MICHIGAN'S LABOR MARKET NEWS

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Job Trends in the Michigan Manufacturing and Auto-related Sectors

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Michigan payroll jobs rose 5,400 in August.

AUGUST 2018 JOBLESS RATE

4.1%

NATIONAL

3.9%

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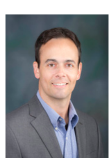

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IT'S BIGGER THAN DATA.

The Bureau of Labor Market Information and Strategic Initiatives is the official source for high quality demographic and labor market information for the state of Michigan and its regions. We administer the state's federal-state cooperative programs with the Bureau of Labor Statistics (BLS) and the Census Bureau and produce high-quality information and analysis through grants from the U.S. Department of Labor and from partner agencies in the state of Michigan. We provide our national, state, and local partners and customers with *accurate, objective, reliable, timely, accessible,* and *transparent* information and insights.

Michigan's jobless rate fell by two-tenths of a percentage point to 4.1 percent in August, the lowest rate recorded since November 2000. The rate was five-tenths of a percentage point below the August 2017 rate. Payroll jobs grew by 5,400 statewide in August, with gains concentrated in *Educational services*, *Transportation equipment manufacturing*, *Construction*, and *Trade*. Over the year, payroll jobs were up by 56,300 or 1.3 percent.

In support of Michigan Manufacturing Day, our featured content this month focuses on . . . you guessed it, manufacturing. Manufacturing Day is billed as a day to enhance the perception of modern manufacturing, connect with the next generation, and build a talent pipeline for the industry. As such, our feature article begins by discussing *Manufacturing*, generally, before moving on to highlight automotive-related employment, which expands beyond traditional manufacturing to include key professional service industries. Meanwhile, our Map of the Month shows the share of *Manufacturing* in each county and our Occupational Focus looks at CNC machine tool programmers, a high-demand, high-wage occupation found in the *Manufacturing* industry.

Finally, our Data Spotlight this month presents some interesting findings on health insurance coverage and housing characteristics, drawn from a recent release of information from the U.S. Census Bureau's American Community Survey (ACS).

We hope you enjoy this edition of Michigan's Labor Market News. Please let us know if there is something you would like to know more about.

JASON PALMER
DIRECTOR

Bureau of Labor Market Information
and Strategic Initiatives

MICHIGAN'S AUGUST 2018 UNEMPLOYMENT RATE CONTINUES DOWNWARD TREND

The seasonally-adjusted Michigan jobless rate from July to August decreased by two-tenths of a percentage point to 4.1 percent. The number of unemployed in the state fell by 11,000 in August while total employment was little changed. The net result was a 12,000 reduction in Michigan's labor force.

In August, the primary reason Michigan's jobless rate declined was a reduction in the state's workforce, as fewer unemployed individuals in the state actively sought jobs. This has not been the case for most of 2018, as labor force levels have tracked upward throughout the majority of months in 2018. The state's total employment level in August edged down slightly, which broke a string of five consecutive months of gains. Total employment in the state has advanced by 28,000 or 0.6 percent since December 2017. Michigan's jobless rate has decreased by seven-tenths of a percentage point since the 2018 high of 4.8 percent in February.

The state's August unemployment rate was the lowest recorded for Michigan since the 4.0 percent rate posted in November 2000. However, the state's labor force and total employment levels in November 2000 were over 250,000 above current levels.

Since August 2017, the number of unemployed in Michigan fell by 23,000 or 10.3 percent, which was outpaced by the 12.5 percent reduction nationwide. From August 2017 to August 2018, the unemployment rates in both Michigan and the U.S. dropped by half of a percentage point.

Michigan Since the Great Recession

A little more than nine years into the second longest economic expansion in U.S. history, Michigan's labor market has shown vast improvement from the 2009 trough of the Great Recession. The state's jobless rate dropped by over nine full percentage points since the 2009 annual average, and has been at or below 5.0 percent since late 2015. The national unemployment rate also fell over this period, by more than five full percentage points (see chart chart on page 6). The negative impact of the recession was far stronger in Michigan, as the state's jobless rate in 2009 was over four percentage points above the U.S. rate. However, since 2015, jobless rates in the U.S. and Michigan were virtually the same.

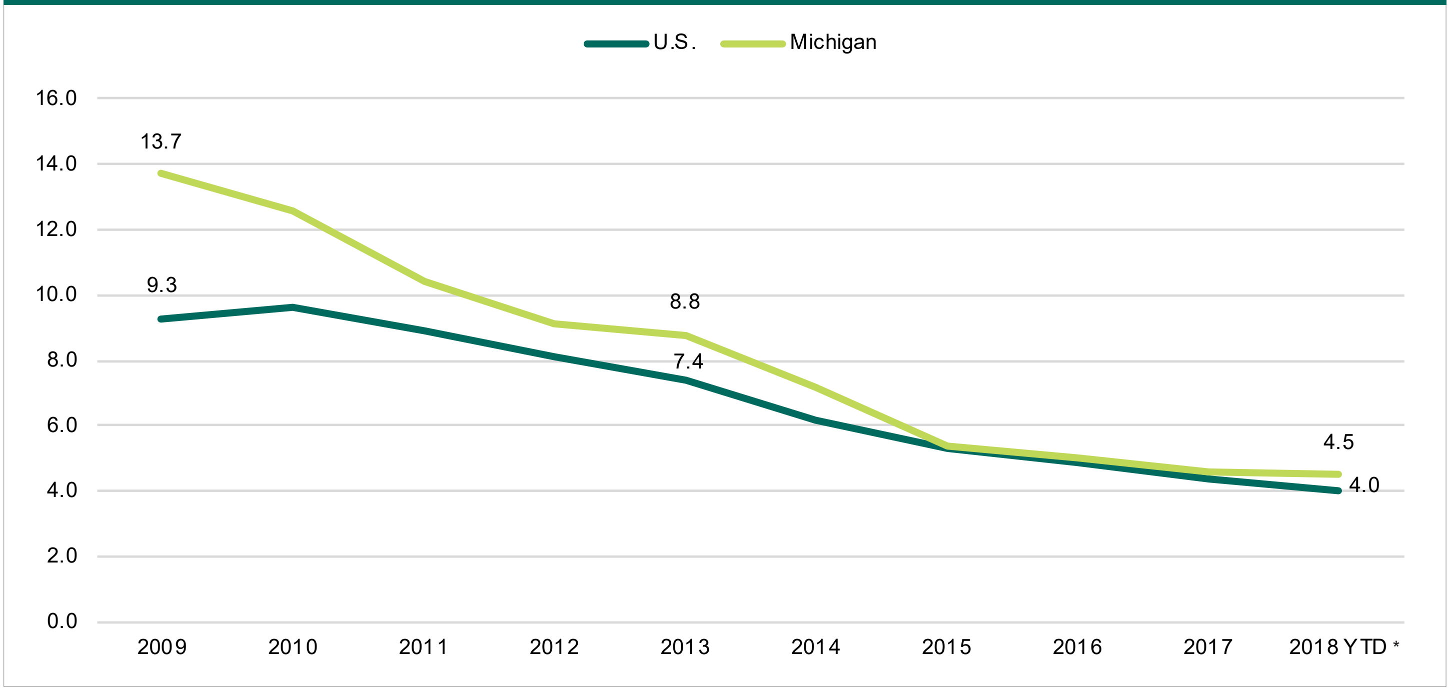
From annual 2009 to year-to-date 2018, total employment in Michigan jumped upwards by 447,000 and the number of unemployed in the state plunged by 448,000. The state's percentage advance in total employment (+10.6 percent) was essentially the same as the national gain (+11.0 percent) over this period. Since 2009, the percent drop in the number of unemployed in Michigan was 66.9 percent, which outpaced the national reduction of 54.9 percent. A notable difference in the recovery period between the nation as a whole and Michigan was the workforce change. From annual 2009 to year-to-date 2018, Michigan's labor force was little changed while the U.S. growth rate was 4.9 percent. This workforce dynamic mirrors the population variance between the two regions. According to the U.S. Census Bureau, population in Michigan between 2009 and 2017 edged up by just 0.6 percent, while the U.S. population growth rate was 6.2 percent.

JIM RHEIN
Economic Specialist

MICHIGAN LABOR FORCE ESTIMATES (SEASONALLY ADJUSTED)

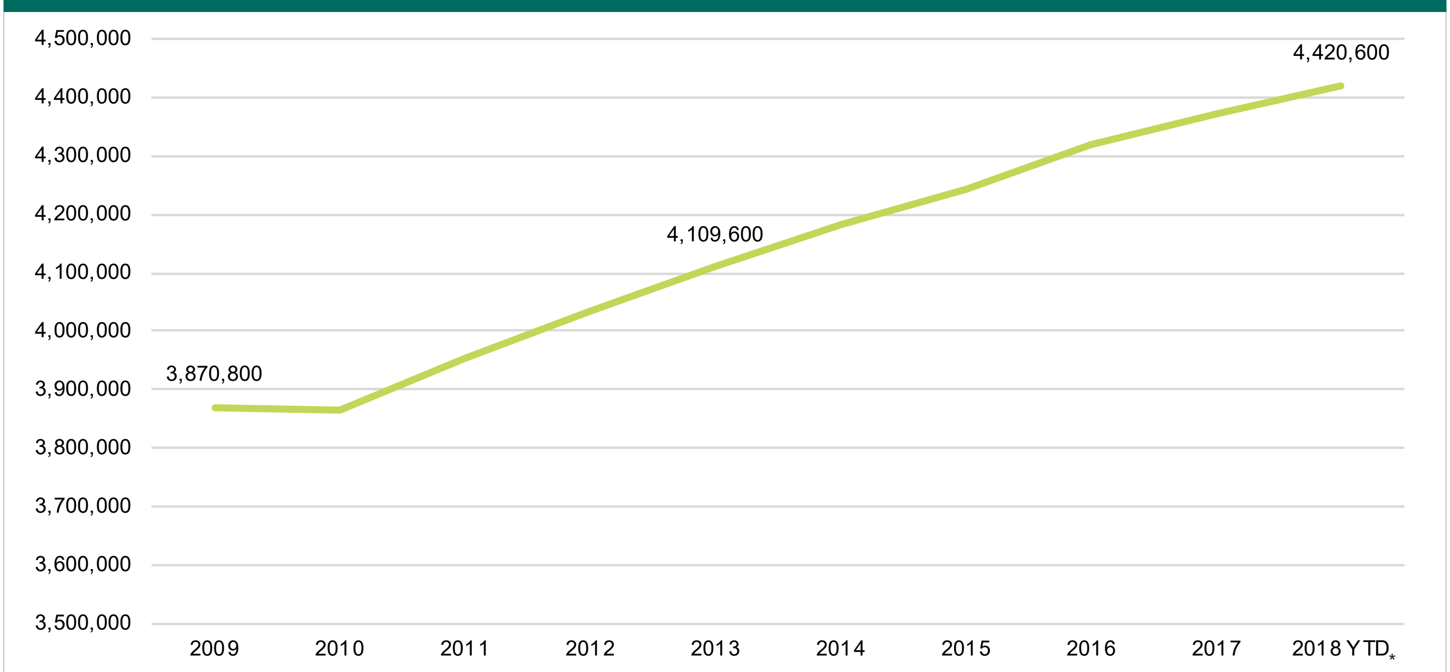
	AUGUST 2018	JULY 2018	AUGUST 2017	CHANGE OVER THE MONTH	CHANGE OVER THE YEAR
Labor Force	4,898,000	4,910,000	4,890,000	-12,000	+8,000
Employed	4,697,000	4,698,000	4,666,000	-1,000	+31,000
Unemployed	201,000	212,000	224,000	-11,000	-23,000
Jobless Rate	4.1	4.3	4.6	-0.2	-0.5

MICHIGAN AND U.S. ANNUAL UNEMPLOYMENT RATES, 2009-2017 (SEASONALLY ADJUSTED)



*Year to date

MICHIGAN ANNUAL AVERAGE PAYROLL JOBS, 2009-2017 (SEASONALLY ADJUSTED)



*Year to date

MICHIGAN JOB TRENDS BY INDUSTRY SECTOR

Monthly Overview

Total nonfarm job levels in Michigan moved somewhat higher by 5,400 during August to total 4,434,500. The largest payroll advances were recorded in the major sectors of *Education and health services* (+3,100), *Trade, transportation, and utilities* (+1,500), and *Construction* (+1,300). These payroll additions were offset by a minor job decline in *Other services* (-1,100). Other major industries had modest monthly job change. August job levels in the state's key *Transportation equipment manufacturing* sector increased 1,600 due to recalls following temporary model changeover layoffs in July.

Over the Year Analysis

Since August 2017, total nonfarm payrolls have grown by 56,300 jobs, or 1.3 percent. This was less than the 1.6 percent rate of expansion nationally during this period. In Michigan, all major industry sectors except *Information* (-900) and *Government* (-1,300) added jobs over the year. The broad sectors of *Construction* (+14,600), *Leisure and hospitality* (+9,600), *Professional and business services* (+9,200), *Manufacturing* (+7,700), and *Other services* (+7,000) accounted for about 85 percent of the over the year statewide job advance. Notable over the year hiring also occurred in the major sectors of *Education and health services* (+5,000), *Trade, transportation, and utilities* (+3,000), and *Financial activities* (+2,200).

2017 Job Share by Industry Sector – Michigan vs. U.S.

In 2017, Michigan had a higher-than-national average share of jobs in two major industry sectors. These were *Manufacturing* (14.1 percent of total jobs) and *Professional and business services* (14.8 percent of total jobs).

