



Automotive Technology

April 2018

Prepared by Los Angeles/Orange County Center of Excellence for Labor Market Research

Program Recommendation

The Los Angeles/Orange County Center of Excellence (COE) compiled this report to provide regional labor market data for the program recommendation of automotive technology. This report intends to determine whether there is demand in the local labor market that is not being met by the supply from programs of study.

Based on the labor market supply and demand data, the COE has determined **there may be a continued need** for the automotive technology program(s) in Los Angeles County region. Reasons include:

- There are nearly 3,000 projected annual openings in Los Angeles County through 2022.
- In 2017, there were over 3,100 job postings related to automotive technology in the county.
- Between 2014 and 2017, an average of 726 community college award have been conferred in the county, signaling a **possible** undersupply in the local workforce.
- Three of the four occupations typically require a high school diploma/certificate as the entry-level education, while the remaining occupation typically requires a postsecondary certificate. **Between 22% and 33% of the current workforce has some type of community college training.**

Occupation Codes and Descriptions

Currently, there are four occupations in the standard occupational classification (SOC) system related to automotive technology, and two emerging O*NET occupations: automotive master mechanics (49-3023.01) and automotive specialty technicians (49-3023.02). The occupation titles and descriptions, as well as reported job titles are included in Exhibit 1.

Exhibit 1 – Occupations, job descriptions and sample job titles

SOC (6-Digit) and O*Net Codes (8-Digit)	Title	Description	Sample of Reported Job Titles
49-3021	Automotive Body and Related Repairers	Repair and refinish automotive vehicle bodies and straighten vehicle frames.	Auto Body Man, Auto Body Repair Technician, Auto Body Repairer, Auto Body Repairman, Auto Body Technician, Autobody Technician, Automotive Painter, Body and Frame Man, Body Man, Body Technician

SOC (6-Digit) and O*Net Codes (8-Digit)	Title	Description	Sample of Reported Job Titles
49-3022	Automotive Glass Installers and Repairers	Replace or repair broken windshields and window glass in motor vehicles.	Automotive Glass Installer (Auto Glass Installer), Automotive Glass Technician (Auto Glass Technician), Automotive Glazier (Auto Glazier), Glass Installer, Glass Installer Technician, Glass Technician, Glass Technician/Installer, Master Automotive Glass Technician (Master Auto Glass Technician), Windshield Installer, Windshield Repair Technician
49-3023	Automotive Service Technicians and Mechanics	Diagnose, adjust, repair, or overhaul automotive vehicles.	N/A – See Automotive Master Mechanics and Automotive Specialty Technicians
49-3023.01	Automotive Master Mechanics	Repair automobiles, trucks, buses, and other vehicles. Master mechanics repair virtually any part on the vehicle or specialize in the transmission system.	Auto Technician, Automobile Technician, Automotive Service Technician, Automotive Technician, Certified ASE Master Automotive Technician (Certified Automotive Service Excellence Master Automotive Technician), Master Automotive Technician, Master Technician, Mechanic, Shop Foreman, Truck Technician
49-3023.02	Automotive Specialty Technicians	Repair only one system or component on a vehicle, such as brakes, suspension, or radiator.	A/C Technician (Air Conditioning Technician), Automobile Mechanic (Auto Mechanic), Automobile Technician, Automotive Technician (Auto Technician), Drivability Technician, Heavy Line Technician, Lube Technician, Oil Bay Technician, Quick Service Technician, Service Technician
49-3093	Tire Repairers and Changers	Repair and replace tires.	Alignment Technician, Lube Technician, Service Technician, Tire Buster, Tire Center Supervisor, Tire Changer, Tire Installer, Tire Repairer, Tire Shop Mechanic, Tire Technician

Source: O*NET Online

Current and Future Employment

In Los Angeles County, the number of jobs for occupations related to automotive technology is expected to increase by 2% over the next five years. More than 2,900 job opportunities will be available annually for this occupation group through 2022 due to new job growth and replacement need (e.g., retirements). Exhibit 2 contains detailed employment projections data for this occupation group.

Since automotive master mechanics (49-3023.01) and automotive specialty technicians (49-3023.02) are emerging occupations, data collection is underway and is not yet available; therefore, all current labor market data for automotive service technicians and mechanics (49-3023) includes data for both of these emerging occupations.

Exhibit 2 – Five-year projections for automotive technology occupations, 2017-2022

SOC	Occupation	2017 Jobs	2022 Jobs	2017 - 2022 Change	2017 - 2022 % Change	Annual Openings
49-3023	Automotive Service Technicians and Mechanics	21,986	22,208	222	1%	2,077
49-3021	Automotive Body and Related Repairers	4,819	5,053	234	5%	515
49-3093	Tire Repairers and Changers	2,024	2,086	62	3%	265
49-3022	Automotive Glass Installers and Repairers	598	638	40	7%	67
	TOTAL	29,427	29,984	557	2%	2,924

Source: EMSI 2018.1 – QCEW, non-QCEW, Self-Employed.

