



MICHIGAN'S LABOR MARKET NEWS

VOL. 72, ISSUE NO. 12
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Michigan Job Outlook Through 2024

Feature Story | pg. 16

2016 Michigan Jobless Rate Falls

pg. 4

Michigan Payroll Jobs Rise in Fourth Quarter 2016

pg. 6

Michigan's preliminary 2016 annual jobless rate fell below the U.S. annual rate for the first time since 2000.

MICHIGAN

4.8%

NATIONAL

4.9%

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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.

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I am happy to share with you the totally redesigned *Michigan's Labor Market News*. This monthly flagship publication provides readers with high-quality information and insights about Michigan's residents, its economy, and its labor market.

It is hard to believe this publication dates back at least 71 years, when our predecessors published *Labor Market Briefs: A Digest of Labor Market Trends*. We were cognizant of this history as we worked to update the publication. Like the original, this publication highlights both statewide and regional information. And, it builds on past updates by offering new content, by featuring topical articles, and by combining several of our standalone publications in one place. We hope you like the changes we made!

Our data on employment, unemployment, and payroll jobs for Michigan, state regions and counties is one of the few sources of monthly economic data produced anywhere. The extensive redesign of this publication delayed the release of this month's edition. However, in future months, this publication will be available shortly after the release of monthly job data, so you will benefit from accurate and timely information.



We want to be the first source you look to for information and analysis on Michigan's residents, its economy, and its labor market. We hope this publication helps make this a reality. Please let me know if you have any questions or would like any additional information.

JASON PALMER

DIRECTOR

Bureau of Labor Market Information
and Strategic Initiatives

MICHIGAN EMPLOYMENT & UNEMPLOYMENT TRENDS

The Michigan seasonally adjusted unemployment rate in December inched up over the month by one-tenth of a percentage point to 5.0 percent. Michigan's workforce rose by 14,000 over the month as both total employment (+9,000) and the number of unemployed (+5,000) advanced.

According to the monthly survey of employers, seasonally adjusted Michigan payroll jobs were little changed in December, edging down slightly by 2,000 to 4,364,000.

Gains in the Michigan Workforce

Michigan's monthly unemployment rates in 2016 remained within the narrow band of 4.5 to 5.0 percent. For the first time since 2000, Michigan's monthly unemployment rates in 2016 were very similar to the national rates.

After reaching the 2016 low of 4.5 percent in both July and August, the state's monthly jobless rates rose incrementally through December.

However, over that period, Michigan's workforce grew at a very robust pace, increasing by 82,000 or 1.7 percent as individuals entered the labor force at a pace unseen since 1999. Since August, 54,000 individuals in Michigan found employment, while 28,000 continued their job search.

2016 Annual Jobless Rate Down

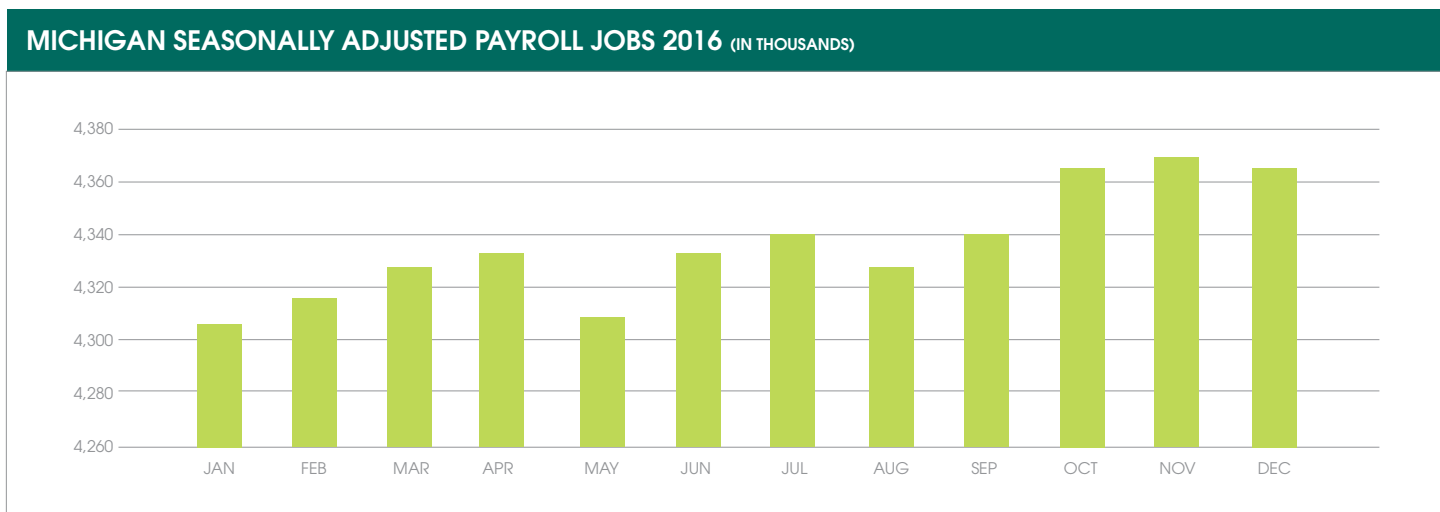
Michigan's 2016 preliminary annual average unemployment rate was 4.8 percent, which was 0.6 of a percentage point below the 2015 annual rate of 5.4 percent. This was the seventh consecutive annual rate reduction dating back to 2010. Since the end of

the Great Recession in 2009, Michigan's unemployment rate has fallen by 8.9 percentage points. From 2009 to 2016, the number of unemployed in Michigan dropped by 439,000.

Fewer Long-Term Unemployed

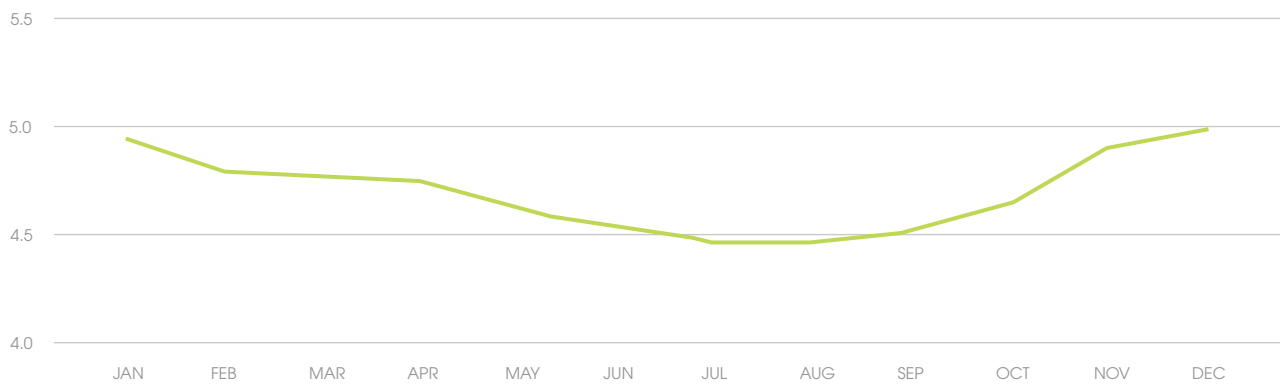
One of the most striking aspects of the last recession was the record-setting number of long-term unemployed (individuals unemployed for 27 weeks or more). According to the Current Population Survey (CPS), around the period of the last recession, nearly 50 percent of Michigan's unemployed were long-term jobless. In 2016, the percentage of long-term unemployed was about half the level recorded at the peak of the recession.

MICHIGAN LABOR FORCE ESTIMATES (SEASONALLY ADJUSTED)				
	OCT 2016	NOV 2016	DEC 2016	CHANGE SINCE DEC 2015
Labor Force	4,844,000	4,873,000	4,887,000	+116,000
Employed	4,616,000	4,633,000	4,642,000	+115,000
Unemployed	228,000	240,000	245,000	+2,000
Jobless Rate	4.7	4.9	5.0	-0.1





MICHIGAN'S SEASONALLY ADJUSTED UNEMPLOYMENT RATES 2016



MICHIGAN JOB TRENDS BY INDUSTRY SECTOR

Monthly Overview

Michigan nonfarm payrolls moved lower by 2,400 during December to total 4,363,600. This was only the third monthly job decrease this year. The broad sectors that contributed to this modest decline included *Construction* (-2,800), *Government* (-2,400), *Trade, transportation, and utilities* (-1,700), *Manufacturing* (-1,000), *Professional and business services* (-700), and *Mining and logging* (-200). These losses were moderated by monthly job gains in *Other services* (+2,500), *Leisure and hospitality* (+1,700), *Education and health services* (+1,200), *Financial activities* (+800), and *Information* (+200).

Over the Year Analysis

Since December 2015, total Michigan nonfarm jobs expanded by 75,000, or 1.7 percent. This was similar to the 1.5 percent growth rate nationally during this period. In Michigan, over the year job gains occurred in every major industry sector except *Trade, transportation, and utilities* (-3,000) and *Mining and logging* (-500). The broad industry sectors of *Professional and business services* (+27,700), *Leisure and hospitality* (+15,900), and *Education and health services* (+10,400) accounted for 72 percent of the total over the year employment increase. Significant employment growth was also reported in *Financial activities* (+8,000), *Government* (+4,700), *Construction* (+3,900), *Other services* (+3,700), *Manufacturing* (+2,500), and *Information* (+1,700).

Michigan Fourth Quarter 2016 Job Change

Total nonfarm employment grew by 28,600 during the fourth quarter (+0.7 percent). This was notably higher than the 0.1 percent increase nationally for this period.

In Michigan, the industry sectors with larger than average job additions during the quarter included *Construction* (+4.8 percent), *Leisure*

and *hospitality* (+2.9 percent), *Professional and business services* (+1.1 percent), and *Other services* (+0.8 percent).

The broad sectors recording quarterly job gains slightly below the statewide average or with employment declines were *Financial activities* (+0.6 percent), *Government* (+0.5 percent), *Trade, transportation, and utilities* (-0.2 percent), *Manufacturing* (-0.4 percent), *Information* (-0.8 percent), and *Mining and logging* (-1.9 percent). Employment in the state's key *Transportation equipment manufacturing* sector notched lower by 0.3 percent during the quarter.

Significant Industry Employment Developments

RETAIL TRADE

Employment levels in the *Retail* sector declined by 3,200 in December, or by -0.7 percent. This decrease was partially due to larger than typical December payroll reductions in *Miscellaneous store retailers* and *Building material and garden equipment and supplies dealers*. In addition, the shift toward more on-line shopping appears to have contributed to a modest, but atypical, employment reduction in *General merchandise stores* and flat December job levels in *Clothing and clothing accessories stores*. Since December 2015, job levels in the broad sector have remained essentially unchanged, notching up by 200. Nationally, *Retail* job levels were little changed over the month, moving up 6,300 or less than 0.1 percent. Over the year national *Retail* sector employment grew by 1.6 percent.

