

Program Endorsement Brief: 0948/Automotive Technology Alternative Fuels and Hybrid/Electric Vehicles Certificate; Manufacturer Specific Technologies Certificate; Smog and Emissions Diagnosis Certificate

Orange County Center of Excellence, March 2020

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 the relevant occupations.

Based on the available data, it is unclear whether or not there is a supply gap for automotive service technicians and mechanics in the region. **Therefore, the COE cautiously endorses this program.** Reasons include:

Demand:

- Over the next five years, there is projected to be **2,575 jobs available annually** in the region due to new job growth and replacements.
- The national-level educational attainment data indicates **34.8% of workers in the field have completed some college or an associate degree.**
- Typical **entry-level hourly wages** for automotive service technicians and mechanics throughout the region are **\$13.60, which is lower than the California Family Needs Calculator** hourly wage (living wage) for one adult in the region (\$15.04 in Los Angeles County and \$17.36 in Orange County).²
 - **Experienced automotive service technicians and mechanics can expect to earn \$27.38, which is higher than the living wage estimate for both counties.**

Supply:

- Due to inconsistencies in reporting automatically awarded, local low-unit certificates, the number of awards conferred may be overstated. Additionally, it is unclear whether or not these low-unit certificates adequately train for the occupation in this report when

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.

² Living wage data was pulled from California Family Needs Calculator on 3/3/20. For more information, visit the California Family Needs Calculator website: <https://insightcced.org/2018-family-needs-calculator/>.

compared to higher-unit programs. Therefore, *the three-year average number of awards is overstated.*

- There are **16 community colleges** in the region that offer automotive technology and/or alternative fuels and advanced transportation programs, conferring an average of **1,642 awards annually** between 2016 and 2019.
 - However, this supply data includes **1,378 low-unit certificates, many of which were automatically conferred (also known as auto-awarded) by Santa Ana College between 2016 and 2019.** Awards were automatically conferred to both current and past students who had completed the unit requirements within the past few years; however, this low-unit program may not have necessarily prepared students for the occupation within this report, as compared to higher-unit programs at Santa Ana College and throughout the region. Therefore, *the three year-average number of awards is overstated.*
- Between 2013 and 2016, there were an average of **1,030 awards conferred annually** in related training programs by non-community college institutions throughout the region.

Occupational Demand

Exhibit 1 shows the five-year occupational demand projections for automotive service technicians and mechanics. In Los Angeles/Orange County, the number of jobs related to these occupations is projected to increase by less than 1% through 2023. There will be nearly 2,600 job openings per year through 2023 due to job growth and replacements.

Exhibit 1: Occupational demand in Los Angeles and Orange Counties³

| Geography | 2018 Jobs | 2023 Jobs | 2018-2023 Change | 2018-2023 % Change | Annual Openings |
|--------------|---------------|---------------|------------------|--------------------|-----------------|
| Los Angeles | 20,036 | 19,918 | (118) | (1%) | 1,860 |
| Orange | 7,117 | 7,364 | 247 | 3% | 715 |
| Total | 27,154 | 27,281 | 127 | 0% | 2,575 |

Wages—Typical entry-level and median hourly wages for automotive service technicians and mechanics throughout the region are \$13.60 and \$20.02, respectively.⁴ Entry-level wages for this occupation are lower than the California Family Needs Calculator hourly wage (living 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 \$27.38, which is higher than the living wage estimates for both counties. Regional average wages are below the average statewide wage of \$22.44 for this occupation. Wage information, by county, is included in Appendix A.

³ Five-year change represents new job additions to the workforce. Annual openings include new jobs and replacement jobs that result from retirements and separations.

⁴ 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.

Job Postings—There were 5,836 online job postings for automotive service technicians and mechanics listed in the past 12 months. The highest number of job postings were for automotive service technician, automotive mechanic, automotive service advisor, lube technician, and shop technician. The top skills were: auto repair, automotive services industry knowledge, customer service/contact, oil changes, and sales. The top three employers, by number of job postings, in the region were: Pep Boys, Chrysler and AutoNation. Of the 5,836 online job postings, 46% list a minimum education requirement.

Alternative Fuels and Hybrid/Electric Vehicles: Of the 5,836 online job postings for automotive service technicians and mechanics, 164 postings related to mechanics and technicians of alternative fuels, hybrid, and/or electric vehicles. The top titles were automotive service technician, mechanic, and specialist, while the top employers were Tesla, LAcarGUY, and Long Beach Transit.

Manufacturer Specific Technologies: Of the 5,836 online job postings for automotive service technicians and mechanics, 2,173 postings specifically listed one or more of the top car brands/manufacturers in the post posting. The top titles were auto technician/automotive service technician, lube technician, and automotive service advisor, while the top employers were Chrysler, AutomotoHR, and AutoNation.

Smog and Emissions Diagnosis: Of the 5,836 online job postings for automotive service technician and mechanics, 427 postings mentioned smog and/or emissions checks. The top titles were auto technician, auto mechanic, master technician, and smog technician, while the top employers were Pep Boys, Penske, and Carmax.

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. The national-level educational attainment data indicates 34.8% of workers in the field have completed some college or an associate degree. Of the 46% of automotive service technician and mechanic postings listing a minimum education requirement in Los Angeles/Orange County, 98% (2,603) requested a high school diploma and 2% (58) requested an associate degree.

