Ohio | Department of Job and Family Services

TO STRENGTHEN OHIO'S FAMILIES WITH SOLUTIONS TO TEMPORARY CHALLENGES

# Automotive Industry Cluster

## Ohio Employment Trends

**June 2016**

# Table of Contents

## Executive Summary

- The automotive industry cluster is comprised of four industries that are involved in the production of equipment for transporting people and goods.

- In 2014, the automotive cluster employed 2.0 percent of Ohio's total employment, more than 104,000 workers. During the 2007 to 2009 national recession, automotive cluster employment declined 32.3 percent (38,513), and Ohio's total employment declined 6.8 percent (362,842).

- Within the automotive industry cluster, motor vehicle parts manufacturing has the largest share of the workforce, at 66.5 percent and the most number of establishments (480).

- Three of the four industries in the automotive cluster industry are expected to have job growth from 2012 to 2022: motor vehicle parts manufacturing (7,550), motor vehicle manufacturing (1,050), and motor vehicle body and trailer manufacturing (560).

- About 54 percent of cluster workers are age 45 or older, compared to 45 percent for all Ohio workers. Businesses in the automotive cluster may need to replace retiring workers sooner than businesses in other industries.

- Typical education at entry for 20 of the 25 largest occupations in the automotive industry cluster is a high school diploma or less, and most of these occupations require on-the-job training.

# Introduction

The automotive industry produces equipment for transporting people and goods. The automotive cluster is comprised of four industries: motor vehicle manufacturing; motor vehicle parts manufacturing; engine, turbine, and power transmission equipment manufacturing; and motor vehicle body and trailer manufacturing. Figure 1 shows employment figures for all of the industries in the automotive cluster, displayed according to their North American Industry Classification System (NAICS) codes. In 2014, the automotive cluster employed 2.0 percent of Ohio's total employment, more than 104,000 workers.

## Figure 1. Automotive Cluster Industries

| NAICS Code | Industry Title | 2014 Employment |
|---|---|---|
| 3361 | Motor Vehicle Manufacturing | 22,609 |
| 3363 | Motor Vehicle Parts Manufacturing | 69,576 |
| 3336 | Engine, Turbine, and Power Transmission Equipment Manufacturing | 4,417 |
| 3362 | Motor Vehicle Body and Trailer Manufacturing | 8,084 |

Source: Quarterly Census of Employment and Wages

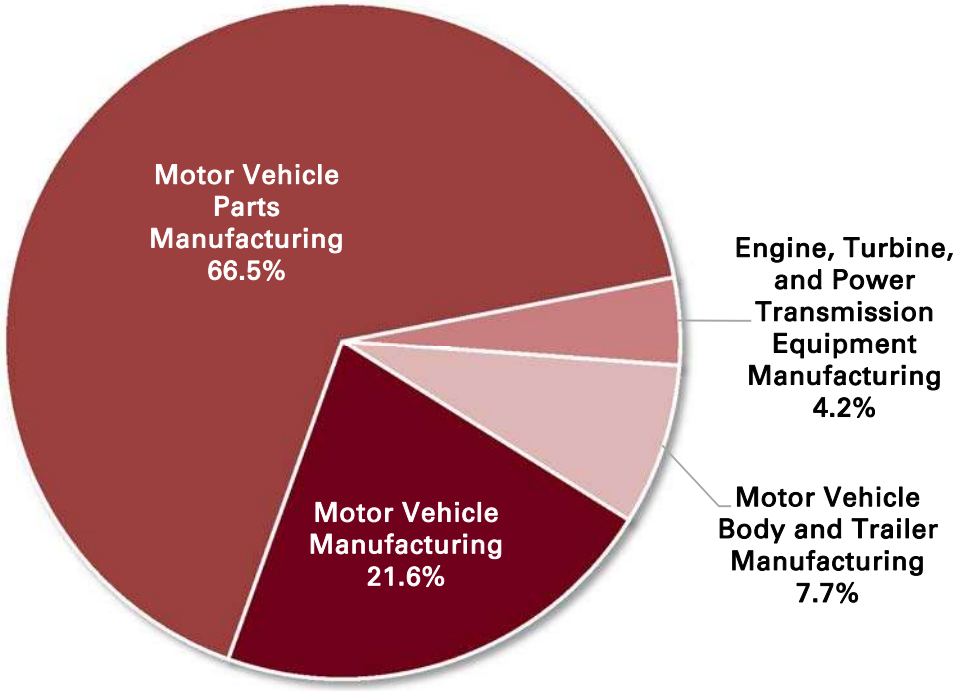
Ohio is an excellent location for automotive manufacturing because it is within 600 miles of 70 percent of North America's light vehicle equipment manufacturers. Ohio has an abundant availability of raw material, including steel, aluminum, paints, coatings, and plastics and rubber products. Ohio is critical not only to its local economy, but to the national auto industry. The state ranks third in overall motor vehicle industry output, according to the U.S. Bureau of Economic Analysis.[1]

[1] Ohio Department of Development, Automotive-Detail, The Ohio Motor Vehicle Report (2014).

## Cluster Composition

Figure 2 shows each industry's share of the automotive cluster's total private employment in 2014. Motor vehicle parts manufacturing had the largest share of automotive employment, at 66.5 percent. It was followed by motor vehicle manufacturing with 21.6 percent; motor vehicle body and trailer manufacturing with 7.7 percent; and engine, turbine, and power transmission equipment manufacturing with 4.2 percent.