A large part of the reason for Michigan's higher-than-average job share in *Manufacturing* is the significant presence of the automotive industry. Employment in *Transportation equipment manufacturing* accounted for a large 4.3 percent of total nonfarm jobs in Michigan compared to 1.1 percent of total payroll employment nationally in 2017.

There are also many automotive-related jobs in the *Architectural, engineering, and related services* subsector of *Professional and business services*.

The broad sectors of *Educational and health services* (15.4 percent) and *Other services* (3.8 percent) had similar job shares to the national averages in 2017, with the remaining industry groups reporting job shares noticeably below the national percentage.

Significant Industry Employment Developments

PROFESSIONAL, SCIENTIFIC AND TECHNICAL SERVICES

Jobs levels in this sector inched up by 800 in August. Part of this gain was due to a stronger-than-typical August job increase in *Computer systems and related services*. The *Professional, scientific and technical services* group has a significant link to the automotive sector, which has made it a key component in the state's recovery during this decade. Since reaching a recessionary low of 225,300 jobs in August of 2009, job levels have advanced by 72,700 or by 32.3 percent. This is more than double the 15.8 percent growth in total nonfarm jobs statewide during this period. Since August 2017, employers have added 2,700 jobs (+0.9 percent) in the sector. Nationally, employment was up by 27,600 over the month and by 2.7 percent over the year.

HEALTH CARE AND SOCIAL ASSISTANCE

Employment levels were essentially unchanged during August, moving higher by 300. A primary cause for this modest over-the-month increase was an atypical, and large, decline in jobs in the *Nursing and residential care facilities* sector. Between August 2017 and August 2018, payrolls in *Health care and social assistance* have expanded by 5,300 jobs or by 0.9 percent. This increase accounts for 9.4 percent of the total gain in jobs statewide over the year. The *Home health care services* subsector has accounted for a sizable portion of these job additions since August 2017. Nationally, payrolls rose by 40,700 in August and by 2.0 percent over the year.

TRANSPORTATION, WAREHOUSING AND UTILITIES

Jobs in this sector were little changed in August, notching lower by 200. On a seasonally-adjusted basis this sector typically adds jobs during August. However, an atypical decline in employment in *General freight trucking* contributed to the lack of job change in the broader sector over the month. Since August 2017, job levels have increased by 2,700 or 1.9 percent. This over the year gain was primarily focused in *Truck transportation* and *Warehousing and storage*. U.S job levels rose by 20,500 over the month and by 3.0 percent over the year.

METROPOLITAN STATISTICAL AREAS (MSAS)

On a *not-seasonally-adjusted* basis, nine of Michigan's metropolitan areas recorded total nonfarm job gains in August. These job advances were modest, ranging from 0.1 percent in the *Ann Arbor* metro area to 0.8 percent in the *Flint* MSA. Five metro areas reported small declines in total nonfarm jobs that ranged in a narrow band of 0.1 percent to 0.2 percent. Statewide, total payroll jobs notched higher by 0.1 percent over the month.

August is the month when recalls from the July temporary model changeover automotive sector layoffs typically occur. This was part of the reason for the increase in total payroll jobs in the *Flint*, *Saginaw*, *Lansing*, and *Detroit* metropolitan areas. In the smaller metro areas of *Battle Creek* and *Bay City*, modest gains in the *Trade, transportation, and utilities* sector were a primary contributor to the overall job advance during August.

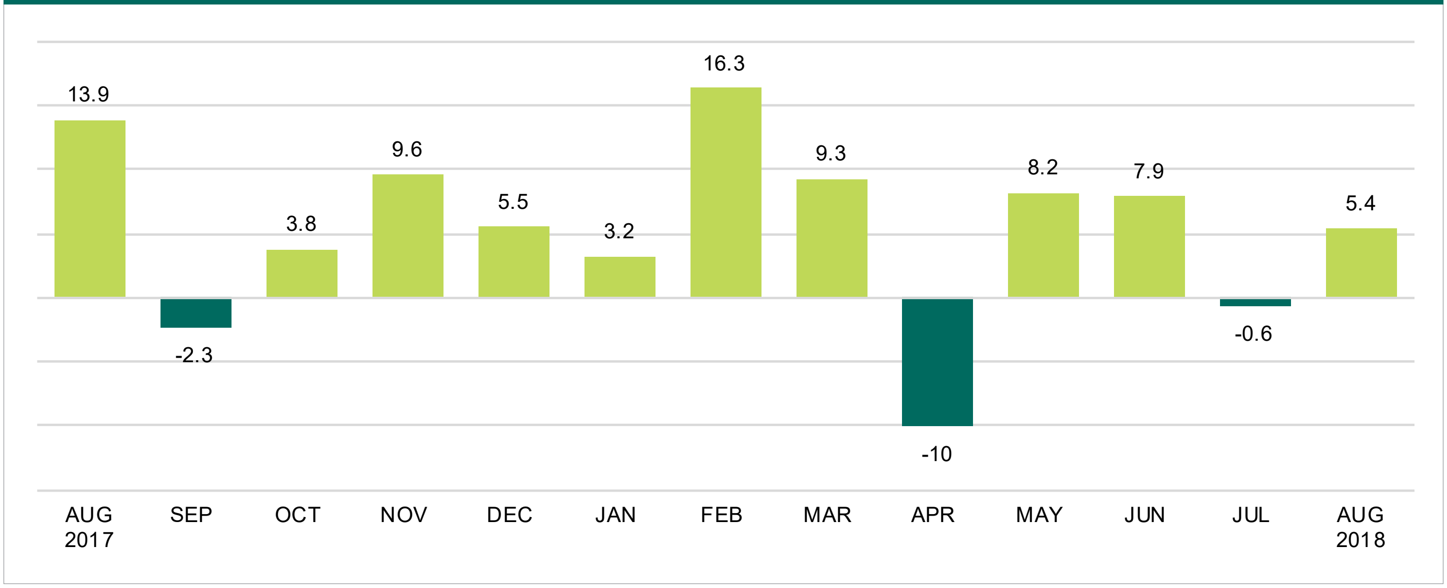
Several metro areas with reduced job levels in August had job cuts in *Professional and business services*, *Retail trade*, and *Leisure and hospitality*.

JEFFREY AULA
Economic Analyst

MICHIGAN PAYROLL JOBS (SEASONALLY ADJUSTED)

INDUSTRY	AUGUST 2018	JULY 2018	AUGUST 2017	OVER THE MONTH		OVER THE YEAR	
				LEVEL	PERCENT	LEVEL	PERCENT
TOTAL NONFARM	**4,434,500**	**4,429,100**	**4,378,200**	**5,400**	**0.1%**	**56,300**	**1.3%**
Total Private	3,831,700	3,825,600	3,774,100	6,100	0.2%	57,600	1.5%
Private Service-Providing	3,022,300	3,017,900	2,987,200	4,400	0.1%	35,100	1.2%
GOODS-PRODUCING	**809,400**	**807,700**	**171,600**	**1,700**	**0.2%**	**22,500**	**2.9%**
Mining, Logging, and Construction	186,400	185,000	7,200	1,400	0.8%	14,800	8.6%
Mining and Logging	7,400	7,300	164,400	100	1.4%	200	2.8%
Construction	179,000	177,700	615,300	1,300	0.7%	14,600	8.9%
Manufacturing	623,000	622,700	464,500	300	0.0%	7,700	1.3%
Durable Goods	471,300	470,200	187,400	1,100	0.2%	6,800	1.5%
Transportation Equipment Manufacturing	190,800	189,200	150,800	1,600	0.8%	3,400	1.8%
Non-Durable Goods	151,700	152,500	3,591,300	-800	-0.5%	900	0.6%
SERVICE-PROVIDING	**3,625,100**	**3,621,400**	**3,591,300**	**3,700**	**0.1%**	**33,800**	**0.9%**
Trade, Transportation, and Utilities	792,700	791,200	789,700	1,500	0.2%	3,000	0.4%
Wholesale Trade	175,700	174,600	173,200	1,100	0.6%	2,500	1.4%
Retail Trade	471,400	470,800	473,600	600	0.1%	-2,200	-0.5%
Transportation, Warehousing, and Utilities	145,600	145,800	142,900	-200	-0.1%	2,700	1.9%
Information	55,400	55,300	56,300	100	0.2%	-900	-1.6%
Financial Activities	219,700	219,500	217,500	200	0.1%	2,200	1.0%
Finance and Insurance	165,600	164,700	163,300	900	0.5%	2,300	1.4%
Real Estate and Rental and Leasing	54,100	54,800	54,200	-700	-1.3%	-100	-0.2%
Professional and Business Services	657,800	658,100	648,600	-300	0.0%	9,200	1.4%
Professional, Scientific, and Technical Services	298,000	297,200	295,300	800	0.3%	2,700	0.9%
Management of Companies and Enterprises	70,000	69,700	67,200	300	0.4%	2,800	4.2%
Administrative and Support and Waste Management and Remediation Services	289,800	291,200	286,100	-1,400	-0.5%	3,700	1.3%
Education and Health Services	678,600	675,500	673,600	3,100	0.5%	5,000	0.7%
Educational Services	74,200	71,400	74,500	2,800	3.9%	-300	-0.4%
Health Care and Social Assistance	604,400	604,100	599,100	300	0.0%	5,300	0.9%
Leisure and Hospitality	443,300	442,400	433,700	900	0.2%	9,600	2.2%
Arts, Entertainment, and Recreation	52,700	53,000	53,400	-300	-0.6%	-700	-1.3%
Accommodation and Food Services	390,600	389,400	380,300	1,200	0.3%	10,300	2.7%
Other Services	174,800	175,900	167,800	-1,100	-0.6%	7,000	4.2%
Government	602,800	603,500	604,100	-700	-0.1%	-1,300	-0.2%
Federal Government	52,500	52,300	52,600	200	0.4%	-100	-0.2%
State Government	188,100	188,900	191,700	-800	-0.4%	-3,600	-1.9%
Local Government	362,200	362,300	359,800	-100	0.0%	2,400	0.7%

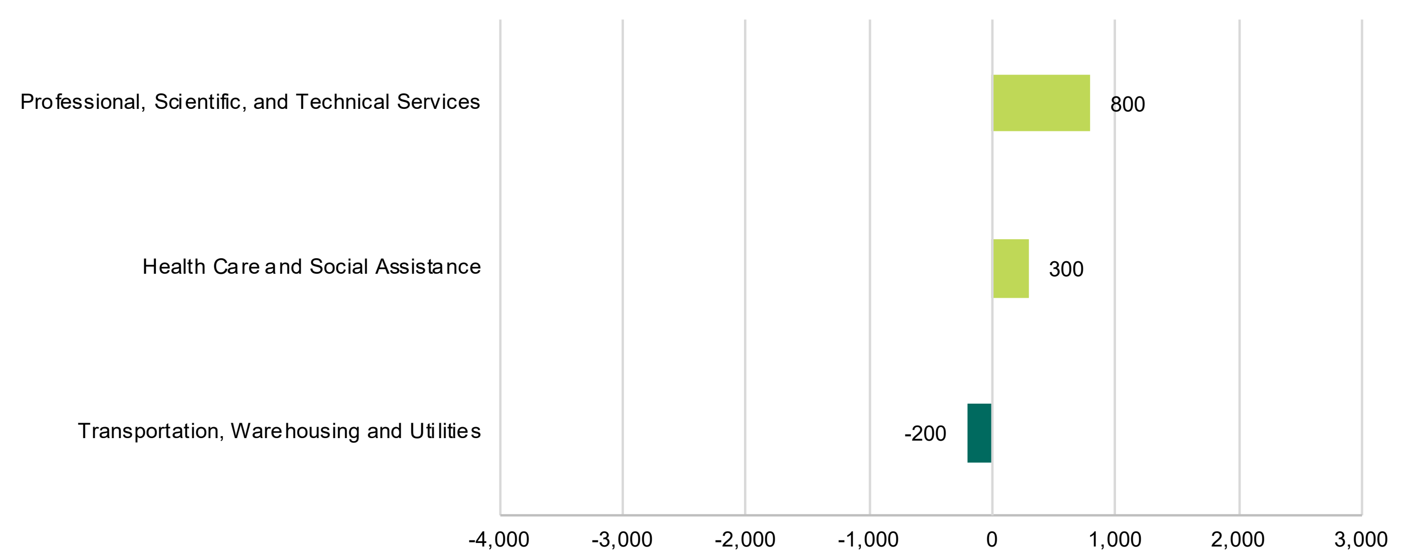
MICHIGAN OVER THE MONTH PAYROLL JOB CHANGE (IN THOUSANDS)