CONSTRUCTION

Payrolls in the *Construction* sector fell by 2,800 over the month as seasonal work reductions commenced. This decline followed atypically large job increases in October (+5,900) and November (+2,600) due to warmer temperatures in those months. The strong employment growth in October and November resulted in a 7,200 job increase

during the fourth quarter. Between December 2015 and December 2016, Michigan *Construction* jobs rose by 3,900 or 2.6 percent, outpacing growth nationally of 1.5 percent over the year.

TRANSPORTATION, WAREHOUSING, AND UTILITIES

The number of jobs in the *Transportation, warehousing, and utilities* sector increased by 1,600 in December. Jobs have advanced in this industry in Michigan in four of the last five months, adding nearly 4,000 jobs since July. Since reaching a recessionary low of 111,000 jobs in June 2009, payrolls have expanded in Michigan by 25,200 or 22.7 percent. This is well above the 13.7 percent growth in total nonfarm jobs statewide during this period. On a quarterly basis, job levels were up by 1,900. Since December 2015, employers in this sector added 1,000 jobs (+0.7 percent) in Michigan. Nationally, employment rose by 14,700 over the month and by 1.3 percent over the year.

FINANCE AND INSURANCE

Finance and insurance sector jobs rose by 1,000 in December to a series high of 164,700. This gain was the result of larger than typical increases in the *Insurance carriers* and *Credit intermediation* sub-sectors. As the state recovered from the mortgage crisis of the past several years, job expansion in this sector (+5.4 percent since 2014) has outpaced the growth in total Michigan jobs (+3.6 percent since 2014). On a quarterly basis, payrolls have advanced in the past 9 quarters with 1,200 jobs added during the fourth quarter of 2016. Since December 2015, Michigan employment levels in this sector rose by 6,000 or 3.8 percent. Nationally, employment increased by 12,800 over the month and by 1.8 percent over the year.

MICHIGAN PAYROLL JOBS (SEASONALLY ADJUSTED)

INDUSTRY	DEC 2016	NOV 2016	DEC 2015	OVER THE MONTH		OVER THE YEAR	
				LEVEL	PERCENT	LEVEL	PERCENT
TOTAL NONFARM	4,363,600	4,366,000	4,288,600	-2,400	-0.1%	75,000	1.7%
Total Private	3,760,300	3,760,300	3,690,000	0	0.0%	70,300	1.9%
Private Service-Providing	3,001,100	2,997,100	2,936,700	4,000	0.1%	64,400	2.2%
GOODS-PRODUCING	759,200	763,200	753,300	-4,000	-0.5%	5,900	0.8%
Mining, Logging and Construction	163,100	166,100	159,700	-3,000	-1.8%	3,400	2.1%
Mining and Logging	6,900	7,100	7,400	-200	-2.8%	-500	-6.8%
Construction	156,200	159,000	152,300	-2,800	-1.8%	3,900	2.6%
Manufacturing	596,100	597,100	593,600	-1,000	-0.2%	2,500	0.4%
Durable Goods	450,100	450,400	447,900	-300	-0.1%	2,200	0.5%
Transportation Equipment Manufacturing	177,700	178,600	173,900	-900	-0.5%	3,800	2.2%
Nondurable Goods	146,000	146,700	145,700	-700	-0.5%	300	0.2%
SERVICE-PROVIDING	3,604,400	3,602,800	3,535,300	1,600	0.0%	69,100	2.0%
Trade, Transportation, and Utilities	770,700	772,400	773,700	-1,700	-0.2%	-3,000	-0.4%
Wholesale Trade	168,700	168,800	172,900	-100	-0.1%	-4,200	-2.4%
Retail Trade	465,800	469,000	465,600	-3,200	-0.7%	200	0.0%
Transportation, Warehousing, and Utilities	136,200	134,600	135,200	1,600	1.2%	1,000	0.7%
Information	58,400	58,200	56,700	200	0.3%	1,700	3.0%
Financial Activities	218,900	218,100	210,900	800	0.4%	8,000	3.8%
Finance and Insurance	164,700	163,700	158,700	1,000	0.6%	6,000	3.8%
Real Estate and Rental and Leasing	54,200	54,400	52,200	-200	-0.4%	2,000	3.8%
Professional and Business Services	673,200	673,900	645,500	-700	-0.1%	27,700	4.3%
Professional, Scientific, and Technical Services	307,400	307,400	292,200	0	0.0%	15,200	5.2%
Management of Companies and Enterprises	60,500	60,700	59,400	-200	-0.3%	1,100	1.9%
Administration and Support and Waste Management and Remediation Services	305,300	305,800	293,900	-500	-0.2%	11,400	3.9%
Education and Health Services	669,400	668,200	659,000	1,200	0.2%	10,400	1.6%
Educational Services	75,000	75,600	75,900	-600	-0.8%	-900	-1.2%
Health Care and Social Assistance	594,400	592,600	583,100	1,800	0.3%	11,300	1.9%
Leisure and Hospitality	436,600	434,900	420,700	1,700	0.4%	15,900	3.8%
Arts, Entertainment, and Recreation	54,400	53,800	50,300	600	1.1%	4,100	8.2%
Accommodation and Food Services	382,200	381,100	370,400	1,100	0.3%	11,800	3.2%
Other Services	173,900	171,400	170,200	2,500	1.5%	3,700	2.2%
Government	603,300	605,700	598,600	-2,400	-0.4%	4,700	0.8%
Federal Government	53,200	52,500	52,000	700	1.3%	1,200	2.3%
State Government	188,300	188,500	188,700	-200	-0.1%	-400	-0.2%
Local Government	361,800	364,700	357,900	-2,900	-0.8%	3,900	1.1%

Metropolitan Statistical Areas (MSAs)

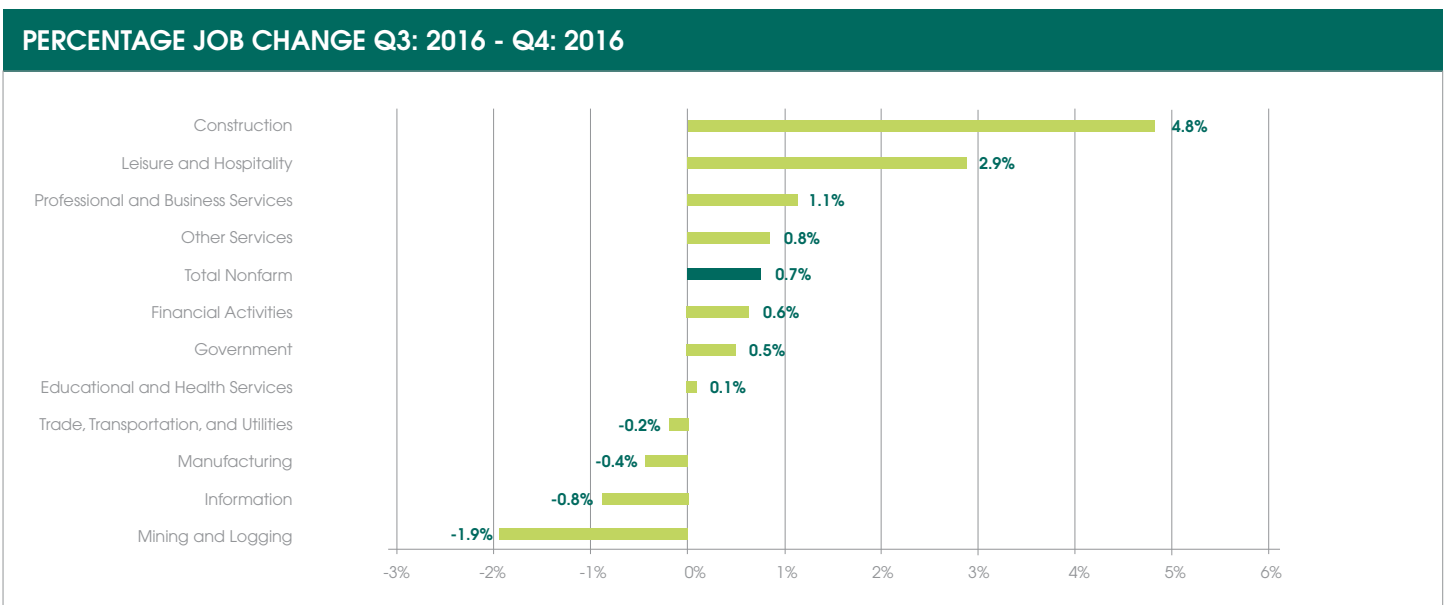
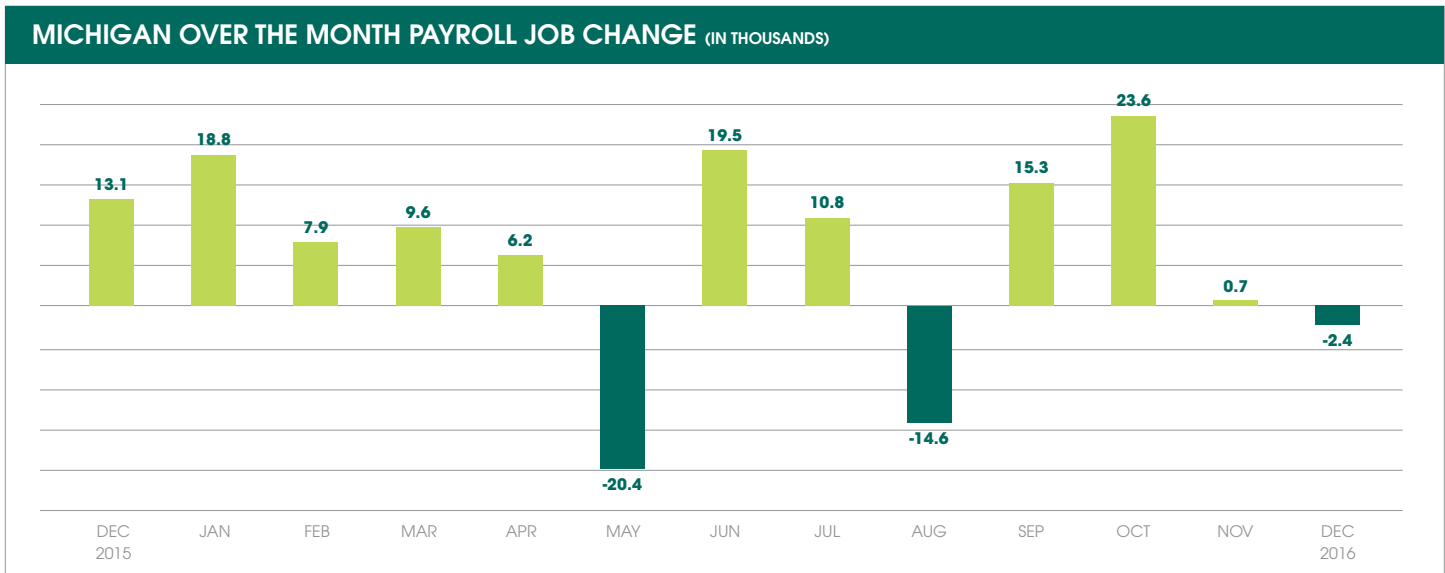
All of the state's 14 MSAs reported job declines in December 2016, *on a not seasonally adjusted basis*.

