

# MICHIGAN'S LABOR MARKET NEWS

VOL. 73, ISSUES NO. 2 & 3  
APRIL & MAY 2017

---

## Supply and Demand in Science, Technology, Engineering and Math Jobs

Feature Story | pg. 16

---

## Michigan March Jobless Rate Down to 5.1 Percent

pg. 4

---

## Focus On: Software Developers, Applications

pg. 19

During 2016,  
Michigan's jobless  
rates remained in a  
narrow band from 4.8  
to 5.1 percent.

MARCH 2017 JOBLESS RATES

MICHIGAN

5.1%

U.S.

4.5%

## TABLE OF CONTENTS

- 4 Michigan Employment and Unemployment Trends
- 6 Michigan Job Trends by Industry Sector
- 10 Regional Labor Market Analysis
- 15 Map of the Month: Percent Private Job Change since 2013 for Michigan Counties
- 16 Feature Story: Michigan Labor Supply and Job Demand in STEM Occupations
- 19 Occupational Focus: Software Developers, Applications
- 20 Michigan Online Advertisements
- 22 Ask the Economist



**BRUCE WEAVER**  
*EDITOR*  
Economic Manager  
WeaverB1@michigan.gov



**KEVIN DOYLE**  
*REGIONAL CONTRIBUTOR*  
Economic Analyst  
DoyleK4@michigan.gov



**SHIBANI PUTATUNDA**  
*CONTRIBUTOR*  
Economic Analyst  
PutatundaS@michigan.gov



**JAMES ASTALOS**  
*PROJECT MANAGER*  
Economic Analyst  
AstalosJ@michigan.gov



**LEONIDAS MUREMBYA**  
*REGIONAL CONTRIBUTOR*  
Economic Specialist  
MurembyaL@michigan.gov



**MARK REFFITT**  
*CONTRIBUTOR*  
Economic Specialist  
ReffittM@michigan.gov



**LUCAS ARBULU**  
*CONTRIBUTOR*  
Research Assistant



**JASON PALMER**  
*CONTRIBUTOR*  
Bureau Director  
PalmerJ2@michigan.gov



**JIM RHEIN**  
*CONTRIBUTOR*  
Economic Specialist  
RheinJ@michigan.gov



**JEFFREY AULA**  
*CONTRIBUTOR*  
Economic Analyst  
AulaJ@michigan.gov

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.

### STATE OF MICHIGAN

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

#### Detroit Office

Cadillac Place  
3032 West Grand Blvd. Suite 9-150  
Detroit, MI 48202  
Phone: (313) 456-3100

#### Lansing Office

Victor Office Center  
201 North Washington Square  
Lansing, MI 48913  
Phone: (517) 241-9857



Sharp advances in employment and labor force levels have set the tone for the Michigan labor market during the first three months of 2017. Michigan's unemployment levels and monthly jobless rates have been relatively steady, with the first quarter unemployment rate averaging 5.2 percent.

One driver of economic and labor market growth in Michigan has been employment in Science, Technology, Engineering, and Mathematics (STEM) occupations. These occupations are found across industries, from *Manufacturing* (think Engineers) to *Professional and technical services* (think Software Developers).

Accordingly, this month's feature article looks at STEM. Our authors investigate both the supply-side and demand-side of the labor market. Using education program completers as an indicator of labor supply, we note that "the number of Michigan completers in STEM degree programs advanced again in the last academic year, continuing a decade long upward trend." And, using employment projections as an indicator of demand, we note, "STEM occupations in Michigan are projected to grow significantly faster than overall jobs by 2024." As is the case with most jobs, being sure we have qualified candidates ready for those jobs will be critically important if we hope to realize these employment projections.

This is just one of the many topics we will be covering in this and future issues of *Michigan's Labor Market News*. Is there something you would like to know more about? Let us know.

---

**JASON PALMER**

**DIRECTOR**

Bureau of Labor Market Information  
and Strategic Initiatives

# FIRST QUARTER 2017 MICHIGAN JOBLESS RATE AVERAGES 5.2 PERCENT

The state's seasonally adjusted unemployment rate in February inched up over the month by one-tenth of a percentage point to 5.3 percent. Michigan's workforce jumped by 23,000 in February as total employment advanced by 16,000 and the number of unemployed increased by 7,000.

In March, Michigan's seasonally adjusted jobless rate declined by two-tenths of a percentage point over the month to 5.1 percent. Total employment rose in March by 17,000 and the number of unemployed fell by 11,000. The net impact was a 6,000 increase in the state's workforce over the month.

Seasonally adjusted Michigan payroll jobs were little changed in both February and March.

The first three months of 2017 were marked by sharp advances in the state's total employment count and workforce levels. Michigan's unemployment levels and monthly jobless rates have been relatively steady so far in 2017.

Since December 2016, Michigan's labor force and total employment levels rose by 52,000 and 50,000 respectively, with both measures increasing by around 17,000 per month. In 2016, monthly labor force growth averaged 7,000, and monthly total employment gains averaged 8,000 per month.

Although February's unemployment rate was the highest recorded in the state since the June 2015 rate of 5.4 percent, Michigan's March rate of 5.1 percent was similar to most monthly rates dating back to mid-year 2015.

## Employment to Population Ratio

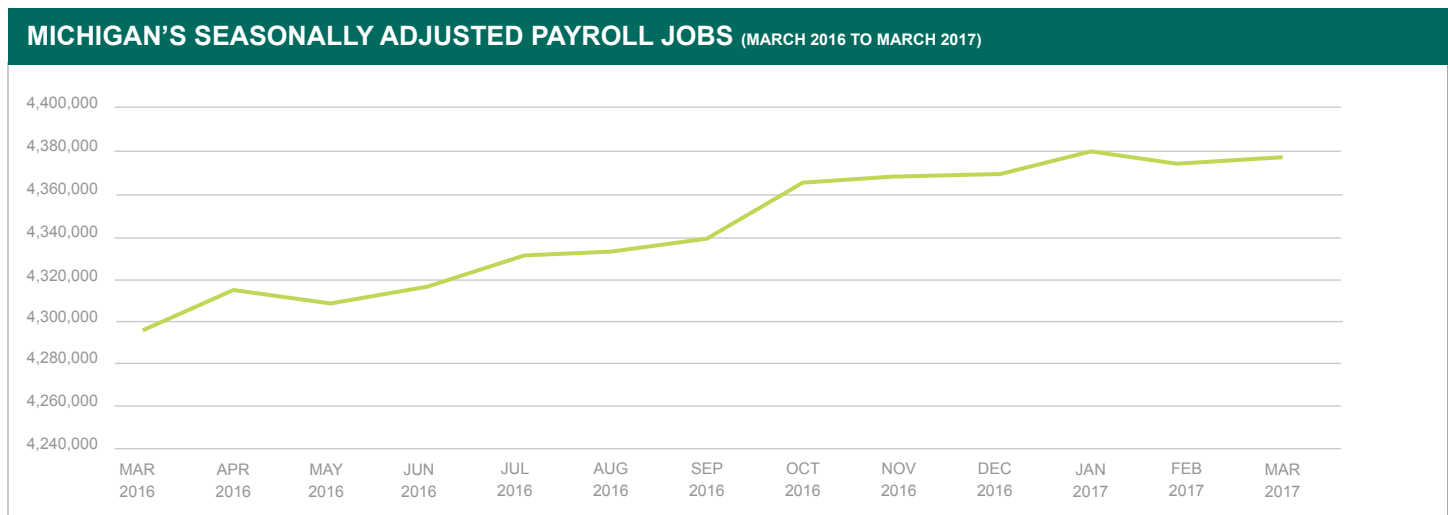
An alternative indicator to gauge employment change over time is the employment to population ratio. The employment to population ratio (EPOP) is the percentage of total employed to the state's 16 and older civilian non-institutionalized population. Even if other measures like the unemployment rate show