**Figure 2. Industry Shares of Automotive Employment, 2014**




Source: Quarterly Census of Employment and Wages

## Industry Employment Concentration

An industry's location quotient (LQ) is a measure of how significant that industry is to a particular region's economy. Figure 3 lists the automotive industries and their corresponding location quotients for Ohio. Values greater than 1.2 mean the industry's concentration of employment in Ohio is significantly greater than the U.S. average. This suggests these establishments serve automotive needs beyond Ohio. Three automotive industries had 2014 location quotients greater than 1.2: motor vehicle parts manufacturing (LQ 3.33), motor vehicle manufacturing (LQ 2.93), and motor vehicle body and trailer manufacturing (LQ 1.48).

### Figure 3. Industry Location Quotients, 2014

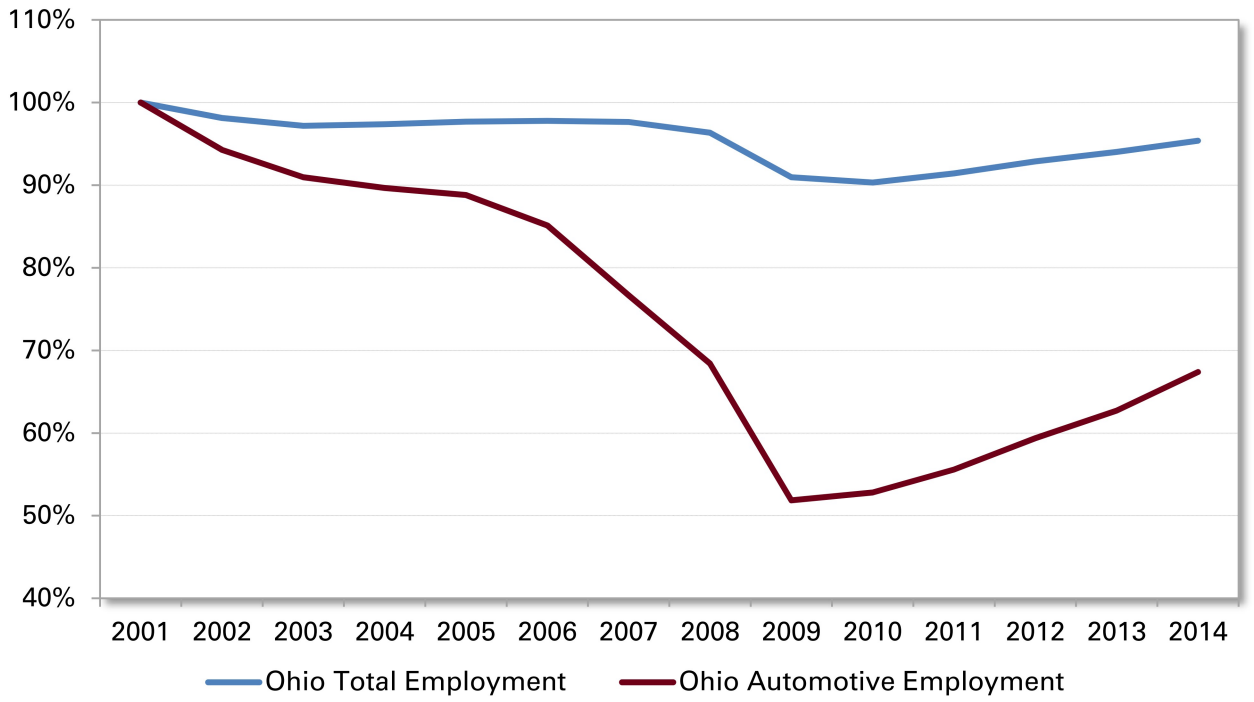
| NAICS Code | Industry Title | Location Quotient |
|---|---|---|
| 3363 | Motor Vehicle Parts Manufacturing | 3.33 |
| 3361 | Motor Vehicle Manufacturing | 2.93 |
| 3362 | Motor Vehicle Body and Trailer Manufacturing | 1.48 |
| 3336 | Engine, Turbine, and Power Transmission Equipment Manufacturing | 1.00 |

Source: U.S. Bureau of Labor Statistics

## Cluster Employment Trends

Figure 4 shows the percent change in annual employment for the automotive cluster and Ohio total employment from 2001 to 2014. Both declined following the 2001 national recession. The recession had a greater impact on the automotive cluster than on total employment. From 2001 to 2005 Ohio's total employment declined by 2.4 percent. The next national recession occurred from 2007 to 2009, during which Ohio total employment declined 6.8, and automotive cluster employment declined 32.3 percent. From 2012 to 2014, the automotive cluster began recovering from the recession and had a 13.5 percent increase in employment. In 2014 Ohio total employment was 95 percent of its 2001 employment level; the automotive cluster was 67 percent of its 2001 employment.

