

## **Program Endorsement Brief: 0948.40/Alternative Fuels and Advanced Transportation Technology**

### ***Alternative Fuels Certificate***

Los Angeles/Orange County Center of Excellence, August 2019

---

#### **Summary Analysis**

The Los Angeles/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 automotive alternative fuels occupation: automotive service technicians and mechanics (49-3023). Middle-skill occupations typically require some postsecondary education, but not a bachelor's degree.<sup>1</sup> 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, it appears that there is a supply gap for this automotive service occupation 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.
- The automotive service technicians and mechanics (49-3023) SOC code includes a variety of automotive service occupations, including both traditional fuel and alternative fuel vehicles. Since the SOC code does not solely represent alternative fuel automotive service occupations, the number of annual job openings is likely overstated.

#### **Supply:**

- Five community colleges in the region currently offer Alternative Fuels and Advanced Transportation Technology programs. Collectively, these colleges conferred an average 40 awards annually between 2015 and 2018.

#### **Occupational Demand**

Exhibit 1 shows the five-year occupational demand projections for this automotive service technicians and mechanics. In Los Angeles/Orange County, the number of jobs related to this occupation 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. It is important to note that automotive service technicians and mechanics (49-3023) SOC code includes all middle-skill automotive service occupations, including both traditional fuel vehicles and alternative fuels. Since the SOC code does not solely represent alternative fuel automotive workers, the data in Exhibit 1 is likely overstated.

---

<sup>1</sup> 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 Counties<sup>2</sup>**

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
<b>Total</b>	<b>27,153</b>	<b>27,493</b>	<b>340</b>	<b>1%</b>	<b>2,611</b>

**Wages** — Typical entry-level and median hourly wages for this occupation throughout the region are \$13.62 and \$20.03, respectively.<sup>3</sup> 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** — There were 5,592 online job postings related to automotive service technicians and mechanics (49-3023) listed in the past 12 months, and **129 of these listings specified alternative fuels, including hybrid, fuel-cell, and/or electric vehicles.** Of these alternative fuel-related job postings, the highest number of job postings were for auto technician, mechanic, service technician, roadside assistance technician, and equipment technician. The top specialized skills were: auto repair, electrical systems, automotive services industry knowledge, alternative fuels and brake work. The top three employers, by number of job postings, in the region were: Tesla, AAA, and Long Beach Transit. Of the 129 alternative fuel-related online job postings, 26% list a minimum education requirement.

**Educational Attainment** — The Bureau of Labor Statistics (BLS) lists a postsecondary certificate as the typical entry-level education for automotive service technicians and mechanics. The national-level educational attainment data indicates that 35% of workers in the field have completed some college or an associate degree. Of the 26% of alternative-fuel related job postings listing a minimum education requirement in Los Angeles/Orange County, 82% (28) requested a high school diploma or vocational training, and 18% (6) requested an associate degree.

**Community College Supply** — Exhibit 2 shows the annual and three-year average number of awards conferred by community colleges in Alternative Fuels and Advanced Transportation Technology (0948.40). LA Trade-Tech has the most regional completions in the past three years. Between June 2018 and August 2019, there were three other related program recommendation requests from regional community colleges.

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

<sup>3</sup> 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.

**Exhibit 2: Regional community college awards (certificates and degrees), 2015-18**

TOP Code	Program	College	2015-16 Awards	2016-17 Awards	2017-18 Awards	3-Year Award Average
0948.40	Alternative Fuels and Advanced Transportation Technology	Cerritos	-	1	-	0
		LA Trade-Tech	9	11	18	13
		Long Beach	21	-	3	8
		Rio Hondo	6	14	19	13
		Saddleback	5	4	8	6
		<b>Total/Average</b>	41	30	48	40

**Appendix A: Occupational demand and wage data by county**

**Exhibit 3. Los Angeles County**

Occupation (SOC)	2018 Jobs	2023 Jobs	5-Yr Change	5-Yr % Change	Annual Openings	Entry-Level Hourly Earnings (25 <sup>th</sup> Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75 <sup>th</sup> Percentile)
Automotive Service Technicians and Mechanics (49-3023)	20,042	20,050	8	0%	1,876	\$13.10	\$19.48	\$26.60

**Exhibit 4. Orange County**

Occupation (SOC)	2018 Jobs	2023 Jobs	5-Yr Change	5-Yr % Change	Annual Openings	Entry-Level Hourly Earnings (25 <sup>th</sup> Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75 <sup>th</sup> Percentile)
Automotive Service Technicians and Mechanics (49-3023)	7,111	7,443	332	5%	736	\$15.12	\$21.68	\$29.30

### Exhibit 5. Los Angeles and Orange Counties

Occupation (SOC)	2018 Jobs	2023 Jobs	5-Yr Change	5-Yr % Change	Annual Openings	Entry-Level Hourly Earnings (25 <sup>th</sup> Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75 <sup>th</sup> 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)

For more information, please contact:

Juan Madrigal, Assistant Director  
 Center of Excellence, Los Angeles/Orange County Region  
[jmadrigal@mtsac.edu](mailto:jmadrigal@mtsac.edu)

August 2019