These job cuts were primarily caused by seasonal employment reductions in *Construction, State and Local government education services, and Employment services*. Payroll declines in the *Retail trade* sector also contributed to these reductions in December.

In percent terms the largest job decreases occurred in the Monroe and Jackson metro areas (-1.6 percent each).

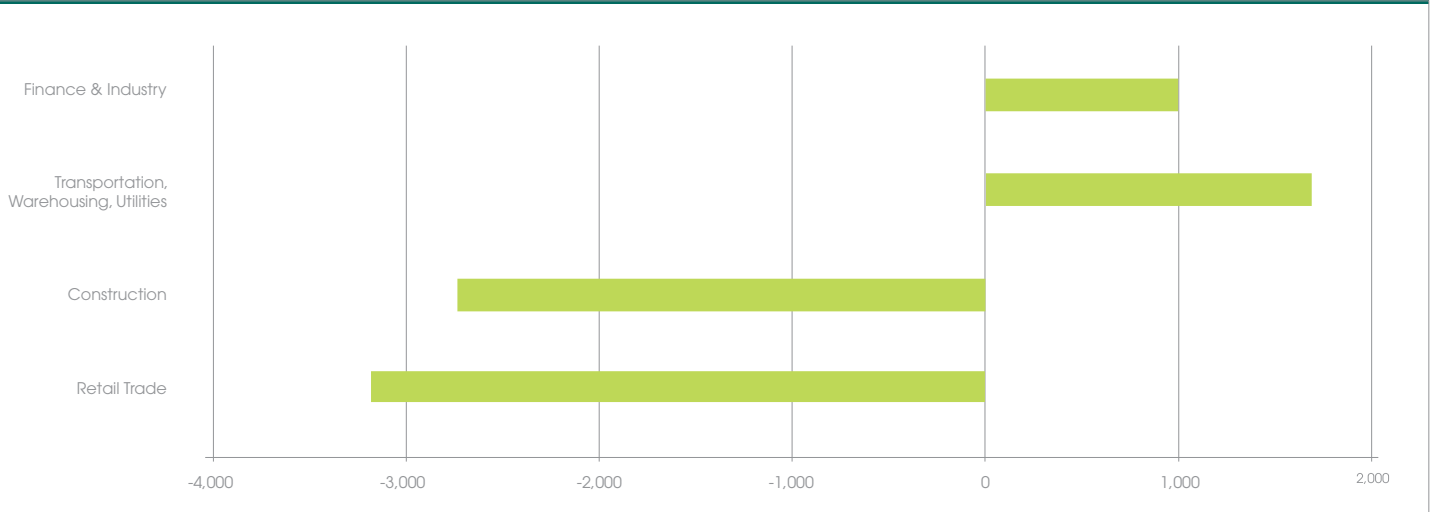
Six metro areas experienced employment reductions similar to the statewide average of -0.7 percent. These included Muskegon, Flint, and Bay City (-0.8 percent each) and Ann Arbor, Kalamazoo, and Battle Creek (-0.5 percent each).

Employment levels remained essentially unchanged in the Midland and Saginaw metro areas during December.

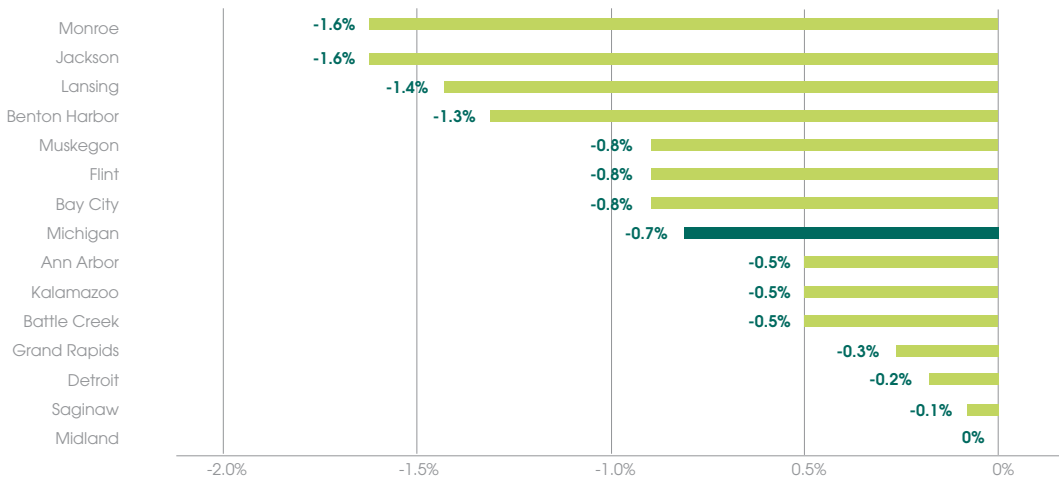


Total nonfarm jobs stable over the last two months, up by 75,000 over the year.

MICHIGAN'S OVER THE MONTH JOB CHANGE BY SELECT INDUSTRY (NOVEMBER 2016—DECEMBER 2016)



METRO AREA JOB CHANGE NOV 2016 - DEC 2016 (NOT SEASONALLY ADJUSTED)



REGIONAL LABOR MARKET ANALYSIS

ANN ARBOR METROPOLITAN AREA

- The Ann Arbor metro area jobless rate fell by 0.4 percentage points in December 2016 to 2.6 percent. However, this reduction was related to a workforce decline rather than increased hiring.
- The region had the lowest jobless rate in December among Michigan metro areas.

MONTHLY INDUSTRY DEVELOPMENTS

- Ann Arbor metro area payroll jobs fell seasonally by -1,200 (-0.5 percent), with job reductions in several sectors.
- This included seasonal December job cuts in private and public *Education, Construction, and Retail*.

INDUSTRY TRENDS

- The Ann Arbor private *Health care and social assistance* sector has added jobs continuously since 2007, although job levels stabilized somewhat in 2016 at 23,500.

BAY CITY METROPOLITAN AREA

- The Bay City metro area jobless rate rose by 0.5 percentage points to 4.9 percent in December, an identical change as was recorded over the year.
- Seasonal job loss and labor force withdrawal were factors in the over-the-month jobless rate increase.

MONTHLY INDUSTRY DEVELOPMENTS

- Payroll jobs in *Manufacturing* decreased by 200 or 4.4 percent in December.
- The sole industry to see a December uptick in employment was *Professional and business services*, gaining 200 jobs.

INDUSTRY TRENDS

- Bay City metro area *Leisure and hospitality* employment has been trending down in recent years, hitting a recent annual low of 4,200 in 2016.

FLINT METROPOLITAN AREA

- Seasonal job cuts led to a jobless rate increase in the Flint metro area to 5.0 percent in December, up 0.3 percentage points over the month.
- Employment and labor force registered seasonal drops in December, down 1.4 and 1.6 percent, respectively.

MONTHLY INDUSTRY DEVELOPMENTS

- *Retail trade* employment dipped slightly in December, as seasonal retail jobs peaked in November with the holiday shopping season.

INDUSTRY TRENDS

- Flint metro area *Education and health services* jobs have shown a consistent upward trend over the past five years.

BATTLE CREEK METROPOLITAN AREA

- The December 2016 unemployment rate in the Battle Creek MSA edged up by just 0.1 percentage points to 4.2 percent, as fewer seasonal workers were employed.
- For 2016 as a whole, the jobless rate dropped by 0.5 percentage points to 4.4 percent.

MONTHLY INDUSTRY DEVELOPMENTS

- Payroll jobs inched down in December by 300, mainly due to a seasonal 300-job cut in *Construction*.
- Since December 2015, *Manufacturing and Professional and business services* added the most new jobs (+300 and +400, respectively).

INDUSTRY TRENDS

- Total nonfarm payroll jobs have surpassed pre-recessionary levels by 1,200 or +2.2 percent.

DETROIT-WARREN-DEARBORN METRO AREA

- Joblessness in the Detroit metro area declined by 0.3 percentage points in December 2016 to 4.8 percent, marking the second lowest monthly unemployment rate of the year.
- The metro area annual jobless rate (5.4 percent) fell in 2016 for the seventh consecutive year, and is now roughly one-third the rate the region recorded at the peak of the recession in 2009.

MONTHLY INDUSTRY DEVELOPMENTS

- Payroll jobs fell seasonally in December 2016 (-4,100), primarily due to a 5,700 job cut in *Construction*.
- One industry with a significant seasonal jump in jobs in December was *Transportation and warehousing* (+900).

INDUSTRY TRENDS

- This region has added jobs for six consecutive years, and in 2016, finally exceeded pre-recessionary 2007 job levels by 0.7 percent.

GRAND RAPIDS-WYOMING METROPOLITAN AREA

- Unemployment in the Grand Rapids-Wyoming metro area was relatively unchanged in December, and also remained stable since December 2015 (up +0.2 percentage points).
- The region's jobless rate in December was the second lowest among Michigan major labor market areas.

MONTHLY INDUSTRY DEVELOPMENTS

- Payroll jobs in December fell in most industries. *Professional and business services* declined by -1,800 jobs, as did *Mining, logging and construction* (-1,300).
- *Manufacturing* jobs continued steady 2016 gains, rising by 800 jobs in December, and up most months since April.

INDUSTRY TRENDS

- The Grand Rapids-Wyoming *Manufacturing* sector job level (113,300) in December 2016 reached the highest level in the region since December 2002.