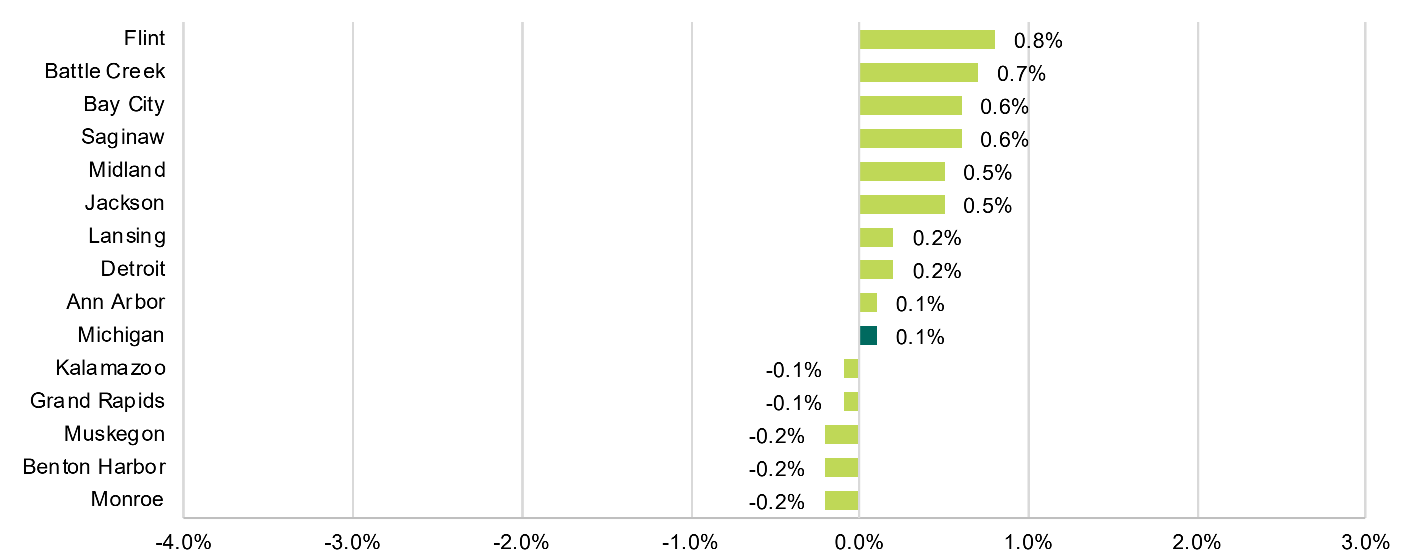
JOB SHARE BY MAJOR INDUSTRY SECTOR, MICHIGAN VS. U.S (2017 ANNUAL AVERAGE)

	MICHIGAN		U.S.	
	LEVEL	PERCENT	LEVEL	PERCENT
Total Nonfarm	**4,371,300**	**100.0%**	**146,624,000**	**100.0%**
Mining and Logging	7,100	0.2%	678,000	0.5%
Construction	162,800	3.7%	6,955,000	4.7%
Manufacturing	614,700	14.1%	12,444,000	8.5%
Trade, Transportation, and Utilities	788,100	18.0%	27,494,000	18.8%
Information	56,500	1.3%	2,795,000	1.9%
Financial Activities	218,100	5.0%	8,455,000	5.8%
Professional and Business Services	648,200	14.8%	20,467,000	14.0%
Educational and Health Services	671,300	15.4%	23,186,000	15.8%
Leisure and Hospitality	432,500	9.9%	16,052,000	10.9%
Other Services	168,100	3.8%	5,776,000	3.9%
Government	604,000	13.8%	22,322,000	15.2%

MICHIGAN OVER THE MONTH JOB CHANGE BY SELECT INDUSTRY (JULY-AUGUST 2018)



METROPOLITAN AREA JOB CHANGE JULY-AUGUST 2018 (NOT SEASONALLY ADJUSTED)



REGIONAL LABOR MARKET ANALYSIS

ANN ARBOR METROPOLITAN AREA

- The Ann Arbor metro area jobless rate declined by a full percentage point over the month, to 3.0 percent in August.
- The number of unemployed was down nearly 30 percent over the year.

MONTHLY INDUSTRY DEVELOPMENTS

- Payroll employment in Ann Arbor edged up slightly by 300, or 0.1 percent, between July and August.
- Increases in *Government* and *Durable goods* were partially offset by minor job reductions in multiple industries, such as *Information* and *Leisure and hospitality*.

INDUSTRY TRENDS

- *Mining, logging and construction* in Ann Arbor reached a ten-year high level of 5,100 jobs in August.

BAY CITY METROPOLITAN AREA

- The Bay City metro region unemployment rate dropped by 1.4 percentage points in August, to 4.0 percent.
- The civilian labor force declined by 1.6 percent over the month, similar to the trend statewide.

MONTHLY INDUSTRY DEVELOPMENTS

- Total nonfarm jobs in Bay City edged up by 200, or 0.6 percent, over the month due to an advancement in jobs in the *Government* sector.

INDUSTRY TRENDS

- On a percentage basis, the Bay City metro region matched Michigan's over-the-year total nonfarm employment gain, up 1.4 percent since August 2017.

FLINT METROPOLITAN AREA

- Joblessness in the Flint metro area declined sharply by 1.9 percentage points over the month, to 4.3 percent in August.
- Total employment remained unchanged over the year.

MONTHLY INDUSTRY DEVELOPMENTS

- Payroll jobs in Flint advanced by 1,100 over the month, or 0.8 percent, primarily due to recalls of workers on temporary layoff in the *Transportation equipment manufacturing* industry.

INDUSTRY TRENDS

- For the third consecutive month, *Wholesale trade* in the Flint region exhibited its ten-year high value of 6,000 jobs.
- Jobs in the *Mining, logging, and construction* sector in Flint in August reached the highest level since 2006.

BATTLE CREEK METROPOLITAN AREA

- The Battle Creek unemployment rate fell by a full percentage point in August, solely due to fewer jobseekers in the labor market. Employment was flat over the month.
- Since August 2017, the jobless rate declined significantly (-1.7 percentage points).

MONTHLY INDUSTRY DEVELOPMENTS

- August nonfarm payroll jobs in the Battle Creek MSA inched up by 400 to a total of 58,600, with job gains in *Retail trade*, and in private *Educational and health services*.
- Since August 2017, jobs in *Manufacturing* and *Professional and business services* grew. Employment in most other sectors was flat or down.

INDUSTRY TRENDS

- Since 2009, jobs in *Professional and business services* in the Battle Creek MSA moved up by 17 percent, well under the state average.

DETROIT-WARREN-DEARBORN METRO AREA

- Detroit's jobless rate declined by 0.8 percentage points in August, reaching a rate of 4.2 percent.
- The region recorded the smallest reduction in total unemployed over the year out of all Michigan metro regions, down by 18.3 percent since August 2017.

MONTHLY INDUSTRY DEVELOPMENTS

- Detroit metro jobs in August rose by 3,600, or 0.2 percent. This reflected a 3,500-job gain in *Manufacturing*, as auto workers were recalled from temporary layoffs in July.

INDUSTRY TRENDS

- *Transportation, warehousing, and utilities* has been edging up over the year, culminating in an all-time high level of 73,700 jobs in August.

GRAND RAPIDS-WYOMING METRO AREA

- The Grand Rapids unemployment rate dropped 0.9 percentage points since July, to 2.7 percent in August.
- The region was one of only two metro areas to exhibit an increase in civilian labor force over the year (the other being Monroe), edging up by 0.3 percent since August 2017.

MONTHLY INDUSTRY DEVELOPMENTS

- Payroll employment in Grand Rapids inched down by 700 over the month (-0.1 percent), with minor job cuts seen in several major industries in the region.

INDUSTRY TRENDS

- Grand Rapids' *Management of companies and enterprises* sector registered its ten-year high level of 6,700 jobs for the third consecutive month in August.

CIVILIAN LABOR FORCE AND NONFARM PAYROLL JOBS

	ANN ARBOR			BATTLE CREEK			BAY CITY		
	AUG 2018	JULY 2018	AUG 2017	AUG 2018	JULY 2018	AUG 2017	AUG 2018	JULY 2018	AUG 2017
PLACE OF RESIDENCE									
Labor Force	191,900	194,600	192,500	62,900	63,700	64,100	50,400	51,200	51,100
Employment	186,000	186,800	184,300	60,600	60,600	60,500	48,400	48,400	48,100
Unemployment	5,800	7,800	8,200	2,400	3,100	3,500	2,000	2,700	3,100
Rate (percent)	3.0	4.0	4.3	3.8	4.8	5.5	4.0	5.4	6.0
PLACE OF WORK									
Total Nonfarm Jobs	217,800	217,500	215,600	58,600	58,200	58,300	35,800	35,600	35,300
Mining, Logging, and Construction	5,100	5,000	4,700	1,900	1,900	1,800	1,300	1,300	1,200
Manufacturing	15,100	15,100	15,000	12,700	12,700	12,100	4,500	4,500	4,200
Trade, Transportation, and Utilities	25,900	25,700	26,300	9,200	9,000	9,300	7,800	7,700	7,700
Wholesale Trade	6,200	6,100	6,100	*	*	*	*	*	*
Retail Trade	15,900	15,900	16,600	5,700	5,600	5,700	5,300	5,200	5,200
Information	5,100	5,200	5,100	*	*	*	500	500	500
Financial Activities	7,300	7,300	7,300	1,200	1,200	1,200	1,300	1,300	1,300
Professional and Business Services	29,900	30,000	29,800	6,300	6,300	6,000	2,700	2,800	2,700
Educational and Health Services	27,400	27,400	26,900	10,600	10,500	10,800	6,600	6,600	6,700
Leisure and Hospitality	18,900	19,000	18,200	4,700	4,700	4,700	4,500	4,500	4,500
Other Services	6,400	6,400	6,500	1,900	1,900	1,900	1,300	1,300	1,400
Government	76,700	76,400	75,800	10,000	10,000	10,100	5,300	5,100	5,100

	DETROIT-WARREN-DEARBORN			FLINT			GRAND RAPIDS-WYOMING		
	AUG 2018	JULY 2018	AUG 2017	AUG 2018	JULY 2018	AUG 2017	AUG 2018	JULY 2018	AUG 2017
PLACE OF RESIDENCE									
Labor Force	2,115,000	2,137,000	2,141,000	181,300	184,800	184,900	575,300	585,500	573,400
Employment	2,026,000	2,029,000	2,032,000	173,500	173,300	173,500	559,600	564,400	550,000
Unemployment	89,000	108,000	109,000	7,900	11,500	11,300	15,700	21,200	23,400
Rate (percent)	4.2	5.0	5.1	4.3	6.2	6.1	2.7	3.6	4.1
PLACE OF WORK									
Total Nonfarm Jobs	2,027,500	2,023,900	2,009,600	140,800	139,700	140,900	562,300	563,000	550,200
Mining, Logging, and Construction	82,500	81,400	77,900	6,400	6,300	6,000	27,400	27,100	25,000
Manufacturing	256,500	253,000	255,500	12,200	11,200	12,600	118,200	118,900	116,200
Trade, Transportation, and Utilities	372,100	372,200	368,900	29,900	30,000	30,000	97,600	97,800	96,900
Wholesale Trade	88,700	88,700	87,000	6,000	6,000	5,900	32,100	31,900	31,700
Retail Trade	209,700	210,500	212,600	19,800	20,000	20,200	49,800	50,200	49,700
Information	26,700	26,900	27,700	3,800	3,900	4,100	5,400	5,400	5,600
Financial Activities	117,000	117,700	116,700	6,100	6,100	6,100	26,200	26,300	26,000
Professional and Business Services	390,600	389,100	394,100	15,600	15,700	15,000	77,000	77,500	76,200
Educational and Health Services	313,800	314,500	310,800	28,300	28,100	28,300	91,900	91,400	89,300
Leisure and Hospitality	219,300	218,900	208,700	15,600	15,600	15,800	52,000	52,400	50,800
Other Services	76,900	76,700	76,900	5,500	5,500	5,500	22,700	22,800	22,500
Government	172,100	173,500	172,400	17,400	17,300	17,500	43,900	43,400	41,700

* Data Not Available

JACKSON METROPOLITAN AREA

- In August, the unemployment rate in the Jackson MSA fell by 1.1 percentage points. This primarily reflected fewer residents seeking jobs (-900).
- Over the past year, employment remained stable but labor force levels dropped by 1,300, solely from a reduction in the number of regional unemployed.

MONTHLY INDUSTRY DEVELOPMENTS

- Jackson metro area job levels inched up by 300 in August, mostly from a 200-job gain in *Government*.
- Since August 2017, *Retail trade* and private *Educational and health services* cut jobs, and employment in *Manufacturing* and *Professional and business services* improved.

INDUSTRY TRENDS

- Since 2009, jobs in *Professional and business services* in the Jackson area have expanded, with much of the growth recorded in the past three years.

LANSING-EAST LANSING METRO AREA

- The unemployment rate in Lansing fell by 1.4 percentage points over the month, to 3.1 percent in August. This was the lowest rate recorded so far in 2018.
- Total employment advanced by 1.6 percent over the year, ranking high among Michigan metro areas.

MONTHLY INDUSTRY DEVELOPMENTS

- Total nonfarm employment in Lansing rose by 500 over the month, or 0.2 percent.
- Increases in *Manufacturing*, and *Trade, transportation, and utilities* were partially offset by a large seasonal job cut in *Government*.

INDUSTRY TRENDS

- The region's *Manufacturing* sector demonstrated a ten-year high of 21,200 jobs in August, a level last seen in June of 2008.

MONROE METROPOLITAN AREA

- The Monroe metro area unemployment rate edged down by 0.4 percentage points over the month, to 4.5 percent in August.
- The region had the smallest monthly jobless rate decline among Michigan metro areas in August, and the highest unemployment rate.

MONTHLY INDUSTRY DEVELOPMENTS

- Payroll job levels were essentially unchanged in August (-100) with small job cuts in *Manufacturing* and *Government*.

INDUSTRY TRENDS

- *Transportation, warehousing, and utilities* in Monroe reached its ten-year high level of 4,000 jobs in August, although jobs in this sector have been relatively flat since 2015.

KALAMAZOO-PORTAGE METRO AREA

- August joblessness in the Kalamazoo-Portage metro area fell by over a full percentage point to 3.3 percent, as the size of the workforce declined. Both the number of unemployed and employed moved down in August.
- Since August 2017, unemployment dropped by 2,900, and employment advanced by 1,600. This caused a sharp unemployment rate cut of 1.7 percentage points.