improvement, it is important to know if the share of persons in Michigan who are employed is also advancing.

The employment to population ratio reached a peak in 2000 of 66.2 percent, and the low point of 53.7 percent was recorded in 1982 during the national recession. The most recent 2016 EPOP in Michigan was 58.4 percent, still well below the 2000 peak. Michigan's EPOP ratio in 2016 was just 1.3 percentage points below the national average.

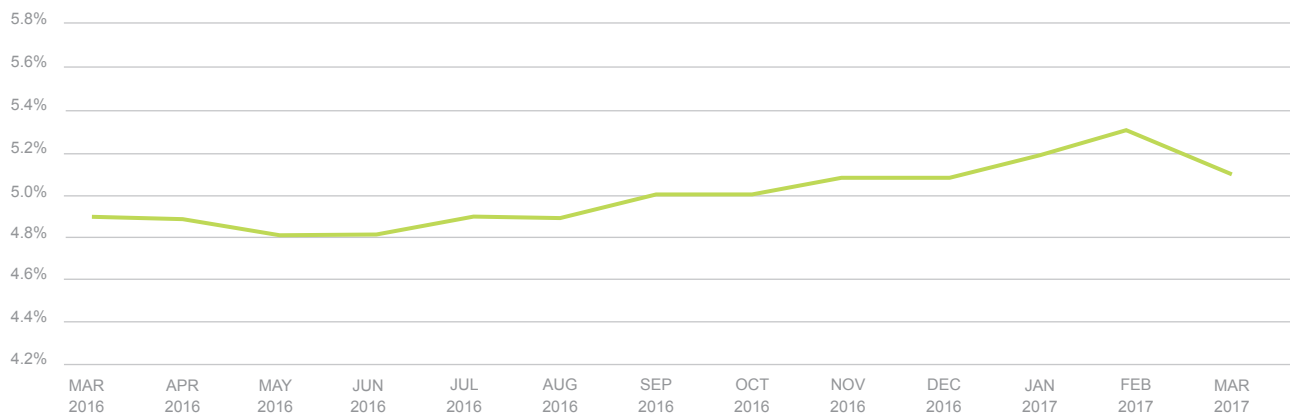
This ratio is of course higher for persons in the prime working ages of 25-54. The EPOP ratio for this group in Michigan rose from 71.1 percent in 2009 to 76.8 percent in 2016.

MICHIGAN LABOR FORCE ESTIMATES (SEASONALLY ADJUSTED)							
	MAR 2016	JAN 2017	FEB 2017	MAR 2017	CHANGE OVER THE MONTH	CHANGE OVER THE YEAR	
Labor Force	4,807,000	4,885,000	4,908,000	4,914,000	+6,000	+107,000	
Employed	4,571,000	4,632,000	4,649,000	4,666,000	+17,000	+95,000	
Unemployed	236,000	252,000	259,000	248,000	-11,000	+12,000	
Jobless Rate	4.9	5.2	5.3	5.1	-0.2	+0.2	





### MICHIGAN'S SEASONALLY ADJUSTED UNEMPLOYMENT RATES (MARCH 2016 TO MARCH 2017)





# MICHIGAN JOB TRENDS BY INDUSTRY SECTOR

## Monthly Overview

Michigan total nonfarm payroll jobs edged up by 2,500 during the month of March, roughly offsetting a job reduction of -2,600 in February. Industries with the largest employment gains included *Trade, transportation, and utilities* (+5,400), *Manufacturing* (+1,800), and *Professional and business services* (+1,300). These increases were partially offset by job declines in several major sectors. Industries with the largest reductions included *Leisure and hospitality* (-5,200), and *Other services* (-1,800).

## Over the Year Analysis

Since March 2016, total nonfarm jobs in Michigan grew by 79,800, or 1.9 percent. This exceeded the national job advance of 1.5 percent over this period. Between March 2016 and March 2017, employment in Michigan moved up in all major industries with the exception of *Mining and logging* (-100). Job growth in the sectors of *Professional and business services* (+18,500), *Leisure and hospitality* (+12,500), and *Education and health services* (+11,200) accounted for over 50 percent of the total over-the-year job increases. Other industry sectors with significant job gains included *Government* (+11,000), *Construction* (+10,000), *Financial activities* (+6,100), and *Trade, transportation, and utilities* (+3,700).

## Michigan First Quarter 2017 Percent Job Change

Total nonfarm jobs increased in Michigan by 10,400 (+0.2 percent) during the first quarter of 2017. This was smaller than the 0.6 percent gain nationally for this period.

The industries exhibiting large job additions during this quarter included *Mining and logging* (+4.3 percent), *Construction* (+3.0 percent), *Information* (+1.1 percent) and *Leisure and hospitality* (+1.0 percent). In total, six industries had higher than statewide average growth this quarter.

Sectors exhibiting larger than statewide average job declines included *Trade, transportation, and utilities* (-1.1 percent), *Other services* (-0.2

percent), *Professional and business services* (-0.2 percent), and *Manufacturing* (-0.1 percent). *Government* jobs were unchanged between the fourth quarter of 2016 and the first quarter of 2017.