CIVILIAN LABOR FORCE AND NONFARM PAYROLL JOBS

	ANN ARBOR			BATTLE CREEK			BAY CITY		
	DEC 2016	NOV 2016	DEC 2015	DEC 2016	NOV 2016	DEC 2015	DEC 2016	NOV 2016	DEC 2015
PLACE OF RESIDENCE									
Labor Force	198,500	202,100	193,300	64,500	65,200	64,500	52,200	52,600	52,800
Employment	193,300	196,000	188,400	61,800	62,600	62,000	49,700	50,200	50,500
Unemployment	5,200	6,100	4,900	2,700	2,700	2,500	2,500	2,300	2,300
Rate (percent)	2.6	3.0	2.5	4.2	4.1	3.9	4.9	4.4	4.4
PLACE OF WORK									
Total Nonfarm Jobs	230,800	232,000	220,200	59,800	60,100	59,200	36,400	36,700	36,900
Mining, Logging & Construction	3,800	4,100	3,800	1,400	1,700	1,400	1,000	1,100	1,000
Manufacturing	15,100	15,000	15,000	12,400	12,300	12,100	4,300	4,500	4,400
Trade, Transportation & Utilities	25,700	25,900	26,600	9,300	9,200	9,700	7,600	7,700	7,800
Wholesale Trade	5,400	5,400	5,500	*	*	*	*	*	*
Retail Trade	16,600	16,900	17,300	5,700	5,800	6,000	5,200	5,200	5,300
Information	5,100	5,100	5,200	*	*	*	500	500	500
Financial Activities	7,500	7,500	7,300	1,400	1,400	1,300	1,400	1,400	1,400
Professional & Business Services	31,800	32,100	29,900	6,600	6,700	6,200	3,600	3,400	3,600
Educational & Health Services	27,600	27,700	27,100	11,200	11,200	11,000	7,000	7,000	6,900
Leisure & Hospitality	19,700	19,700	17,000	4,600	4,500	4,500	4,100	4,100	4,200
Other Services	6,700	6,700	6,600	2,100	2,000	2,000	1,400	1,400	1,500
Government	87,800	88,200	81,700	10,500	10,500	10,500	5,500	5,600	5,600
DETROIT-WARREN-DEARBORN									
	DEC 2016	NOV 2016	DEC 2015	DEC 2016	NOV 2016	DEC 2015	DEC 2016	NOV 2016	DEC 2015
PLACE OF RESIDENCE									
Labor Force	2,069,000	2,071,000	2,002,000	181,800	184,300	182,700	564,600	571,500	559,100
Employment	1,970,000	1,966,000	1,894,000	172,800	175,600	174,300	547,700	553,600	543,400
Unemployment	99,000	105,000	107,000	9,000	8,700	8,500	16,900	17,900	15,700
Rate (percent)	4.8	5.1	5.4	5.0	4.7	4.6	3.0	3.1	2.8
PLACE OF WORK									
Total Nonfarm Jobs	1,998,000	2,002,000	1,964,000	141,000	142,200	140,800	550,500	552,300	537,800
Mining, Logging & Construction	66,000	71,000	64,000	4,800	5,200	4,600	21,600	22,900	20,300
Manufacturing	244,000	245,000	240,000	11,900	12,000	12,100	113,300	112,500	110,800
Trade, Transportation & Utilities	367,000	366,000	369,000	29,700	29,900	29,900	97,600	97,600	96,200
Wholesale Trade	86,000	86,000	88,000	5,500	5,500	5,500	30,700	30,800	30,900
Retail Trade	214,000	214,000	214,000	20,300	20,600	20,500	51,500	51,600	50,200
Information	27,000	27,000	28,000	4,200	4,200	4,100	5,100	5,100	5,200
Financial Activities	115,000	115,000	110,000	6,200	6,200	6,200	26,200	25,800	25,100
Professional & Business Services	407,000	409,000	393,000	15,700	15,900	15,400	78,600	80,400	74,800
Educational & Health Services	316,000	314,000	310,000	28,700	29,000	28,700	90,900	91,000	88,500
Leisure & Hospitality	197,000	194,000	189,000	14,800	14,900	15,000	47,600	47,200	47,300
Other Services	77,000	76,000	78,000	5,500	5,500	5,500	22,100	22,000	21,800
Government	183,000	184,000	185,000	19,500	19,400	19,300	47,500	47,800	47,800
* Data Not Available									

JACKSON METROPOLITAN AREA

- Jackson metro area employment and labor force declined seasonally in December 2016, although the region's unemployment rate was unchanged at 4.3 percent.
- The region recorded an employment reduction of 1,200 since December 2015, resulting in a small 0.3 percentage point increase in the jobless rate.

MONTHLY INDUSTRY DEVELOPMENTS

- December nonfarm payroll jobs dropped by 900, primarily from seasonal job cuts in private *Education and health services* (-500) and in *Professional and business services* (-200).

INDUSTRY TRENDS

- The *Manufacturing* sector has been a strong source of recent job gains. Payroll jobs in this sector have advanced for six consecutive years, up by 2,300 since 2010.

KALAMAZOO-PORTAGE METROPOLITAN AREA

- The Kalamazoo region jobless rate was relatively flat in December, inching up 0.1 percentage points to 3.9 percent.
- In December, Kalamazoo had the fifth lowest unemployment rate among Michigan metro areas. On an annual basis, 2016 marked the sixth consecutive year of jobless rate reductions.

MONTHLY INDUSTRY DEVELOPMENTS

- Total nonfarm payroll employment in the region inched down by 800 in December.
- Typical seasonal job cuts were recorded in *Leisure and hospitality*, *Construction*, *State and local education*, and *Retail trade*.

INDUSTRY TRENDS

- 2016 annual job levels in the Kalamazoo metro area have rebounded by 1,400 or 0.9 percent above 2007 pre-recessionary levels, below the 1.5 percent gain statewide.

LANSING-EAST LANSING METROPOLITAN AREA

- The Lansing-East Lansing metro region continues to record low jobless rates. The December 2016 unemployment rate of 3.3 percent tied for the lowest of the year, and joblessness reached its low point in the fourth quarter.
- The Lansing region in December had the third lowest jobless rate among Michigan metro areas, and Clinton, Eaton, and Ingham counties all ranked in the top seven counties statewide.

MONTHLY INDUSTRY DEVELOPMENTS

- Payroll jobs fell seasonally in December by -3,200 or -1.4 percent due to job cuts in *Government*, *Construction*, and *Professional services*.

INDUSTRY TRENDS

- The Lansing metro area has added nearly 10,000 jobs since 2013 (+4.5 percent), which lagged behind the 5.5 percent gain statewide.

MIDLAND METROPOLITAN AREA

- Labor market conditions were stable in the Midland metro area in December, as the jobless rate was unchanged at 4.1 percent and payroll jobs were flat at 38,400.
- The Midland MSA jobless rate in 2016 will likely average about 4.3 percent, for an annual decline of 0.4 percentage points. The number of area unemployed has been cut almost in half since 2011.

MONTHLY INDUSTRY DEVELOPMENTS

- Payroll jobs in the Midland area were flat in December, and registered only slight gains during 2016. Jobs in the region have risen steadily since 2009.

INDUSTRY TRENDS

- Virtually all of the job gains in recent years in the Midland region have been created in the *Private service* sector, up 3,000 since 2010.

MONROE METROPOLITAN AREA

- The Monroe metro area jobless rate declined to 3.4 percent in December, a decrease of three-tenths of a percentage point over the month.
- Both labor force and employment recorded reductions in December, down 2.0 percent and 1.7 percent, respectively.

MONTHLY INDUSTRY DEVELOPMENTS

- Payroll jobs dropped in December by -700 or -1.6 percent, with small job reductions across several industries, led by *Construction* (-300).

INDUSTRY TRENDS

- The regional *Manufacturing* sector has added jobs every year since the recessionary low occurred in 2009. Jobs in this sector advanced by 1,100 or 24.7 percent over this period.

MUSKEGON METROPOLITAN AREA

- The jobless rate in the Muskegon metro area was unchanged (4.6 percent) in December, and edged up only slightly since December 2015 (+0.3 percentage points).
- While there was a slight rise in the number of unemployed over the year (+200), the size of the area labor force has remained relatively stable over the year, up +0.9 percent.

MONTHLY INDUSTRY DEVELOPMENTS

- Payroll jobs recorded a relatively normal modest decline of -500 in December, and all sectors were either decreasing or flat.

INDUSTRY TRENDS

- This was the sixth consecutive year of job gains in the Muskegon metro area since the recessionary low in 2010.
- In 2016, *Construction* job totals averaged 2,100, and this industry has gradually added 600 jobs since 2010.

CIVILIAN LABOR FORCE AND NONFARM PAYROLL JOBS

	JACKSON			KALAMAZOO-PORTAGE			LANSING-EAST LANSING		
	DEC 2016	NOV 2016	DEC 2015	DEC 2016	NOV 2016	DEC 2015	DEC 2016	NOV 2016	DEC 2015
PLACE OF RESIDENCE									
Labor Force	70,900	72,400	71,900	168,800	170,800	166,900	245,400	250,500	243,600
Employment	67,800	69,400	69,000	162,200	164,300	161,000	237,300	242,000	235,900
Unemployment	3,100	3,100	2,900	6,600	6,500	5,900	8,200	8,500	7,700
Rate (percent)	4.3	4.3	4.0	3.9	3.8	3.5	3.3	3.4	3.2
PLACE OF WORK									
Total Nonfarm Jobs	54,400	55,300	55,100	149,700	150,500	146,200	233,700	236,900	229,200
Mining, Logging & Construction	1,900	2,000	1,800	5,800	6,100	5,800	6,800	7,400	6,600
Manufacturing	9,800	9,800	9,700	21,800	21,700	20,900	21,000	21,000	20,300
Trade, Transportation & Utilities	12,300	12,200	12,500	26,900	27,000	26,800	36,600	36,600	36,200
Wholesale Trade	*	*	*	6,900	6,900	6,900	5,700	5,700	5,900
Retail Trade	6,400	6,400	6,700	16,500	16,700	16,400	21,800	21,900	21,300
Information	300	300	300	900	900	1,000	3,000	3,000	3,000
Financial Activities	1,900	1,900	1,900	8,500	8,400	8,300	16,000	15,900	15,700
Professional & Business Services	4,200	4,400	4,000	18,700	18,500	16,400	22,000	22,500	21,600
Educational & Health Services	9,500	10,000	9,900	23,300	23,500	23,000	31,800	31,900	30,900
Leisure & Hospitality	4,600	4,700	4,900	14,400	14,800	16,000	19,700	19,800	19,400
Other Services	2,400	2,400	2,500	5,900	5,800	5,800	10,200	10,200	10,100
Government	7,500	7,600	7,600	23,500	23,800	22,200	66,600	68,600	65,400
MIDLAND									
	DEC 2016	NOV 2016	DEC 2015	DEC 2016	NOV 2016	DEC 2015	DEC 2016	NOV 2016	DEC 2015
PLACE OF RESIDENCE									
Labor Force	41,400	41,900	41,700	77,200	78,700	77,200	77,700	78,800	77,000
Employment	39,700	40,200	40,100	74,500	75,800	74,600	74,200	75,200	73,700
Unemployment	1,700	1,700	1,600	2,600	2,900	2,500	3,500	3,600	3,300
Rate (percent)	4.1	4.1	3.8	3.4	3.7	3.3	4.6	4.6	4.3
PLACE OF WORK									
Total Nonfarm Jobs	38,400	38,400	38,100	43,600	44,300	43,200	65,200	65,700	63,700
Mining, Logging & Construction	*	*	*	3,000	3,300	2,900	2,100	2,200	2,100
Manufacturing	*	*	*	5,600	5,500	5,500	14,500	14,500	13,800
Trade, Transportation & Utilities	*	*	*	11,300	11,500	11,500	14,100	14,200	14,200
Wholesale Trade	*	*	*	1,800	1,900	1,900	*	*	*
Retail Trade	*	*	*	5,700	5,700	5,700	11,100	11,200	11,200
Information	*	*	*	*	*	*	800	800	800
Financial Activities	*	*	*	1,000	1,000	1,000	1,900	1,900	1,700
Professional & Business Services	*	*	*	5,100	5,200	4,900	3,900	4,100	3,700
Educational & Health Services	*	*	*	5,800	5,900	5,800	11,100	11,100	11,200
Leisure & Hospitality	*	*	*	4,600	4,700	4,600	6,900	6,900	6,600
Other Services	*	*	*	1,500	1,600	1,500	2,300	2,300	2,300
Government	3,000	2,900	2,900	5,200	5,200	5,200	7,600	7,700	7,300
* Data Not Available									

NILES-BENTON HARBOR METROPOLITAN AREA

- Employment declined seasonally in December in Niles-Benton Harbor, resulting in the jobless rate for the region inching up by two tenths of a percentage point to 4.6 percent.
- Employment also dipped since December 2015, and the regional jobless rate rose by 0.6 percentage points.