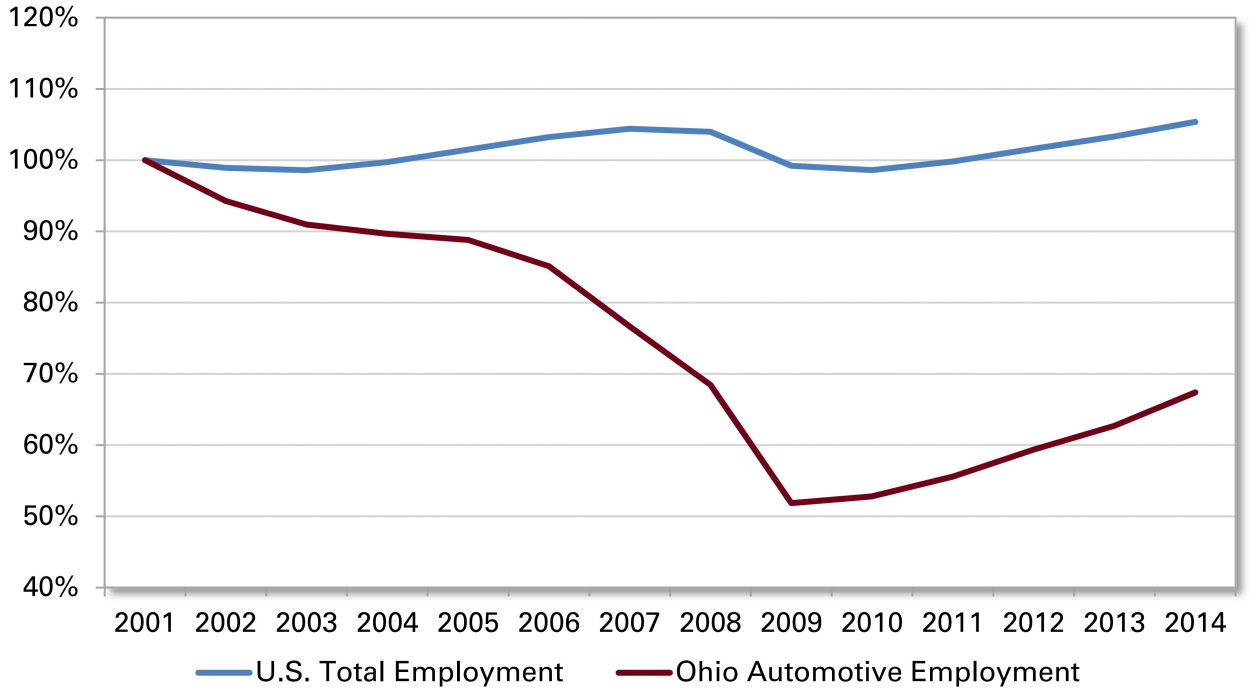
**Figure 4. Ohio Automotive Cluster and Ohio Total Employment as a Percentage of 2001 Employment, 2001 - 2014**




Source: Quarterly Census of Employment and Wages

Figure 5 shows the percent change in annual Ohio automotive cluster employment and U.S. total employment from 2001 to 2014. From 2004 through 2008, U.S. total employment grew while Ohio automotive employment declined. From 2011 to 2014, both the Ohio automotive cluster and U.S. total employment were in similar recoveries from the 2007 to 2009 recession.

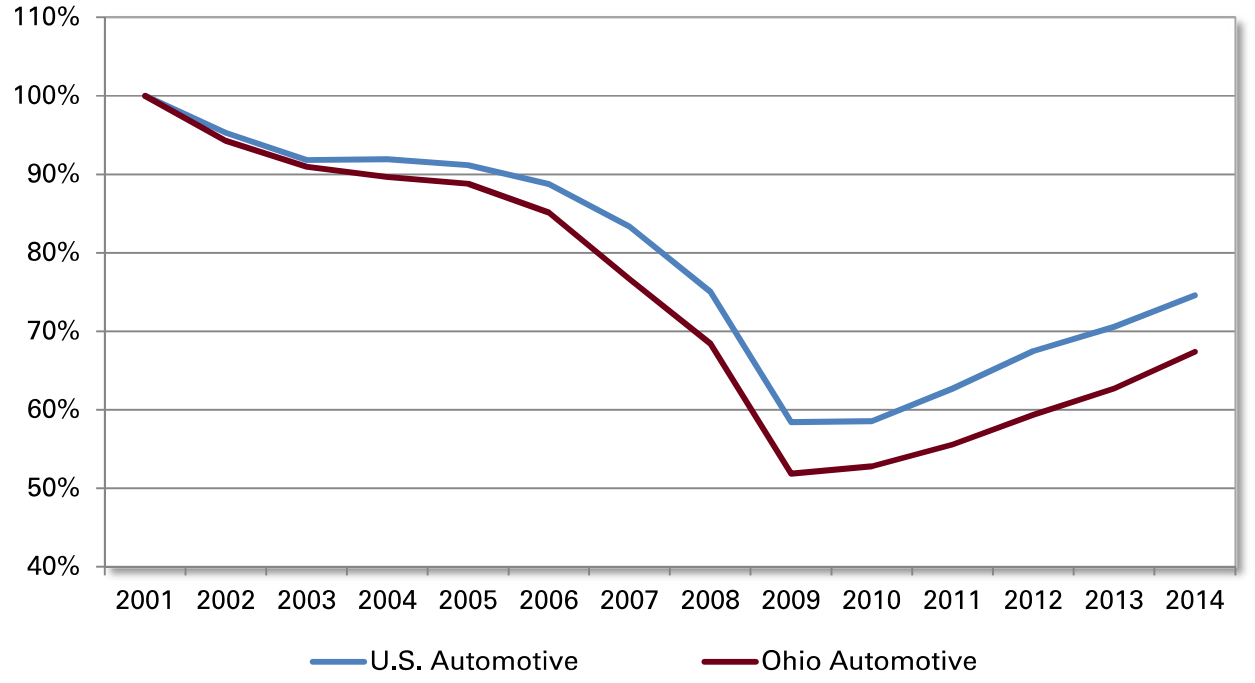
**Figure 5. U.S. Total Employment and Ohio Automotive Employment as a Percentage of 2001 Employment, 2001 - 2014**




Source: U.S. Bureau of Labor Statistics

Figure 6 shows the percent change in annual employment from 2001 to 2014 for the Ohio automotive cluster and the U.S. automotive cluster. Both experienced similar growth and decline within the timeframe. During the 2007 to 2009 recession, both Ohio automotive cluster employment and U.S. automotive industries declined 25.0 percent. From 2010 to 2014, both were in similar recoveries from the 2007 to 2009 recession.