## Significant Industry Employment Developments

### ACCOMMODATION & FOOD SERVICES

Jobs in this sector declined by 2,700 in March, following a job gain of 3,200 in February. This was atypical monthly movement for this industry, which has been adding workers or staying relatively flat for the month of March since 2011. A large portion of this job drop was due to a significant decline of jobs in the *Accommodation* industry over the month. Over the year, *Accommodation and food services* employment has grown by 10,900, or 2.9 percent. This industry has been steadily adding jobs in Michigan, up by nearly 42,000 positions from 2011-2016. Nationally, employment rose by 22,100 over the month and by 1.9 percent since March 2016.

### FINANCIAL ACTIVITIES

The *Financial activities* sector added 400 workers between February 2017 and March 2017. Over the year, this sector has grown by 6,100, or 2.9 percent, which is a full percentage point higher than the over-the-year change for total Michigan nonfarm employment. This was due to consistent, modest over-the-month job increases in the *Financial activities* industry since February 2015. Nationally, employment in this industry rose by 900 over the month and by 2.2 percent over the year.

### RETAIL TRADE

Job levels in *Retail trade* expanded by 4,100 during March 2017. This was a larger than typical monthly gain for the sector, which has reported modest employment increases over the month in March since 2014. However, it partially reflected a rebound from a weak month of February, when retail jobs fell by 1,900. Over the last two months, jobs in the sector rose by 2,200. Part of the job expansion in March was

due to an atypical job addition in both *Building material and garden equipment and supplies dealers*, and *Grocery stores*. Since March 2016, *Retail trade* employment edged up by 1,400, a mere 0.3 percent. Nationally, employment in the sector declined by 29,700 monthly but increased by 0.4 percent over the year.

### METROPOLITAN STATISTICAL AREAS (MSAs)

On a not seasonally adjusted basis, thirteen of the state's fourteen metro areas recorded job expansion in March, with nine areas reporting percentage job gains above the statewide average.

The *Muskegon* and *Monroe* metro areas reported the highest employment additions of +1.0 percent each, followed closely by *Jackson* with +0.9 percent. Job advances primarily occurred as a result of seasonal increases in the *Leisure and hospitality* and *Mining, logging, and construction* industries.

Payroll employment remained unchanged in the *Bay City* metropolitan statistical area, as the majority of industries in the region reported no employment gains.

The *Detroit* metro area and the *Ann Arbor* region led the state in the actual number of payroll job additions in March, up by 9,200 and 1,600 jobs, respectively.

## MICHIGAN PAYROLL JOBS (SEASONALLY ADJUSTED)

INDUSTRY	MAR 2017	FEB 2017	MAR 2016	OVER THE MONTH		OVER THE YEAR	
				LEVEL	PERCENT	LEVEL	PERCENT
<b>TOTAL NONFARM</b>	<b>4,378,500</b>	<b>4,376,000</b>	<b>4,298,700</b>	<b>2,500</b>	<b>0.1%</b>	<b>79,800</b>	<b>1.9%</b>
Total Private	3,769,800	3,767,100	3,701,000	2,700	0.1%	68,800	1.9%
Private Service-Providing	2,997,800	2,996,500	2,942,200	1,300	0.0%	55,600	1.9%
<b>GOODS-PRODUCING</b>	<b>772,000</b>	<b>770,600</b>	<b>758,800</b>	<b>1,400</b>	<b>0.2%</b>	<b>13,200</b>	<b>1.7%</b>
Mining, Logging and Construction	171,100	171,500	161,200	-400	-0.2%	9,900	6.1%
Mining and Logging	7,300	7,200	7,400	100	1.4%	-100	-1.4%
Construction	163,800	164,300	153,800	-500	-0.3%	10,000	6.5%
Manufacturing	600,900	599,100	597,600	1,800	0.3%	3,300	0.6%
Durable Goods	453,200	450,100	450,000	3,100	0.7%	3,200	0.7%
Transportation Equipment Manufacturing	181,300	181,700	177,900	-400	-0.2%	3,400	1.9%
Nondurable Goods	147,700	149,000	147,600	-1,300	-0.9%	100	0.1%
<b>SERVICE-PROVIDING</b>	<b>3,606,500</b>	<b>3,605,400</b>	<b>3,539,900</b>	<b>1,100</b>	<b>0.0%</b>	<b>66,600</b>	<b>1.9%</b>
Trade, Transportation, and Utilities	783,500	778,100	779,800	5,400	0.7%	3,700	0.5%
Wholesale Trade	171,600	170,900	170,800	700	0.4%	800	0.5%
Retail Trade	474,000	469,900	472,600	4,100	0.9%	1,400	0.3%
Transportation, Warehousing, and Utilities	137,900	137,300	136,400	600	0.4%	1,500	1.1%
Information	58,800	58,000	57,100	800	1.4%	1,700	3.0%
Financial Activities	217,300	216,900	211,200	400	0.2%	6,100	2.9%
Finance and Insurance	162,600	162,400	158,900	200	0.1%	3,700	2.3%
Real Estate and Rental and Leasing	54,700	54,500	52,300	200	0.4%	2,400	4.6%
Professional and Business Services	660,900	659,600	642,400	1,300	0.2%	18,500	2.9%
Professional, Scientific, and Technical Services	299,600	300,500	292,200	-900	-0.3%	7,400	2.5%
Management of Companies and Enterprises	62,400	62,400	60,100	0	0.0%	2,300	3.8%
Administration and Support and Waste Management and Remediation Services	298,900	296,700	290,100	2,200	0.7%	8,800	3.0%
Education and Health Services	671,400	671,000	660,200	400	0.1%	11,200	1.7%
Educational Services	72,600	72,900	72,700	-300	-0.4%	-100	-0.1%
Health Care and Social Assistance	598,800	598,100	587,500	700	0.1%	11,300	1.9%
Leisure and Hospitality	435,900	441,100	423,400	-5,200	-1.2%	12,500	3.0%
Arts, Entertainment, and Recreation	52,700	55,200	51,100	-2,500	-4.5%	1,600	3.1%
Accommodation and Food Services	383,200	385,900	372,300	-2,700	-0.7%	10,900	2.9%
Other Services	170,000	171,800	168,100	-1,800	-1.0%	1,900	1.1%
Government	608,700	608,900	597,700	-200	0.0%	11,000	1.8%
Federal Government	52,500	52,000	51,900	500	1.0%	600	1.2%
State Government	194,100	192,400	186,000	1,700	0.9%	8,100	4.4%
Local Government	362,100	364,500	359,800	-2,400	-0.7%	2,300	0.6%



