

Labor Market Analysis: 0948 – Automotive Technology

Automotive EV Specialist – Certificate requiring 16 to fewer than 30 semester units

Los Angeles Center of Excellence, May 2024

Program Endorsement:	Endorsed: All Criteria Met <input type="checkbox"/>	Endorsed: Some Criteria Met <input checked="" type="checkbox"/>	Not Endorsed <input type="checkbox"/>
Program Endorsement Criteria			
Supply Gap:	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Living Wage: (Entry-Level, 25 th)	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Education:	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Emerging Occupation(s)			
	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	

SUMMARY

This report analyzes whether local labor market demand is being met by community college programs aligned with the identified middle-skill occupation¹ or whether a shortage of workers exists. Labor market demand is measured by annual job openings while education supply is measured by the number of awards (degrees and certificates) conferred on average each year.

Based on the available data, there appears to be a supply gap for the one identified middle-skill occupation in the region. While entry-level wages are lower than the self-sufficiency standard wage in both Los Angeles and Orange counties, the Bureau of Labor Statistics (BLS) lists a postsecondary non-degree award as the typical entry-level education.

Recommendation: Due to two of three program endorsement criteria being met, the Los Angeles Center of Excellence for Labor Market Research (LA COE) endorses this proposed program.

Key Findings

Supply Gap

- 2,186 annual job openings are projected in the region through 2027. This number is greater than the three-year average of 1,552 awards conferred by educational institutions in the region.
 - The automotive service technicians and mechanics SOC code includes all automotive technician work roles, and not solely technicians who work with hybrid and/or electric vehicles. Therefore, the number of annual job openings is likely overstated for hybrid and/or electric vehicle technicians.

¹ Middle-skill occupations typically require some postsecondary education, but less than a bachelor's degree. The COE classifies middle-skill jobs as the following:

- All occupations that require an educational requirement of some college, associate degree or apprenticeship;
- All occupations that require a bachelor's degree, but also have more than one-third of their existing labor force with an educational attainment of some college or associate degree; or
- All occupations that require a high school diploma or equivalent or no formal education, but also require short- to long-term on-the-job training where multiple community colleges have existing programs.

- Over that past 12 months in the LA/OC region, there were 136 online job postings for automotive service technicians and mechanics that also mentioned experience with or knowledge of “hybrid vehicles” and/or “electric vehicles”. The top skills listed on these job postings were experience with electric vehicles, occupational safety and health administration (OSHA), technical training, workflow management, and safety standards.

Living Wage

- \$15.57 is the typical entry-level hourly wages for automotive service technicians and mechanics, which is lower than Los Angeles County’s self-sufficiency standard hourly (\$18.10/hour).²

Educational Attainment

- A postsecondary non-degree award is the typical entry-level education for automotive service technicians and mechanics, according to the Bureau of Labor Statistics (BLS).
- 35% of workers in the field have completed some college or an associate degree, according to national educational attainment data.

Community college supply

- 15 community colleges issued awards related to automotive technology in the greater LA/OC region.
- 1,032 awards (degrees and certificates) were conferred on average each year between 2020 and 2023.

Other postsecondary supply

- 4 other postsecondary educational institutions in the LA/OC region offer programs related to automotive technology.
- 520 awards were conferred on average each year by other postsecondary institutions throughout the greater LA/OC region.

TARGET OCCUPATION

LA COE prepared this report to provide regional labor market and postsecondary supply data related to one middle-skill occupation.

- **Automotive Service Technicians and Mechanics (49-3023)** Diagnose, adjust, repair, or overhaul automotive vehicles.³

OCCUPATIONAL DEMAND

Exhibit 1 shows the five-year occupational demand projections for automotive service technicians and mechanics. In the greater Los Angeles/Orange County region, the number of jobs related to this occupation is projected to increase by 2% through 2027. There will be nearly 2,200 job openings per year through 2027 due to job growth and replacements. It is important to note that the automotive service technicians and mechanics (49-3023) SOC code includes all automotive

² Self-Sufficiency Standard wage data was pulled from The Self-Sufficiency Standard Tool for California. For more information, visit: <http://selfsufficiencystandard.org/california>.