MONTHLY INDUSTRY DEVELOPMENTS

- The area lost 800 payroll jobs in December, primarily from seasonal employment reductions in private *Education and health services* (-400) and in *Leisure and hospitality* (-300).

INDUSTRY TRENDS

- The region has added roughly 1,000 payroll jobs per year for each of the last three years, for a job growth rate of 5.1 percent since 2013.

SAGINAW METROPOLITAN AREA

- Jobless rates in the Saginaw metro area were essentially flat in the fourth quarter of 2016. The December 2016 rate was 4.5 percent, very similar to the state average.
- The jobless rate was similar to the rate recorded in December 2015, but annual data will show that the region's rate fell about 0.7 percentage points in 2016.

MONTHLY INDUSTRY DEVELOPMENTS

- Payroll jobs in the Saginaw area in December were relatively unchanged over the month, recording only small changes in several industries.

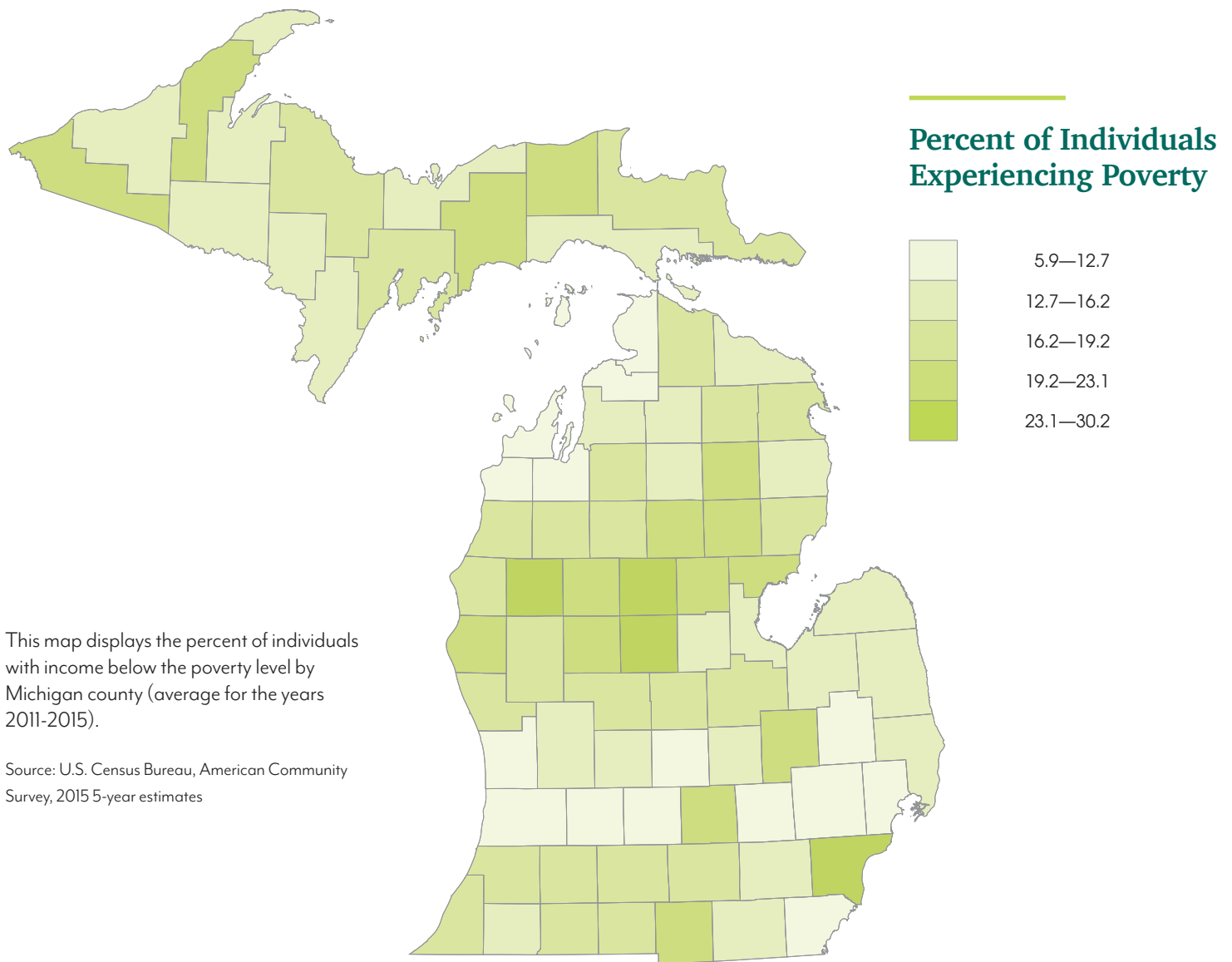
INDUSTRY TRENDS

- *Manufacturing* was a bright spot in the Saginaw area economy in 2016, as job levels reached a 10-year high of 13,000 jobs in 2016, up 800 over the year.

CIVILIAN LABOR FORCE AND NONFARM PAYROLL JOBS

	NILES-BENTON HARBOR			SAGINAW					
	DEC 2016	NOV 2016	DEC 2015	DEC 2016	NOV 2016	DEC 2015			
PLACE OF RESIDENCE									
Labor Force	73,300	74,500	73,800	90,300	91,000	90,500			
Employment	69,900	71,200	70,900	86,200	87,000	86,600			
Unemployment	3,400	3,300	3,000	4,100	4,000	3,800			
Rate (percent)	4.6	4.4	4.0	4.5	4.4	4.2			
PLACE OF WORK									
Total Nonfarm Jobs	62,000	62,800	62,000	91,700	91,800	91,100			
Mining, Logging & Construction	1,800	1,900	1,800	2,800	2,900	2,800			
Manufacturing	13,600	13,500	13,200	13,300	13,100	12,500			
Trade, Transportation & Utilities	11,200	11,200	11,200	18,700	18,700	18,800			
Wholesale Trade	*	*	*	2,200	2,200	2,300			
Retail Trade	6,900	6,900	6,900	13,800	13,700	13,800			
Information	500	500	500	1,300	1,300	1,300			
Financial Activities	2,400	2,400	2,300	3,600	3,600	3,700			
Professional & Business Services	5,100	5,200	5,700	12,200	12,300	12,000			
Educational & Health Services	8,900	9,300	9,100	16,200	16,200	16,300			
Leisure & Hospitality	7,400	7,700	7,200	9,200	9,200	9,000			
Other Services	2,200	2,200	2,300	3,200	3,200	3,400			
Government	8,900	8,900	8,700	11,200	11,300	11,300			
	UPPER PENINSULA			NORTHEAST MICHIGAN			NORTHWEST MICHIGAN		
	DEC 2016	NOV 2016	DEC 2015	DEC 2016	NOV 2016	DEC 2015	DEC 2016	NOV 2016	DEC 2015
PLACE OF RESIDENCE									
Labor Force	139,300	140,100	140,000	81,400	81,600	80,800	146,700	146,300	146,300
Employment	130,200	132,100	132,000	74,600	76,100	75,100	138,700	139,300	139,000
Unemployment	9,100	8,000	8,100	6,700	5,600	5,700	8,100	6,900	7,300
Rate (percent)	6.5	5.7	5.8	8.3	6.8	7.1	5.5	4.7	5.0

MAP OF THE MONTH: POVERTY RATES FOR MICHIGAN COUNTIES



This map displays the percent of individuals with income below the poverty level by Michigan county (average for the years 2011-2015).

Source: U.S. Census Bureau, American Community Survey, 2015 5-year estimates

Above Average Poverty Rates by County

With the exception of Wayne County, the highest levels of poverty in Michigan tend to be in the rural central Lower Peninsula counties of Clare, Isabella, and Lake.

Together with Wayne, these counties have the highest county rates of poverty in the state.

Lower Poverty Rates

The lowest poverty rates tend to be in the non-Wayne County parts of the Detroit Metropolitan Area and generally along the corridor between I-96 and I-94. The northwestern counties surrounding Traverse City and Petoskey also tend to have lower levels of poverty.

Poverty Not Just in Central Cities

In general, poverty rates tend to increase as one travels from south to north in Michigan with the exception of the counties mentioned previously. These data highlight the reality that poverty is not merely a problem for urban centers.



MICHIGAN'S INDUSTRY AND OCCUPATIONAL EMPLOYMENT OUTLOOK THROUGH 2024

Industry Employment Projections

Michigan's Department of Technology, Management and Budget has published updated long-term employment projections by industry and occupation through 2024. Statewide data are produced by the Bureau of Labor Market Information and Strategic Initiatives once every two years and are administered through the national Projections Managing Partnership (PMP) program. Important not only to state and local agencies, these data are widely used in business, education, workforce development, and economic development.

Employment projections are published at both the industry level (based on the primary products and services of Michigan businesses) and occupational level (jobs that people are employed in). Industry employment projections help target which business sectors are expected to add or cut jobs over the projection period, while occupational data provide information that is very relevant to workers and jobseekers. Occupational projections provide information

not only on new jobs but also annual openings due to replacement needs as well as education and training requirements by Standard Occupational Classification (SOC) code.

Michigan is expected to add over 327,000 new jobs between 2014 and 2024, advancing at an average rate of 0.7 percent per year. This is similar to the expected national average employment growth rate of 0.6 percent for the same period. Businesses expected to drive most of Michigan's job gains through 2024 range from healthcare and professional service providers to goods-producers in manufacturing and construction-related industries. This is consistent with the occupational data, which shows that *Computer and Mathematical*, *Healthcare Support*, and *Architecture and Engineering* are projected to be among the fastest-growing occupational groups. Occupations such as *Office and Administrative*, *Sales and Related*, and *Production* are expected to be among the top contributors of overall job demand, which includes replacement needs. Jobs requiring more than a high school diploma or

GED are expected to expand by 8.7 percent, while those requiring high school or less are projected to move up by 6.6 percent through 2024. The average rate of increase across all jobs in Michigan for the forecast period is 7.4 percent.