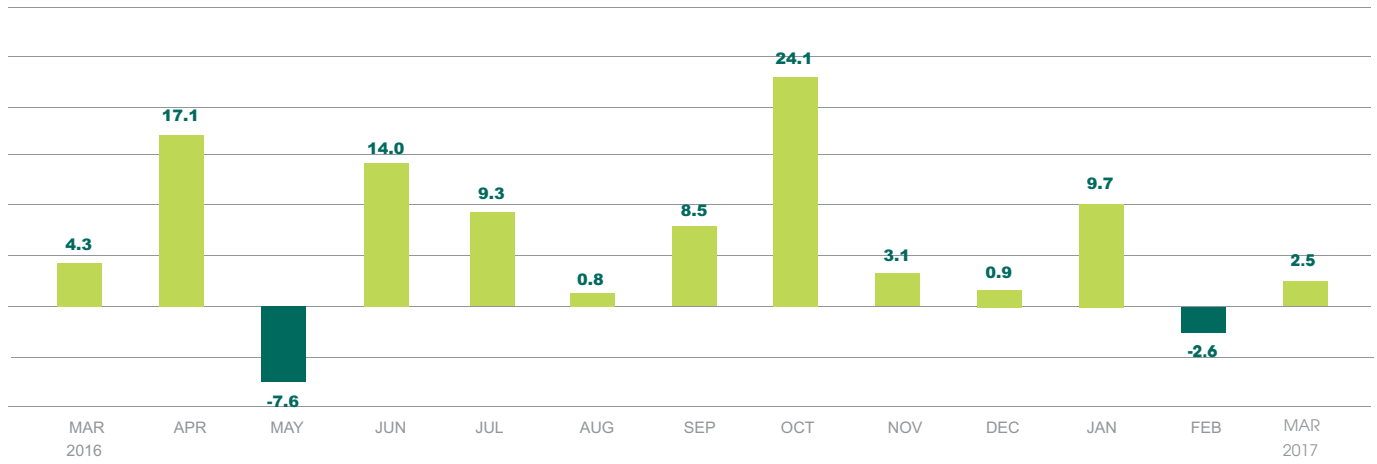
---

Since March 2016,  
total nonfarm jobs in  
Michigan grew by 79,800  
or 1.9 percent.

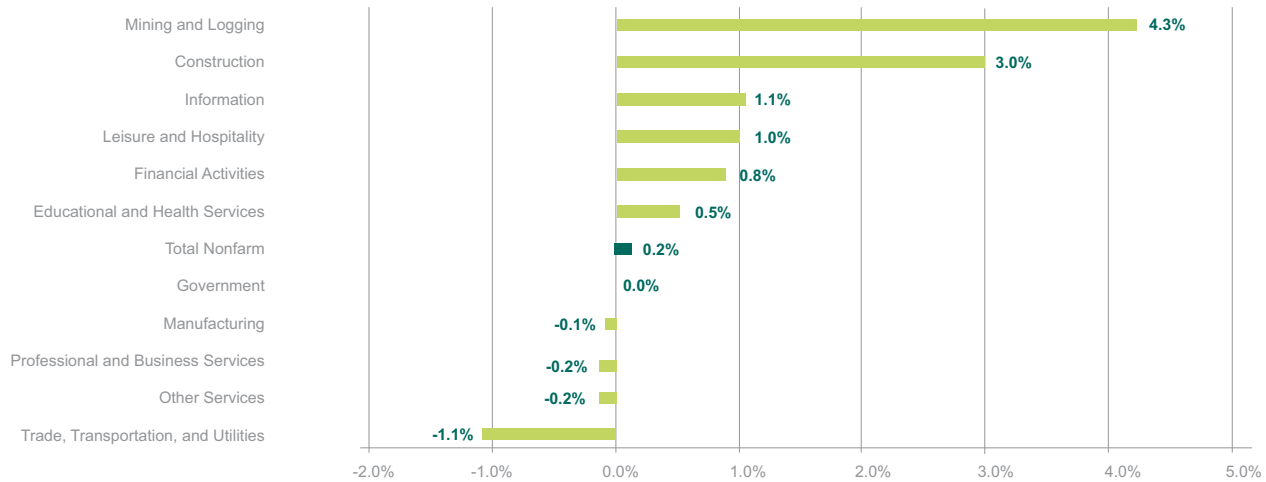




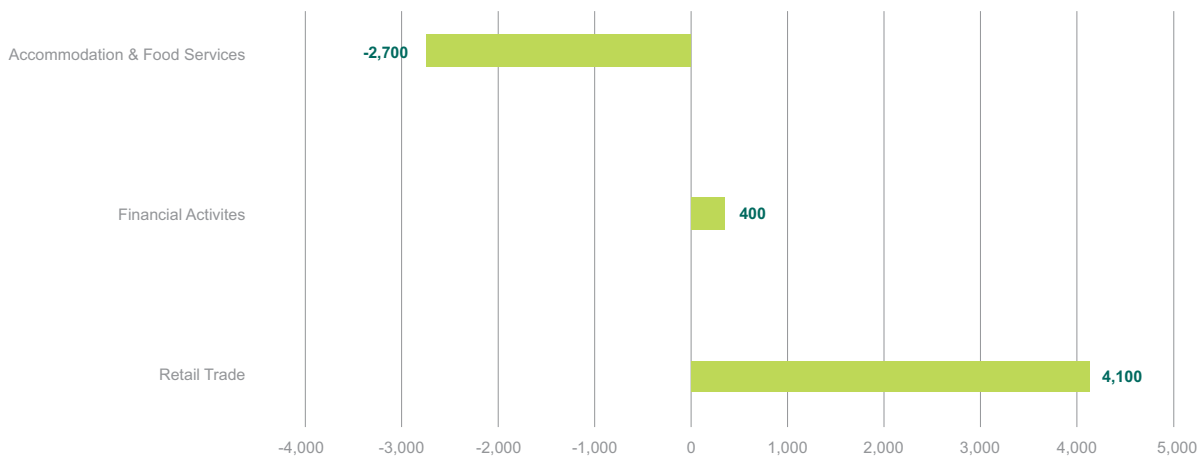
## MICHIGAN OVER THE MONTH PAYROLL JOB CHANGE (IN THOUSANDS)



## PERCENTAGE JOB CHANGE FOURTH QUARTER 2016 - FIRST QUARTER 2017



## MICHIGAN'S OVER THE MONTH JOB CHANGE BY SELECT INDUSTRY (FEBRUARY 2017 - MARCH 2017)



# REGIONAL LABOR MARKET ANALYSIS

## ANN ARBOR METROPOLITAN AREA

- Joblessness in the Ann Arbor metro area declined by 0.7 percentage points between February 2017 and March 2017 to 2.8 percent.
- The region's unemployment rate in March was the lowest among all Michigan metropolitan areas.