**Figure 6. U.S. and Ohio Automotive Employment as a Percentage of 2001 Employment, 2001 - 2014**




Source: U.S. Bureau of Labor Statistics

## Industry Employment Trends

This section presents annual employment data from 2000 through 2014 for each of the industries in the automotive cluster. The nation experienced two recessions during this period, in 2001 and from late 2007 to mid-2009, and each cluster industry responded to the recessions differently.

**Motor Vehicle Manufacturing: NAICS 3361**

This industry manufactures either complete automobile and light duty motor vehicles, or chassis only. Motor vehicle manufacturing experienced its first employment decline in 2002 and has fluctuated since then. Between 2000 and 2009, the industry lost 22,527 jobs (-57.4 percent). From 2010 to 2014, it gained 4,311 jobs (23.6 percent).

**Figure 7. Motor Vehicle Manufacturing**

| Year | Establishments | Employment |
|---|---|---|
| 2000 | 28 | 39,245 |
| 2001 | 29 | 36,562 |
| 2002 | 29 | 33,667 |
| 2003 | 28 | 31,202 |
| 2004 | 29 | 30,925 |
| 2005 | 27 | 29,702 |
| 2006 | 30 | 28,078 |
| 2007 | 34 | 24,921 |
| 2008 | 33 | 22,454 |
| 2009 | 31 | 16,718 |
| 2010 | 31 | 18,298 |
| 2011 | 30 | 19,405 |
| 2012 | 26 | 19,686 |
| 2013 | 24 | 20,721 |
| 2014 | 25 | 22,609 |
| **Net Change** | **-3** | **-16,636** |
| **Percent Change** | **-10.7%** | **-42.4%** |

Source: Quarterly Census of Employment and Wages

**Motor Vehicle Body and Trailer Manufacturing: NAICS 3362**

This industry manufactures motor vehicle bodies and cabs, as well as truck, automobile and utility trailers, truck trailer chassis, detachable trailer bodies, and detachable trailer chassis. Industry employment peaked in 2000 at 12,838 jobs and then declined to its lowest employment count of 5,202 in 2009. By 2014, motor vehicle body and trailer manufacturing employment was 8,084, a 55.4 percent increase over the 2009 employment level. The number of establishments declined by 3.0 percent (3) from 2000 to 2014.

## Figure 8. Motor Vehicle Body and Trailer Manufacturing

| Year | Establishments | Employment |
|---|---|---|
| 2000 | 99 | 12,838 |
| 2001 | 99 | 9,167 |
| 2002 | 96 | 8,770 |
| 2003 | 100 | 8,870 |
| 2004 | 102 | 9,224 |
| 2005 | 106 | 8,373 |
| 2006 | 101 | 8,528 |
| 2007 | 106 | 7,560 |
| 2008 | 115 | 6,946 |
| 2009 | 107 | 5,202 |
| 2010 | 99 | 5,345 |
| 2011 | 98 | 5,693 |
| 2012 | 103 | 7,000 |
| 2013 | 96 | 7,537 |
| 2014 | 96 | 8,084 |
| **Net Change** | **-3** | **-4,754** |
| **Percent Change** | **-3.0%** | **-37.0%** |

Source: Quarterly Census of Employment and Wages

**Engine, Turbine, and Power Transmissions Equipment Manufacturing, NAICS 3336**
This industry manufactures turbines, power transmission equipment, and internal combustion engines. Employing the least of all the industries within the cluster, from 2000 to 2014 employment declined by 716 jobs (-13.9 percent) and 10 establishments. Employment in the engine, turbine, and power transmissions equipment manufacturing industry lost 838 jobs (-17.1 percent) during the 2007 to 2009 national recession, but gained 550 jobs from 2010 to 2014.

**Figure 9. Engine, Turbine, and Power Transmissions Equipment Manufacturing**

| Year | Establishments | Employment |
|---|---|---|
| 2000 | 88 | 5,133 |
| 2001 | 91 | 5,076 |
| 2002 | 92 | 4,936 |
| 2003 | 90 | 5,046 |
| 2004 | 79 | 5,058 |
| 2005 | 76 | 5,209 |
| 2006 | 77 | 5,297 |
| 2007 | 73 | 4,888 |
| 2008 | 75 | 4,571 |
| 2009 | 74 | 4,019 |
| 2010 | 76 | 3,867 |
| 2011 | 79 | 4,050 |
| 2012 | 79 | 4,221 |
| 2013 | 74 | 4,067 |
| 2014 | 78 | 4,417 |
| **Net Change** | **-10** | **-716** |
| **Percent Change** | **-11.4%** | **-13.9%** |

Source: Quarterly Census of Employment and Wages

**Motor Vehicle Parts Manufacturing: NAICS 3363**

This industry manufactures and/or rebuilds motor vehicle gasoline engines and engine parts, and/or manufactures and/or rebuilds carburetors, pistons, piston rings, and engine valves, for vehicular and non-vehicular use. Motor vehicle parts manufacturing employment has been declining since 2000. Between 2000 and 2014, the industry lost 42,245 jobs (-37.8 percent) and 126 establishments (-20.8 percent). From 2007 to 2014, this industry lost 12,140 jobs (-14.9 percent).