MONTHLY INDUSTRY DEVELOPMENTS

- Payroll jobs were little changed in Kalamazoo-Portage in August (-200). Jobs are usually near a seasonal low point in August, and were at the lowest level since January.
- Over the past year, jobs advanced by 2,100 or 1.4 percent. Job gains occurred in *Construction, Health care*, *Leisure and hospitality*, and *Retail trade*.

INDUSTRY TRENDS

- Since 2009, employment in *Wholesale trade* in the Kalamazoo-Portage MSA advanced by almost three times the industry expansion rate of 17 percent statewide.

MIDLAND METROPOLITAN AREA

- Midland's unemployment rate decreased by a full percentage point over the month, to 3.4 percent in August.
- The civilian labor force in the region fell by 1.2 percent both over the month and over the year.

MONTHLY INDUSTRY DEVELOPMENTS

- Nonfarm employment in Midland edged up by 200, or half a percent, between July and August.

INDUSTRY TRENDS

- *Goods-producing employment* in Midland has remained unchanged over the past three months at a level of 8,300 jobs. Jobs in this sector are down slightly so far in 2018.

MUSKEGON METROPOLITAN AREA

- Unemployment in Muskegon moved down by 1.3 percentage points in August to 4.1 percent.
- Total employment edged up by 0.4 percent over the year, similar to the state's advance of 0.3 percent.

MONTHLY INDUSTRY DEVELOPMENTS

- Muskegon nonfarm jobs inched down by 100 in August (-0.2 percent), primarily due to a 200-job reduction in *Leisure and hospitality*.

INDUSTRY TRENDS

- Muskegon's *Goods-producing* sector registered a 14-year high level of 16,500 jobs in August, a level last seen in October of 2004.

CIVILIAN LABOR FORCE AND NONFARM PAYROLL JOBS

	JACKSON			KALAMAZOO-PORTAGE			LANSING-EAST LANSING		
	AUG 2018	JULY 2018	AUG 2017	AUG 2018	JULY 2018	AUG 2017	AUG 2018	JULY 2018	AUG 2017
PLACE OF RESIDENCE									
Labor Force	73,100	74,100	74,400	166,300	169,000	167,500	243,300	247,700	243,900
Employment	70,500	70,600	70,500	160,700	161,600	159,100	235,600	236,600	231,800
Unemployment	2,600	3,500	3,900	5,500	7,400	8,400	7,700	11,000	12,100
Rate (percent)	3.6	4.7	5.2	3.3	4.4	5.0	3.1	4.5	4.9
PLACE OF WORK									
Total Nonfarm Jobs	57,700	57,400	57,900	147,800	148,000	145,700	231,700	231,200	227,400
Mining, Logging, and Construction	2,200	2,200	2,100	7,600	7,500	6,900	8,500	8,500	8,200
Manufacturing	10,300	10,300	9,900	21,900	22,000	21,600	21,200	20,700	19,700
Trade, Transportation, and Utilities	12,100	12,200	12,600	27,700	27,900	27,300	38,800	38,200	37,700
Wholesale Trade	*	*	*	7,500	7,500	7,400	6,000	6,000	5,900
Retail Trade	6,200	6,200	6,600	16,500	16,700	16,200	22,600	22,100	22,000
Information	300	300	300	800	800	900	2,600	2,600	2,800
Financial Activities	2,000	2,000	2,000	8,600	8,600	8,500	16,900	16,900	16,700
Professional and Business Services	4,900	4,800	4,400	16,500	16,700	16,600	23,400	23,500	22,200
Educational and Health Services	10,300	10,300	10,600	24,100	24,100	23,700	31,900	31,800	31,500
Leisure and Hospitality	5,700	5,600	5,800	16,900	16,900	16,600	18,200	18,100	19,400
Other Services	2,500	2,500	2,600	5,200	5,300	5,200	10,200	10,300	10,500
Government	7,400	7,200	7,600	18,500	18,200	18,400	60,000	60,600	58,700

	MIDLAND			MONROE			MUSKEGON		
	AUG 2018	JULY 2018	AUG 2017	AUG 2018	JULY 2018	AUG 2017	AUG 2018	JULY 2018	AUG 2017
PLACE OF RESIDENCE									
Labor Force	40,300	40,800	40,800	76,400	77,100	76,100	78,000	79,900	79,400
Employment	38,900	38,900	38,800	72,900	73,300	71,800	74,900	75,500	74,600
Unemployment	1,400	1,800	2,000	3,500	3,800	4,300	3,200	4,300	4,800
Rate (percent)	3.4	4.4	5.0	4.5	4.9	5.7	4.1	5.4	6.1
PLACE OF WORK									
Total Nonfarm Jobs	37,500	37,300	37,400	42,000	42,100	41,000	65,600	65,700	65,200
Mining, Logging, and Construction	*	*	*	1,900	1,900	1,900	2,300	2,300	2,200
Manufacturing	*	*	*	5,500	5,600	5,600	14,200	14,100	13,900
Trade, Transportation, and Utilities	*	*	*	11,300	11,200	11,100	13,500	13,500	13,700
Wholesale Trade	*	*	*	1,900	1,900	1,900	*	*	*
Retail Trade	*	*	*	5,400	5,400	5,300	10,900	10,900	11,100
Information	*	*	*	*	*	*	800	800	800
Financial Activities	*	*	*	1,000	1,000	1,000	1,800	1,800	1,800
Professional and Business Services	*	*	*	5,500	5,500	4,900	3,500	3,500	3,600
Educational and Health Services	*	*	*	5,000	5,000	5,100	12,000	12,000	11,800
Leisure and Hospitality	*	*	*	5,100	5,000	4,800	8,500	8,700	8,500
Other Services	*	*	*	1,500	1,400	1,500	2,400	2,400	2,400
Government	2,600	2,600	2,600	4,600	4,700	4,500	6,600	6,600	6,500

* Data Not Available

NILES-BENTON HARBOR METRO AREA

- The August jobless rate in the Niles-Benton Harbor MSA was down by one full percentage point to 3.8 percent. Both employment and the number of unemployed decreased by 800.
- Over the last year, the area jobless rate moved down markedly by 1.5 percentage points, despite little change in employment. Since August 2017, the labor force fell by 1,400.

MONTHLY INDUSTRY DEVELOPMENTS

- Jobs in the Niles-Benton Harbor MSA were little changed in August. Payroll jobs generally peak seasonally in June, and usually decline from August through December.
- Since August 2017, Niles-Benton Harbor payroll jobs inched up 200, with job additions in the *Manufacturing* sector, among others.

INDUSTRY TRENDS

- Jobs in *Financial activities* in the Niles-Benton Harbor MSA improved by 300 over the past two years. Between 2009 and 2016, employment in *Financial activities* hovered around 2,300.

SAGINAW METROPOLITAN AREA

- The Saginaw regional jobless rate fell by 1.6 percentage points in August to 4.2 percent.
- The number of regional unemployed dropped significantly by nearly 31 percent since August 2017.

MONTHLY INDUSTRY DEVELOPMENTS

- Nonfarm employment in Saginaw advanced by 500 over the month, or 0.6 percent, primarily due to job recalls in the region's *Manufacturing* sector.

INDUSTRY TRENDS

- For the second consecutive month, Saginaw's *Mining, logging and construction* sector had a nine-year high of 3,300 jobs in August.

CIVILIAN LABOR FORCE AND NONFARM PAYROLL JOBS

	NILES-BENTON HARBOR			SAGINAW		
	AUG 2018	JULY 2018	AUG 2017	AUG 2018	JULY 2018	AUG 2017
PLACE OF RESIDENCE						
Labor Force	73,600	75,300	75,000	86,700	88,100	87,800
Employment	70,800	71,600	71,000	83,100	83,100	82,600
Unemployment	2,800	3,600	4,000	3,600	5,100	5,200
Rate (percent)	3.8	4.8	5.3	4.2	5.8	5.9
PLACE OF WORK						
Total Nonfarm Jobs	63,700	63,800	63,500	88,000	87,500	87,200
Mining, Logging, and Construction	2,100	2,100	2,000	3,300	3,300	3,100
Manufacturing	14,000	14,000	13,400	12,500	12,000	12,500
Trade, Transportation, and Utilities	11,300	11,400	11,300	16,400	16,500	17,000
Wholesale Trade	*	*	*	2,200	2,200	2,300
Retail Trade	6,900	6,900	7,000	11,600	11,700	12,200
Information	500	500	500	1,200	1,200	1,300
Financial Activities	2,600	2,600	2,400	3,700	3,700	3,700
Professional and Business Services	4,500	4,600	5,400	12,000	11,700	11,300
Educational and Health Services	9,100	9,100	9,400	16,000	15,900	16,100
Leisure and Hospitality	8,900	8,900	8,600	9,200	9,300	9,200
Other Services	2,400	2,400	2,400	3,300	3,300	3,300
Government	8,300	8,200	8,100	10,400	10,600	9,700

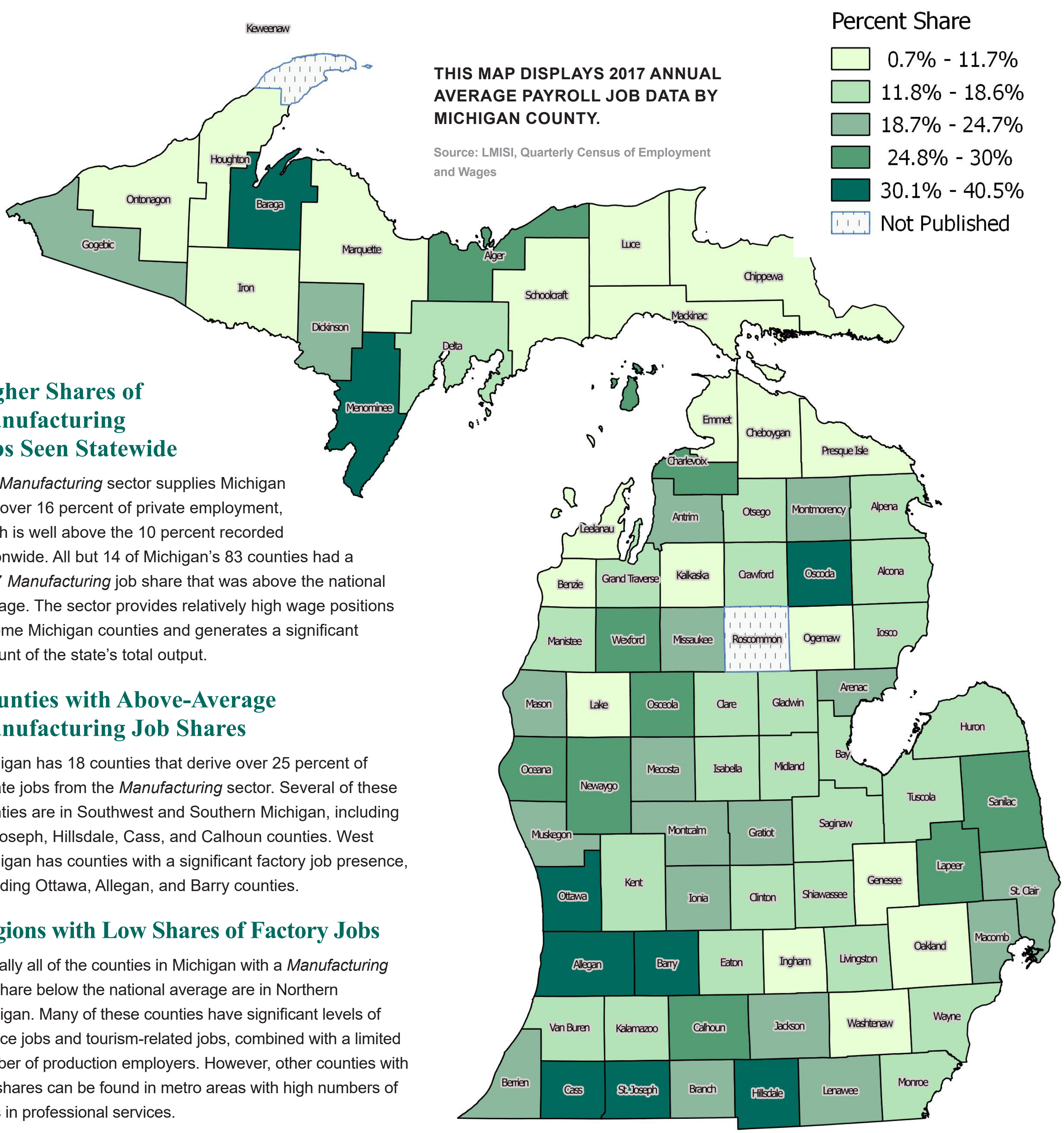
	UPPER PENINSULA			NORTHEAST MICHIGAN			NORTHWEST MICHIGAN		
	AUG 2018	JULY 2018	AUG 2017	AUG 2018	JULY 2018	AUG 2017	AUG 2018	JULY 2018	AUG 2017
PLACE OF RESIDENCE									
Labor Force	137,300	139,500	139,700	83,700	85,900	85,100	156,900	161,700	157,700
Employment	131,600	132,100	131,400	79,700	80,700	79,400	151,600	154,700	149,800
Unemployment	5,700	7,500	8,400	3,900	5,200	5,700	5,300	7,000	7,900
Rate (percent)	4.1	5.3	6.0	4.7	6.1	6.7	3.4	4.3	5.0

MAP OF THE MONTH:

MANUFACTURING JOBS AS A SHARE OF TOTAL PRIVATE EMPLOYMENT BY COUNTY

THIS MAP DISPLAYS 2017 ANNUAL AVERAGE PAYROLL JOB DATA BY MICHIGAN COUNTY.