### MONTHLY INDUSTRY DEVELOPMENTS

- In February 2017, Ann Arbor metro area jobs rose by 3,700 or 1.7 percent over the month, with gains concentrated in public education as support and student workers returned to the job at area schools and universities.
- Payroll jobs edged slightly upwards by 1,600 (+0.7 percent) in March 2017. This pushed job expansion up over the year to a healthy 2.1 percent

### INDUSTRY TRENDS

- The regional *Construction* sector added 700 jobs from 2012 to 2016, and is approaching pre-recessionary 2008 levels.

## BATTLE CREEK METROPOLITAN AREA

- The Battle Creek metro area jobless rate moved down by 0.8 percentage points in March to 4.5 percent. The number of unemployed fell seasonally in March, although employment levels edged up only slightly.
- Since March 2016, labor market conditions were little changed, as the jobless rate inched down by only 0.5 percentage points.

### MONTHLY INDUSTRY DEVELOPMENTS

- Total nonfarm jobs edged up 300 in March for the second consecutive month. A 100-job addition each was recorded in *Construction and mining, Manufacturing, and Government*.
- Over the past year, *Service-providing* and *Goods-producing* industries added 300 new positions each.

### INDUSTRY TRENDS

- March payroll jobs reached a low point in 2010, but have expanded by 4,800 or 8.8 percent since then.
- *Manufacturing* jobs rose for six consecutive years from 2010-2016.

## BAY CITY METROPOLITAN AREA

- The Bay City metro area jobless rate fell by 1.2 percentage points to 5.5 percent in March. This change was largely driven by a 600-person reduction in the metro area labor force.
- Annual jobless rates in the Bay City region peaked at 11.9 percent in 2009, but then fell steadily to 5.2 percent in 2016. The regional labor force has remained on a downward trajectory over this period, however, mostly due to a declining population.

### MONTHLY INDUSTRY DEVELOPMENTS

- Total nonfarm payroll jobs were flat in March, recording only a modest gain in *Retail trade* that was offset by several small downticks in other industries.

### INDUSTRY TRENDS

- *Retail trade* continued to be an ongoing source of job loss in the Bay City metro area. March 2017 jobs were just 100 above the series low of 5,000 jobs recorded in March 2016.

## DETROIT-WARREN-DEARBORN METRO AREA

- Detroit metro area unemployment declined by 0.3 percentage points over the month in February 2017 to 5.9 percent, and an additional 0.8 percentage points in March 2017 down to 5.1 percent.
- Since March 2016, total employment rose 2.2 percent, and the jobless rate edged down by 0.4 percentage points.

### MONTHLY INDUSTRY DEVELOPMENTS

- Payroll jobs increased by 9,200 in March 2017, with over-the-month employment advances in *Retail trade, Mining, logging, and construction, and Manufacturing*.

### INDUSTRY TRENDS

- Jobs in the Detroit metro area's *Telecommunications* sector have been declining. Over the year, industry employment has fallen by 2.3 percent. The current employment level has stayed at a consistent 8,600 since November 2016, which is the lowest total for this sector in the past ten years.

## FLINT METROPOLITAN AREA

- The Flint MSA unemployment rate declined by one full percentage point in March to 5.4 percent. This change was mostly due to labor force withdrawal, but a modest gain in employment was also a factor.
- The jobless rate in March 2012 was 10.2 percent, about double the March 2017 jobless rate, showing significant recovery since the Great Recession.

### MONTHLY INDUSTRY DEVELOPMENTS

- Flint MSA sectors with significant payroll job advances in March included *Manufacturing* and *Leisure and hospitality*. The *Manufacturing* sector recorded the highest monthly job addition (+300 jobs, +2.5 percent).

### INDUSTRY TRENDS

- *Wholesale trade* once again rose to a 10-year peak of 5,800 jobs in March. Employment in this industry has been trending upwards since 2009 after hitting a 10-year low of 4,500 in that year.

## GRAND RAPIDS-WYOMING METROPOLITAN AREA

- The unemployment rate in the Grand Rapids metro area remained unchanged at 3.7 percent in February 2017, then fell by 0.6 percentage points over the month in March to 3.1 percent.
- Both the labor force and the total number of employed increased over the year in March, up 1.4 percent and 2.0 percent, respectively.

### MONTHLY INDUSTRY DEVELOPMENTS

- Regional payroll jobs edged up by 1,400 or 0.3 percent in March due to seasonal employment gains in industries such as *Mining, logging, and construction, Manufacturing, and Leisure and hospitality*.

### INDUSTRY TRENDS

- Employment in the Grand Rapids metro area has increased by 2.6 percent since March 2016. This is the largest over-the-year percentage job advance among all Michigan metro areas.