## Figure 10. Motor Vehicle Parts Manufacturing

| Year | Establishments | Employment |
|---|---|---|
| 2000 | 606 | 111,821 |
| 2001 | 612 | 104,543 |
| 2002 | 601 | 99,074 |
| 2003 | 596 | 96,193 |
| 2004 | 578 | 94,075 |
| 2005 | 556 | 94,671 |
| 2006 | 549 | 90,340 |
| 2007 | 549 | 81,716 |
| 2008 | 538 | 72,325 |
| 2009 | 519 | 54,633 |
| 2010 | 497 | 54,526 |
| 2011 | 485 | 57,183 |
| 2012 | 486 | 61,327 |
| 2013 | 479 | 65,116 |
| 2014 | 480 | 69,576 |
| **Net Change** | **-126** | **-42,245** |
| **Percent Change** | **-20.8%** | **-37.8%** |

Source: Quarterly Census of Employment and Wages

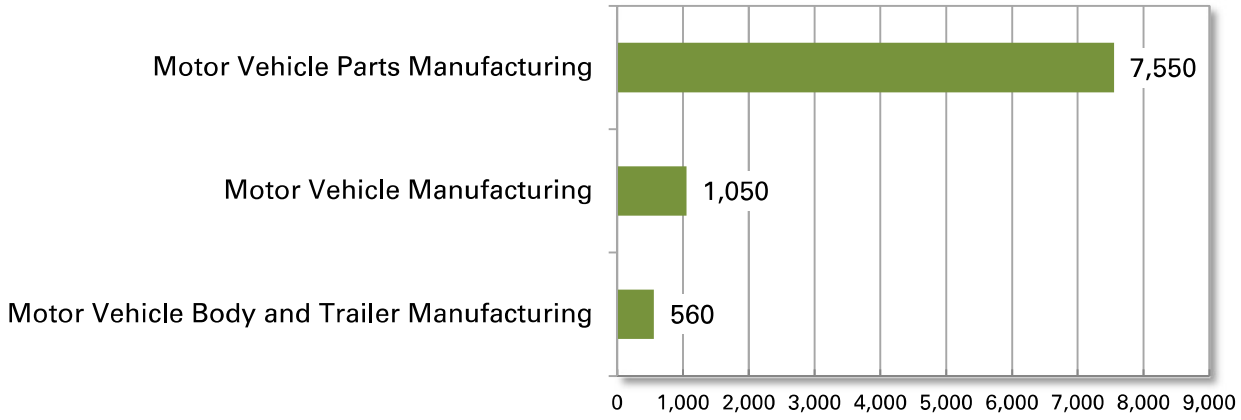
## The Automotive Industry Workforce

Three factors affect an industry's workforce needs. The first is industry growth or decline. Growing industries need more workers; shrinking industries need fewer. The second is the need to replace workers who leave to work in other industries, for retirement or for other reasons. Even shrinking industries can have significant replacement needs. The last factor is the availability of trained workers or workers who can be trained. The following section examines projected industry employment, worker age and education distributions, and the projected occupational needs for the automotive cluster.

## Projected Employment Change, Ohio 2012-2022

Figure 11 shows the long-term employment projections for three of the industries in the automotive cluster.[2] The automotive cluster is expected to grow by more than 25,000 jobs from 2012 to 2022. Job growth is expected to occur in the motor vehicle parts manufacturing industry with as many as 7,550 jobs added (12.3 percent). Motor vehicle manufacturing expects to add 1,050 jobs (5.4 percent). Motor vehicle body and trailer manufacturing is expected to add 560 jobs (8.0 percent).

**Figure 11. Projected Employment Change, 2012-2022**



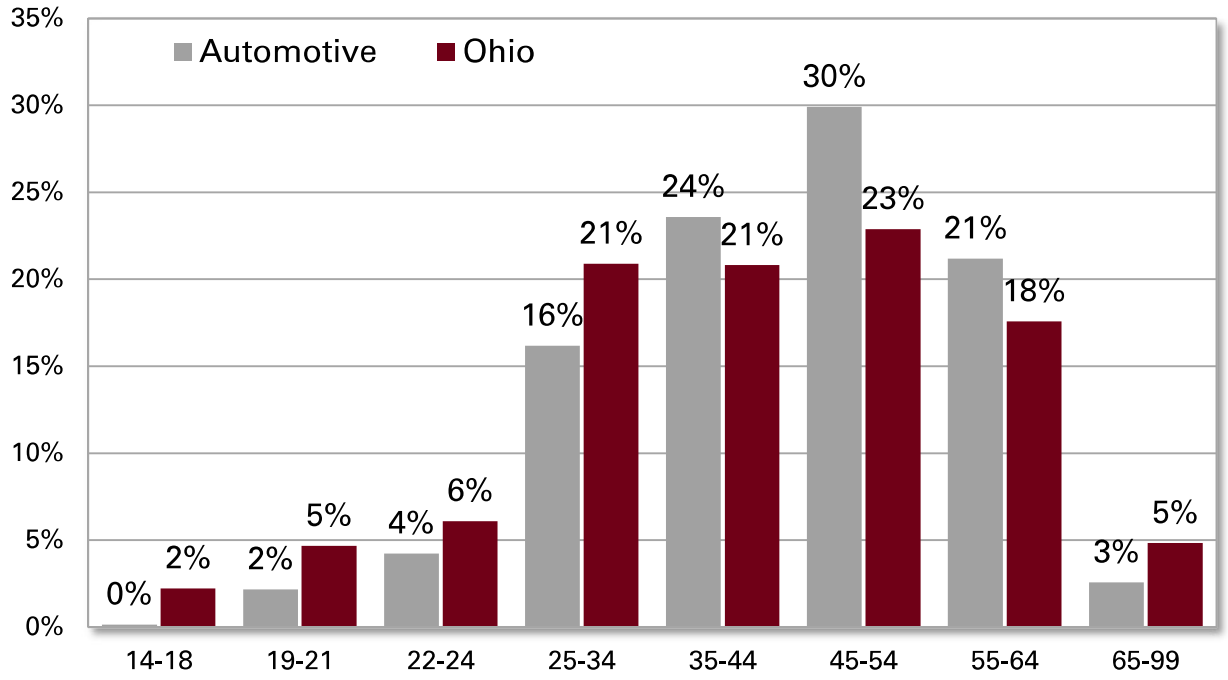

Source: Ohio Bureau of Labor Market Information

[2] Engine, turbine, and power transmission equipment manufacturing is not published information.

