

Labor Market Analysis: 0948.00/Automotive Technology

Automotive Technology - Engine Performance Technician

Certificate requiring 30 to <60 semester units

Automotive Technology - All Automotive Systems

Certificate requiring 30 to <60 semester units

Los Angeles Center of Excellence, January 2023

Summary

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, 25th)	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Education:	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Emerging Occupation(s)			
	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	

The Los Angeles Center of Excellence for Labor Market Research (LA COE) prepared this report to provide regional labor market supply and demand data related to three middle-skill occupations:

- **Electrical and Electronics Installers and Repairers, Transportation Equipment (49-2093)** Install, adjust, or maintain mobile electronics communication equipment, including sound, sonar, security, navigation, and surveillance systems on trains, watercraft, or other mobile equipment.¹
- **Electronic Equipment Installers and Repairers, Motor Vehicles (49-2096)** Install, diagnose, or repair communications, sound, security, or navigation equipment in motor vehicles.²
- **Automotive Service Technicians and Mechanics (49-3023)** Diagnose, adjust, repair, or overhaul automotive vehicles.³

Middle-skill occupations typically require some postsecondary education, but less than a bachelor's degree.⁴ This report is intended to help determine whether there is demand in the local labor market that is not being met by the supply from community college programs that align with the relevant occupations.

¹ [Electrical and Electronics Installers and Repairers, Transportation Equipment \(bls.gov\)](#)

² [Electronic Equipment Installers and Repairers, Motor Vehicles \(bls.gov\)](#)

³ [Automotive Service Technicians and Mechanics: U.S. Bureau of Labor Statistics \(bls.gov\)](#)

⁴ 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.

Based on the available data, there appears to be a supply gap for these middle-skill automotive technology occupations in the region. While entry-level wages are lower than the self-sufficiency standard wage in both Los Angeles and Orange counties, the majority of annual openings for the occupations in this report typically require a postsecondary non-degree award. **Therefore, due to some of the criteria being met, the LA COE endorses this proposed program.** Detailed reasons include:

Demand:

- **Supply Gap Criteria** – Over the next five years, **3,536 jobs are projected to be available annually** in the region due to new job growth and replacements, **which is more than the three-year average of 1,546 awards conferred** by educational institutions in the region.
- **Living Wage Criteria** – Within Los Angeles County, the majority (99%) of annual job openings for these automotive technology occupations have **entry-level wages below the self-sufficiency standard hourly wage** (\$18.10/hour).⁵
- **Educational Criteria** – Within the greater LA/OC region, **99% of the annual job openings** for occupations related to automotive technology **typically require a postsecondary non-degree award**
 - Furthermore, the national-level educational attainment data indicates **between 36% and 48% of workers in the field have completed some college or an associate degree.**

Supply:

- There are **16 community colleges** in the greater LA/OC region that issue awards related to automotive technology, conferring an average of **1,096 awards annually** between 2018 and 2021.
- Between 2017 and 2020, there was an average of **450 awards conferred annually** in related training programs by non-community college institutions throughout the greater LA/OC region.

Occupational Demand

Exhibit 1 shows the five-year occupational demand projections for these automotive technology occupations. In the greater Los Angeles/Orange County region, the number of jobs related to these occupations is projected to increase by 1% through 2026. There will be more than 3,500 job openings per year through 2026 due to job growth and replacements.

⁵ Self-Sufficiency Standard wage data was pulled from The Self-Sufficiency Standard Tool for California. For more information, visit: <http://selfsufficiencystandard.org/california>.

Exhibit 1: Occupational demand in Los Angeles and Orange Counties⁶

Geography	2021 Jobs	2026 Jobs	2021-2026 Change	2021-2026 % Change	Annual Openings
Los Angeles	28,589	28,521	(68)	(0%)	2,932
Orange	5,420	5,701	281	5%	605
Total	34,009	34,222	213	1%	3,536

Wages

The labor market endorsement in this report considers the entry-level hourly wages for these automotive technology occupations 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 LA/OC region. Detailed wage information, by county, is included in Appendix A.