Industry Employment Projections

As the aging Baby Boom generation continues to fuel demand for both inpatient and outpatient healthcare and related services, the *Health Care and Social Assistance* sector will lead Michigan's industry job growth. Nearly one in four new jobs statewide is expected to come from expansion in this sector, despite a recent slowdown of new job creation in some sub-sectors of this industry, such as hospitals. The 12.4 percent total projected job gain in this sector (1.2 percent annually) should significantly outpace the overall average in Michigan, yet will fall short of the growth rate projected nationally in this sector over the forecast period. (Figure 1)



Michigan is expected to add over 327,000 new jobs between 2014 and 2024.

Professional, Scientific and Technical Services is another important expanding sector that includes a wide variety of industries such as accounting, engineering, and technology services. This sector provides many jobs requiring a high degree of expertise or training. It ranks second in terms of the most new expected jobs in Michigan, with a 43,700 increase during the projection period (13 percent of the statewide total). This sector is also expected to be the fastest-

growing two-digit industry sector at +15.9 percent through 2024. This is over twice the projected average growth rate for all jobs.

Despite a slightly below-average anticipated job growth rate (6.2 percent compared to 7.4 percent overall), *Manufacturing* remains a key industry in Michigan's employment outlook. The sector's 35,000 expected job gain through 2024 will account for over one in ten new jobs statewide. Additionally,

this industry is a key source of income to the Michigan economy, as *Manufacturing* workers earn wages that are 31 percent above the private sector average.

Not represented in Figure 1 are industries expected to decrease in employment size by 2024. Three sectors, *Mining*, *Utilities* and *Government (Public Administration)* are expected to lose jobs during the projection period. *The Government* sector, which in

FIGURE 1. MICHIGAN 2-DIGIT NAICS SECTORS PROJECTED TO ADD THE MOST NEW JOBS THROUGH 2024

INDUSTRY SECTOR (NAICS)	2014 EMPLOYMENT (ESTIMATED)	2024 EMPLOYMENT (PROJECTED)	10-YEAR NUMERIC CHANGE	10-YEAR PERCENT CHANGE
Total, All Industries	4,438,820	4,765,850	327,030	7.4%
Health Care & Social Assistance	606,530	681,940	75,410	12.4%
Professional, Scientific, & Technical Services	275,240	318,970	43,730	15.9%
Manufacturing	566,520	601,610	35,090	6.2%
Administrative/Support & Waste Management	288,890	318,550	29,660	10.3%
Accommodation & Food Services	356,270	383,060	26,790	7.5%
Retail Trade	459,850	479,400	19,550	4.3%
Construction	141,330	157,650	16,320	11.5%
Other Services (Except Government)	179,740	193,230	13,490	7.5%
Finance & Insurance	153,630	166,910	13,280	8.6%
Wholesale Trade	167,230	179,810	12,580	7.5%

these data exclude educational and health services, is estimated to lose nearly 2,600 jobs or roughly one percent of its 2014 base level. Most of the job losses will be seen at the state and federal levels, with local government showing only a minor uptick in employment through 2024.

Occupational Employment Projections

Occupational data provide users another way to examine Michigan’s projected job outlook. In addition to the 327,000 new jobs estimated statewide through the projection period, job demand will also arise out of vacancies created due to a need to replace workers permanently leaving a position. When factoring in openings due to replacement, it is estimated that there will be over 1.4 million employment opportunities in Michigan between 2014 and 2024.

The occupational projections also provide insight on average education and training requirements for job titles. Occupations requiring higher levels of education and training are expected to drive much of the new job growth through 2024. For example, nearly 80 percent of detailed occupational titles found within the projected top five fastest-growing occupational groups will require a bachelor’s degree or higher, while only half that share of all occupational titles statewide require a bachelor’s or better. (Figure 2)

That is not to say, however, that demand for jobs requiring less education will be necessarily low. For a complete picture of employment demand, it is necessary to look at occupations with high projected rates of expansion as well as those generating the most job openings (Figure 2). Only one occupational group, *Healthcare Practitioners and Technical Occupations*, is found on

both the list of top five fastest-growing groups and the top five in terms of total job openings. This latter group measures occupational employment demand due to replacement needs in addition to the number of new jobs. For example, the five occupational groups in the bottom category of Figure 2 are expected to account for half of total job openings statewide (71,000 annually out of 141,300 statewide) through 2024.

MARK REFFITT

ECONOMIC SPECIALIST

Department of Technology, Management, and Budget, Bureau of Labor Market Information and Strategic Initiatives

FIGURE 2. OCCUPATIONAL GROUPS RANKED BY JOB GROWTH RATES & TOTAL ANNUAL OPENINGS – 2014 TO 2024

	PROJECTED JOB GROWTH		TOTAL ANNUAL OPENINGS	SHARE OF OCCUPATIONS BACHELOR'S +
	10-YEAR NUMERIC	10-YEAR PERCENT		
TOP OCCUPATIONAL GROUPS BY GROWTH RATE				
Computer & Mathematical	16,420	15.2%	3,254	94%
Healthcare Support	21,200	14.4%	5,407	12%
Architecture & Engineering	16,890	12.9%	5,153	97%
Healthcare Practitioners & Technical	28,440	10.5%	8,785	79%
Business & Financial Operations	21,110	10.3%	6,241	93%
TOP OCCUPATIONAL GROUPS BY TOTAL JOB OPENINGS				
Food Preparation & Serving Related	27,200	7.4%	16,574	0%
Office & Administrative Support	17,730	2.7%	16,464	6%
Sales & Related	25,020	5.7%	15,824	16%
Production Occupations	27,660	6.3%	13,401	1%
Healthcare Practitioners & Technical	28,440	10.5%	8,785	79%

10 Year Outlook: Michigan's High-Demand Jobs

ACCOUNTANTS AND AUDITORS

COMPUTER SYSTEMS ANALYSTS

COMPUTER USER SUPPORT SPECIALISTS

GENERAL AND OPERATIONS MANAGERS

HEAVY AND TRACTOR-TRAILER TRUCK
DRIVERS

INDUSTRIAL ENGINEERS

MACHINISTS

MEDICAL AND HEALTH SERVICES MANAGERS

PHYSICAL THERAPIST ASSISTANTS

REGISTERED NURSES

SALES REPRESENTATIVES, EXCEPT TECHNICAL
AND SCIENTIFIC PRODUCTS

SOFTWARE DEVELOPERS,
SYSTEMS SOFTWARE

INDUSTRIAL MACHINERY MECHANICS

MICHIGAN ONLINE ADVERTISEMENTS INCREASE IN DECEMBER



According to The Conference Board's Help Wanted Online Data Series, Michigan's seasonally adjusted online advertised job postings for December 2016 increased, rising by 4,390 ads (+3.0 percent), bringing the total count in Michigan to 150,730. Since December 2015, ads have decreased by about -42,550 or -22.0 percent. Due to a sharp drop in online ads in early 2016, ad totals for the year fell -49,700 or -24.8 percent.

In December 2016, the United States also saw a monthly gain in seasonally adjusted online job advertisements, though at a slower pace (+1.6 percent) than in Michigan. Over the year, online job ads nationally were down (-8.9 percent).

Across the Midwest, most states also experienced similar trends in December, as Ohio, Indiana, Illinois and Wisconsin each recorded online advertisement advances. Ohio had the smallest rise of +2.0 percent, while Wisconsin registered the only percentage gain higher than Michigan (+4.2 percent).

Across the nation, most states also experienced online ad growth in December. Only four states recorded reductions: Colorado, Montana, North Dakota and West Virginia.

Michigan Ad Rate Rises in December

This month, Michigan's ad rate, or the number of job ads per 100 labor force participants, rose to 3.09 (+0.09), a rebound after last month's decrease. Michigan's ad rate continues to exceed that of the United States (3.00), a trend that

has been consistent since February 2014. Meanwhile, Michigan's Supply/Demand (SD) rate, or the number of unemployed persons per job posting, declined in December 2016 to 1.59 from 1.64 in November. In both November and December 2016, the SD rate was higher than the national rate (1.57 in November, 1.54 in December). These are the first months since November 2014 that the Michigan Supply/Demand rate has been higher than that of the United States.

Occupational Ads Down in December

Michigan's non-seasonally adjusted online advertised job vacancies by occupation decreased over the month, falling by -17,100 ads, or -11.2 percent, bringing the total to 135,100. All major occupation groups experienced monthly reductions.

Over the year, non-seasonally adjusted job ads registered a -22.1 percent decrease.

The largest decreases were seen in *Professional* (-3,600 ads), *Transportation* (-2,150 ads), *Sales* (-2,100 ads) and *Service* (-2,100 ads).

Interestingly, over the year, the largest declines were also recorded in *Sales* (-34 percent) as well as *Transportation* (-33 percent) and *Production* (-28.7 percent).

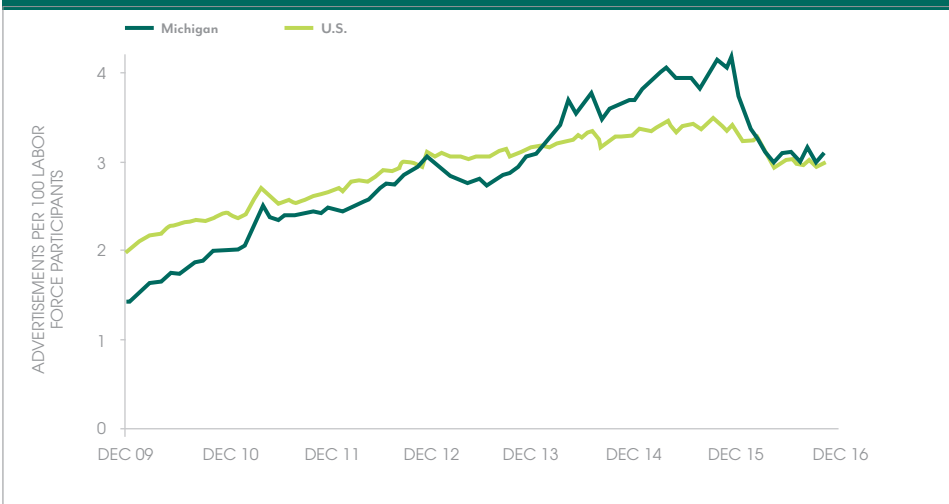
Of Michigan's total job ads, 49,950 were newly-posted in December, a drop of -23.2 percent since November. Over the year, total new job ads fell -29.9 percent.

LABOR SUPPLY VS. LABOR DEMAND, MICHIGAN



Source: The Conference Board, Help Wanted Online® (HWOL) and Bureau of Labor Statistics, Local Area Unemployment Statistics (LAUS)

AD RATES: MICHIGAN VS. U.S. (NOT SEASONALLY ADJUSTED)



Source: The Conference Board, Help Wanted Online® (HWOL) and Bureau of Labor Statistics, Local Area Unemployment Statistics (LAUS)

Michigan online job ads rose in December to 150,730, representing one job ad for every 1.59 jobseekers.

