

Maintenance and Repair

Automotive Service Technicians and Mechanics and Automotive Body Repairers



Requires
Specialized
Training or an
Associate's Degree

Automotive service technicians and mechanics and automotive body repairers service and repair cars and vans. As the technology of automobiles becomes more complex, these workers are increasingly referred to as technicians and the term mechanics is falling into disuse. Repairers may straighten bent frames, remove dents, and replace worn parts. Technicians inspect, lubricate, calibrate, and repair engines. They may also test-drive vehicles or use diagnostic equipment to locate problems. Some may specialize in such areas as automatic transmissions, brakes, tune-ups, or radiators and air conditioning.

Factors Driving the Job Growth

Jobs for automotive service technician and automotive body repairers are expected to grow much slower than the average for all occupations through 2016. Nevertheless, the growing complexity of automotive technology will necessitate that cars be serviced by highly skilled and specialized technicians and repairers. Despite the slow job growth, thousands of openings will arise to replace workers who retire or learn a new trade.

Growth Rate: 2.8%

Current Jobs: 21,210

Job Change: 600

**Replacement Job
Openings:** 4,420

Where Jobs are Currently Found

Automotive Repair & Maintenance (37%)

Motor Vehicle & Parts Dealers (35%)

Self-Employed (14%)

Gasoline Stations (5%)

Wages and Salaries

Mean Hourly Earnings: \$19.75 Automotive Service Technicians and Mechanics

\$20.96 Automotive Body and Related Repairers

Education and Training Requirements

Because technology has greatly changed the materials, parts, and manufacturing of automobiles, most employers prefer to hire graduates of formal training programs. Automotive training programs are offered at high schools, vocational schools, and many community colleges. Knowledge of computers and electronics is also increasingly desirable.

Career Paths

Beginners usually start as trainees, helpers, or lubrication specialists, and with experience take on more difficult jobs. Technicians and repairers with leadership abilities can advance to shop supervisor or service manager. Some may open their own independent repair shops. Others can work for insurance companies as repair service estimators or auto body appraisers.

Requires
Short-Term
On-The-Job
Training

Building Custodians

Building custodians, also known as janitors, keep offices, buildings, hospitals, stores, and apartment complexes clean and in good repair. Their duties may include fixing leaking faucets, emptying trash, replenishing bathroom supplies, vacuuming, mowing lawns, checking heating and air conditioning equipment, and performing minor repairs.

Factors Driving the Job Growth

Jobs for building custodians and janitors and cleaners will remain numerous as the economy expands, increasing the need for additional commercial office space. In addition, thousands of jobs will arise to replace workers who change jobs or learn a different trade.

Where Jobs are Currently Found

Services to Buildings & Dwellings (41%)
Educational Services (19%)
Health Care & Social Assistance (6%)
Government (6%)
Self-Employed (4%)
Trade, Transportation, & Utilities (4%)

Wages and Salaries

Mean Hourly Earnings: \$13.47

Education and Training Requirements

No special training is required for most jobs. However, employers usually look for hard-working people who are dependable, work well with others, and follow directions. High school shop courses are helpful for jobs that involve repairs.

Career Paths

With more experience and education, building custodians can advance to supervisory positions or become skilled trades workers. Other workers who have duties similar to building custodians include gardeners and groundskeepers, refuse collectors, floor waxers, window cleaners, and pest controllers.

Growth Rate: 8.9%

Current Jobs: 60,040

Job Change: 5,330

**Replacement Job
Openings:** 11,490



Requires a
Bachelor's
Degree
or Higher

Construction Managers

Construction managers direct, coordinate, and oversee all phases of a construction project to keep it on schedule. They estimate costs, monitor progress, obtain permits and licenses, and enforce compliance with building codes and other regulations.

Factors Driving the Job Growth

Employment of construction managers is expected to increase about as fast as the average for all occupations through 2016. Continued growth in commercial construction will partially mitigate a sluggish residential construction market. As with any construction job tied to overall economic growth, the number of job openings for construction managers may fluctuate widely during economic slowdowns when building construction is often curtailed until growth resumes.

Growth Rate: 6.5%

Current Jobs: 9,420

Job Change: 600

**Replacement Job
Openings:** 1,460

Where Jobs are Currently Found

Self-Employed (52%)

Construction (37%)

Architectural, Engineering, & Related Services (3%)

Local Government (1%)

Real Estate (1%)

Wages and Salaries

Mean Annual Earnings: \$106,600

Education and Training Requirements

Most companies prefer to hire highly experienced contractors, cost estimators, or engineers. College graduates with a degree in construction science are also sought, and are usually hired as assistants to project managers, field engineers, schedulers, or cost estimators. Construction managers must be good communicators, decisive, flexible, and able to work in a fast-paced environment.

Career Paths

In large organizations, construction managers with experience can become top-level managers. Some can work for government agencies or international engineering firms as consultants. Some highly experienced construction managers with excellent business skills can start their own consulting companies. Other workers who oversee the development of construction projects include architects, civil engineers, and mechanical engineers.