³ [Automotive Service Technicians and Mechanics \(bls.gov\)](https://www.bls.gov/occupations/49-3023)

service work roles and not solely electric vehicle (EV) specialists. Therefore, the data in Exhibit 1 is likely overstated for automotive EV specialists. The majority of jobs in 2022 for automotive service technicians and mechanics (74%) were located in Los Angeles County.

Exhibit 1: Current employment and occupational demand, Los Angeles and Orange counties⁴

Geography	2022 Jobs	2027 Jobs	2022-2027 Change	2022-2027 % Change	Annual Openings
Los Angeles	17,415	17,597	182	1%	1,596
Orange	6,208	6,399	190	3%	589
Total	23,624	23,996	372	2%	2,186

Detailed Occupation Data

Exhibit 2 displays the current employment and projected occupational demand for the target occupation in Los Angeles County. The percentage of workers aged 55+ and automation index is included in order visualize upcoming replacement demand for this occupation. Automotive service technicians and mechanics have a slightly higher-than-average risk of automation.

Exhibit 2: Current employment, projected occupational demand, percentage of workers aged 55+, Los Angeles County⁵

Occupation	2022 Jobs	2027 Jobs	5-Yr % Change	Annual Openings	% Aged 55 and older*	Automation Index**	% Full Time Workers***
Automotive Service Technicians and Mechanics	17,415	17,597	1%	1,596	22%	105.9	93%

*The average percentage of workers aged 55 and older across all occupations in the greater LA/OC region is 27%. This occupation has a smaller share of older workers, which typically indicates fewer replacements needs to offset the amount of impending retirements.

**The automation index captures an occupation’s risk of being affected by automation with a base of 100. An automation index greater than 100 indicates a higher-than average risk of automation; less than 100 indicates a lower-than-average risk.

*** Across all jobs in California, 81% of workers are employed full-time.

WAGES

The labor market endorsement in this report considers the entry-level hourly wages for automotive service technicians and mechanics in Los Angeles County as they relate to the county’s self-sufficiency standard wage. Orange County wages are included below in order to provide a complete analysis of the greater Los Angeles/Orange County region.

⁴ Five-year change represents new job additions to the workforce. Annual openings include new jobs and replacement jobs that result from retirements and separations.

⁵ Ibid.

Los Angeles County

The typical entry-level hourly wages for automotive service technicians and mechanics are \$15.57, which is below the self-sufficiency standard wage for one adult (\$18.10 in Los Angeles County). Experienced workers can expect to earn wages of \$30.02, which is higher than the self-sufficiency standard (Exhibit 3).

Exhibit 3: Earnings for occupation in Los Angeles County

Occupation	Entry-Level Hourly Earnings (25 th Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75 th Percentile)	Median Annual Earnings*
Automotive Service Technicians and Mechanics	\$15.57	\$25.61	\$30.02	\$53,300

*Rounded to the nearest \$100

Orange County

The typical entry-level hourly wages for automotive service technicians and mechanics are \$17.66, which is below the self-sufficiency standard wage for one adult (\$20.63 in Orange County). Experienced workers can expect to earn wages of \$32.74, which is higher than the self-sufficiency standard (Exhibit 4).