SUPPLY/DEMAND RATE

MICHIGAN

1.59

NATIONAL

1.54

TOTAL AVAILABLE ADS (NOT SEASONALLY ADJUSTED)

OCCUPATION CATEGORIES	DEC 2016	NOV 2016	DEC 2015	# CHANGE MONTH	% CHANGE MONTH	# CHANGE YEAR	% CHANGE YEAR
TOTAL	135,100	152,100	173,400	-17,000	-11.2%	-38,300	-22.1%
Professional	43,450	47,050	51,650	-3,600	-7.7%	-8,200	-15.9%
Healthcare	20,550	21,600	25,700	-1,050	-4.9%	-5,150	-20.0%
Sales	13,300	15,400	20,150	-2,100	-13.6%	-6,850	-34.0%
Administrative Support	12,700	14,600	16,850	-1,900	-13.0%	-4,150	-24.6%
Management	9,400	10,200	12,500	-800	-7.8%	-3,100	-24.8%
Service	11,850	13,950	13,750	-2,100	-15.1%	-1,900	-13.8%
Construction And Repair	9,000	10,950	11,250	-1,950	-17.8%	-2,250	-20.0%
Production	5,850	7,150	8,200	-1,300	-18.2%	-2,350	-28.7%
Transportation	8,850	11,000	13,200	-2,150	-19.5%	-4,350	-33.0%
Farming, Fishing, And Forestry	150	200	150	-50	-25.0%	0	0.0%

Source: The Conference Board, Help Wanted Online® (HWOL)

TOP TAKEAWAYS BY METRO AREA

Ann Arbor Metropolitan Area

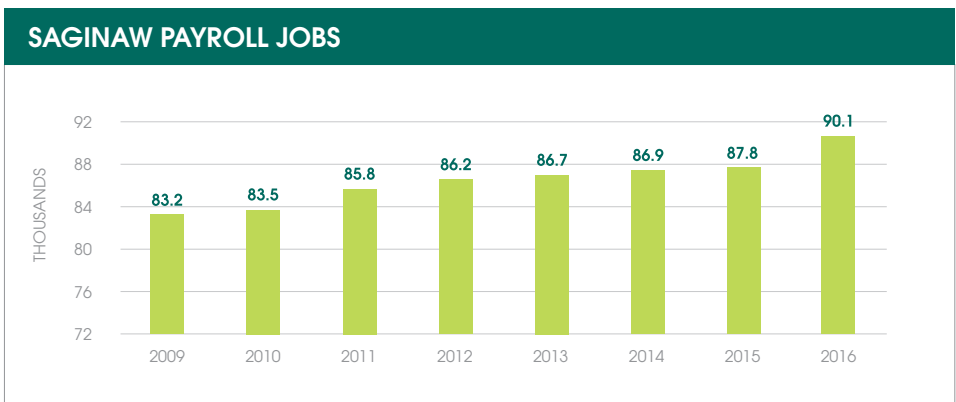
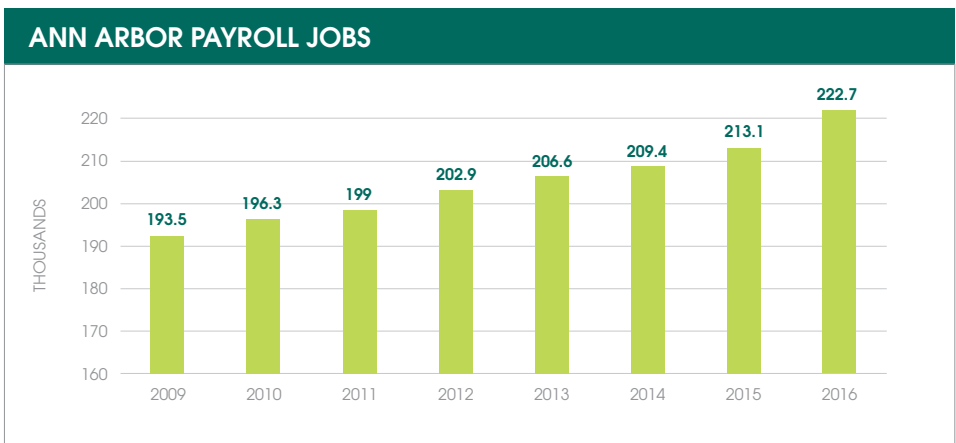
- The Ann Arbor metro area in 2016 has had among the lowest unemployment rates in Michigan. The rate averaged 3.2 percent in 2016, well below the state and national averages.
- The number of unemployed in the metro area averaged 6,200 during 2016, just over half the number of residents unemployed during 2011.
- Payroll jobs have increased for the 7th consecutive year in the Ann Arbor MSA, and are at an all-time high since at least 1990.
- Industry sectors in the Ann Arbor region that have surpassed pre-recession levels include:
 - *Professional, scientific, and technical services*
 - *Administrative and support services (including Temporary help services)*
 - *Health care services*
 - *Leisure & hospitality services*
- *Manufacturing* jobs have advanced for three consecutive years, but remain 1,700 below 2008 levels.
- The Ann Arbor metro area has added 29,100 jobs since the recessionary low of 2009, for a growth rate of 15.0 percent. This exceeded job expansion over this period in Michigan (+12.0 percent) and the nation (+9.9 percent).

Saginaw Metropolitan Area

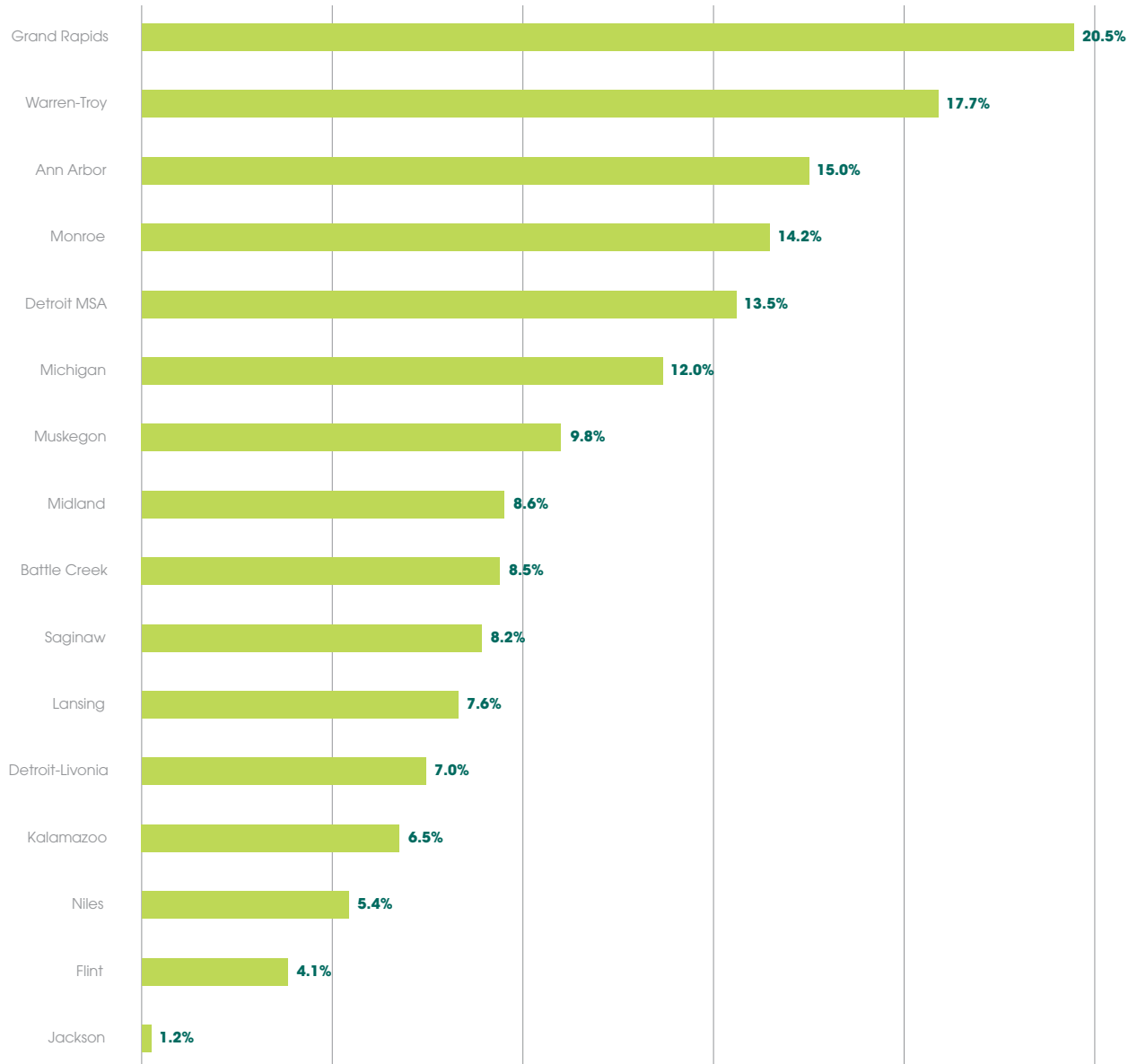
- The jobless rate in the Saginaw metro area has been below 5.0 percent in eight of the last nine months. The rate hit a 2016 low of 4.0 percent in September.
- Employment in the region averaged 86,100 during 2016. Employment gains in the Saginaw metro area have been slow but steady over each of the last six years.
- Payroll jobs in the Saginaw region have finally begun to approach

pre-recessionary levels in 2016. From 2007 to 2009, the metro area lost 6,700 jobs due to the recession, a 7.4 percent decline.

- Payroll jobs rebounded in 2011 (+2,300), but job growth has been modest in most years since. 2016 job levels are finally near 2007 levels.
- Many of the payroll job additions in the region over the last two years have been generated in the *Manufacturing* and *Health care* sectors.



PAYROLL JOB GROWTH RATES - 2009—2016



OCCUPATIONAL FOCUS: MECHANICAL ENGINEERS

Mechanical engineering is one of the most diverse engineering disciplines and involves the design, development, installation, production, operation and testing of a variety of items from small equipment components to large manufacturing facilities. Most *Mechanical engineers* work in either research and development or in the manufacturing and construction industries.

JOB TITLES

Application Engineer, Design Engineer, Equipment Engineer, Mechanical Design Engineer, Product Engineer, Project Engineer, Test Engineer.

EDUCATION

Mechanical engineers normally need a bachelor's degree in mechanical engineering or mechanical engineering technology.

SKILLS

- Critical Thinking - Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.
- Mathematics - Using mathematics to solve problems.
- Science - Using scientific rules and methods to resolve problems.
- Complex Problem Solving - Identifying complex problems and reviewing related information to develop and evaluate options and implement solutions.

TASKS

- Read and interpret blue prints, technical drawings, schematics, or computer related reports. Research, design, evaluate, install, operate, or maintain mechanical products, equipment, systems or processes to meet requirements.
- Develop, coordinate, or monitor all aspects of production, including selection of manufacturing methods.