## Age Distribution of Ohio Workers

Figure 12 shows the age distribution of workers in the automotive industry cluster compared to all Ohio workers for the first quarter of 2014. On average, workers in the automotive cluster are older than workers in other Ohio industries. About 54 percent of automotive workers are age 45 or older, compared to 45 percent for all Ohio workers. Businesses in the automotive cluster may need to replace retiring workers sooner than businesses in other industries.

**Figure 12. Age Distribution of Ohio Workers**



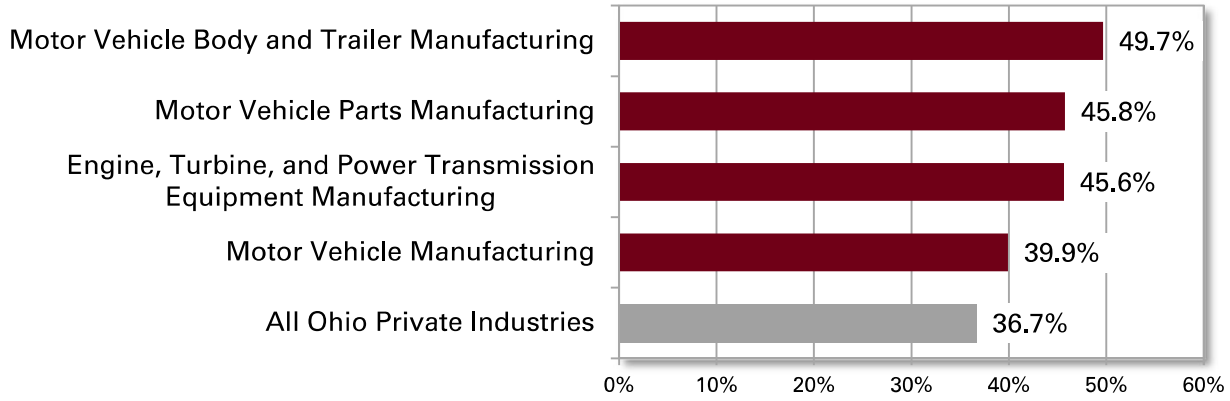

Source: U.S. Census of Quarterly Workforce Indicators, 2014 Q1

## Automotive Cluster Education and Training Needs

Because of projected industry growth and an aging workforce, the automotive cluster industries need to recruit workers. As Figure 13 shows, occupations in this cluster have minimal training and education requirements.

Across all Ohio private industries, an average of 36.7 percent of workers had a high school diploma or less in 2014. Among the automotive cluster industries, all had a higher percentage of workers with a high school diploma or less, ranging from 39.9 to 49.7 percent. One industry, motor vehicle manufacturing, had less than 40 percent of workers 25 and older with a high school diploma or less.

**Figure 13. Percent of Automotive Workers 25+ with a High School Diploma or Less, 2014**




Source: U.S. Census of Quarterly Workforce Indicators, 2014

Although every business has a unique set of jobs, businesses in the same industry and related industries tend to employ similar occupations. Figure 14 shows the typical education levels, on-the-job training (OJT) and related work experience associated with the 25 occupations that make up the largest share of employment in the automotive cluster. Entrants in 22 of the top 25 occupations typically have a high school diploma or less. Sixteen of those occupations require only short-, moderate- or long-term OJT.[3]

## Figure 14. Typical Education, OJT and Related Work Experience Needs for the 25 Largest Automotive Occupations

| SOC Code | Occupation Title | Typical Education Level at Entry | OJT / Related Experience |
|---|---|---|---|
| 11-3051 | Industrial Production Managers | Bachelor's degree | None |
| 17-2112 | Industrial Engineers | Bachelor's degree | None |
| 17-2141 | Mechanical Engineers | Bachelor's degree | None |
| 43-5071 | Shipping, Receiving, and Traffic Clerks | High school diploma or equivalent | Short-term OJT |
| 47-2111 | Electricians | High school diploma or equivalent | Apprenticeship |
| 49-9041 | Industrial Machinery Mechanics | High school diploma or equivalent | Long-term OJT |
| 49-9044 | Millwrights | High school diploma or equivalent | Moderate-term OJT |
| 49-9071 | Maintenance and Repair Workers, General | High school diploma or equivalent | Long-term OJT |
| 51-1011 | First-Line Supervisors of Production and Operating Workers | Postsecondary non-degree award | None |
| 51-2031 | Engine and Other Machine Assemblers | High school diploma or equivalent | Short-term OJT |
| 51-2092 | Team Assemblers | High school diploma or equivalent | Moderate-term OJT |
| 51-2099 | Assemblers and Fabricators, All Other | High school diploma or equivalent | Moderate-term OJT |
| 51-4011 | Computer-Controlled Machine Tool Operators, Metal and Plastic | High school diploma or equivalent | Moderate-term OJT |
| 51-4031 | Cutting, Punching, and Press Machine Setters Operators, and Tenders, Metal and Plastic | High school diploma or equivalent | Moderate-term OJT |
| 51-4041 | Machinists | High school diploma or equivalent | Long-term OJT |
| 51-4072 | Molding, Coremaking, and Casting Machine Setters, Operators, and Tenders, Metal and Plastic | High school diploma or equivalent | Moderate-term OJT |
| 51-4081 | Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic | High school diploma or equivalent | Moderate-term OJT |
| 51-4111 | Tool and Die Makers | High school diploma or equivalent | Long-term OJT |
| 51-4121 | Welders, Cutters, Solderers, and Brazers | High school diploma or equivalent | Moderate-term OJT |
| 51-4122 | Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders | High school diploma or equivalent | Moderate-term OJT |
| 51-9061 | Inspectors, Testers, Sorters, Samplers, and Weighers | High school diploma or equivalent | Moderate-term OJT |
| 51-9198 | Helpers-Production Workers | Less than high school | Short-term OJT |
| 51-9199 | Production Workers, All Other | High school diploma or equivalent | Moderate-term OJT |
| 53-7051 | Industrial Truck and Tractor Operators | Less than high school | Short-term OJT |
| 53-7062 | Laborers and Freight, Stock, and Material Movers, Hand | Less than high school | Short-term OJT |