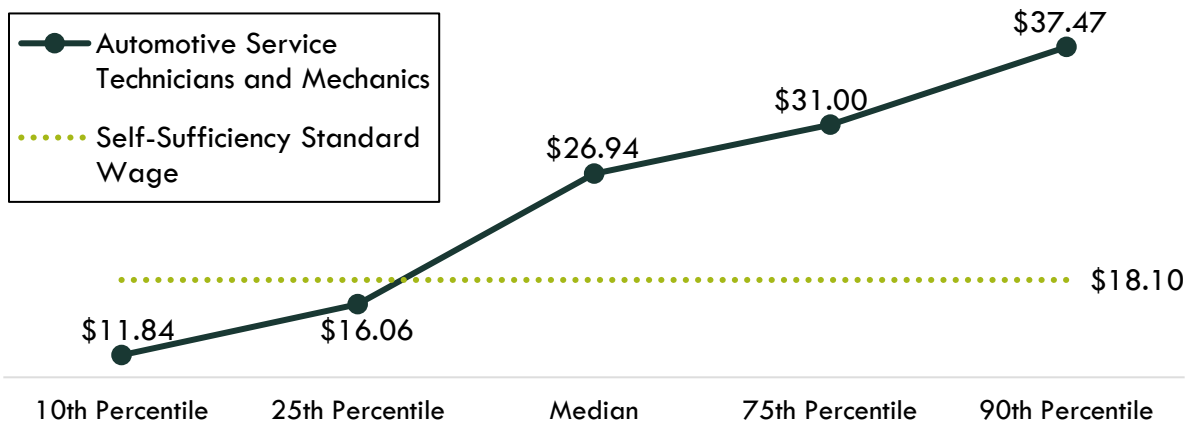
Exhibit 4: Earnings for occupation in Orange County

Occupation	Entry-Level Hourly Earnings (25 th Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75 th Percentile)	Median Annual Earnings*
Automotive Service Technicians and Mechanics	\$17.66	\$28.61	\$32.74	\$59,500

*Rounded to the nearest \$100

Across the greater Los Angeles and Orange County region, the average entry-level hourly earnings for the occupation in this report are \$16.06; this is below the living wage for one single adult in Los Angeles County (\$18.10). Exhibit 5 shows the average hourly wage for the occupation in this report, for entry-level to experienced workers.

Exhibit 5: Average hourly earnings for automotive service technicians and mechanics, Los Angeles and Orange counties



JOB POSTINGS

Over the past 12 months, there were 136 online job postings for automotive service technicians and mechanics that also mentioned hybrid vehicles and/or electric vehicles in the LA/OC region. Job postings were analyzed for the most common job titles, skills, and employers associated with the target occupation in this report (Exhibit 6).

Exhibit 6: Most commonly requested job titles, skills and employers in job postings, Los Angeles and Orange counties

Top Job Titles	Top Skills	Top Employers
<ul style="list-style-type: none"> Autonomous vehicle operators Calibration technicians Automotive service technicians Automotive mechanics Vehicle technicians 	<ul style="list-style-type: none"> Electric vehicles Occupational Safety and Health Administration (OSHA) Technical training Workflow management Safety Standards 	<ul style="list-style-type: none"> AutoNation Tesla Protech Automotive Solutions Caliber Collision Orange EV

In the greater Los Angeles/Orange County region, 71% of the automotive service technician and mechanic job postings related to EV/hybrid vehicles listed a minimum educational requirement. The number and percentage of job postings by educational level appear in exhibit 7.

Exhibit 7: Education levels requested in job postings for automotive service technicians and mechanics related to EV/hybrid vehicles, Los Angeles and Orange counties

Education Level	Job Postings	% of Job Postings
Bachelor's degree	11	11%
Associate degree	5	5%
High school diploma or vocational training	81	84%

EDUCATIONAL ATTAINMENT

The Bureau of Labor Statistics (BLS) lists a postsecondary non-degree award as the typical entry-level education for automotive service technicians and mechanics (Exhibit 8). Furthermore, the national-level data indicates 35% of workers in the field have completed some college or an associate degree as their highest level of educational attainment. The Bureau of Labor Statistics (BLS) lists the following typical entry-level education levels for the occupation in this report:

Exhibit 8: Entry-level education preferred by employers nationally, Bureau of Labor Statistics

Occupation	Education Level
Automotive service technicians and mechanics	Postsecondary non-degree award

EDUCATIONAL SUPPLY

Community College Supply

Exhibit 9 shows the annual and three-year average number of awards conferred by community colleges in the related TOP codes: Automotive Technology (0948.00) and Alternative Fuels and Advanced Transportation Technology (0948.40). The colleges with the most completions in the region are Cypress, LA Trade-Tech, and Rio Hondo.