Long-Term Projections, 2014 - 2024

Jobs for *Mechanical engineers* in Michigan are expected to expand over twice as fast as total statewide occupations (+7.4 percent). Mechanical engineering jobs should advance by 18.1 percent by 2024 (+7,250 jobs). This means that *Mechanical engineers* will account for nearly 43 percent of total Michigan growth in engineering occupations.

Between 2014 and 2024, the average number of annual job openings for *Mechanical engineers* will be approximately 2,000. In Michigan, about two-thirds of all annual openings are expected to come from the need to replace workers that leave their jobs for various economic reasons

(retirement, out-migration, etc.), while the remaining 33 percent are expected to come from employment expansion.


Short-Term Projections, 2015 - 2017

Between the second quarters of 2015 and 2017, the total number of Michigan jobs for *Mechanical engineers* is expected to rise by 2,890 (+6.9 percent). This is the largest projected numerical growth among all engineering occupations in the state.

In the short-term, annual openings for *Mechanical engineers* will total 2,773. Replacement of existing workers (+1,328) and job expansion (+1,445) will each account for about one-half of all annual openings.

MICHIGAN QUICK FACTS: MECHANICAL ENGINEERS

Number of Jobs 2015	40,490
Employment Change 2015-2017	2,890 (+6.9%)
Annual Openings 2015-2017	2,773
Employment Change 2014-2024	7,250 (+18.1%)
Annual Openings 2014-2024	1,994
Median Wage 2015	\$89,120 per year \$42.85 per hour
Wage Range	\$55,810 - \$124,290 per year \$26.83 - \$59.76 per hour
Education Required	Bachelor's Degree
Primary Industries	Professional, Scientific, Technical Services, Transportation Equipment Manufacturing
Real-Time Job Ads December 2016	2,593



**Jobs for Mechanical engineers
in Michigan are expected to
expand over twice as fast as
total statewide occupations
through 2024.**



ASK THE ECONOMIST

Q: I heard someone say that the “real” Michigan unemployment rate is well above the published rate of 4.7 percent. Is that true?

A: No, that is not technically true.

But, it is worth a discussion. If the definition of the “unemployed” were expanded, the calculated rate would be somewhat higher. Michigan’s official unemployment rate in 2016 will likely be about 4.7 percent (very similar to the 4.9 percent recorded nationally). The official unemployment rate is calculated monthly by the Bureau of Labor Statistics (BLS) and state labor market information offices like ours. All states use the same methodology to calculate unemployment, allowing for valid comparisons between states (and local areas). However, for those interested in measures that include more than the official definition of “unemployed”, there are other published options.

How is the official national unemployment rate calculated? For starters, the BLS conducts a monthly survey of households known as the Current Population Survey (CPS). Surveyors ask participants a series of questions to determine whether they are employed, unemployed, or not in the labor force. Responses to the survey provide the bedrock for our national, state, and local unemployment rates. As such, the official unemployment rate is simply the number of unemployed divided by the number in the labor force.

UNEMPLOYED
DIVIDED BY
LABOR FORCE
EQUALS
UNEMPLOYMENT
RATE

So, where’s the controversy? One criticism of the official unemployment rate is that it does not count persons who have quit looking for work and people who are working part-time involuntarily as “unemployed.” These are valid observations. Indeed, people who are not looking for work are considered “not in the labor force,” even if they want to work. Further, people working part-time are counted as “employed,” even if they really want a full-time job. Let’s take a minute with each:

NOT IN THE LABOR FORCE

There are several groups of people who are not in the labor force. Think about retirees, full-time students, or people taking care of household or family responsibilities. Another group, dubbed “discouraged workers,” are people who have quit looking for work because they feel no jobs are available or that employers will not hire them. While this group represents less than 1 percent of all of the people outside the labor force, it is true that many may be in similar circumstances as those counted as unemployed.

INVOLUNTARY PART-TIME WORKERS

Part-time workers can be divided into two groups: those who want to work part-time and those who want to work full-time. Most part-time workers (about 80 percent) choose to work part-time jobs. However, that means 20 percent of part-time workers do want full-time employment.

While there has been debate about whether or not these (and other) groups

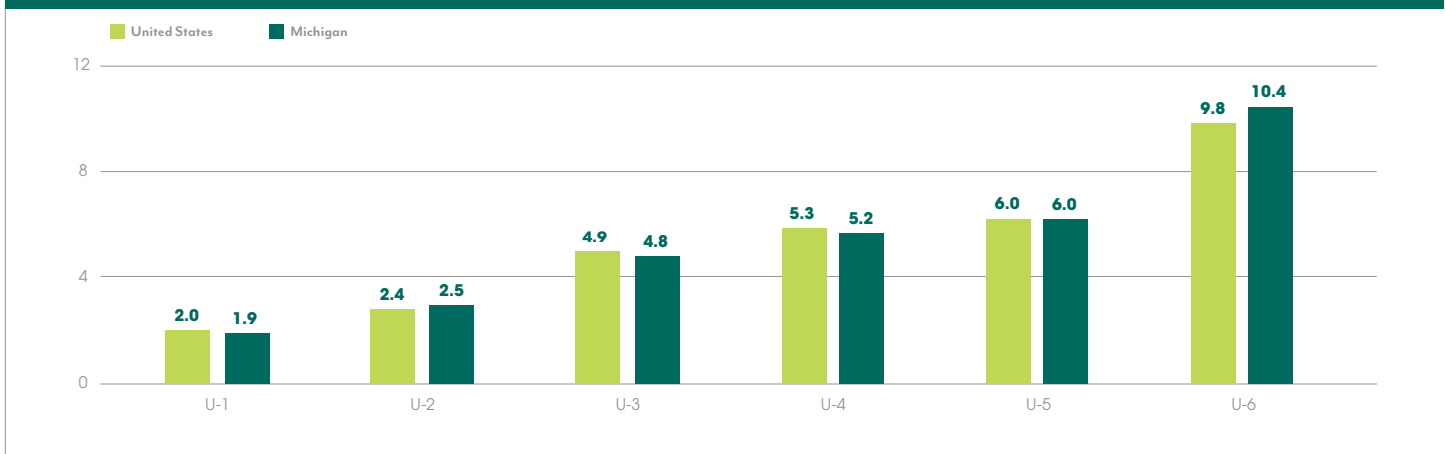
should be included in the calculation of the official unemployment rate¹, the BLS has calculated five “alternative measures of labor underutilization” since at least 1974, with the most recent line-up dating back to 1994². Alternative measures range from more narrow definitions, known as the “U-1” and the “U-2” to more broad measures like the “U-4,” the “U-5,” and the “U-6.” The official unemployment rate is also known as the “U-3.”

What happens if we include discouraged workers and involuntary part-time workers in the calculation? Well, the U-6 does just that. The chart below shows all alternative measures of labor underutilization along with the official unemployment rate (U-3). As you can see, including people who have quit looking for work and people working part-time involuntarily along with the unemployed produces a “labor underutilization rate” which is above the official unemployment rate. At 10.4 percent in Michigan and 9.8 percent in the U.S., this broadest measure of labor underutilization is more than double the official unemployment rate.

¹ Shiskin, Julius. 1976. Employment and unemployment: the doughnut or the hole? Monthly Labor Review. February 1976: BLS

² Bregger, John E. and Steven E. Haugen. 1995. BLS introduces new range of alternative unemployment measures. Monthly Labor Review. October 1995: BLS

ALTERNATIVE MEASURES OF LABOR UNDERUTILIZATION



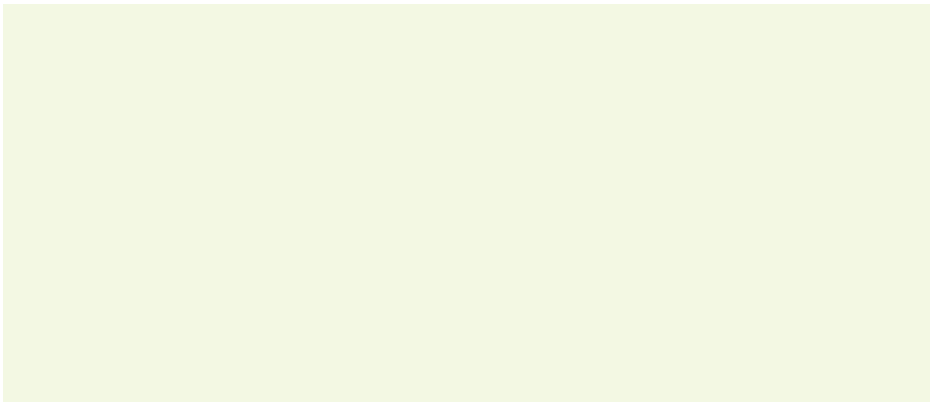


STATE OF MICHIGAN

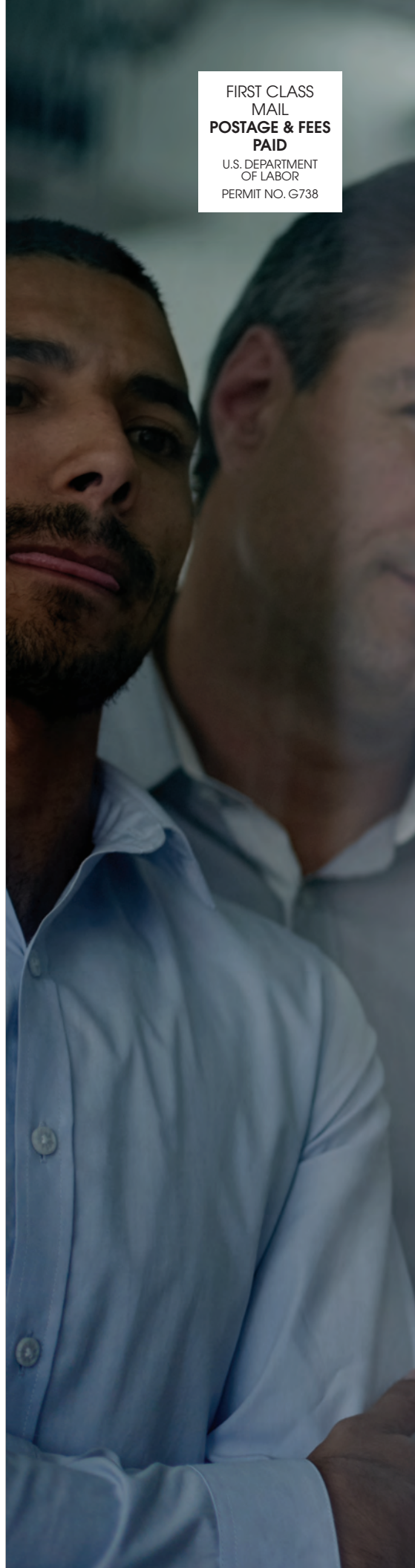
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