Requires
Specialized
Training or an
Associate's Degree

Construction Trades Helpers

Construction trades helpers do much of the routine physical labor at building sites. They unload trucks, carry materials, dig ditches, erect scaffolds, clean up debris, and assist more experienced construction workers. Some may also assist in hazardous waste cleanups and asbestos removal.

Factors Driving the Job Growth

Net employment of construction trades helpers is expected to gradually decline through 2016 as the construction industry is expected to grow more slowly than in the recent past. However, there will be numerous job opportunities due to the need to replace workers who are expected to leave these occupations for higher paying jobs. Opportunities will be best for those with specialized skills and those willing to relocate to areas with new construction projects.

Growth Rate: -3.2%

Current Jobs: 7,100

Job Change: -230

**Replacement Job
Openings:** 1,810

Where Jobs are Currently Found

Construction (92%)

Services Producing (4%)

Self-Employed (3%)

Wages and Salaries

Mean Hourly Earnings:	\$15.39	Helpers, Electricians
	\$15.17	Helpers, Plumbers, Pipefitters, & Steamfitters
	\$17.19	Helpers, Carpenters
	\$12.14	Helpers, Painters, Paperhangers, & Plasterers
	\$15.07	Helpers, Roofers
	\$20.60	Helpers, Brickmasons, Stonemasons, & Tile Setters
	\$12.28	Helpers, Construction Trades, All Other

Education and Training Requirements

No specialized training is required. However, employers look for people who are reliable, hard-working and safety conscious. On-the-job training is provided, particularly for workers who use hazardous equipment or toxic chemicals.

Career Paths

Construction trades helpers advance with more education and training. Other workers who perform physical work include gardeners and groundskeepers, automobile technicians and repairers, and machine operators.



Requires
Short-Term
On-The-Job
Training

Construction Trades Workers

Construction trades workers build, alter, maintain, and repair buildings, bridges, roads, and other similar projects. This category includes carpenters, electricians, plumbers, painters, pipelayers and fitters, bricklayers, stone masons, and other craft workers.

Factors Driving the Job Growth

Jobs for construction trades workers should decrease slightly as overall growth in the construction industry slows down and building materials improve, increasing trades workers' productivity. Nevertheless, thousands of jobs will arise to replace trades workers who retire or change careers. Carpenters and electricians hold the largest number of construction trades jobs, and therefore they should have the most job openings overall.

Where the Jobs are Currently Found

Construction (65%)
Self-Employed (22%)
Manufacturing (3%)
Local Government (2%)
Colleges, Universities, & Professional Schools (2%)

Wages and Salaries

Mean Hourly Earnings: \$27.59 Electricians
 \$28.38 Plumbers, Pipefitters, & Steamfitters
 \$25.43 Carpenters
 \$18.63 Painters, Construction & Maintenance

Education and Training Requirements

Most trades workers learn their trades either through on-the-job training or apprenticeship programs.

Career Paths

Most construction trades workers start by working as apprentices, taking on more difficult jobs to gain experience. Experienced trades workers can advance to positions as supervisors or cost estimators. Some with good business skills and leadership can start their own contracting businesses.

Growth Rate: -1.0%

Current Jobs: 106,990

Job Change: -1,050

**Replacement Job
Openings:** 18,440



Requires
Short-Term
On-The-Job
Training

General Maintenance Repairers

General maintenance repairers perform minor repairs in companies and schools where specialization is impractical. They may fix and maintain machines and equipment, paint walls and windows, build partitions, install new equipment, and do routine preventive maintenance.

Factors Driving the Job Growth

New growth will be slower than average and job openings for general maintenance workers will be further limited due to fewer replacement openings. Schools, apartments, condominium associations, and real estate developers' offices will provide the most job openings.

Where Jobs are Currently Found

Real Estate (17%)
 Government (13%)
 Manufacturing (12%)
 Trade, Transportation, & Utilities (11%)
 Educational Services (10%)
 Health Care & Social Assistance (8%)
 Leisure & Hospitality (9%)
 Other Services (6%)
 Colleges, Universities, & Professional Schools (6%)
 Religious, Civic, & Professional Organizations (4%)

Wages and Salaries

Mean Hourly Earnings: \$19.62

Education and Training Requirements

No formal training is required. However, employers prefer high school graduates with shop courses in mechanical drawing, electricity, woodworking, blueprint reading, science, and mathematics.

Career Paths

In large organizations, general maintenance repairers with experience can advance to supervisory positions. Some with highly specialized experience and training can become plumbers, heating and air conditioning mechanics, or electricians.

Growth Rate: 3.2%

Current Jobs: 24,610

Job Change: 770

**Replacement Job
Openings:** 610



Requires
Short-Term
On-The-Job
Training

Hazardous Materials Removal Workers

Hazardous materials removal workers identify, remove, package, transport, and dispose of various hazardous materials, including asbestos, lead, and radioactive and nuclear materials. They also respond to emergencies where harmful substances are present. The removal of hazardous materials, or "hazmats," from public places and the environment also is called abatement, remediation, and decontamination.

