Automotive Dealership Technicians

Inland Empire/Desert Region (Riverside and San Bernardino counties combined)

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 on their immediate employment needs.

Summary

- Employment for automotive service technicians and mechanics is expected to **increase by 3% between 2019 and 2024** in the Inland Empire/Desert Region. A total of **1,217 annual job openings** will be available each year over the five-year timeframe.

- The 50th percentile, median hourly wage for automotive service technicians and mechanics is **$19.51, below the $21.78 per hour self-sustainable hourly wage** estimate for a single adult with one child.

- There was an average of 213 credentials issued annually from regional community college training programs over the last three academic years. Two private educational institutions outside the community college system issued an annual average of 746 credentials over the previous three academic years. Combined, there is a potential supply of 959 qualified automotive service technician and mechanics in the region.

Introduction

The report provides data on the occupation and programs most closely related to automotive dealership technicians. The California Community College automotive technology (TOP 0948.00) program prepares students for employment as automotive dealership technicians by providing instruction on the servicing, maintenance, and diagnosis of malfunctions, and repair and overhaul of components and systems in automotive vehicles (Taxonomy of Programs, 2012). The occupational description and a sample of job titles for automotive service technicians and mechanics are listed below.

Automotive Service Technicians and Mechanics (49-3023)
Diagnose, adjust, repair, or overhaul automotive vehicles.

Sample job titles: ASE Master Mechanic (Automotive Service Excellence Master Mechanic), Automotive Mechanic (Auto Mechanic), Automotive Service Technician, Automobile Technician (Auto Technician), Heavy Line Technician, Lube Technician, Oil Bay Technician, Quick Service Technician, Service Technician

Entry-Level Educational Requirement: Postsecondary nondegree award

Training Requirement: Less than one month on-the-job training

Work Experience Required: None

Incumbent workers with a Community College Award or Some Postsecondary Coursework: 35%
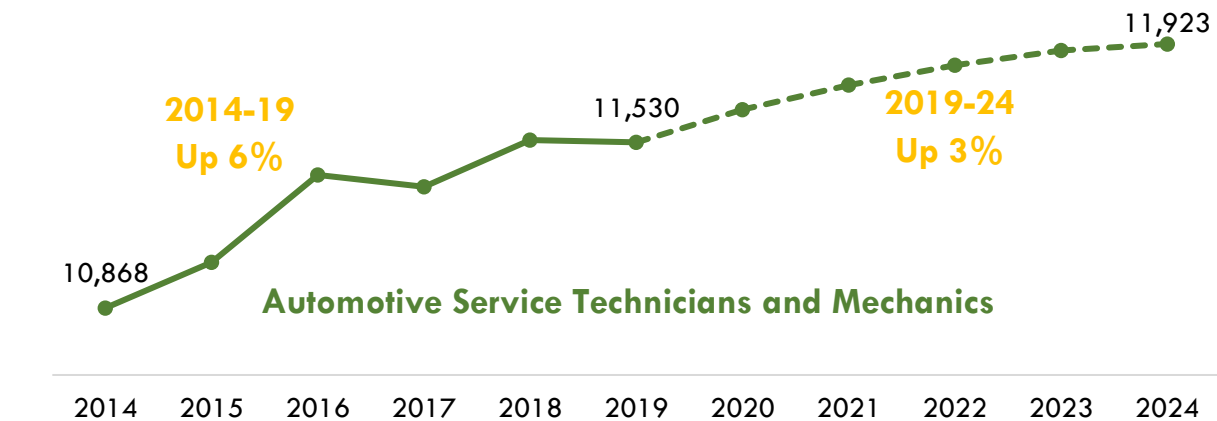
Job Opportunities

In 2019, there were 11,530 *automotive service technician and mechanic* jobs in the Inland Empire/Desert Region (IEDR). This occupation is projected to increase employment by 3% through 2024. Employers in the region will need to hire 1,217 workers over the next five years to fill new jobs and backfill jobs that workers are permanently vacating (includes occupational transfers and retirements). Exhibit 1 displays five-year projected job growth, and Exhibit 2 displays historical and projected jobs for *automotive service technicians and mechanics* in the IEDR.