Source: LMISI, Quarterly Census of Employment and Wages



Higher Shares of Manufacturing Jobs Seen Statewide

The *Manufacturing* sector supplies Michigan with over 16 percent of private employment, which is well above the 10 percent recorded nationwide. All but 14 of Michigan's 83 counties had a 2017 *Manufacturing* job share that was above the national average. The sector provides relatively high wage positions in some Michigan counties and generates a significant amount of the state's total output.

Counties with Above-Average Manufacturing Job Shares

Michigan has 18 counties that derive over 25 percent of private jobs from the *Manufacturing* sector. Several of these counties are in Southwest and Southern Michigan, including St. Joseph, Hillsdale, Cass, and Calhoun counties. West Michigan has counties with a significant factory job presence, including Ottawa, Allegan, and Barry counties.

Regions with Low Shares of Factory Jobs

Virtually all of the counties in Michigan with a *Manufacturing* job share below the national average are in Northern Michigan. Many of these counties have significant levels of service jobs and tourism-related jobs, combined with a limited number of production employers. However, other counties with low shares can be found in metro areas with high numbers of firms in professional services.

BRUCE WEAVER
Economic Manager

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Demographic Analyst

JOB TRENDS IN THE MICHIGAN MANUFACTURING AND AUTO-RELATED SECTORS

The *Manufacturing* sector in the United States comprises a significant share of the nation's gross domestic product and employment, with 11.6 million employees producing goods nationwide. In Michigan, the sector is of particular importance, due in part to the numerous auto production firms and auto-related companies that generate jobs and income for the state's economy. This article outlines the trends in Michigan's *Manufacturing* industry over the past ten years, with a focus on the auto production sector and a set of auto-related industries.

What is unique about the impact of the *Manufacturing* and auto-related sectors in Michigan?

- In 2017, *Manufacturing* made up 19 percent of Michigan's gross domestic product, while accounting for only about 10 percent of the nation's GDP.
- In 2017, jobs in Michigan's *Transportation equipment manufacturing* sector comprised 4.3 percent of total nonfarm employment, while the sector made up only 1.1 percent of total jobs nationwide.
- *Transportation equipment manufacturing* jobs in Michigan rose nearly 58 percent between 2009 and 2017, an increase almost three times that of the U.S during the same period.

What is meant by the term *Manufacturing*? Businesses are classified in this industry if engaged in transforming materials, substances, and components into various new products. Businesses in this sector can be large or very small employers and are often characterized as factories, plants, or mills.

The three largest subsectors in *Manufacturing* in Michigan in terms of job levels include *Transportation equipment manufacturing*, which is dominated in Michigan by the production of autos and auto parts, *Fabricated metal products*, and *Machinery manufacturing*. In 2017, these three industries alone contributed over half of Michigan *Manufacturing* jobs, with over 340,000 jobs.

Manufacturing has experienced a dramatic uptick in job growth in Michigan since the Great Recession. In the past eight years since the depths of the downturn in 2009, Michigan *Manufacturing* jobs rose by 35 percent. Jobs have steadily increased since 2010. Michigan was severely impacted by layoffs and permanent job cuts in this sector during the national recession, as *Manufacturing* employment fell nearly 20 percent in 2009. The largest rebound in jobs on a percentage basis occurred in 2011, when *Manufacturing* employment rose 7.7 percent. In 2017, payroll jobs in this sector edged up by 1.7 percent.

Michigan's Manufacturing Gross Domestic Product and Export Trends

Manufacturing contributes a particularly large portion of Michigan's gross domestic product, largely due to the presence of the automotive sector in the state. In 2017, the *Manufacturing* industry in Michigan accounted for approximately 19 percent of the state's total gross domestic product.

In comparison with all states, Michigan ranked sixth in the value of manufactured goods exports in 2017. Manufactured goods exports represented 95 percent of the volume of all goods exports from the state, a higher share than any other state in the nation.

State Ranking of Manufacturing Job Change

Since 2007, Michigan has experienced dramatic changes in terms of *Manufacturing* employment, both numerically and on a percentage basis. In 2007, Michigan ranked 49th among U.S. states in terms of percentage job change over the year, recording an over-the-year job decline of 4.7 percent, and ranked 50th in terms of numeric job change in the nation. *Manufacturing* jobs hit a recessionary low in 2009, and Michigan ranked 50th in terms of over the year growth in 2008-2009 on a percentage basis, and 48th on a numeric basis.

However, since the post-recessionary job recovery began in 2010, Michigan has clearly outperformed most states in *Manufacturing* job gains. Michigan ranked n the top three nationwide in percent job expansion for five consecutive years from 2010 to 2014. Michigan has ranked 1st or 2nd nationally for eight straight years in the number of *Manufacturing* jobs added. Job growth slowed a bit to 1.7 percent in 2017, but these rankings demonstrate the quick yet dramatic drop in jobs during the

recession, as well as the rapid recovery of jobs in the *Manufacturing* sector statewide.

Michigan job levels in this sector in 2017 reached 614,700, which slightly exceeded 2007 levels. However, jobs remain well below the recent peak of 887,800 jobs in 1999.

Transportation Equipment Manufacturing

Michigan's *Transportation equipment manufacturing* sector makes up a large portion of total *Manufacturing* jobs, encompassing nearly 31 percent of industry jobs in 2017. Most, but not all, jobs in this sector in Michigan are related to auto production. Employment in *Transportation equipment manufacturing* fell nearly 27 percent in 2009, the peak of the recession, and the sector has been adding jobs since then. The largest recent annual increase in jobs occurred in 2011 (+10.8 percent), and jobs in the *Transportation equipment manufacturing* sector have continued to rise, although at a more moderate pace.

The Bureau of Labor Statistics publishes state payroll job estimates for *Transportation equipment manufacturing* for 34 states. Michigan had among the highest percent job loss among states in this sector from 2007 through 2009. However, with the recovery in the auto industry, Michigan ranked in the top ten states in most years in percent job gains from 2010 to 2017. Since 2010, Michigan consistently led the nation in the number of jobs added annually in the *Transportation equipment manufacturing* sector.

The next section will focus on the many industries in Michigan that are closely tied to the auto industry.

Michigan Automotive-Related Employment

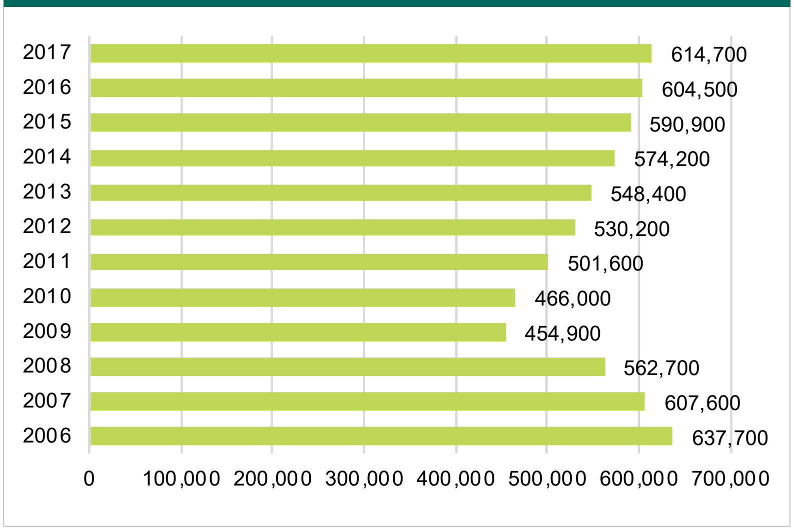
2017 Overview

The jobs created by or closely associated with the automotive sector in Michigan go well beyond the production jobs reflected in the *Transportation equipment manufacturing* industry. Automotive-related jobs in Michigan include a variety of diverse industries, from direct production jobs in *Motor vehicle manufacturing* and *Motor vehicle parts manufacturing* to key professional service industries such as *Engineering services*.

The *Automotive-related* sector in Michigan can be grouped into four primary categories. These include an *Automotive production* component, an *Other auto-related manufacturing* group, an *Auto-related wholesale trade* component, and the *Auto-related professional services* category. Combined, industries within these groups provided nearly 496,000 jobs during 2017, which accounted for 13.3 percent of private Michigan nonfarm jobs.

The largest of these four groups in terms of jobs is the *Automotive production* group. Payrolls in this sector averaged 180,300 during 2017, with 73 percent of these jobs located in the *Motor vehicle parts manufacturing* (131,350 jobs) subsector. The second largest industry

MANUFACTURING JOBS IN MICHIGAN, 2006-2017



MICHIGAN MANUFACTURING JOB RANKING, 2007-2017

YEAR	PERCENT JOB CHANGE	RANK	NUMERIC JOB CHANGE (IN THOUSANDS)	RANK
2007	-4.7%	49	-30.1	50
2008	-7.4%	50	-44.9	50
2009	-19.2%	50	-107.8	48
2010	2.4%	1	11.1	1
2011	7.6%	2	35.6	1
2012	5.7%	2	28.6	2
2013	3.4%	3	18.2	1
2014	4.7%	1	25.8	1
2015	2.9%	6	16.7	2
2016	2.3%	7	13.6	1
2017	1.7%	12	10.2	1

group was the *Auto-related professional services* sector (172,900 jobs) with nearly half of these positions in *Engineering services*. The *Other auto-related manufacturing* group supplied 91,600 jobs in 2017, with the remaining auto-related jobs (51,100) in the *Auto-related wholesale trade* group.

The automotive sector has a significantly higher weekly wage than the average for all private sector Michigan workers. The *Auto-related professional services* group had the largest average weekly wage, nearly 2.5 times above the average for all private sector workers during 2017. This was primarily due to the presence of many high-skill occupations, including many engineering job titles, in this industry group.

Employment Trends

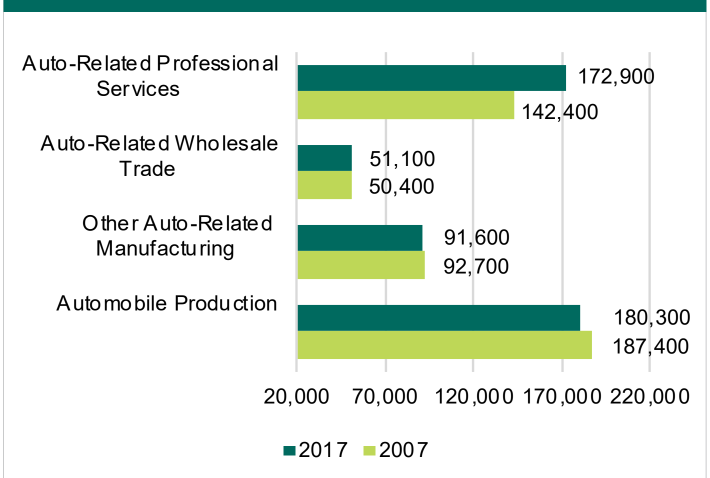
As was the case with the overall *Manufacturing* sector, *Automotive-related* jobs registered sharp movements during and after the Great Recession. Between 2006 and 2009, total private sector employment contracted by 12.1 percent, but the percent job loss in the *Automotive-related* sector was a worse 31.2 percent. As Michigan's labor market began to recover, the *Automotive-related* sector was a key component in job creation, expanding by nearly three times the rate of total private sector jobs for the period 2010 through 2014. Recently, *Automotive-related* job growth in Michigan has moderated but remained positive, advancing by 7.9 percent during the period 2014 through 2017.

Within the broad automotive sector, the sharpest recessionary employment drops occurred in the *Automotive production* and *Other auto-related manufacturing* groups. Between 2006 and 2009, job levels plunged by 44.2 percent and 32.2 percent, respectively. Significant employment reductions were also recorded in the *Auto-related professional services* and *Auto-related wholesale trade* groups.

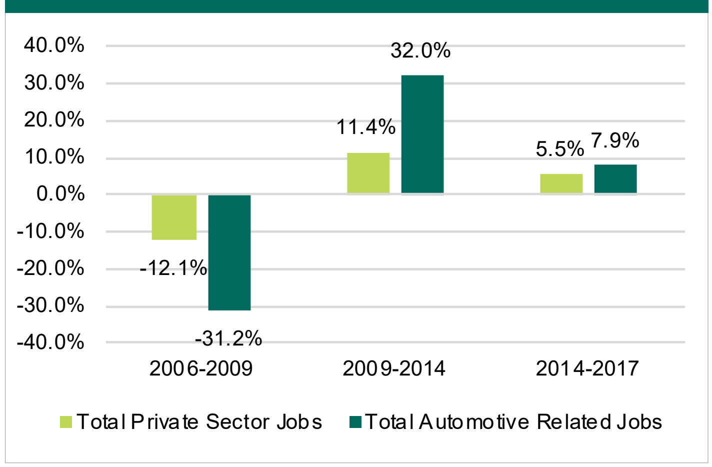
The dramatic drop in jobs in the *Automotive production* sector was centered in *Motor vehicle manufacturing* and *Motor vehicle parts manufacturing* and was due to the economic downturn as well as the historic restructuring of the auto industry. The significant decline in jobs in the *Other auto-related manufacturing* sector was due to the reduced demand for intermediate goods during the 2009 recession. This impacted industries such as those involved in plastics and rubber production, glass products, and foundries. The largest recessionary employment losses in *Auto-related wholesale trade* were reported by *Motor vehicle supply and new parts merchant wholesalers*. Payroll reductions in *Auto-related professional services* ranged from 17.5 percent to 22.0 percent in the component industries. In total, the number of Michigan *Automotive-related* jobs lost from 2006 to 2009 was 157,600.