Los Angeles County

The majority (99%) of annual openings for these automotive technology occupations have entry-level wages below the self-sufficiency standard wage for one adult (\$18.10 in Los Angeles County). Typical entry-level hourly wages are in a range between \$12.05 and \$20.14. One occupation in this report has typical entry-level wages above the county’s self-sufficiency standard wage: *electrical and electronics installers and repairers, transportation equipment* (\$20.14). Experienced workers can expect to earn wages between \$22.89 and \$31.57, which are higher than the self-sufficiency standard.

It is worth noting that *automotive service technicians and mechanics* that are employees (not self-employed) typically earn entry-level hourly wages of \$17.70 and median hourly earnings of \$23.38. These wages are much higher than the wages of self-employed *automotive service technicians and mechanics*, who earn much lower wages for entry-level hourly earnings (\$7.68) and median hourly earnings (\$12.99). The data in exhibit 2 is an average of both classes of workers (employees and self-employed).

Exhibit 2: Hourly Earnings for Occupations in LA County

Occupation	Entry-Level Hourly Earnings (25 th Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75 th Percentile)
Electrical and Electronics Installers and Repairers, Transportation Equipment (49-2093)	\$20.14	\$23.50	\$31.57
Electronic Equipment Installers and Repairers, Motor Vehicles (49-2096)	\$18.05	\$18.69	\$22.89
Automotive Service Technicians and Mechanics (49-3023)	\$12.05	\$18.75	\$26.73

⁶ Five-year change represents new job additions to the workforce. Annual openings include new jobs and replacement jobs that result from retirements and separations.

Orange County

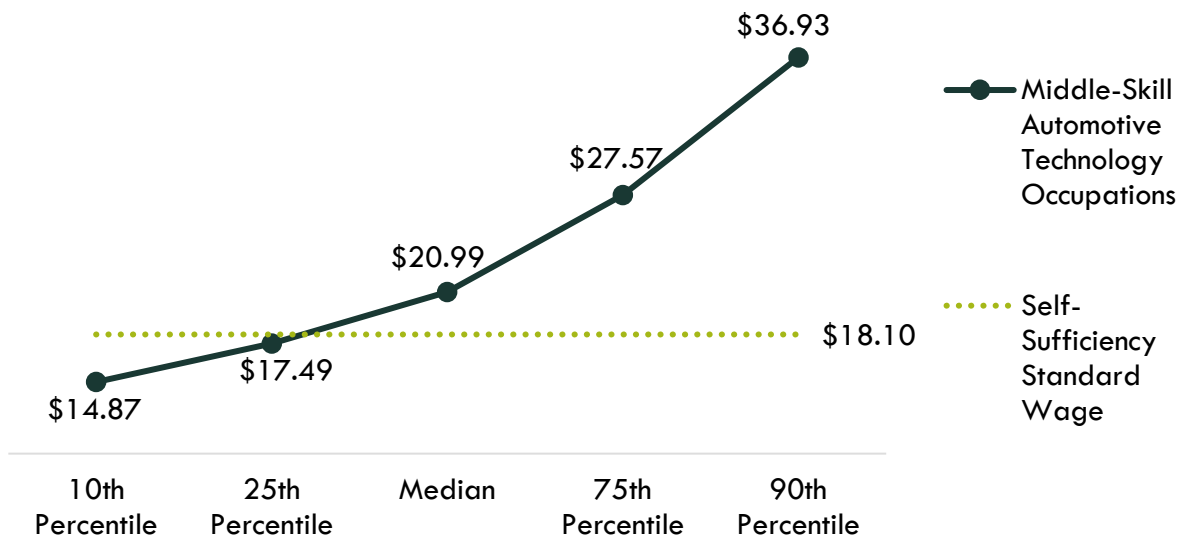
All three occupations in this report have entry-level wages below the self-sufficiency standard wage for one adult (\$20.63 in Orange County). Typical entry-level hourly wages are in a range between \$19.19 and \$20.41. Experienced workers can expect to earn wages between \$24.81 and \$31.79, which are higher than the self-sufficiency standard.