Exhibit 9: Regional community college awards (certificates and degrees), 2020-2023

TOP Code	Program	College	2020-21 Awards	2021-22 Awards	2022-23 Awards	3-Year Average
0948.00	Automotive Technology	Cerritos	22	45	75	47
		Citrus	10	35	100	48
		Compton	1	24	58	28
		East LA	18	43	52	38
		El Camino	35	35	43	38
		LA Pierce	44	49	82	58
		LA Trade-Tech	81	108	142	110
		Long Beach	42	66	94	67
		Pasadena	36	166	84	95
		Rio Hondo	55	92	80	76
		LA Subtotal	344	663	810	606
		Cypress	140	219	200	186
		Fullerton	25	26	42	31
		Golden West	21	69	111	67
		Saddleback	15	26	35	25
		Santa Ana	57	52	76	62
		OC Subtotal	258	392	464	371
Supply Subtotal/Average			602	1,055	1,274	977
0948.40	Alternative Fuels and Advanced Transportation Technology	LA Trade-Tech	3	6	18	9
		Long Beach	15	9	7	10
		Rio Hondo	30	44	20	31
		LA Subtotal	48	59	45	51
		Saddleback	2	6	4	4
		OC Subtotal	2	6	4	4
Supply Subtotal/Average			50	65	49	55
Supply Total/Average			652	1,120	1,323	1,032

Other Postsecondary Supply

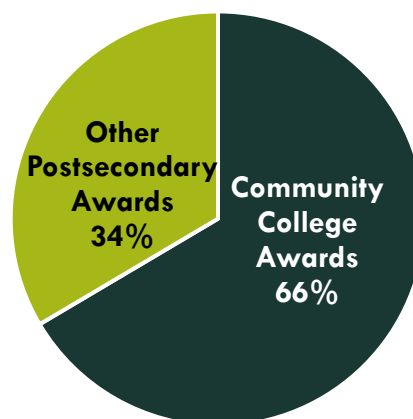
For a comprehensive regional supply analysis, it is important to consider the supply from other institutions in the region that provide training programs for automotive service technicians and mechanics. Exhibit 10 shows the number of awards conferred by these institutions in relevant programs. Due to different data collection periods, the most recent data is from 2019 to 2022. Between 2019 and 2022, other postsecondary college institutions in the region conferred an average of 520 sub-baccalaureate awards. Sub-baccalaureate awards include associate degrees, postsecondary awards, and other academic awards that typically take fewer than four years to complete.

Exhibit 10: Other regional postsecondary awards, 2019-2022

CIP Code	Program	Postsecondary Institution	2019-20 Awards	2020-21 Awards	2021-22 Awards	3-Year Average
47.0604	Automobile/ Automotive Mechanics Technology/ Technician	Baldwin Park Adult & Community Education	10	3	4	6
		UEI College-Garden Grove	-	7	64	24
		UEI College-Gardena	127	73	91	97
		UEI College-West Covina	98	78	102	93
		Universal Technical Institute-Southern California	306	206	391	301
Supply Total/Average			541	367	652	520

Exhibit 11 shows the proportion of community college awards conferred in the greater Los Angeles/Orange County region compared to the number of other postsecondary awards for the programs in this report. The majority of awards conferred in these programs are awarded by community colleges in the greater Los Angeles/Orange County region.

Exhibit 11: Percentage of community college awards compared to other postsecondary institution awards in the Los Angeles/Orange County region



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DATA SOURCES

- O*NET Online
- Lightcast (formerly Emsi)
- Bureau of Labor Statistics (BLS)
- California Employment Development Department, Labor Market Information Division, OES
- California Community Colleges Chancellor's Office Management Information Systems (MIS)
- Self-Sufficiency Standard at the Center for Women's Welfare, University of Washington
- Chancellor's Office Curriculum Inventory (COCI 2.0)

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