The 2010-2014 period saw strong job recovery in the very same sectors with the largest recessionary job losses. Employment levels in *Automotive production* grew sharply by 42.3 percent, and by 36.3 percent in *Other auto-related manufacturing*. Large job increases occurred in industries such as *Motor vehicle manufacturing*, *Motor vehicle parts manufacturing*, *Rubber and plastic hoses and belting manufacturing*, *Iron and steel mills*, and *All other plastics product manufacturing*. Despite this strong rebound, however, the number of workers in these two groups in 2014 remained below 2007 levels. The *Auto-related professional services* (+27.4 percent) and *Auto-related wholesales trade* (+11.5 percent) groups also registered double-digit job expansion during the 2010-2014 period. This growth brought employment levels above pre-recession levels in

MICHIGAN AUTOMOTIVE-RELATED SECTOR JOB LEVEL COMPARISON, 2007 VS 2017



MICHIGAN JOB TRENDS TOTAL PRIVATE SECTOR VS. AUTOMOTIVE-RELATED SECTOR (SELECTED YEARS)



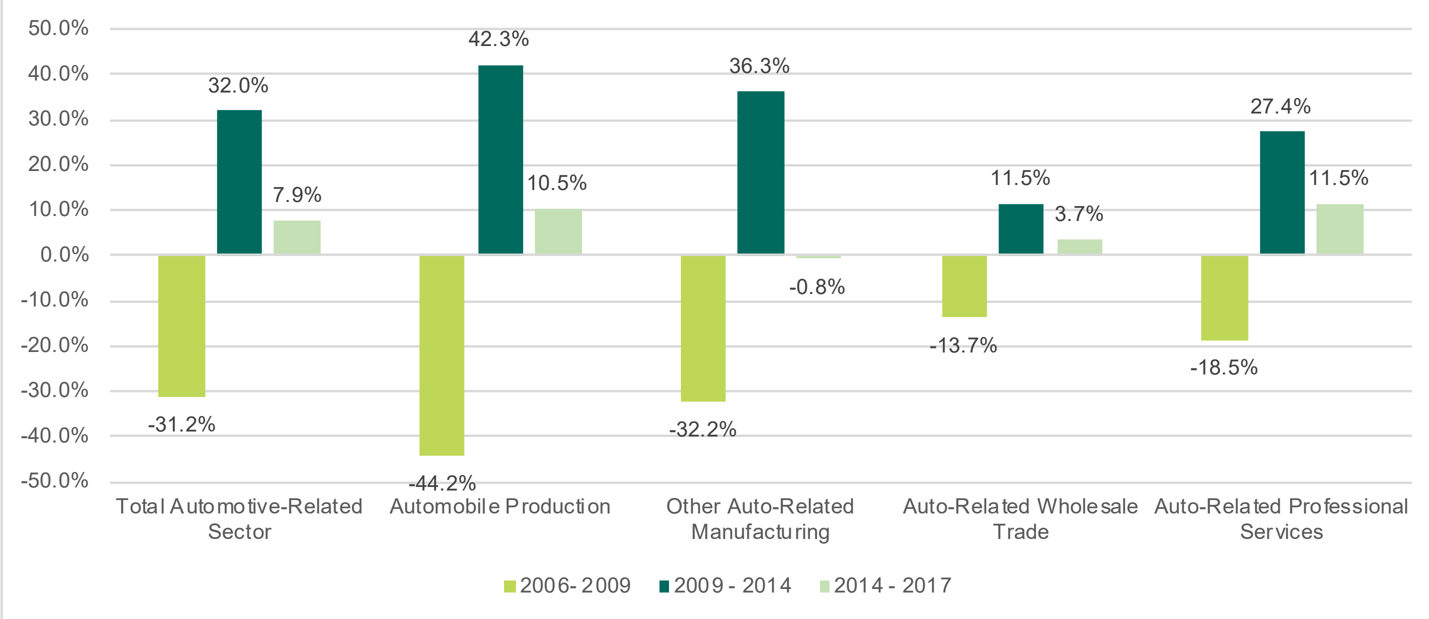
MICHIGAN AUTOMOTIVE-RELATED SECTOR JOBS AND WAGES, 2017

GROUP	NUMBER OF JOBS	AVERAGE WEEKLY WAGE
Total, Private Sector	**3,734,400**	**$1,006.00**
Total Automotive-Related Sector	**495,900**	**$1,409.51**
Automotive Production	180,300	$1,425.25
Other Auto-Related Manufacturing	91,600	$1,300.00
Auto-Related Wholesale Trade	51,100	$1,600.67
Auto-Related Professional Services	172,900	$2,465.11

MICHIGAN AUTOMOTIVE-RELATED SECTOR JOB CHANGE

SECTOR	2006-2009	2009-2014	2014-2017
Total Private Sector	**-438,500**	**363,300**	**196,200**
Total Automotive-Related Sector	**-157,600**	**111,500**	**36,100**
Automobile Production	-90,800	48,500	17,100
Other Auto-Related Manufacturing	-32,100	24,600	-700
Auto-Related Wholesale Trade	-7,000	5,100	1,800
Auto-Related Professional Services	-27,700	33,300	17,900

AUTOMOTIVE-RELATED SECTOR JOB TRENDS



the *Auto-related professional services* group, but was not enough to reach the pre-recession mark in *Auto-related wholesale trade*. The total number of *Automotive-related* jobs added during this period was 111,500.

Recently, employment trends in the automotive sector have moderated. Between 2014 and 2017, job levels among all *Automotive-related* industries grew by 7.9 percent or by 36,100. These additions have brought the total number of jobs in this sector to 495,900, which is 4.8 percent above the prerecessionary 2007 level. In percentage terms, the largest job advance over this period occurred in *Auto-related professional services* (+11.5 percent), followed by *Automobile production* (+10.5 percent), and *Auto-related wholesale trade* (+3.7 percent). The industries most responsible for this continued growth included *Motor vehicle parts manufacturing*, *Engineering services*, *Management of companies and enterprises*, and *Industrial machinery and equipment merchant wholesalers*.

Despite the continued expansion in these three industry groups, the only sector to reach employment levels significantly above 2007 pre-recessionary totals was the *Auto-related professional services* group, which added 30,500 jobs through 2017. The *Auto-related wholesale trade* sector was just 700 positions above its 2007 level during 2017. This contrasted with a 7,100 job deficit in the *Automotive production* group since 2007.

The exception to this recent trend was the *Other auto-related manufacturing* group which recorded a modest job decline of 0.8 percent between 2014 and 2017. The subsectors most responsible for this decrease were *Iron and steel mills*, *Iron foundries*, *Machine shops, turned product and screw, nut, and bolt manufacturing*, and *Cutting tools and machine tool accessory manufacturing*. Employment levels in 2017 were also 1,100 below pre-recession levels.

So far in 2018, auto jobs in Michigan have continued to expand. Preliminary data indicate payroll jobs in this sector have grown by approximately 2.0 percent. The largest job gains continue to be in the *Auto-related professional services* sector. Within the *Automotive production* group, payroll additions appear to be concentrated in *Motor vehicle parts manufacturing*, while the *Machinery and Fabricated metals industries* are driving job growth in the *Other auto-related manufacturing* group. Job levels in the *Wholesale* component are also up from 2017 levels.

Employment Projections

Michigan's Bureau of Labor Market Information and Strategic Initiatives produces employment and annual job openings projections for industries and occupations throughout the state, including those related to auto production. In the short term (2nd quarter 2017 to 2nd quarter 2019), jobs in the *Manufacturing* sector are expected to move up by 1.2 percent. In the long term (2016-2026), however, *Manufacturing* jobs are projected to remain essentially unchanged, edging down by one percent.

Jobs in *Transportation equipment manufacturing* are expected to show minimal growth in the short term, edging up by 0.1 percent, and jobs are projected to decline by 2.4 percent through 2026.

Conversely, employment in *Architectural and engineering services* is expected to expand. This is an industry with many of the professional engineering firms that do significant business with the auto sector. Jobs are anticipated to move up by 10.2 percent in the short term and 20.1 percent through 2026, reflecting the continued high concentration of engineering jobs in Michigan.

It is important to stress that despite the predicted lack of job expansion in the auto production sector through 2026, there will be significant levels of job openings in various auto-related fields, due in part to workforce exits as current employees retire. *First-line supervisors of production and operating workers*, for example, are estimated to have 2,820 annual job openings through 2026. In the broad field of *Production* occupations, there are expected to be 53,050 annual job openings in the short term, with 18,520 of those due to labor force exits. In the long term, *Production* occupation annual openings are estimated at 48,340, with 17,800 of those to replace retiring workers. These are critical sectors of the Michigan economy and it will be vital to have skilled new workers ready to fill these future job openings.

JEFFREY AULA
Economic Analyst

SHIBANI PUTATUNDA
Economic Analyst

OCCUPATIONAL FOCUS:

COMPUTER NUMERICALLY CONTROLLED (CNC) MACHINE TOOL PROGRAMMERS, METAL & PLASTIC

One of the unique features of the Michigan labor market is a higher than average share of jobs in the *Manufacturing* industry. One of the growing occupations in this sector is *Computer numerically controlled (CNC) machine tool programmers, metal and plastic*. A person employed as a *CNC machine tool programmer* will develop programs to control machining or processing of metal or plastic parts by automatic machine tools, equipment, or systems. As such, *CNC machine tool programmers* typically possess a variety of technical skills. Below are some important facts about the *CNC machine tool programmers* occupation in Michigan.

JOB TITLES

- *CNC machine tool programmers* are also known as *CAD CAM Programmers*, or *Computer-aided design computer-aided manufacturing programmers*, *CNC machining center operators*, or *Process engineers*.

EDUCATION

- The typical education needed for a *CNC machine tool programmer* is a postsecondary non-degree award, which is accompanied by moderate-term on-the-job training.

SKILLS

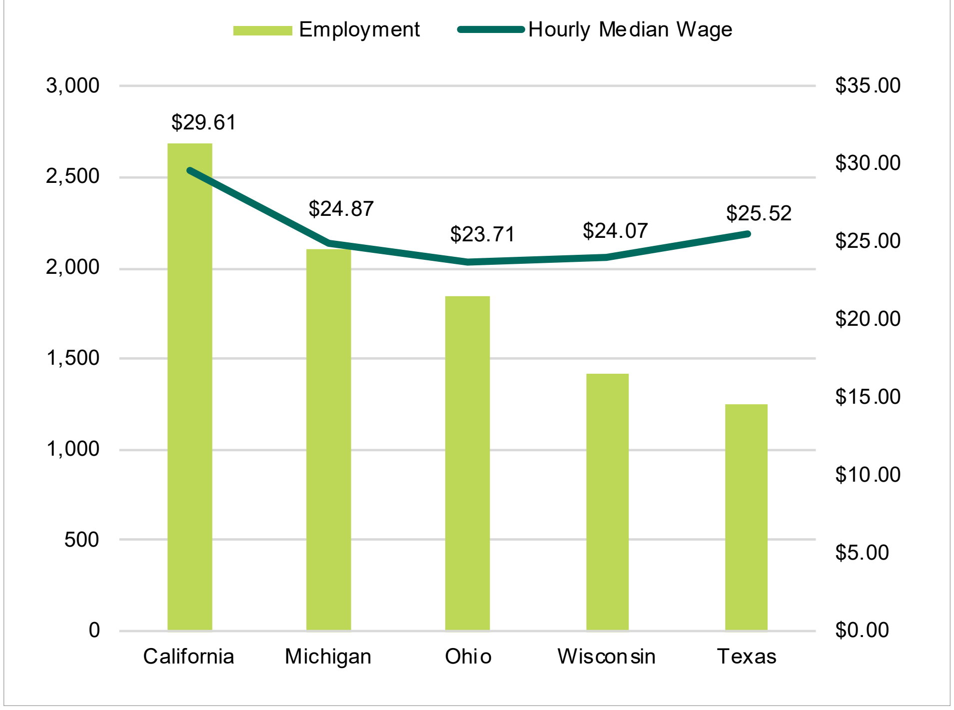
- *CNC machine tool programmers* must have skills including programming, complex problem solving, operation monitoring, and systems evaluation.

EMPLOYMENT AND WAGES

- Michigan has the second-highest employment level of *CNC machine tool programmers* among states, behind only California. Michigan also has the second-highest concentration of jobs in this occupation in the nation, after the state of Wisconsin.

- In 2017, there were 2,100 *CNC machine tool programmers* in Michigan, with a median wage of $24.99 per hour, or $51,990 per year.

STATES WITH THE HIGHEST EMPLOYMENT LEVEL OF CNC MACHINE TOOL PROGRAMMERS



Employment Projections

- Michigan jobs for *CNC machine tool programmers* are projected to rise by 110 or 5.5 percent by the second quarter of 2019. This short-term growth is over twice as much as the rate expected for all Michigan occupations of 2.3 percent.