Supply

Community College Supply—Exhibit 2 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). The colleges with the most completions in the region are: Santa Ana, LA Trade-Tech and Cypress. During the past 12 months, there were 10 other related program recommendation requests from regional community colleges.

It is worth noting that this supply data includes 1,378 low-unit certificates automatically conferred by Santa Ana College from 2016-2019 (including 1,291 low-unit certificates that were auto-awarded during the 2017-2018 academic year alone). Local awards were automatically conferred to both current and past students who had completed the unit requirements within the past 3-5 years. It is unclear if this number double-counts students who previously exited the program and are already working in the field, or if these students are necessarily prepared to work as automotive service technicians and mechanics, as compared to students who completed

higher-unit awards. Since this data point is included within the regional average supply data, the three year-average number of awards (1,642) is overstated.

Exhibit 2: Regional community college awards (certificates and degrees), 2016-2019

| TOP Code | Program | College | 2016-2017 Awards | 2017-2018 Awards | 2018-2019 Awards | 3-Year Award Average |
|--------------------------------|--|------------------------|------------------|------------------|------------------|----------------------|
| 0948.00 | Automotive Technology | Cerritos | 52 | 57 | 58 | 56 |
| | | Citrus | 81 | 85 | 114 | 93 |
| | | Compton | 25 | 21 | 15 | 20 |
| | | East LA | 53 | 84 | 70 | 69 |
| | | El Camino | 60 | 97 | 70 | 76 |
| | | LA Pierce | 103 | 137 | 86 | 109 |
| | | LA Trade-Tech | 245 | 147 | 157 | 183 |
| | | Pasadena | 46 | 40 | 107 | 64 |
| | | Rio Hondo | 38 | 85 | 90 | 71 |
| | | Santa Monica | - | - | 2 | 1 |
| | | LA Subtotal | 703 | 753 | 769 | 742 |
| | | Cypress | 225 | 173 | 362 | 253 |
| | | Fullerton | 16 | 49 | 26 | 30 |
| | | Golden West | 46 | 37 | 51 | 45 |
| | | Saddleback | 44 | 23 | 48 | 38 |
| | | Santa Ana ⁵ | 78 | 1,291 | 119 | 496 |
| | | OC Subtotal | 409 | 1,573 | 606 | 863 |
| Supply Subtotal/Average | | | 1,112 | 2,326 | 1,375 | 1,604 |
| 0948.40 | Alternative Fuels and Advanced Transportation Technology | Cerritos | 1 | | 1 | 1 |
| | | LA Trade-Tech | 11 | 18 | 10 | 13 |
| | | Long Beach | - | 3 | 7 | 3 |
| | | Rio Hondo | 14 | 19 | 8 | 14 |
| | | LA Subtotal | 26 | 40 | 26 | 31 |
| | | Saddleback | 4 | 8 | 8 | 7 |
| | | OC Subtotal | 4 | 8 | 8 | 7 |
| Supply Subtotal/Average | | | 30 | 48 | 34 | 37 |
| Supply Total/Average | | | 1,142 | 2,374 | 1,409 | 1,642 |

Non-Community College Supply—It is important to consider the supply from four-year institutions in the region that provide training programs for automotive service technicians and

⁵ Santa Ana College automatically conferred 1,378 low-unit certificates between 2016 and 2019.

mechanics. Exhibit 3 shows the annual and three-year average number of awards conferred by these institutions in the related Classification of Instructional Programs (CIP) Code: Automobile/Automotive Mechanics Technology/Technician (47.0604). Due to different data collection periods, the most recent three-year period of available data is from 2013 to 2016. Between 2013 and 2016, four-year colleges in the region conferred an average of 1,030 awards annually in related training programs.

Exhibit 3: Regional non-community college awards, 2013-2016

| CIP Code | Program | College | 2013-2014 Awards | 2014-2015 Awards | 2015-2016 Awards | 3-Year Award Average |
|-----------------------------|---|---|------------------|------------------|------------------|----------------------|
| 47.0604 | Automobile/ Automotive Mechanics Technology/ Technician | Baldwin Park Adult & Community Education | 11 | 11 | 18 | 13 |
| | | GDS Institute | - | 10 | 10 | 7 |
| | | Hacienda La Puente Adult Education | 39 | 40 | 38 | 39 |
| | | UEI College-Gardena | 86 | 84 | 98 | 89 |
| | | Universal Technical Institute of California | 1,005 | 914 | 726 | 882 |
| Supply Total/Average | | | 1,141 | 1,059 | 890 | 1,030 |

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) | 20,036 | 19,918 | (118) | (1%) | 1,860 | \$13.08 | \$19.46 | \$26.58 |

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) | 7,117 | 7,364 | 247 | 3% | 715 | \$15.11 | \$21.67 | \$29.29 |

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 (25th Percentile) | Median Hourly Earnings | Experienced Hourly Earnings (75th Percentile) |
|--|------------------|------------------|--------------------|----------------------|------------------------|---|-------------------------------|---|
| Automotive Service Technicians and Mechanics (49-3023) | 27,154 | 27,281 | 127 | 0% | 2,575 | \$13.60 | \$20.02 | \$27.38 |

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:

Jesse Crete, Director
 Center of Excellence, Orange County
crete_jesse@rsccd.edu

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