Exhibit 3: Hourly Earnings for Occupations in Orange County

Occupation	Entry-Level Hourly Earnings (25 th Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75 th Percentile)
Electrical and Electronics Installers and Repairers, Transportation Equipment (49-2093)	\$20.41	\$23.57	\$31.79
Electronic Equipment Installers and Repairers, Motor Vehicles (49-2096)	\$19.45	\$20.08	\$24.81
Automotive Service Technicians and Mechanics (49-3023)	\$19.19	\$25.46	\$31.32

On average, the entry-level earnings for the occupations in this report are \$17.49; this is below the living wage for one single adult in Los Angeles County (\$18.10). However, median wages for these occupations (\$20.99) surpass the self-sufficiency standard wage in both Los Angeles and Orange counties. Exhibit 4 shows the average wage for the occupations in this report, from entry-level to experienced workers.

Exhibit 4: Average Hourly Earnings for Middle-Skill Automotive Technology Occupations in LA/OC



Job Postings

There were 10,211 online job postings related to automotive technology listed in the past 12 months. Exhibit 5 displays the number of job postings by occupation. The majority of job postings (99.3%) were for *automotive service technicians and mechanics*. The highest number of job postings were for automotive technicians, automotive mechanics, automotive service technicians, lube technicians, and automotive service advisors. The top skills were automotive services, brakes, vehicle suspension, changing oil, and mechanics. The top three employers, by number of job postings, in the region were CarMax, Pep Boys, and AutoNation.

Exhibit 5: Job postings by occupation (last 12 months)

Automotive Service Technicians and Mechanics	10,141
Electronic Equipment Installers and Repairers, Motor Vehicles	58
Electrical and Electronics Installers and Repairers, Transportation Equipment	12

Educational Attainment

The Bureau of Labor Statistics (BLS) lists the following typical entry-level education levels for the occupations in this report:

- **Postsecondary non-degree award:** *Electrical and electronics installers and repairers, transportation equipment; Automotive service technicians and mechanics*
- **High school diploma or equivalent:** *Electronic equipment installers and repairers, motor vehicles*

In the greater LA/OC region, the majority of annual job openings (99.8%) typically require a postsecondary non-degree award. Furthermore, the national-level educational attainment data indicates between 36% and 48% of workers in the field have completed some college or an associate degree. Of the 49% of automotive technology job postings listing a minimum education requirement in the greater Los Angeles/Orange County region, 90% (4,469) requested high school or vocational training, 3% (166) requested an associate degree, and 6% (322) requested a bachelor's degree.

Educational Supply

Community College Supply

Exhibit 6 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, Santa Ana, Rio Hondo, and LA Trade-Tech.

Exhibit 6: Regional community college awards (certificates and degrees), 2018-2021

TOP	Program	College	2018-19 Awards	2019-20 Awards	2020-21 Awards	3-Year Average
0948.00	Automotive Technology	Cerritos	58	71	22	50
		Citrus	114	13	10	46
		Compton	15	1	1	6
		East LA	70	35	18	41
		El Camino	70	77	35	61
		LA Pierce	86	110	44	80
		LA Trade-Tech	157	67	81	102
		Long Beach	-	24	42	22
		Pasadena	107	125	36	89
		Rio Hondo	92	86	55	78
		Santa Monica	2	-	-	1
		LA Subtotal	771	609	344	575
		Cypress	362	262	140	255
		Fullerton	26	24	25	25
		Golden West	51	55	21	42
		Saddleback	48	26	15	30
		Santa Ana	119	182	57	119
OC Subtotal	606	549	258	471		
Supply Subtotal/Average			1,377	1,158	602	1,046
0948.40	Alternative Fuels and Advanced Transportation Technology	Cerritos	1	-	-	0
		LA Trade-Tech	10	4	3	6
		Long Beach	7	8	15	10
		Rio Hondo	8	53	30	30
		LA Subtotal	26	65	48	46
		Saddleback	8	2	2	4
		OC Subtotal	8	2	2	4
Supply Subtotal/Average			34	67	50	50
Supply Total/Average			1,411	1,225	652	1,096