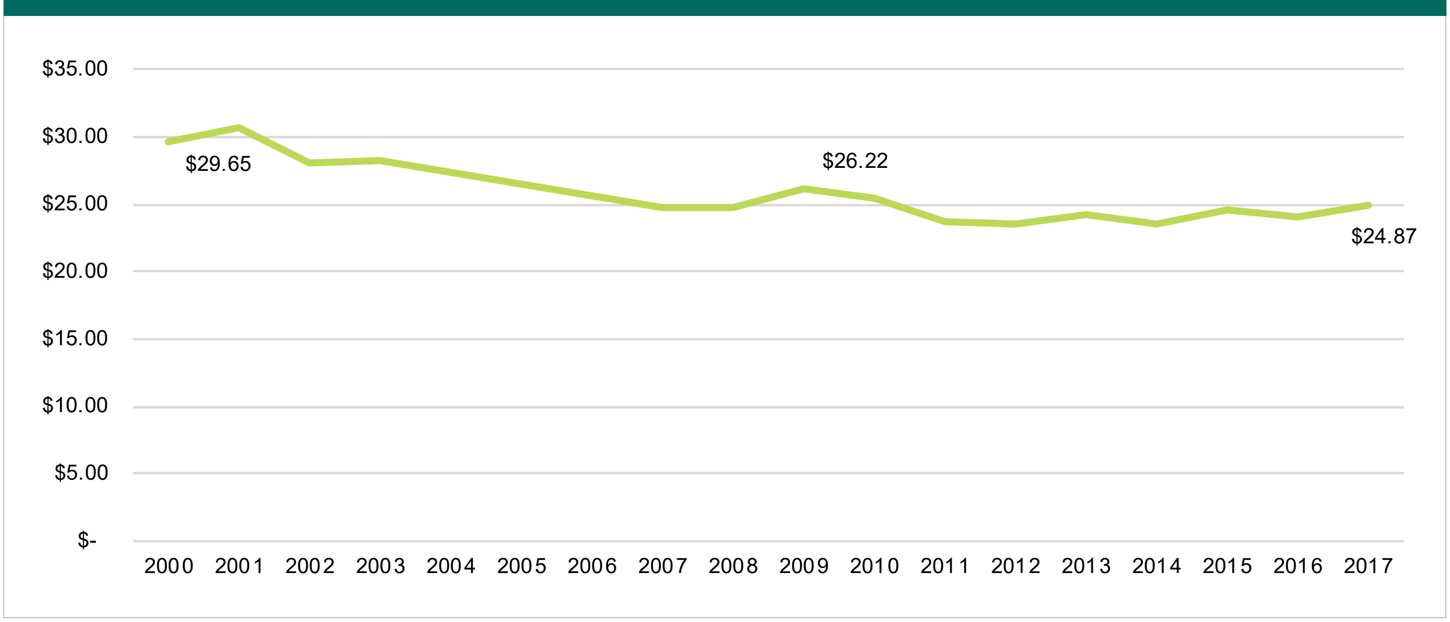
- Short-term occupational projections show that the average number of annual job openings for *CNC machine tool programmers* will be about 260. The need to replace workers (+120) and job expansion (+140) will each account for a nearly equal share of annual job openings.

- Between 2016 and 2026, opportunities for this job title in Michigan will expand more than twice as fast as total statewide occupations. *CNC machine tool programmer* jobs are expected to increase by 15.7 percent (+310) by 2026, while Michigan jobs overall should rise by 7.0 percent.

- The average number of annual job openings for *CNC machine tool programmers* will be about 240, as indicated by long-term occupation projections. About 63 percent of all annual openings are expected to come from employment expansion, while the remaining 37 percent will result from the need to replace workers.

DALIA SALLOUM
Economic Analyst

REAL WAGES FOR MICHIGAN CNC MACHINE TOOL PROGRAMMERS, 2000-2017



ONLINE JOB POSTINGS DECLINE IN AUGUST

The number of online job advertisements in Michigan decreased marginally by eight-tenths of a percent in August to a total of 135,120 ads. Although the reduction in postings was the third in four months, the total number for August was less than half a percent lower than in March. The last three years have recorded job ad cuts from July to August, but the five prior years all posted increases.

Michigan recorded the smallest reduction in job postings compared with its neighboring states. Both Ohio and Wisconsin had the biggest losses with just over a 3 percent contraction from the previous month. Nationally, job advertisements were down by 1.0 percent.

Ad Rate Changes

The number of job advertisements can be an important metric when evaluating the strength of an economy. Generally, job ads tend to have an inverse relationship relative to the level of unemployment; as unemployment is down, job advertisements are up, and vice versa. This is because low levels of unemployment often produce large numbers of job openings in the labor market, which generates high levels of job advertisements.

The Michigan supply-demand rate, considered the number of unemployed individuals per job advertisement, was down slightly in August to 1.49. Despite a monthly cut in job ads, unemployment posted a greater reduction contributing to the rate decline. July and April were the only other months to post supply-demand rate contractions in 2018.

The ad rate, or the number of job ads per 100 labor force participants, was also down over the month to 2.76. The two years prior to 2018 also recorded a lower ad rate in August, although the five years prior to that posted ad rate advancements. The ad rate contraction was a result of job postings falling over the month more than labor force levels.

OCCUPATIONS WITH MOST JOB ADS

OCCUPATION	EDUCATION	ON-THE-JOB TRAINING
Heavy and Tractor-Trailer Truck Drivers	Postsecondary nondegree award	Short-term on-the-job training
Registered Nurses	Bachelor's degree	None
Retail Salespersons	No formal educational credential	Short-term on-the-job training
First-Line Supervisors of Retail Sales Workers	High school diploma or equivalent	None
Industrial Engineers	Bachelor's degree	None
Software Developers, Applications	Bachelor's degree	None
Maintenance and Repair Workers, General	High school diploma or equivalent	Moderate-term on-the-job training
First-Line Supervisors of Office and Administrative Support Workers	High school diploma or equivalent	None
Customer Service Representatives	High school diploma or equivalent	Short-term on-the-job training
Computer Systems Analysts	Bachelor's degree	None
Mechanical Engineers	Bachelor's degree	None
First-Line Supervisors of Production and Operating Workers	High school diploma or equivalent	None
Computer User Support Specialists	Some college, no degree	None
Accountants	Bachelor's degree	None
First-Line Supervisors of Food Preparation and Serving Workers	High school diploma or equivalent	None

Non-Seasonally Adjusted Job Ads by Occupation

Information is available on advertised jobs by broad occupational group from the Help Wanted Online Data Series, but the data are *not seasonally adjusted*.

The number of non-seasonally adjusted job postings rose in August by 3.6 percent or 4,950 ads. This seasonal advance in ads was well below the 5.4 percent average monthly increase over the previous seven years.

Among major occupational groups, *Professional* jobs had the highest numeric gain of 2,500 ads or a 6.0 percent increase. Postings for *Sales* and *Administrative support* also moved up by 6.5 and 6.3 percent respectively (+950 and +800 ads). The only reductions in advertisements came from *Transportation* jobs at 8.3 percent (-850 ads) and *Construction and repair* at 1.0 percent (-100 ads).

The number of new ads for the month was little changed with only a one-tenth of a percent increase. Trends in new online ads over the month were mixed with the largest percentage gain coming from *Production* job ads at 10.2 percent (+250 ads) and the largest numeric advance from *Professional* ads with 850 (+5.5 percent). Postings for *Healthcare* jobs had the greatest numeric and percentage reduction of 700 ads or 10.4 percent.

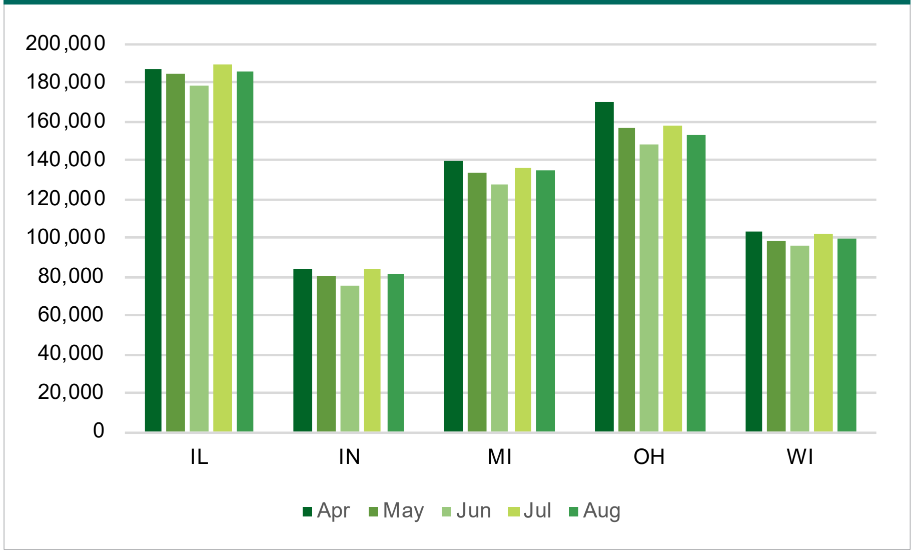
Among Michigan metro areas, most registered ad gains in August, averaging 4.7 percent with Bay City, Battle Creek, and Ann Arbor incurring the largest percentage advances (+9.6, +8.6, and +8.2 percent respectively). Only two metro regions recorded fewer job ads over the month, Grand Rapids-Wyoming (-1.0 percent) and Flint (-0.6 percent).

Occupations with Most Ads

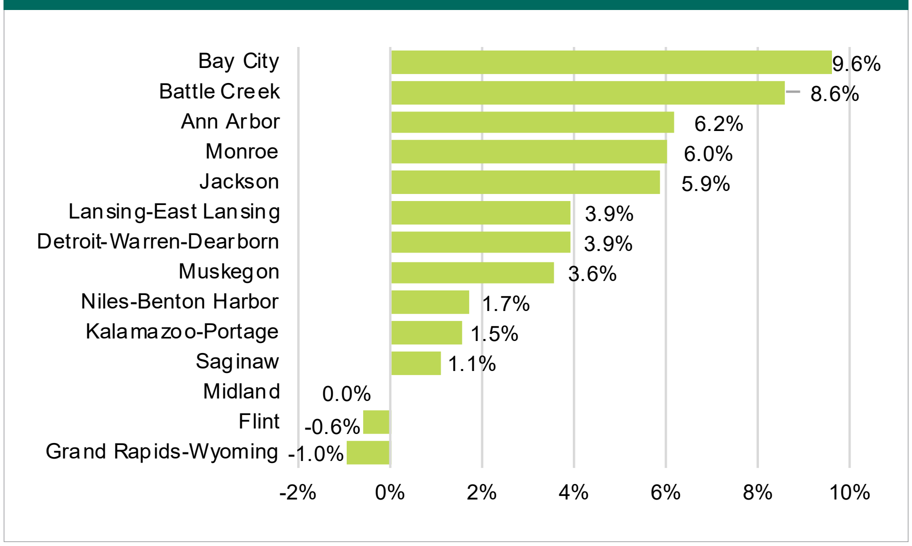
Among occupations with the highest number of new job postings, *Heavy and tractor-trailer truck drivers* recorded the most ads in August followed by *Registered nurses*, *Retail salespersons*, and *First-line supervisors of retail sales workers*. Only one of these top four occupations typically require a bachelor's degree, and two others require short-term on-the-job training. Of the top 50 occupations with the most ads, 19 only require a high school diploma or equivalent, 16 require a bachelor's degree, and 8 require no formal educational credential.

MARCUS REASON
Economic Analyst

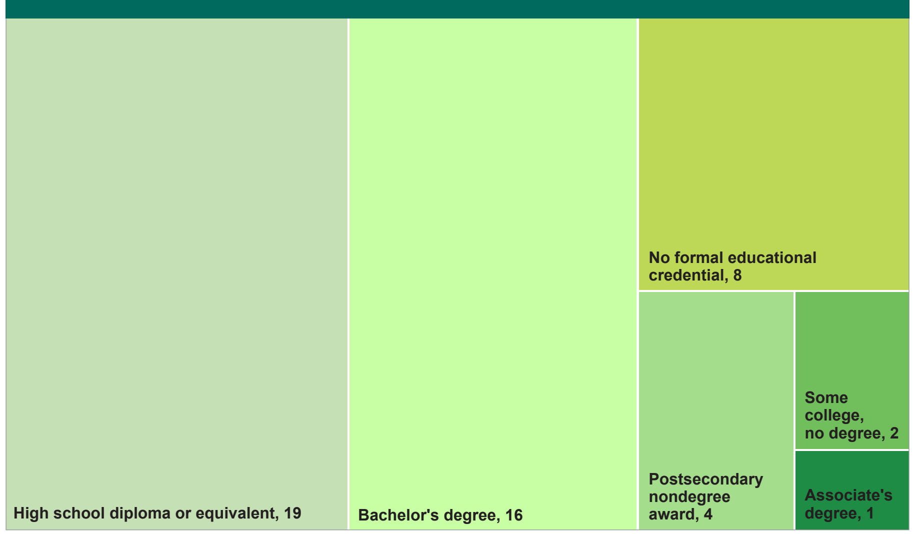
MONTHLY CHANGE IN JOB ADS - SELECTED STATES



MONTHLY CHANGE IN JOB ADS BY METRO AREA
(NOT SEASONALLY ADJUSTED)



EDUCATION REQUIREMENTS OF TOP 50 OCCUPATIONS WITH ONLINE ADS



RELEVANT RANKINGS

NUMERIC CHANGE IN MANUFACTURING JOBS BY STATE, 2014-2017		
RANK	STATE	2014-2017
1	Michigan	40,500
2	Florida	31,700
3	Georgia	29,500
4	California	28,700
5	Indiana	24,800
23	New Hampshire	2,800
24	Arkansas	2,800
25	Virginia	2,300
26	Connecticut	2,200
27	Maryland	1,000
46	Pennsylvania	-6,000
47	New York	-7,600
48	Oklahoma	-11,300
49	Louisiana	-13,100
50	Texas	-36,500

Source: DTMB, Bureau of Labor Market Information & Strategic Initiatives

NUMERIC CHANGE IN MANUFACTURING JOBS BY MICHIGAN METRO AREA, 2014-2017		
RANK	STATE	2014-2017
1	Michigan	40,500
2	Detroit	21,700
3	Grand Rapids	11,900
4	Lansing	1,700
5	Kalamazoo	1,500
6	Battle Creek	900
7	Saginaw	700
8	Muskegon	600
9	Ann Arbor	400
10	Niles-Benton Harbor	400
11	Bay City	300
12	Flint	300
13	Jackson	300
14	Monroe	300

Source: DTMB, Bureau of Labor Market Information & Strategic Initiatives

DATA SPOTLIGHT: TRENDS IN HEALTH INSURANCE COVERAGE AND HOUSING CHARACTERISTICS IN MICHIGAN

On September 13, the U.S. Census Bureau released the 2017 American Community Survey (ACS) 1-year estimates. The American Community Survey samples about one percent of the households in the United States annually and asks a series of questions about household characteristics, employment, health insurance coverage, and housing status.