Exhibit 1: Five-year projections for automotive service technicians and mechanics

2019 Jobs	2024 Jobs	5-Yr % Change (New Jobs)	5-Yr Openings (New + Replacement Jobs)	Annual Openings (New + Replacement Jobs)	% of workers age 55+
11,530	11,923	3%	6,086	1,217	22%

Source: EMSI 2020.2

Exhibit 2: Historical and projected jobs in the IEDR, 2014 – 2024

2014-19 Up 6%

2019-24 Up 3%

11,530

11,923

10,868

Automotive Service Technicians and Mechanics

2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024

Source: EMSI 2020.2

Automotive Dealership Technician Employment

This section of the report details the industries that employ *automotive service technicians and mechanics*. Industry data can provide insight into the number of *automotive service technicians and mechanics* working in automotive dealerships. Automotive dealerships are classified within three industries, Automobile Dealers (NAICS 4411), Other Motor Vehicle Dealers (4412), and Motor Vehicle and Motor Vehicle Parts and Supplies Merchant Wholesalers (4231). In 2019, these three industries accounted for nearly a third

(29.2%) of regional employment for *automotive service technicians and mechanics*. These industries are in bold in Exhibit 3.

More than half of the *automotive service technicians and mechanics* employment is housed within the Automotive Repair and Maintenance (8111) industry, which includes businesses that provide traditional automotive repair and maintenance services, independent of automotive dealerships. Exhibit 3 displays industries with high concentrations of *automotive service technicians and mechanics*. The six industries displayed below represent nearly 90% of employment for *automotive service technicians and mechanics*.

Exhibit 3: Industries employing automotive service technicians and mechanics, 2019

Industries (NAICS4)	2019 Jobs	% of Jobs in Industry (2019)
Automotive Repair and Maintenance (8111)	5,979	51.9%
Automobile Dealers (4411)	**3,022**	**26.2%**
Automotive Parts, Accessories, and Tire Stores (4413)	885	7.7%
Motor Vehicle and Motor Vehicle Parts and Supplies Merchant Wholesalers (4231)	**292**	**2.5%**
Automotive Equipment Rental and Leasing (5321)	66	0.6%
Other Motor Vehicle Dealers (4412)	**48**	**0.4%**
All Other Industries	1,238	10.7%
Total	**11,530**	**100%**

Source: EMSI 2020.2

Job Postings

This job posting search aims to quantify regional demand for this occupation and determine the requisite skills needed to work at automotive dealerships. Job postings included in this analysis have been limited to advertisements for *automotive service technicians and mechanics* that were listed by automotive dealerships. Over the last 12 months, job postings from automotive dealerships accounted for 12% (255) of the total 2,061 job postings for *automotive service technicians and mechanics*.

Exhibit 4 displays the number of job ads posted during the last 12 months, along with the regional and statewide average time to fill for *automotive service technicians and mechanics* at automotive dealerships. It is important to note limitations when examining employer job ads. Job postings data is limited to the information provided by employers and the ability of artificial intelligence search engines to identify this information. Additionally, preliminary calculations by Georgetown Center on Education and the Workforce found that "just 30 to 40 percent of openings for candidates with some college or an associate degree,

and only 40 to 60 percent of openings for high school diploma holders appear online" (Carnevale et al., 2014).

On average, local employers fill online job postings for *automotive dealership technicians* within 42 days. This regional average is one day longer than the statewide average of 43 days, indicating that local employers face similar challenges as other employers in California when looking to fill open positions.

Exhibit 4: Job ads and time to fill, May 2019 – April 2020

| Job Ads	Regional Average Time to Fill (Days)	California Average Time to Fill (Days)
255	42	43

Source: Burning Glass – Labor Insights

Earnings

Community colleges should ensure their training programs lead to employment opportunities that provide a self-sustainable level of income. The Brookings Institute in their Advancing Opportunity in California's Inland Empire report found that a "good job" wage in the region is above $18.00 per hour, or $37,440 per year (Shearer, Shah & Gootman, p. 25). The Family Needs Calculator estimates that a self-sustainable wage for a single adult with one school-age child is $21.78 per hour or $45,992 annually (Pearce & Manzer, 2020).