## CIVILIAN LABOR FORCE AND NONFARM PAYROLL JOBS

	ANN ARBOR			BATTLE CREEK			BAY CITY		
	MAR 2017	FEB 2017	MAR 2016	MAR 2017	FEB 2017	MAR 2016	MAR 2017	FEB 2017	MAR 2016
<b>PLACE OF RESIDENCE</b>									
Labor Force	194,600	194,900	192,800	64,700	65,000	64,600	51,800	52,400	52,200
Employment	189,100	188,000	186,400	61,800	61,500	61,400	49,000	48,900	49,000
Unemployment	5,500	6,800	6,400	2,900	3,500	3,200	2,900	3,500	3,200
Rate (percent)	2.8	3.5	3.3	4.5	5.3	5.0	5.5	6.7	6.1
<b>PLACE OF WORK</b>									
Total Nonfarm Jobs	221,100	219,500	216,600	59,000	58,700	58,400	35,800	35,800	35,600
Mining, Logging & Construction	3,800	3,800	3,700	1,200	1,100	1,300	800	800	900
Manufacturing	14,700	14,700	14,500	12,600	12,500	12,200	4,300	4,300	4,100
Trade, Transportation & Utilities	25,200	25,100	25,600	9,000	9,000	9,000	7,600	7,600	7,400
Wholesale Trade	5,500	5,500	5,500	*	*	*	*	*	*
Retail Trade	16,200	16,100	16,600	5,500	5,500	5,500	5,100	5,000	5,000
Information	5,100	5,100	5,200	*	*	*	600	600	600
Financial Activities	7,000	6,900	7,000	1,300	1,300	1,300	1,200	1,200	1,300
Professional & Business Services	30,200	30,200	28,500	6,100	6,100	6,000	3,100	3,100	3,200
Educational & Health Services	27,200	27,200	27,000	11,200	11,200	10,900	6,600	6,600	6,700
Leisure & Hospitality	16,800	16,600	16,900	4,500	4,500	4,600	4,500	4,500	4,400
Other Services	6,300	6,300	6,500	2,000	2,000	2,100	1,400	1,400	1,400
Government	84,800	83,600	81,700	10,900	10,800	10,800	5,700	5,700	5,600
<b>DETROIT-WARREN-DEARBORN</b>									
<b>FLINT</b>									
<b>GRAND RAPIDS-WYOMING</b>									
	MAR 2017	FEB 2017	MAR 2016	MAR 2017	FEB 2017	MAR 2016	MAR 2017	FEB 2017	MAR 2016
<b>PLACE OF RESIDENCE</b>									
Labor Force	2,090,700	2,088,900	2,057,400	182,600	183,900	183,500	573,300	575,800	565,400
Employment	1,984,800	1,966,600	1,943,500	172,700	172,100	172,600	555,500	554,400	544,800
Unemployment	105,900	122,300	113,900	9,900	11,800	10,900	17,800	21,400	20,600
Rate (percent)	5.1	5.9	5.5	5.4	6.4	5.9	3.1	3.7	3.7
<b>PLACE OF WORK</b>									
Total Nonfarm Jobs	1,979,900	1,970,700	1,939,700	139,000	138,400	138,400	549,800	548,400	535,900
Mining, Logging & Construction	68,000	66,500	61,300	4,400	4,400	4,200	22,400	21,900	20,400
Manufacturing	244,700	243,600	238,400	12,200	11,900	12,100	113,600	113,100	110,700
Trade, Transportation & Utilities	359,700	358,000	358,200	29,700	29,700	29,100	94,900	94,500	93,900
Wholesale Trade	85,800	86,300	84,900	5,800	5,700	5,300	30,700	30,600	30,800
Retail Trade	205,700	203,600	206,500	20,200	20,300	20,000	49,000	48,800	48,500
Information	27,900	27,800	27,600	3,900	3,900	4,000	5,100	5,100	5,100
Financial Activities	114,100	113,400	109,600	6,000	6,000	6,100	26,000	26,000	25,100
Professional & Business Services	393,400	393,300	383,600	15,200	15,200	15,400	78,100	78,400	77,500
Educational & Health Services	314,400	312,800	309,000	28,200	28,200	28,100	92,000	91,900	87,600
Leisure & Hospitality	190,600	189,900	188,200	15,100	14,900	15,100	47,600	47,200	45,900
Other Services	75,400	75,100	75,600	5,500	5,400	5,400	22,200	22,100	21,800
Government	191,700	190,300	188,200	18,800	18,800	18,900	47,900	48,200	47,900
* Data Not Available									



## JACKSON METROPOLITAN AREA

- The unemployment rate in the Jackson metro area dropped in March 2017 by a full percentage point to 4.4 percent. The number of employed residents rose 500 over the month, and unemployment fell seasonally.
- Even though the jobless rate declined over the year, employment was essentially flat since March 2016 and the rate reduction reflected a lower number of persons active in the job market.

### MONTHLY INDUSTRY DEVELOPMENTS

- March nonfarm payroll jobs inched up by 500. *Construction and mining, Manufacturing, Professional and business services, Leisure and hospitality, and Government*, each added 100 jobs in March.
- *Service-providing* jobs declined since March 2016, while employment in *Goods-producing* industries increased, all of it in *Manufacturing*.

### INDUSTRY TRENDS

- Jackson has recovered all the 5,000 payroll positions lost between March 2008 and March 2010.

## KALAMAZOO-PORTAGE METROPOLITAN AREA

- In March, employment inched up by 300 in the Kalamazoo area, while unemployment dropped seasonally by 1,600. This resulted in a jobless rate reduction of 0.8 percentage points to 4.0 percent.
- The Kalamazoo metro area jobless rate averaged 4.5 percent in the first quarter of 2017, almost a full percentage point below the Michigan unemployment rate over the same period.

### MONTHLY INDUSTRY DEVELOPMENTS

- The metro area's nonfarm payroll job count was virtually flat in March, inching up by 300. The only sector with a measurable job advance in March was *Leisure and hospitality* (+200), although jobs fell in *Government*.
- Payroll jobs rose a significant 2.3 percent since March 2016, due to job gains in *Professional and business services, Retail, and Health care services*.

### INDUSTRY TRENDS

- Kalamazoo job levels expanded by 10.2 percent since March 2011, although this lags job growth statewide (+11.7 percent).

## LANSING-EAST LANSING METROPOLITAN AREA

- The Lansing metro area unemployment rate remained unchanged in February, then exhibited a 0.6 percentage point decline in March 2017 to 3.7 percent.
- Lansing's jobless rate of 3.7 percent in March was well below the statewide average of 4.8 percent.

### MONTHLY INDUSTRY DEVELOPMENTS

- Jobs rose by 1,300 in February and were generally flat in March. Payroll employment reached 234,300 in March 2017, the highest March job count since 2002.

### INDUSTRY TRENDS

- Lansing's *Nondurable goods manufacturing* industry has registered job gains in recent years, reaching 5,400 jobs in 2016, the highest level since the year 2000.
- The Lansing metro area *Manufacturing* and *Government* sectors are large job centers, combining to provide nearly 37 percent of area jobs.

## MIDLAND METROPOLITAN AREA

- The March 2017 jobless rate for the Midland metro area was 4.6 percent, a one percentage point reduction from the February rate.
- The metro area has not recorded a March jobless rate below 5.0 percent since March 2001.

### MONTHLY INDUSTRY DEVELOPMENTS

- The Midland metro area added 200 jobs in March and a total of 600 jobs over the last two months. This represented mainly seasonal job gains in the *Service-providing* sector.
- Job levels remain essentially unchanged in the Midland area since March 2016.

### INDUSTRY TRENDS

- *Private service-providing* employment reached 25,900 in the Midland MSA in March 2017, matching an all-time high for the month of March.

## MONROE METROPOLITAN AREA

- Joblessness in the Monroe region fell seasonally by one full percentage point in March 2017, down to 4.6 percent.
- The jobless rate in Monroe rose in February, and has averaged 5.0 percent in the first quarter of 2017.

### MONTHLY INDUSTRY DEVELOPMENTS

- Payroll jobs increased over the month by 400 jobs, or 1.0 percent, both in February 2017 and March 2017, with monthly gains seen for both months in *Mining, logging, and construction, and Government*.

### INDUSTRY TRENDS

- Monroe's *Manufacturing* sector, with 5,600 jobs, accounts for over 13 percent of regional jobs.
- Most industries in the metro area have similar or slightly lower job levels than one year ago. Total nonfarm jobs in the Monroe MSA were down a slight 200 from the March 2016 level.