Source: U.S. Bureau of Labor Statistics

[3] Short-term OJT lasts less than one month. Moderate-term OJT lasts one to 12 months and may include informal training. Long-term OJT lasts more than 12 months and combines work experience with formal classroom instruction.

## Automotive Cluster Industry Staffing Patterns

A staffing pattern refers to the number and types of occupations typically needed by an industry. These tables show the most common occupations in each industry's staffing pattern and each occupation's projected employment. The occupations below are described by their Standard Occupational Classification (SOC) number.

**Motor Vehicle Manufacturing: NAICS 3361**
Assemblers and fabricators, all other (SOC 51-2099) is the largest occupation in this industry, followed by team assemblers. Both occupations are expected to grow by more than 4.0 percent through 2022.

**Figure 15. Ohio Staffing Pattern for Motor Vehicle Manufacturing**

| SOC Code | Occupational Title | 2012 | 2022 | Numeric Change | Percent Change |
|---|---|---|---|---|---|
| 51-2099 | Assemblers and Fabricators, All Other | 7,526 | 7,871 | 345 | 4.6% |
| 51-2092 | Team Assemblers | 4,173 | 4,364 | 191 | 4.6% |
| 51-9199 | Production Workers, All Other | 1,081 | 1,130 | 49 | 4.5% |
| 51-4111 | Tool and Die Makers | 695 | 763 | 68 | 9.8% |
| 53-7062 | Laborers/Freight/Stock/Material Movers, Hand | 611 | 639 | 28 | 4.6% |
| 51-1011 | FL Sup/Mgrs of Production/Operating Workers | 579 | 605 | 26 | 4.5% |
| 47-2111 | Electricians | 507 | 530 | 23 | 4.5% |
| 17-2112 | Industrial Engineers | 406 | 425 | 19 | 4.7% |
| 49-9041 | Industrial Machinery Mechanics | 304 | 382 | 78 | 25.7% |
| 49-9044 | Millwrights | 299 | 328 | 29 | 9.7% |
| 47-2152 | Plumbers, Pipefitters, and Steamfitters | 282 | 295 | 13 | 4.6% |

Source: Ohio Bureau of Labor Market Information

**Motor Vehicle Body and Trailer Manufacturing: NAICS 3362**

The staffing pattern for motor vehicle body and trailer manufacturing is very similar to the pattern for motor vehicle manufacturing; the largest occupation in this industry is team assemblers (SOC 51-2092).

## Figure 16. Motor Vehicle Body and Trailer Manufacturing

| SOC Code | Occupational Title | 2012 | 2022 | Numeric Change | Percent Change |
|---|---|---|---|---|---|
| 51-2092 | Team Assemblers | 1,953 | 2,116 | 163 | 8.3% |
| 51-4121 | Welders, Cutters, Solderers, and Brazers | 463 | 501 | 38 | 8.2% |
| 43-5071 | Shipping, Receiving, and Traffic Clerks | 242 | 263 | 21 | 8.7% |
| 51-1011 | FL Sup/Mgrs of Production/Operating Workers | 225 | 244 | 19 | 8.4% |
| 43-9061 | Office Clerks, General | 170 | 175 | 5 | 2.9% |
| 51-9122 | Painters, Transportation Equipment | 134 | 145 | 11 | 8.2% |
| 51-4031 | Cutting/Punching/Press Machine S/O/T, M/P | 124 | 121 | (3) | -2.4% |
| 49-9071 | Maintenance and Repair Workers, General | 119 | 129 | 10 | 8.4% |
| 51-9061 | Inspectors, Testers, Sorters, Samplers, and Weighers | 107 | 116 | 9 | 8.4% |
| 47-2111 | Electricians | 101 | 109 | 8 | 7.9% |
| 53-7062 | Laborers/Freight/Stock/Material Movers, Hand | 97 | 105 | 8 | 8.2% |

Source: Ohio Bureau of Labor Market Information

**Motor Vehicle Parts Manufacturing: NAICS 3363**

The largest occupation in the motor vehicle parts manufacturing industry is team assemblers (SOC 51-2092). Team assemblers in this industry have the most expected growth in comparison to other industries in the automotive cluster. This industry has moderate expected growth.