The median wage for *automotive service technicians and mechanics* surpasses the Brookings Institute's "good job" wage. Despite this, the median wage is below the Family Needs Calculator self-sustainability rate. Wages for *automotive service technicians and* mechanics do not exceed the self-sustainability rate until at the experienced-level. Exhibit 5 displays the IEDR hourly earnings for this occupation.

Exhibit 5: Hourly earnings for automotive service technicians and mechanics
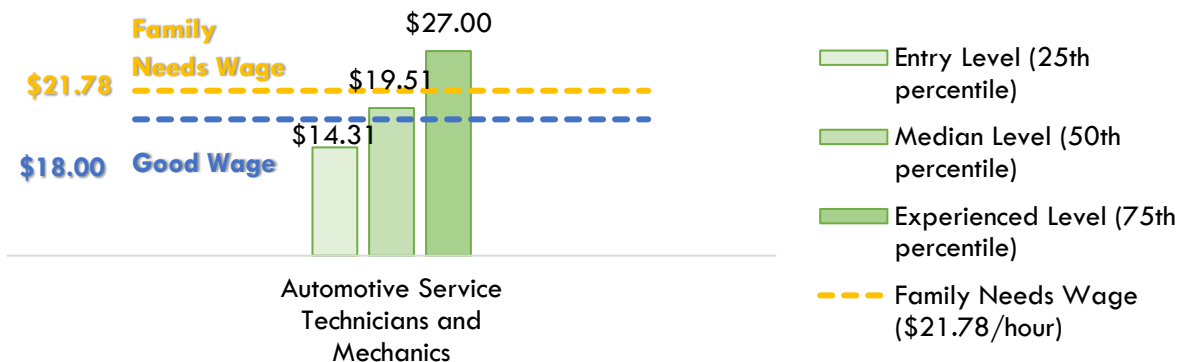
Source: EMSI 2020.2

According to occupational guides developed by the California Labor Market Information Division, benefits for automotive service technicians and mechanics generally include health insurance, as well as paid holidays, vacations, and retirement plans (Detailed Occupational Guides, 2020).

Employers, Skills, Education, Work Experience, and Certifications

Exhibit 6 displays the employers that posted more than ten job ads for *automotive dealership technicians* over the last 12 months in the IEDR.

Exhibit 6: Employers posting the most job ads for automotive dealership technicians, May 2019 – April 2020

Employers (Cities)	Job Ads
Chrysler (Riverside, Temecula, Redlands, Corona, San Bernardino, Lake Elsinore, Victorville, Menifee, Hemet, Ontario, and Norco)	57
Lithia Motors Incorporated (Temecula and Riverside)	38
Mopar Career Automotive Program (Temecula, Riverside, Redlands, San Bernardino, Corona, and Lake Elsinore)	24
CarMax (Murrieta, Ontario, and Riverside)	20
Chevrolet (Redlands)	14
Toyota (Redlands, Riverside, and Cathedral City)	13
Mitsubishi Motors (Corona)	11
Nissan Motor Co. (Corona, San Bernardino, Temecula, and Montclair)	10
Total for all other employers	68
Total	**255**

Source: Burning Glass – Labor Insights

Exhibit 7 displays a sample of specialized and employability skills that employers are seeking when looking for workers to fill *automotive dealership technician* positions. Specialized skills are occupation-specific skills that employers are requesting for industry or job competency. Employability skills are foundational skills that transcend industries and occupations; this category is commonly referred to as "soft skills." The skills requested in job postings may be utilized as a helpful guide for curriculum development. While there is a significant overlap between the desired skills for *automotive service technicians and mechanics* and *automotive dealership technicians,* job posting data indicates that automotive dealerships desire higher-level skills for their technicians. For example, many automotive dealerships sought candidates with transmission repair skills compared to repair and maintenance employers seeking technicians with oil change knowledge.