## MUSKEGON METROPOLITAN AREA

- The jobless rate in the Muskegon metro area inched up slightly in February 2017 to 5.9 percent, then declined by one full percentage point in March 2017 to 4.9 percent.
- Over the year, March regional unemployment has fallen by a sharp -15.9 percent.

### MONTHLY INDUSTRY DEVELOPMENTS

- The region recorded a job advance of 600, or 1 percent, over the month in March. Employment gains in *Manufacturing, Leisure and hospitality, and Professional and business services* accounted for all of the over-the-month job growth.

### INDUSTRY TRENDS

- Muskegon was one of three metro areas in Michigan to exhibit no over-the-year employment change in March (the other two were Jackson and Saginaw).
- The *Leisure and hospitality* sector has been a bright spot, adding jobs for five consecutive years since 2012.

## CIVILIAN LABOR FORCE AND NONFARM PAYROLL JOBS

	JACKSON			KALAMAZOO-PORTAGE			LANSING-EAST LANSING		
	MAR 2017	FEB 2017	MAR 2016	MAR 2017	FEB 2017	MAR 2016	MAR 2017	FEB 2017	MAR 2016
<b>PLACE OF RESIDENCE</b>									
Labor Force	74,200	74,600	74,900	169,800	171,100	168,300	250,000	251,800	247,400
Employment	71,000	70,500	71,100	163,100	162,800	160,600	240,800	240,900	237,200
Unemployment	3,200	4,000	3,800	6,700	8,300	7,700	9,200	10,900	10,100
Rate (percent)	4.4	5.4	5.1	4.0	4.8	4.6	3.7	4.3	4.1
<b>PLACE OF WORK</b>									
Total Nonfarm Jobs	57,300	56,800	57,300	148,000	147,700	144,700	234,300	234,100	229,500
Mining, Logging & Construction	1,700	1,600	1,700	5,800	5,700	6,000	6,700	6,500	6,500
Manufacturing	10,200	10,100	9,900	21,200	21,100	21,400	20,400	20,400	19,900
Trade, Transportation & Utilities	12,500	12,500	12,600	26,500	26,400	25,400	36,800	36,400	35,900
Wholesale Trade	*	*	*	6,900	6,900	6,600	5,900	5,900	6,000
Retail Trade	6,500	6,500	6,500	16,200	16,100	15,500	21,500	21,600	21,100
Information	300	300	300	900	900	900	2,900	2,900	3,000
Financial Activities	1,800	1,800	1,800	8,300	8,300	8,300	15,900	15,900	15,600
Professional & Business Services	4,800	4,700	4,800	19,000	19,100	16,900	21,900	22,100	22,500
Educational & Health Services	10,300	10,300	10,400	23,500	23,400	22,900	32,600	32,500	31,700
Leisure & Hospitality	5,400	5,300	5,200	15,500	15,300	15,300	20,300	19,900	18,500
Other Services	2,500	2,500	2,500	5,400	5,400	5,400	10,400	10,300	10,200
Government	7,800	7,700	8,100	21,900	22,100	22,200	66,400	67,200	65,700
<b>PLACE OF RESIDENCE</b>									
Labor Force	40,900	41,200	41,300	77,200	77,600	77,300	76,900	77,200	77,600
Employment	39,000	38,900	39,100	73,600	73,300	73,700	73,200	72,700	73,100
Unemployment	1,900	2,300	2,100	3,500	4,300	3,600	3,700	4,500	4,400
Rate (percent)	4.6	5.6	5.2	4.6	5.6	4.7	4.9	5.9	5.7
<b>PLACE OF WORK</b>									
Total Nonfarm Jobs	37,300	37,100	37,200	42,000	41,600	42,200	62,900	62,300	62,900
Mining, Logging & Construction	*	*	*	2,100	2,000	2,000	1,900	1,900	2,000
Manufacturing	*	*	*	5,600	5,600	5,600	13,600	13,300	13,600
Trade, Transportation & Utilities	*	*	*	10,600	10,600	10,800	13,400	13,400	13,300
Wholesale Trade	*	*	*	1,800	1,800	1,800	*	*	*
Retail Trade	*	*	*	5,000	5,000	5,100	10,600	10,600	10,800
Information	*	*	*	*	*	*	800	800	800
Financial Activities	*	*	*	900	900	1,000	1,700	1,700	1,800
Professional & Business Services	*	*	*	5,200	5,200	5,300	3,800	3,700	3,500
Educational & Health Services	*	*	*	5,300	5,300	5,500	10,900	10,900	11,500
Leisure & Hospitality	*	*	*	4,700	4,600	4,500	7,200	7,000	6,700
Other Services	*	*	*	1,500	1,500	1,500	2,200	2,200	2,200
Government	3,100	3,000	3,000	5,400	5,300	5,500	7,400	7,400	7,500

\* Data Not Available

## NILES-BENTON HARBOR METROPOLITAN AREA

- Employment in the Niles-Benton Harbor area inched up in March, while the number of jobseekers fell significantly, resulting in a large monthly decrease in the unemployment rate to 4.6 percent.
- Since March 2016, the area labor force has remained flat. The number of unemployed fell about 10 percent, resulting in an over the year jobless rate cut of 0.6 percentage points.

### MONTHLY INDUSTRY DEVELOPMENTS

- In March, regional payroll jobs rose by 500 to 61,200. *Leisure and hospitality services* recorded a 300 seasonal job addition in March.

### INDUSTRY TRENDS

- Unlike in Michigan, the Niles-Benton Harbor *Educational and health care* sector has not been a source of job gains in recent years. Jobs in this sector locally have been essentially flat from 2014-2016, and remain about 600 below 2008 levels.

## SAGINAW METROPOLITAN AREA

- The Saginaw MSA, like many nearby metro areas, recorded a large seasonal monthly jobless rate reduction in March, dropping to 5.3 percent.
- Employment rose seasonally over the month, but the number of employed has not shown growth over the past year. The over-the-year jobless rate cut was largely due to labor force withdrawal.

### MONTHLY INDUSTRY DEVELOPMENTS

- Job gains in the Saginaw metro area in March were concentrated in *Services-providing* industries such as *Professional and business services*, which added 400 jobs (+3.6 percent) over the month.

### INDUSTRY TRENDS

- Jobs in the regional *Financial activities* sector have remained unchanged for the last three years, averaging 3,700 from 2014-2016. Employment remains well below 2008 levels (4,200).