## Figure 17. Motor Vehicle Parts Manufacturing

| SOC Code | Occupational Title | 2012 | 2022 | Numeric Change | Percent Change |
|---|---|---|---|---|---|
| 51-2092 | Team Assemblers | 8,745 | 10,718 | 1,973 | 22.6% |
| 51-4041 | Machinists | 4,335 | 5,155 | 820 | 18.9% |
| 51-4111 | Tool and Die Makers | 4,190 | 4,756 | 566 | 13.5% |
| 51-4031 | Cutting/Punching/Press Machine S/O/T, M/P | 3,168 | 3,082 | -86 | -2.7% |
| 51-4122 | Welding/Soldering/Brazing Machine Setters, O/T | 2,441 | 3,167 | 726 | 29.7% |
| 51-4011 | Computer-Controlled Machine Tool Oper., M/P | 2,361 | 3,062 | 701 | 29.7% |
| 51-4081 | Multiple Machine Tool Setters, O/T, M/P | 2,253 | 2,192 | -61 | -2.7% |
| 51-9061 | Inspectors, Testers, Sorters, Samplers, and Weighers | 2,101 | 2,362 | 261 | 12.4% |
| 51-1011 | FL Sup/Mgrs of Production/Operating Workers | 1,727 | 1,867 | 140 | 8.1% |
| 49-9071 | Maintenance and Repair Workers, General | 1,545 | 1,670 | 125 | 8.1% |
| 51-9198 | Helpers-Production Workers | 1,431 | 1,547 | 116 | 8.1% |
| 17-2112 | Industrial Engineers | 1,354 | 1,610 | 256 | 18.9% |
| 51-4072 | Molding/Coremaking/Casting Mach. S/O/T, M/P | 1,314 | 1,278 | -36 | -2.7% |
| 51-2099 | Assemblers and Fabricators, All Other | 1,176 | 1,271 | 95 | 8.1% |
| 53-7062 | Laborers/Freight/Stock/Material Movers, Hand | 859 | 928 | 69 | 8.0% |
| 49-9041 | Industrial Machinery Mechanics | 855 | 1,109 | 254 | 29.7% |
| 47-2111 | Electricians | 852 | 921 | 69 | 8.1% |
| 53-7051 | Industrial Truck and Tractor Operators | 838 | 815 | -23 | -2.7% |
| 17-2141 | Mechanical Engineers | 779 | 867 | 88 | 11.3% |
| 11-3051 | Industrial Production Managers | 760 | 821 | 61 | 8.0% |
| 43-5071 | Shipping, Receiving, and Traffic Clerks | 705 | 762 | 57 | 8.1% |

Source: Ohio Bureau of Labor Market Information

**Engine, Turbine, and Power Transmissions Equipment Manufacturing: NAICS 3336**
This is a small industry. The two largest occupations – engine and other machine assemblers (SOC 51-2031) and machinists (SOC 51-4041) – collectively employ less than 800 people. Only one occupation has expected growth; all others are projecting fewer openings through 2022.

**Figure 18. Engine, Turbine, and Power Transmissions Equipment Manufacturing**

| SOC Code | Occupational Title | 2012 | 2022 | Numeric Change | Percent Change |
|---|---|---|---|---|---|
| 51-2031 | Engine and Other Machine Assemblers | 513 | 461 | -52 | -10.1% |
| 51-4041 | Machinists | 283 | 277 | -6 | -2.1% |
| 51-9061 | Inspectors, Testers, Sorters, Samplers, and Weighers | 167 | 150 | -17 | -10.2% |
| 51-1011 | FL Sup/Mgrs of Production/Operating Workers | 144 | 129 | -15 | -10.4% |
| 51-4011 | Computer-Controlled Machine Tool Oper., M/P | 114 | 123 | 9 | 7.9% |
| 49-9071 | Maintenance and Repair Workers, General | 112 | 100 | -12 | -10.7% |
| 51-4033 | Grind/Lapping/Polish/Buff Mach.Tool S/O/T, M/P | 109 | 88 | -21 | -19.3% |
| 53-7062 | Laborers/Freight/Stock/Material Movers, Hand | 105 | 94 | -11 | -10.5% |
| 17-2141 | Mechanical Engineer | 91 | 81 | -10 | -11.0% |
| 51-4034 | Lathe & Turning Machine Tool Setters, O/T, M/P | 85 | 68 | -17 | -20.0% |
| 43-5081 | Stock Clerks and Order Fillers | 81 | 65 | -16 | -19.8% |

Source: Ohio Bureau of Labor Market Information

## Summary

Ohio's prime location 600 miles within 70 percent of light vehicle equipment manufacturers in the U.S. and Canada makes it an ideal location for the automotive industry cluster. Projected employment growth for more than half of the industries in the cluster supports this. Employment in the state's automotive industry cluster versus Ohio's total employment experienced similar declines during the recession of 2007 to 2009, but the automotive industry cluster experienced employment gains at least a year before Ohio's total employment did. Recovery in the automotive industry cluster benefited from the educational requirements, as most occupations require only a high school diploma or less and some on-the-job training.

**Ohio Department of Job and Family Services**
**Office of Workforce Development**
**P.O. Box 1618**
**Columbus, OH 43216-1618**


# Bureau of Labor Market Information
# Business Principles for Workforce Development

- Partner with the workforce and economic development community.
- Develop and deploy new information solution tools and systems for the workforce and economic development community.
- Provide products and services that are customer- and demand-driven.
- Be known as an important and reliable source for information solutions that support workforce development goals and outcomes.

Acknowledgments: The Workforce Research Section produced this report under the direction of Bureau Chief Coretta Pettway. For further information, visit http://OhioLMI.com or call the Ohio Bureau of Labor Market Information at **1-888-296-7541** option 6, or **(614) 752-9494**.



This workforce product was funded by a grant awarded by the U.S. Department of Labor's Employment and Training Administration. The product was created by the recipient and does not necessarily reflect the official position of the U.S. Department of Labor. The Department of Labor makes no guarantees, warranties, or assurances of any kind, express or implied, with respect to such information, including any information on linked sites and including, but not limited to, accuracy of the information or its completeness, timeliness, usefulness, adequacy, continued availability, or ownership. 