Exhibit 7: Sample of in-demand skills from employer job ads for automotive dealership technicians, May 2019 – April 2020

Occupation	Specialized Skills	Employability Skills
Automotive Service Technicians and Mechanics (*n=230*)	• Automotive Repair • Customer Service • Transmission Repair • Automotive Services Industry Knowledge • Cleaning	• Teamwork/Collaboration • Communication Skills • Organizational Skills • Detail-Oriented • Problem Solving

Source: Burning Glass – Labor Insights

Exhibit 8 displays the entry-level education typically required to enter this occupation according to the Bureau of Labor Statistics (BLS), educational attainment for incumbent workers with "some college, no degree" and an "associate degree" according to the U.S. Census (2016-17), the minimum advertised education requirement from employer job ads for *automotive service technicians and mechanics.*

Exhibit 8: Typical entry-level education, educational attainment, and minimum advertised education requirements for automotive service technicians and mechanics, May 2019 – April 2020

Occupation	Typical Entry-Level Education Requirement	Educational Attainment (Percentage of incumbent workers with a Community College Credential or Some Postsecondary Coursework)	Minimum Advertised Education Requirement from Job Ads			
			Number of job postings	High school diploma or vocational training	Associate degree	Bachelor's degree or higher
Automotive Service Technicians and Mechanics	Postsecondary nondegree award	35%	114	100%	-	-

Source: EMSI 2020.2, Burning Glass – Labor Insights

Exhibit 9 displays the typical work experience required and real-time work experience requirements from employer job ads for *automotive service technicians and mechanics* over the last twelve months. Job postings indicate that automotive dealerships are seeking job candidates with more work experience than is typically required of *automotive service technicians and mechanics.*

Exhibit 9: Typical work experience required and real-time work experience requirements, last 12 months

Occupation	Work Experience Typically Required	Real-Time Work Experience Required from Job Ads			
		Number of job postings	0 – 2 years	3 – 5 years	6+ years
Automotive Service Technicians and Mechanics	None	*107*	61%	30%	9%

Source: EMSI 2020.2, Burning Glass – Labor Insights

Exhibit 10 displays the certifications required by employers posting job ads for *automotive service technicians and mechanics* at automotive dealerships in the IEDR. Nearly 19% of job postings with certification requirements were seeking candidates with their Automotive Service Excellence (ASE) certification. The National Institute for Automotive Service Excellence is a non-profit organization that certifies automotive professionals. ASE offers more than 40 different certification tests that ensure technicians are qualified for every specialty. For more information regarding ASE certification and testing, please visit the ASE website (ASE, 2020).

The Mopar Career Automotive Program (CAP) certification appeared in nearly 14% of job postings. This certification is needed to work as an automotive technician for Chrysler, Dodge, Ram, Fiat, and Jeep brand vehicles. The Mopar CAP certification process typically takes 12 to 24 months to complete and allows students to work while gaining skills for certification. For more information on Mopar CAP programs, please visit the Mopar CAP website (Mopar CAP, 2020). There was not a significant difference between certification requirements for *automotive dealership technicians* and *automotive service technicians and mechanics*.

Exhibit 10: Certifications required by employer job ads for automotive dealership technicians, May 2019 – April 2020

Occupation	Certifications
Automotive Service Technicians and Mechanics *(n=213)*	• Automotive Service Excellence (ASE) (40 posts) • Mopar CAP Certified (29 posts)

Source: Burning Glass – Labor Insights

Student Completions and Program Outcomes

Exhibit 11 displays completion data for California Community College automotive technology (0948.00) programs in the IEDR between 2016 and 2019. The student completion and outcome methodology are available on page 11.