The new data release contains interesting data on trends in health insurance coverage and rates of home ownership and renting, and housing cost burdens in Michigan and nationwide.

Health Insurance Coverage

The percentage of Michiganders with health insurance remained essentially unchanged between 2016 and 2017, rising from 94.6 percent in 2016 to 94.8 percent in 2017. This may indicate the cessation in the advances in insured rates that have occurred since 2010 in the state and nationwide. Since 2010, the percentage of Michigan's population with health insurance has risen markedly from 87.6 percent to 94.8 percent. Nationwide rates of insured people also expanded, up from 84.5 percent in 2010 to 91.3 percent in 2017.

In Michigan and nationwide, most people with health coverage are insured through private providers. However, since 2009 much of the overall increase in insured rates has come from public health insurance; although, the percentage of residents with private insurance has also risen. For example, from 2009 to 2017 the percentage of Michigan residents with public health insurance rose from 31.6 to 38.6 percent and those with private insurance from 69.6 to 71.4 percent. A significant proportion of the relatively large increase in the rates of insured people between 2013 and 2015 was likely related to the Healthy Michigan Plan, which was implemented in 2014 and expanded Medicaid coverage to individuals and families earning up to 133 percent of the federal poverty level.

It is important to note that some people can have both public and private health insurance, thus the share of residents with private and public insurance may sum to greater than 100 percent, even though not everyone has health insurance.

Housing

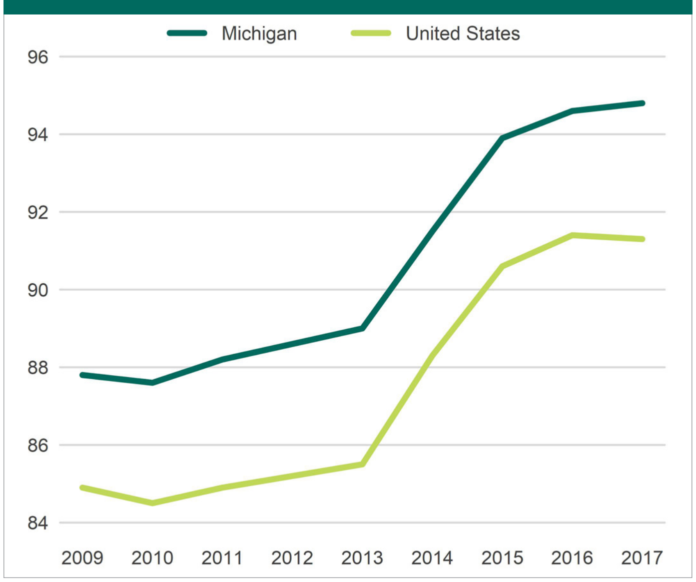
The percentage of Michigan housing units occupied by the homeowner rose from 70.3 percent in 2016 to 71.3 percent in 2017. However, the percentage of owner-occupied housing units in Michigan was still well below 2006 levels (75.2 percent).

Correspondingly, the percentage of Michigan housing units occupied by renters diminished from 29.7 to 28.7 percent between 2016 and 2017. This represents the most substantial reduction in Michigan housing unit rental rates since 2006. Despite this recent decline, the percentage of renter occupied units in Michigan is still greater than in 2006 (24.8 percent).

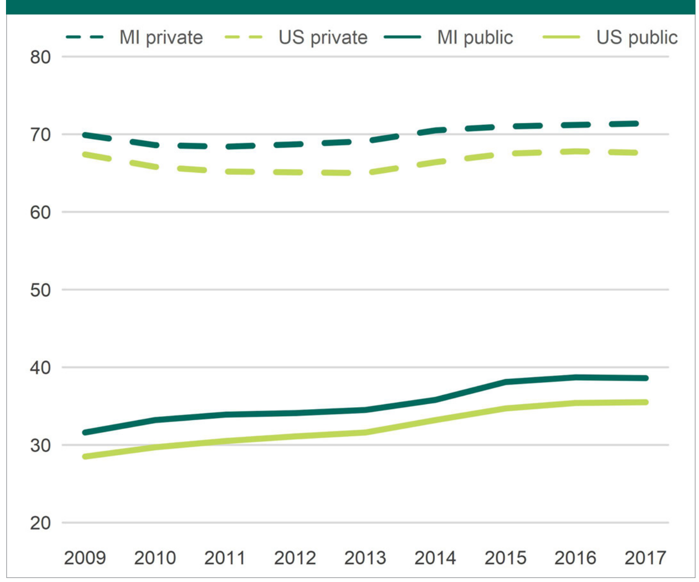
Trends in rates of owner and renter occupied units nationwide have mirrored those of Michigan. However, Michigan has a higher percentage of owner-occupied housing units than the national average.

The U.S. Census Bureau considers households spending more than 30 percent of their income on housing to be 'cost burdened', meaning they are more likely to have difficulty affording other necessities. In 2017, the share of Michigan households that paid 30 percent or more of their income on rent declined to 48.2 percent from 49.4 percent in 2016. This continues a trend of falling housing burdens for Michigan renters

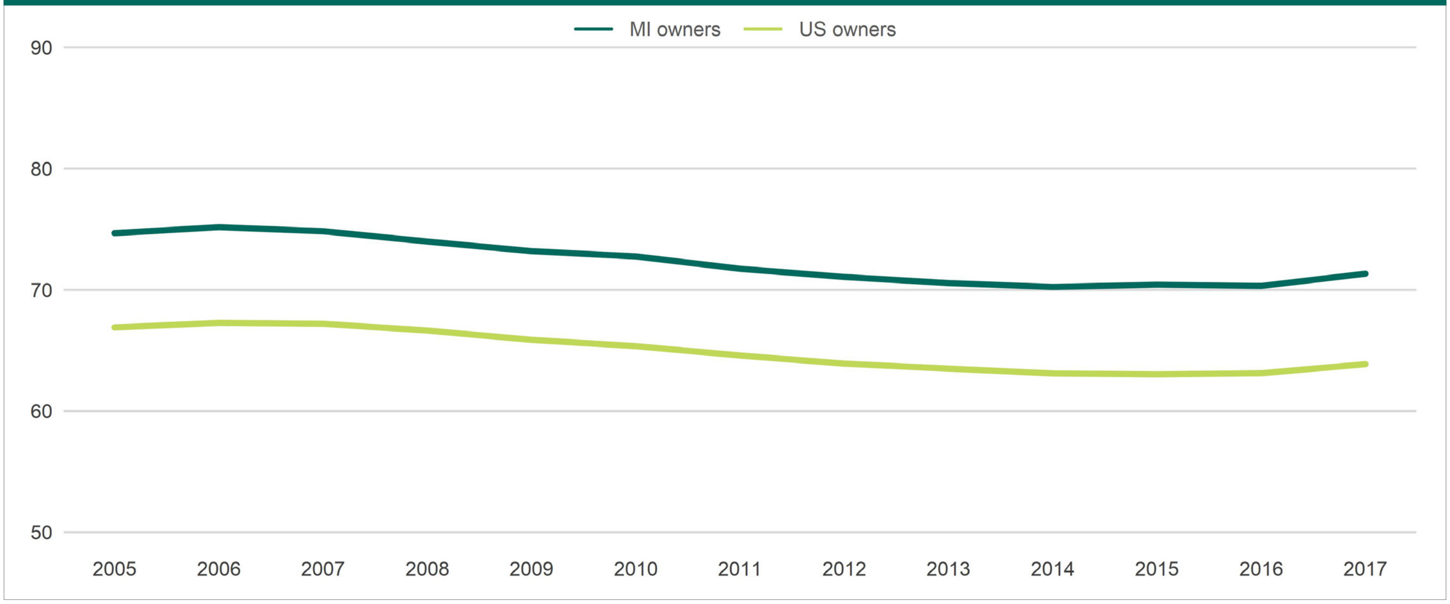
PERCENTAGE OF POPULATION WITH HEALTH INSURANCE



PERCENTAGE OF POPULATION WITH PRIVATE OR PUBLIC HEALTH INSURANCE



PERCENTAGE OF HOUSING UNITS OCCUPIED BY OWNER



dating back to 2011. It was also the first year since 2009 that a noticeably smaller proportion of Michigan renters than nationally spent more than 30 percent of their income on housing.

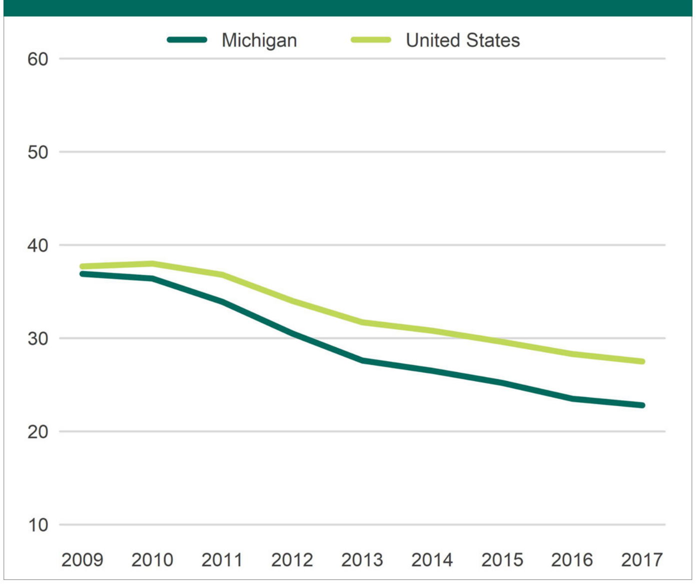
Compared to renters, a smaller percentage of mortgage holders in Michigan and nationwide spend 30 percent or more of their household income on housing. This category of mortgage holders in Michigan declined from 23.5 percent in 2016 to 22.8 percent in 2017. This continues a long-term trend of reduced housing burdens for Michigan homeowners dating back to 2009. Unlike renters, the percentage of mortgage holders in Michigan spending 30 percent or more of their household income on housing costs has consistently been below the national average since 2009, with the gap widening in recent years.

The declining housing cost burdens on Michigan residents may have implications for other segments of the economy, because it is likely that more households have extra money for discretionary spending. Additionally, the greater rates of homeownership and a lower potential for a housing cost burden could continue to enhance Michigan's competitiveness in attracting out of state migrants. Attracting out of state migrants will be important if Michigan is to maintain or grow its population as the resident population ages.

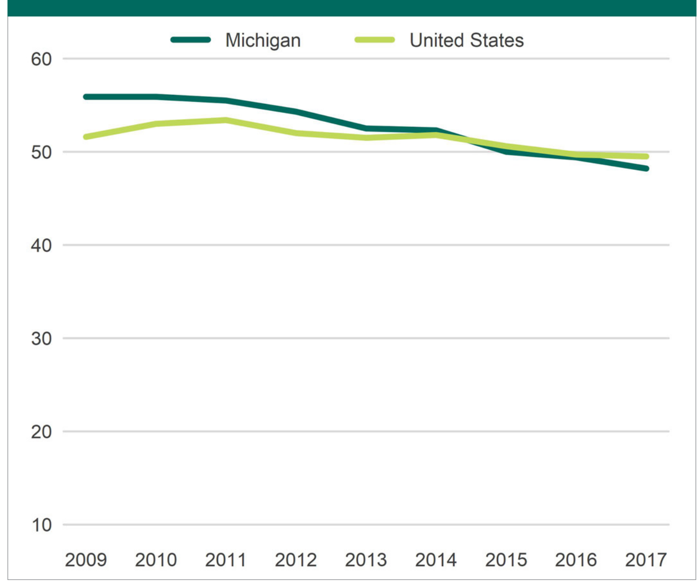
All data presented here, in addition to a wealth of other socioeconomic, demographic, and housing information are available from the 2005–2017 American Community Survey 1-year datasets on the Census Bureau website, www.census.gov. Additionally, access to many of the Census Bureau's most frequently downloaded tables can be found on the Population section of the Labor Market Information and Strategic Initiatives website, www.michigan.gov/census.

ALAN LEACH
Demographic Analyst

PERCENTAGE OF MORTGAGE HOLDERS SPENDING 30% OR MORE OF HOUSEHOLD INCOME ON HOUSING



PERCENTAGE OF RENTERS SPENDING 30% OR MORE OF HOUSEHOLD INCOME ON HOUSING



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