Earnings

In Los Angeles County, the entry-level average wage for automotive service technicians and mechanics is \$10.74 per hour, which is well below the MIT Living Wage¹ estimate of \$13.54 per hour for a single adult. The range of average annual earnings for this group of occupations is between \$34,000 and \$38,000 per year, assuming full-time employment.

Exhibit 3 contains hourly wages and annual average earnings for the occupation group studied in this report. Entry-level hourly earnings is represented by the 10th percentile of wages, median hourly earnings is represented by the 50th percentile of wages, and experienced hourly earnings is represented by the 90th percentile of wages, demonstrating various levels of employment.

¹ MIT Living Wage Calculator. <http://livingwage.mit.edu/>

Exhibit 3 – Earnings for automotive technology jobs in Los Angeles County, 2017-2022

SOC	Occupation	Entry-Level Hourly Earnings	Median Hourly Earnings	Experienced Hourly Earnings	Average Annual Earnings
49-3022	Automotive Glass Installers and Repairers	\$11.96	\$15.26	\$26.29	\$36,000
49-3021	Automotive Body and Related Repairers	\$11.53	\$15.26	\$28.89	\$38,000
49-3093	Tire Repairers and Changers	\$11.08	\$16.14	\$22.57	\$34,000
49-3023	Automotive Service Technicians and Mechanics	\$10.74	\$16.18	\$29.71	\$38,000

Source: EMSI 2018.1 – QCEW, non-QCEW, Self-Employed.

Employer Job Postings

To identify job postings, the following SOC/O*NET codes were used: automotive body and related repairers (49-3021), automotive glass installers and repairers (49-3022), automotive master mechanics (49-3023.01), automotive specialty mechanics (49-3023.02), and tire repairers and changers (49-3093).

Top Occupations

In 2017, there were 2,331 employer postings for automotive technology jobs in Los Angeles County. The majority of postings (80%) were for automotive specialty technicians (1,859 job postings).

Exhibit 4 – Top occupations in job postings (n=2,331)

SOC/O*NET Code	Occupation	Job Postings, Full Year 2017
49-3023.02	Automotive Specialty Technicians	1,859
49-3021.00	Automotive Body and Related Repairers	198
49-3023.01	Automotive Master Mechanics	140
49-3093.00	Tire Repairers and Changers	129
49-3022.00	Automotive Glass Installers and Repairers	5

Source: Labor Insight/Jobs (Burning Glass Technologies)

Top Titles

The most common titles for automotive technology jobs are listed in Exhibit 5. Auto mechanic/technician is mentioned in more than two-thirds (68%) of all relevant job postings (1,575 postings), followed by automotive service advisor (79 postings), and lube technician (60 postings).

Exhibit 5 –Job titles (n=2,331)

Title	Job Postings, Full Year 2017
Auto Mechanic/Technician	1,575
Automotive Service Advisor	79
Lube Technician	60
Shop Associate/Technician	48
Auto Body Technician	35
Detailer	31
Fueler	29
Mid-Level Brake and Alignment Technician	25

Source: Labor Insight/Jobs (Burning Glass)

Top Employers

Exhibit 6 lists the top employers hiring automotive technology workers. Top employers postings job ads locally in 2017 included: Pep Boys, Goodyear, AutoNation, and Bridgestone/Firestone. The top worksite cities in the region for these jobs were Los Angeles, Torrance, Santa Clarita, and Long Beach.

Exhibit 6 – Top employers (n=1,754)

Employers	Job Postings, Full Year 2017
Pep Boys	171
Goodyear	153
AutoNation	138
Bridgestone/Firestone	138

Source: Labor Insight/Jobs (Burning Glass)

Top Certifications

Automotive Service Excellence (ASE) is the most sought after job certification within the occupation group, and was included on 27% of the job postings that specified certifications. Other certifications mentioned in job postings were air brakes (41 postings), and certified lube technician (23 postings).