Exhibit 11: Annual average community college credentials for the automotive technology program in the IEDR

0948.00 – Automotive Technology	6<18 Semester Units Certificate	18<30 Semester Units Certificate	30<60 Semester Units Certificate	Associate of Science (A.S.)	CCC Annual Average Credentials, Academic Years
Barstow	-	4	-	4	7
Chaffey	-	36	6	14	56
Copper Mountain	0	-	1	0	2
Desert	-	26	-	6	33
Mt. San Jacinto	-	-	8	5	13

0948.00 – Automotive Technology	6<18 Semester Units Certificate	18<30 Semester Units Certificate	30<60 Semester Units Certificate	Associate of Science (A.S.)	CCC Annual Average Credentials, Academic Years
Palo Verde	9	7	-	1	17
Riverside	-	36	-	14	51
San Bernardino	1	4	6	6	18
Victor Valley	-	8	3	5	16
Total	11	122	24	56	213

Source: LaunchBoard, MIS Data Mart

Community college student outcome information based on the selected TOP code and region is provided in Exhibit 12.

Exhibit 12: 0948.00 – Automotive technology strong workforce program outcomes

Strong Workforce Program Metrics: 0948.00 – Automotive Technology Academic Year 2016-17, unless noted otherwise	Inland Empire/Desert Region	California
Unduplicated count of enrolled students (2017-18)	2,453	18,662
Completed 9+ career education units in one year (2017-18)	28%	33%
Economically disadvantaged students	73%	73%
Students who attained a noncredit workforce milestone in a year (2017-18)	-	75%
Students who earned a degree, certificate, or attained apprenticeship (2017-18)	168	1,649
Transferred to a four-year institution (transfers)	11	126
Job closely related to the field of study (2015-16)	62%	69%
Median annual earnings (all exiters)	$23,700	$27,048
Median change in earnings (all exiters)	57%	52%
Attained a living wage (completers and skills-builders)	48%	39%

Sources: LaunchBoard Community College Pipeline and Strong Workforce Program Metrics

Credentials granted from other educational providers outside of the California Community College system are displayed in Exhibit 13 along with the relevant CIP code.

Exhibit 13: Annual average community college credentials for the automotive/automotive mechanics technology/technician program in the IEDR

47.0604 – Automobile/Automotive Mechanics Technology/Technician	Award <1 Academic Year	Award 1<2 Academic Year	Award 2<4 Academic Year	Other Educational Providers Annual Average Credentials, Academic Years 2014-17
CET-Colton	8	-	-	8
Universal Technical Institute of California Inc	-	0	746	746
Total	**8**	**0**	**746**	**754**

Source: IPEDS

Recommendation

Community college automotive technology programs provide instruction on the servicing and maintenance of automotive vehicles. A student exiting this program should be qualified to enter employment as an automotive service technician and mechanic. In the Inland Empire/Desert region, this occupation is expected to have 1,217 annual job openings over the next five years, increasing employment by 3%. This occupation earns a 50th percentile rate of $19.51 per hour, below the living wage standard for a single-adult household with one child. The median rate does exceed the "good wage" rate established by the Brookings Institute. Most employers are seeking a candidate holding a level of education that may be obtained at the community colleges.

Nine regional community colleges awarded 213 annual average credentials over the last three academic years in Automotive Technology programs. Assuming that one credential is awarded to one student, the number of awards conferred is below the expected number of annual regional job openings (1,217 annual job openings). There appears to be an opportunity to create new or expand existing Automotive Technology programs. Please note that other educational providers are awarding 754 credentials annually.

Colleges considering Automotive Technology programs should meet with relevant employers to understand their demand for more workers and the specific skills, licensing, and credentials needed for gainful employment in this field. Colleges should also consult with automotive dealerships and automotive repair employers to understand the specific requirements needed for exiting students to earn a self-sustainable wage upon entering the workforce.