Non-Community College Supply

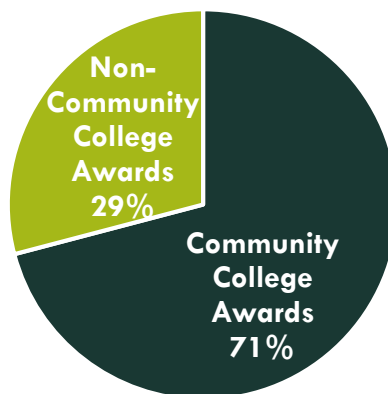
For a comprehensive regional supply analysis, it is important to consider the supply from other institutions in the region that provide training programs for automotive technology occupations. Exhibit 7 shows the annual and three-year average number of awards conferred by these institutions in relevant programs. Due to different data collection periods, the most recent three-year period of available data is from 2017 to 2020. Between 2017 and 2020, non-community college institutions in the region conferred an average of 450 sub-baccalaureate awards.⁷

Exhibit 7: Regional non-community college awards, 2017-2020

CIP	Program	Institution	2017-18 Awards	2018-19 Awards	2019-20 Awards	3-Year Average
47.0604	Automobile/ Automotive Mechanics Technology/ Technician	Baldwin Park Adult & Community Education	9	13	10	11
		Hacienda La Puente Adult Education	21	9	-	10
		UEI College-Gardena	46	72	127	82
		United Education Institute-West Covina	-	32	98	43
		Universal Technical Institute-So. CA	329	277	306	304
Supply Total/Average			405	403	541	450

Exhibit 8 shows the proportion of community college awards conferred in LA/OC compared to the number of non-community college awards for the programs in this report. More than two-thirds of awards conferred in these programs are awarded by community colleges in the LA/OC region.

Exhibit 8: Community College Awards Compared to Non-Community College Awards in LA/OC Region, 3-Year Average



⁷ Sub-baccalaureate awards are comparable to community college awards and include associate degrees, postsecondary awards, and awards that typically take fewer than four academic years to complete.

Appendix A: Occupational demand and wage data by county

Exhibit 9. Los Angeles County

Occupation (SOC)	2021 Jobs	2026 Jobs	5-Yr Change	5-Yr % Change	Annual Openings	Entry-Level Hourly Earnings (25 th Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75 th Percentile)
Electrical and Electronics Installers and Repairers, Transportation Equipment (49-2093)	182	183	0	0%	18	\$20.14	\$23.50	\$31.57
Electronic Equipment Installers and Repairers, Motor Vehicles (49-2096)	69	64	(5)	(7%)	6	\$18.05	\$18.69	\$22.89
Automotive Service Technicians and Mechanics (49-3023)	28,338	28,274	(64)	(0%)	2,908	\$12.05	\$18.75	\$26.73
Total	28,589	28,521	(68)	(0%)	2,932	-	-	-

Exhibit 10. Orange County

Occupation (SOC)	2021 Jobs	2026 Jobs	5-Yr Change	5-Yr % Change	Annual Openings	Entry-Level Hourly Earnings (25 th Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75 th Percentile)
Electrical and Electronics Installers and Repairers, Transportation Equipment (49-2093)	52	55	3	6%	6	\$20.41	\$23.57	\$31.79
Electronic Equipment Installers and Repairers, Motor Vehicles (49-2096)	25	25	(0)	(1%)	2	\$19.45	\$20.08	\$24.81
Automotive Service Technicians and Mechanics (49-3023)	5,343	5,621	278	5%	597	\$19.19	\$25.46	\$31.32
Total	5,420	5,701	281	5%	605	-	-	-

Exhibit 11. Los Angeles and Orange Counties

Occupation (SOC)	2021 Jobs	2026 Jobs	5-Yr Change	5-Yr % Change	Annual Openings	Typical Entry-Level Education
Electrical and Electronics Installers and Repairers, Transportation Equipment (49-2093)	234	237	3	1%	24	Postsecondary non-degree award
Electronic Equipment Installers and Repairers, Motor Vehicles (49-2096)	94	89	(5)	(6%)	9	High school diploma or equivalent
Automotive Service Technicians and Mechanics (49-3023)	33,681	33,896	215	1%	3,504	Postsecondary non-degree award
Total	34,009	34,222	213	1%	3,536	-

Appendix B: 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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