

Program Endorsement Brief: 0948/Automotive Technology Electric Vehicle Technician

Orange County Center of Excellence, August 2019

Summary Analysis

The Orange County Center of Excellence for Labor Market Research (COE) prepared this report to provide Los Angeles/Orange County regional labor market supply and demand data related to one middle-skill occupation: Automotive Service Technicians and Mechanics (49-3023). Middle-skill occupations typically require some postsecondary education, but less than a bachelor's degree.¹ 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 relevant occupations.

Based on the available data there appears to be a supply gap for automotive service technicians and mechanics in the region. **Therefore, the COE endorses this proposed program for the following reasons:**

Demand:

- Over the next five years, there is projected to be **2,611 jobs available annually** in the region due to new job growth and replacements, **which is more than the 1,579 awards conferred annually** by educational institutions in the region.
- Over the past 12 months, there 5,592 online job postings related to automotive service technicians and mechanics. Of these postings, 95 mentioned working with electric vehicles. However, this proposed program will train students to work with both traditional and electric vehicles.

Supply:

- **Fifteen educational institutions in the region, all of which are community colleges,** offer programs related to automotive technology and alternative fuels, conferring an average of **1,579 awards annually** between 2015 and 2018.

Occupational Demand

Exhibit 1, on the following page, shows the five-year occupational demand projections for this occupation. In Los Angeles/Orange County, the number of jobs related to automotive service technician and mechanics is projected to increase by 1% through 2023. There will be more than 2,600 job openings per year through 2023 due to job growth and replacements.

¹ 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.

Exhibit 1: Occupational demand in Los Angeles and Orange Counties²

Geography	2018 Jobs	2023 Jobs	2018-2023 Change	2018-2023 % Change	Annual Openings
Los Angeles	20,042	20,050	8	0%	1,876
Orange	7,111	7,443	332	5%	736
Total	27,153	27,493	340	1%	2,611

Wages— Typical entry-level and median hourly wages for automotive service technicians and mechanics throughout the region are \$13.62 and \$20.03, respectively.³ Entry-level wages for this occupation are lower than the California Family Needs Calculator hourly wage for one adult in the region (\$15.04 in Los Angeles County and \$17.36 in Orange County). Experienced workers can expect to earn \$27.39, which is higher than the California Family Needs Calculator wage estimates for both counties. Regional average wages are below the average statewide wage of \$22.45 for this occupation. Wage information, by county, is included in Appendix A.

Job Postings— Since this proposed program will train students to work with both traditional and electric vehicles, it is important to consider the differences in job titles, skills, and employers in online job postings for traditional automotive service technicians and mechanics and electric vehicle technicians. Over the past 12 months, there were 5,592 online job postings related to automotive service technicians and mechanics. The highest number of job postings were for auto technicians, mechanics, and service technicians. The top job-specific skills were repair, auto repair, and customer service. The top employers, by number of job postings, were Chrysler, Autonation, and Pep Boys. Of the 5,592 online job postings, 41% list a minimum education requirement.

Of the 5,592 postings for automotive service technicians and mechanics, 95 mentioned working with electric vehicles. The highest number of job postings for electric vehicle technicians were for service technicians, auto technicians and prep specialists. The top job-specific skills were: repair, knowledge of electric vehicles, and customer service. The top employer, by number of job postings, in the region was Tesla Motors. Of the 95 online job postings, 66% list a minimum education requirement.

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 (49-3023). The national-level educational attainment data indicates 34.8% of workers in the field have completed some college or an associate degree. Of the 66% specific electric vehicle technician job postings listing a minimum education requirement in Los Angeles/Orange County, 95% (60) requested a high school diploma and 5% (3) requested an associate degree.

Supply

Community College Supply—Exhibit 2, on the following page, shows the 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).

² Five-year change represents new job additions to the workforce. Annual openings include new jobs and replacement jobs that result from retirements and separations.

³ Entry-level wage is defined as the twenty-fifth percentile hourly wage. Wages for experienced workers are defined as the seventy-fifth percentile hourly wage.

The colleges with the most completions in the region were LA Trade-Tech, Cypress and Santa Ana. Over the past 12 months, there were ten other related program recommendation requests from regional community colleges. Two of these requests had a specific emphasis on electric vehicles and alternative fuels. Between 2013 and 2016, there were zero non-community college institutions that conferred awards in related training programs.

Exhibit 2: Regional community college awards (certificates and degrees), 2015-2018

TOP Code	Program	College	2015-16 Awards	2016-17 Awards	2017-18 Awards	3-Year Award Average		
0948.00	Automotive Technology	Cerritos	37	52	57	49		
		Citrus	69	81	85	78		
		Compton	26	25	21	24		
		East LA	70	53	84	69		
		El Camino	45	60	97	67		
		LA Pierce	138	103	137	126		
		LA Trade-Tech	220	245	147	204		
		Long Beach	3	-	-	1		
		Pasadena	24	46	40	37		
		Rio Hondo	151	38	85	91		
		LA Total	710	783	686	726		
		Cypress	126	225	273	175		
		Fullerton	7	16	49	24		
		Golden West	37	46	37	40		
		Saddleback	29	44	23	32		
		Santa Ana	207	78	1,291	525		
		OC Total	528	406	409	448		
		0948.00 Subtotal/Average			1,189	1,112	2,326	1,542
		0948.40	Alternative Fuels and Advanced Transportation Technology	Cerritos	-	1	-	0
LA Trade	9			11	18	13		
Long Beach	21			-	3	8		
Rio Hondo	6			14	19	13		
LA Total	36			16	40	31		
Saddleback	5			4	8	6		
OC Total	5			4	8	6		
0948.40 Subtotal/Average			41	20	48	36		
Supply Total/Average			1,230	1,132	2,374	1,579		

Appendix A: Occupational demand and wage data by county

Exhibit 4. Los Angeles County

Occupation (SOC)	2018 Jobs	2023 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)
Automotive Service Technicians and Mechanics (49-3023)	20,042	20,050	8	0%	1,876	\$13.10	\$19.48	\$26.60

Exhibit 5. Orange County

Occupation (SOC)	2018 Jobs	2023 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)
Automotive Service Technicians and Mechanics (49-3023)	7,111	7,443	332	5%	736	\$15.12	\$21.68	\$29.30

Exhibit 6. Los Angeles and Orange Counties

Occupation (SOC)	2018 Jobs	2023 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)
Automotive Service Technicians and Mechanics (49-3023)	27,153	27,493	340	1%	2,611	\$13.62	\$20.03	\$27.39

Appendix B: Sources

- O*NET Online
- Labor Insight/Jobs (Burning Glass)
- Economic Modeling Specialists, International (EMSI)
- Bureau of Labor Statistics (BLS)
- Employment Development Department, Labor Market Information Division, OES
- Employment Development Department, Unemployment Insurance Dataset
- Living Insight Center for Community Economic Development
- California Community Colleges Chancellor's Office Management Information Systems (MIS)

- California Family Needs Calculator, Insight Center for Community Economic Development
- Chancellor's Office Curriculum Inventory (COCI 2.0)

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