Exhibit 7 –Job certifications (n=1,199)

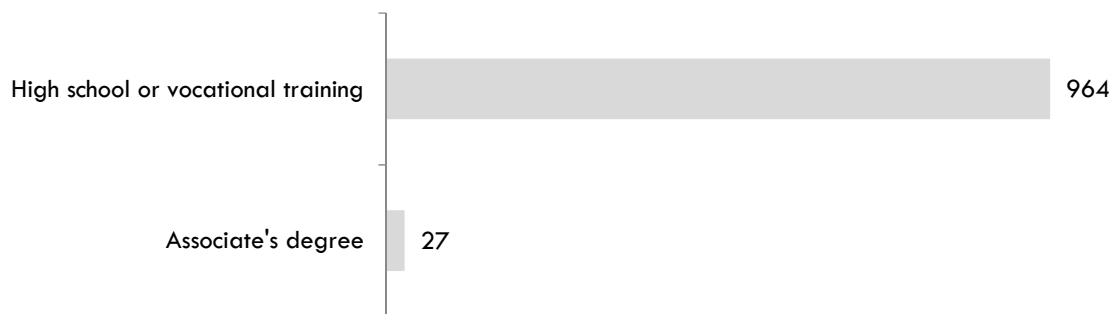
Certifications	Job Postings, Full Year 2017
Automotive Service Excellence (ASE)	326
Air Brake Certified	41
Certified Lube Technician	23
I-Car	12

Source: Labor Insight/Jobs (Burning Glass)

Advertised Education Levels

Exhibit 8 displays the education level requested by employers in online job ads. The majority of automotive technology employers in 2017 were looking for a candidate with a high school diploma or vocational training. Approximately 57% of job postings did not specify a level of education.

Exhibit 8 – Education requirements for automotive technology jobs (n=991)



Source: Labor Insight/Jobs (Burning Glass)

Education and Training

Exhibit 9 shows the typical entry-level education requirement for the occupations of interest, along with the typical on-the-job training, and percentage of workers in the field who hold a community college award or have completed some postsecondary courses. About 33% of the automotive service technicians and mechanics workforce has completed some community college education as their highest level of education.

Exhibit 9 – Education and training requirements for automotive technology jobs

SOC	Occupation	Typical entry-level education	Typical on-the-job training	% of Community College Award Holders or Some Postsecondary Coursework
49-3021	Automotive Body and Related Repairers	High school diploma or equivalent	Long-term	26%
49-3023	Automotive Glass Installers and Repairers	High school diploma or equivalent	Moderate-term	23%
49-3023	Automotive Service Technicians and Mechanics	Postsecondary certificate	Short-term	33%
49-3093	Tire Repairers and Changers	High school diploma or equivalent	Short-term	22%

Source: EMSI, Bureau of Labor Statistics Employment Projections (Educational Attainment)

In Los Angeles County, ten community colleges have conferred awards in programs that train students for automotive technology. Between 2014 and 2017, there was an average of 726 community college awards conferred annually across one program: automotive technology (0948.00). It is important to note that an award is not equivalent to a single person in search of a job opening, since a student may earn more than one award (e.g. an associate degree and a certificate).

Table 10 – CCC Student Awards (by TOP and College)

TOP Code	Program	College	2014-2015 Awards	2015-2016 Awards	2016-2017 Awards	3-Year Award Average
0948.00	Automotive Technology	Cerritos	35	37	52	41
		Citrus	120	69	81	90
		Compton	3	26	25	18
		East LA	29	70	53	51
		El Camino	26	45	60	44
		LA Pierce	115	138	96	116
		LA Trade-Tech	261	220	235	239
		Long Beach	5	3	-	4
		Pasadena	85	24	46	52
		Rio Hondo	31	151	38	73
TOTAL			710	783	686	726

Source: California Community Colleges Chancellor's Office MIS Data Mart

Student Outcomes

The CTE LaunchBoard provides student outcome data on the effectiveness of CTE programs. The following student outcome information was collected from exiters of the automotive technology Taxonomy of Program (TOP) code (0948.00) in Los Angeles County for the 2015-16 academic year.

- The median annual wage after program completion is \$22,550
- 37% of students are earning a living wage
- 69% of students are employed within six months after completing a program

Source: CTE LaunchBoard

Sources

O*Net Online, Labor Insight/Jobs (Burning Glass), Emsi, MIT Living Wage Calculator, Bureau of Labor Statistics (BLS) Education Attainment, California Community Colleges Chancellor's Office Management Information Systems (MIS) Data Mart, CTE LaunchBoard, Statewide CTE Outcomes Survey, Employment Development Department Unemployment Insurance Dataset

Notes

Data included in this analysis represents the labor market demand for positions most closely related to automotive technology. Standard occupational classification (SOC) codes were chosen based on the national education level required for employment (associate degree and postsecondary certificate) as well as the proportion of current workers who hold a community college award or have had some community college training. This selection process narrows the labor market analysis to the most relevant employment opportunities for students with community college education and/or training.

Traditional labor market information was used to show current and projected employment based on data trends, as well as annual average awards granted by regional community colleges. Real-time labor market information captures job post advertisements for occupations relevant to the field of study and should not be used to establish current job openings, because the numbers may include duplicate job postings or postings intended to gather a pool of applicants. Real-time labor market information can signal demand and show what employers are looking for in potential employees, but is not a perfect measure of the quantity of open positions.