Contact

Michael Goss, Director
Center of Excellence, Inland Empire/Desert Region
michael.goss@chaffey.edu
May 2020

References

Burning Glass Technologies. (2020). *Labor Insights/Jobs*. Retrieved from https://www.burning-glass.com/

California Community Colleges Chancellor's Office. LaunchBoard. (2020). *California Community Colleges LaunchBoard*. Retrieved from https://www.calpassplus.org/Launchboard/Home.aspx

California Community Colleges Chancellor's Office. LaunchBoard. (2020a). *Strong Workforce Program Metrics Data Element Dictionary*. Pg. 3. Retrieved from https://www.calpassplus.org/MediaLibrary/calpassplus/launchboard/Documents/SWP-DED.PDF

California Community Colleges Chancellor's Office. (2020). *Chancellor's Office Curriculum Inventory (COCI), version 3.0*. Retrieved from https://coci2.ccctechcenter.org/programs

California Community Colleges Chancellor's Office Management Information Systems (MIS) Data Mart. (2020). *Data Mart*. Retrieved from https://datamart.cccco.edu/datamart.aspx

California Community Colleges Chancellor's Office, Curriculum and Instructional Unit, Academic Affairs Division. (2012). *Taxonomy of Programs, 6th Edition, Corrected Version*. Retrieved from https://www.cccco.edu/-/media/CCCCO-Website/About-Us/Divisions/Digital-Innovation-and-Infrastructure/Research/Files/TOPmanual6200909corrected12513.ashx?la=en&hash=94C709CA83C0380828415579395A5F536736C7C1

Carnevale, A. P., Jayasundera, T., & Repnikov, D. (n.d.). Understanding Online Job Ads Data. Retrieved from https://cew.georgetown.edu/wp-content/uploads/2014/11/OCLM.Tech_.Web_.pdf

Economic Modeling Specialists International (EMSI) (2020). *Datarun 2020.2*. Retrieved from https://www.economicmodeling.com/

Labor Market Information Division. Employment Development Department of California. (2020). *Detailed Occupational Guides*. Retrieved from https://www.labormarketinfo.edd.ca.gov/OccGuides/Search.aspx

Mopar Career Automotive Program (CAP). (2020). *Questions about Mopar CAP?* Retrieved from https://www.mopar.com/en-us/mopar-cap.html

National Center for O*NET Development. (2020). *O*NET OnLine*. Retrieved from https://www.onetonline.org/

National Institute for Automotive Service Excellence (ASE). (2020). *Test Series*. Retrieved from https://www.ase.com/Tests/ASE-Certification-Tests/Test-Series.aspx

Pearce, D., Manzer, L. Center for Women's Welfare at the University of Washington. *Self-Sufficiency Standard Tables-2020*. (2020). Retrieved from http://www.selfsufficiencystandard.org/california

Shearer, C., Shah, I., Gootman, M. (2019, February). Metropolitan Policy Program at Brookings. Advancing Opportunity in California's Inland Empire. *Defining Opportunity*. (pg. 25). Retrieved from https://www.brookings.edu/wp-content/uploads/2019/02/Full-Report_Opportunity-Industries_Inland-California_Final_Shearer-Shah-Gootman.pdf

Appendix: Student Completions and Program Outcome Methodology

Exhibit 11 displays the average annual regional California Community College (CCC) credentials conferred during the three academic years between 2016 and 2019, from the California Community Colleges Chancellor's Office Management Information Systems (MIS) Data Mart, along with the enrollments from the most recent year available on LaunchBoard. Credentials are the combined total of associate degrees and certificates issued during the timeframe, divided by three in this case to calculate an annual average. This is done to minimize the effect of atypical variation that might be present in a single year. Enrollments are the count of enrollments in courses assigned to the TOP code in the selected year.

Community college student outcome information is from LaunchBoard and based on the selected TOP code and region. These metrics are based on records submitted to the California Community Colleges Chancellor's Office Management Information Systems (MIS) by community colleges, which come from self-reported student information from CCC Apply and the National Student Clearinghouse. Employment and earnings metrics are sourced from records provided by California's Employment Development Department's Unemployment Insurance database. When available, outcomes for completers are reported to demonstrate the impact that earning a degree or certificate can have on employment and earnings. For more information on the types of students included for each metric, please see the web link for LaunchBoard's Strong Workforce Program Metrics Data Element Dictionary in the References section (LaunchBoard, 2020a). Finally, employment in a job closely related to the field of study comes from self-reported student responses on the CTE Employment Outcomes Survey (CTEOS), administered by Santa Rosa Junior College (LaunchBoard, 2020).