment and economic indicators along with national, state and local trends.

LaunchBoard (Attained the Living Wage): Among SWP students who exited college and did not transfer to any postsecondary institution, the proportion who attained the district county living wage for a single adult measured immediately following academic year of exit.

LaunchBoard (Median Annual Earnings): Among SWP students who exited the community college system and who did not transfer to any postsecondary institution, median earnings following the academic year of exit.

LaunchBoard (Median Change in Earnings): Among SWP students who exited and who did not transfer to any postsecondary institution, median change in earnings between the second quarter prior to the beginning of the academic year of entry and the second quarter after the end of the academic year of exit from the last college attended.

LaunchBoard (Job Closely Related to Field of Study): Among SWP students who responded to the CTE Outcomes Survey and did not transfer to any postsecondary institution, the proportion who reported that they are working in a job very closely or closely related to their field of study.

Living Wage: The cost of living in a specific community or region for one adult and no children. The cost increases with the addition of children.

Occupation: An occupation is a grouping of job titles that have a similar set of activities or tasks that employees perform.

Percent Change: Rate of growth or decline in the occupation for the projected period; this does not factor in replacement openings.

Replacements: Estimate of job openings resulting from workers retiring or otherwise permanently leaving an occupation. Workers entering an occupation often need training. These replacement needs, added to job openings due to growth, may be used to assess the minimum number of workers who will need to be trained for an occupation.

Total Job Openings (New + Replacements): Sum of projected growth (new jobs) and replacement needs. When an occupation is expected to lose jobs, or retain the current employment level, number of openings will equal replacements.

Typical Education Requirement: represents the typical education level most workers need to enter an occupation.

Typical On-The-Job Training: indicates the typical on-the-job training needed to attain competency in the skills needed in the occupation.