Factors Driving the Job Growth

Employment of hazardous material removal workers is expected to grow slightly faster than the average for all workers through 2016, reflecting the increasing concern for a safe and clean environment. The best opportunities will be for asbestos abatement and lead abatement workers, the largest segment of the occupation. In addition to opportunities arising from new growth, many job openings will arise from the need to replace experienced workers who transfer to other occupations or leave the labor force.

Growth Rate: 8.9%

Current Jobs: 1,030

Job Change: 100

**Replacement Job
Openings:** 220

Where Jobs are Currently Found

Waste Management & Remediation Services (89%)

Wages and Salaries

Mean Hourly Wages: \$17.55

Education and Training Requirements

No formal education beyond a high school diploma is required for a person to become a hazardous materials removal worker. Federal regulations require a license to work in the occupation. Most employers offer on the job training, but a formal 32-40 hour training program is required to obtain a license. Workers must be able to perform basic mathematical conversions and calculations, and should have good physical strength and manual dexterity.

Career Paths

Some workers in this occupation will be promoted to team leaders or supervisor. In addition, hazardous materials workers share skills with other occupations and may transfer to occupations, such construction trades workers, sheet metal workers, and plant and system operators.

Heating, Air Conditioning, and Refrigeration Mechanics



Requires
Specialized
Training or an
Associate's Degree

Heating, air conditioning, and refrigeration mechanics install, maintain, and repair central heating and cooling systems, oil burners, stoves, and air conditioners in homes and buildings. They may specialize in installation or service.

Factors Driving the Job Growth

Demand for heating, air-conditioning and refrigeration mechanics is expected to decline through 2016. There will be some openings due to the need to replace workers who retire or move to new occupations.

Where Jobs are Currently Found

Construction (50%)
Retail Trade (16%)
Self-employed (11%)
Educational Services (6%)
Repair & Maintenance (3%)

Wages and Salaries

Mean Hourly Earnings: \$25.23

Education and Training Requirements

Because of the growing complexity of heating and cooling systems, most companies prefer to hire applicants with technical school or apprenticeship training. Some employers, however, will hire workers as helpers and teach them the trade. One-to two-year programs in heating, air-conditioning, and refrigeration are offered at vocational and technical schools. Five-year apprenticeship training programs combine on-the-job training with classroom instruction. Applicants for these programs must be at least 18 years old and have a high school diploma or GED.

Career Paths

With experience, some heating, air-conditioning, and refrigeration mechanics can become supervisors or managers. Some with excellent managerial and business skills can start their own contracting businesses.

Growth Rate: -4.3%

Current Jobs: 7,090

Job Change: -300

**Replacement Job
Openings:** 1,240



Requires
Short-Term
On-The-Job
Training

Truck Drivers, Heavy and Tractor-Trailer

Heavy truck and tractor-trailer drivers operate trucks or vans with a capacity of at least 26,000 pounds. They transport goods including cars, livestock, and other materials in liquid, loose, or packaged form. Many routes cover long distances. Long-distance heavy truck and tractor trailer drivers spend most of their working time behind the wheel, but also may have to load and unload their cargo. Truck drivers also have to inspect their trucks and the cargo prior to the trip.

Factors Driving the Job Growth

Overall employment of heavy truck and tractor-trailer drivers is expected to grow slower than the average for all occupations through 2016, due to current downturn in the economy. Job prospects should be fairly good due to modest growth as well as the need to replace truck drivers who retire or transfer to other occupations. Jobs vary greatly in terms of earnings, work hours, and the amount of time spent on the road. Competition will be greater for the jobs with the highest earnings and most favorable work schedules.

Growth Rate: 3.7%

Current Jobs: 27,190

Job Change: 1,010

**Replacement Job
Openings:** 4,820

Where Jobs are Currently Found

Transportation & Warehousing (31%)
Wholesale Trade (18%)
Manufacturing (8%)
Construction (8%)
Self-Employed (7%)
Waste Management & Remediation Services (5%)
Nonstore Retailers (5%)

Wages and Salaries

Mean Hourly Wages: \$20.54

Education and Training Requirements

Drivers of trucks designed to carry 26,000 pounds or more must obtain a commercial driver's license (CDL) from the state in which they live. To qualify for a CDL an applicant must have a clean driving record, pass a written test, and demonstrate that they can operate a commercial truck safely. Driver-training courses can be a useful way of preparing for truck driving jobs or for obtaining a CDL and courses are offered by many public and private vocational schools. Completion of a program does not guarantee a job, however, and it is recommended to check with local trucking companies to make sure the school's training is acceptable.

Career Paths

The advancement of truck drivers is often limited to driving runs that provide increased earnings, preferred schedules, or better working conditions. Many drivers are self-employed and have the potential to earn significantly more than workers paid on an hourly basis. Truck drivers can also transfer into related occupations including ambulance drivers, bus drivers, chauffeurs, and taxi drivers.