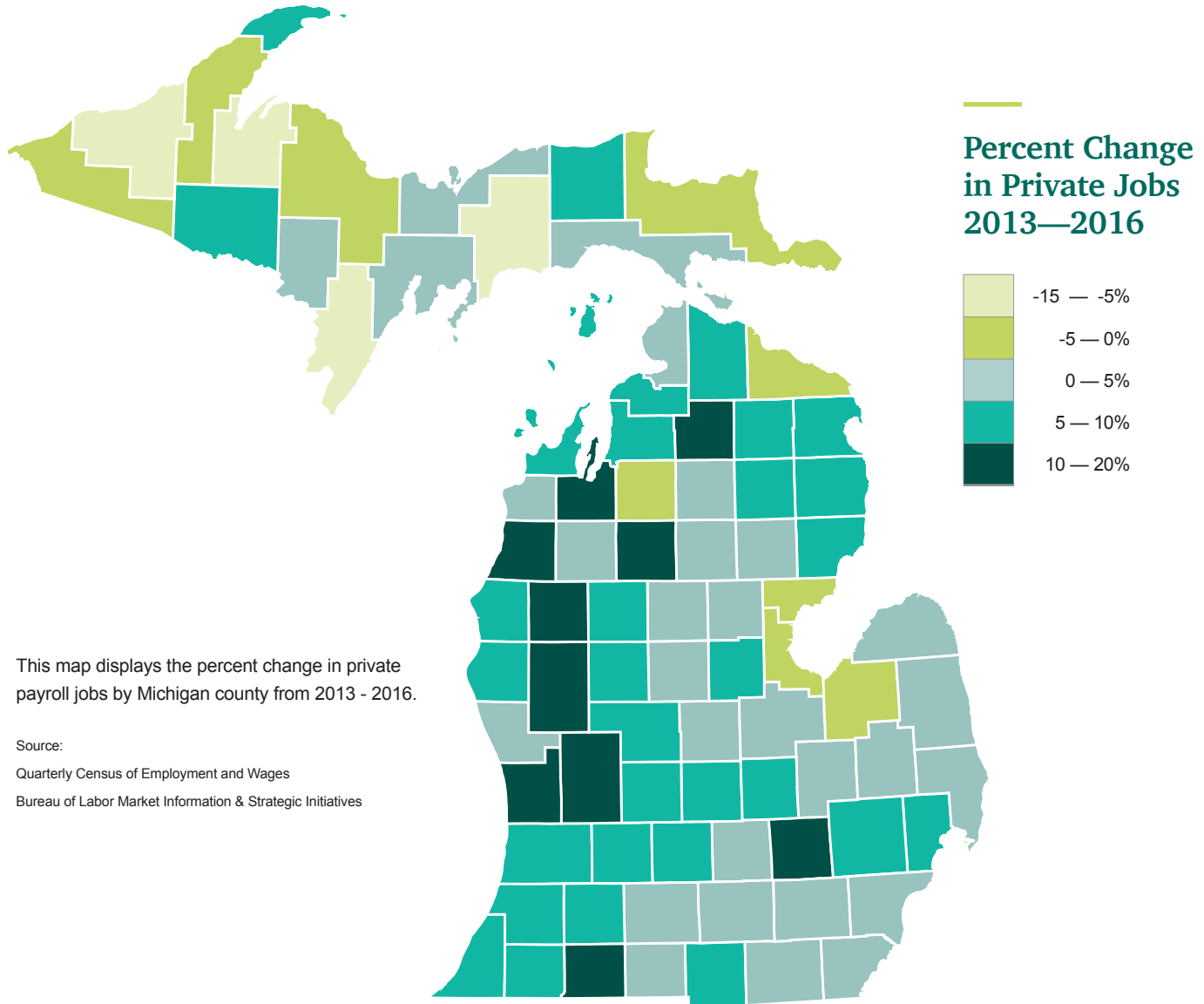
## CIVILIAN LABOR FORCE AND NONFARM PAYROLL JOBS

	NILES-BENTON HARBOR			SAGINAW					
	MAR 2017	FEB 2017	MAR 2016	MAR 2017	FEB 2017	MAR 2016			
<b>PLACE OF RESIDENCE</b>									
Labor Force	73,300	73,900	73,300	88,600	89,000	89,300			
Employment	69,900	69,600	69,400	83,900	83,400	84,200			
Unemployment	3,400	4,300	3,800	4,700	5,700	5,100			
Rate (percent)	4.6	5.9	5.2	5.3	6.3	5.8			
<b>PLACE OF WORK</b>									
Total Nonfarm Jobs	61,200	60,700	60,500	87,700	87,200	87,700			
Mining, Logging & Construction	1,800	1,700	1,800	2,600	2,600	2,400			
Manufacturing	13,100	13,200	13,000	12,800	12,800	12,600			
Trade, Transportation & Utilities	10,800	10,700	10,300	16,200	16,100	16,700			
Wholesale Trade	*	*	*	2,200	2,200	2,200			
Retail Trade	6,400	6,300	6,300	11,600	11,600	12,000			
Information	500	500	500	1,400	1,400	1,500			
Financial Activities	2,300	2,300	2,300	3,600	3,500	3,700			
Professional & Business Services	5,600	5,500	5,700	11,400	11,000	11,100			
Educational & Health Services	9,100	9,100	9,100	16,100	16,100	16,100			
Leisure & Hospitality	6,800	6,500	6,800	8,800	8,800	9,000			
Other Services	2,400	2,400	2,300	3,200	3,300	3,400			
Government	8,800	8,800	8,700	11,600	11,600	11,200			
<b>UPPER PENINSULA</b>									
	MAR 2017	FEB 2017	MAR 2016	<b>NORTHEAST MICHIGAN</b>					
				MAR 2017	FEB 2017	MAR 2016	<b>NORTHWEST MICHIGAN</b>		
							MAR 2017	FEB 2017	MAR 2016
<b>PLACE OF RESIDENCE</b>									
Labor Force	139,600	141,00	141,100	82,100	83,500	82,100	146,400	148,500	146,000
Employment	129,300	129,000	129,900	74,400	74,200	73,900	137,000	137,300	135,500
Unemployment	10,300	12,100	11,200	7,700	9,300	8,200	9,300	11,200	10,500
Rate (percent)	7.4	8.5	7.9	9.4	11.1	10.0	6.4	7.5	7.2



MAP OF THE MONTH:

# PERCENT PRIVATE JOB CHANGE SINCE 2013 FOR MICHIGAN COUNTIES



This map displays the percent change in private payroll jobs by Michigan county from 2013 - 2016.

Source:  
Quarterly Census of Employment and Wages  
Bureau of Labor Market Information & Strategic Initiatives

## Solid Job Growth Across Michigan Counties

Over the last three years, 70 of Michigan's 83 counties have recorded job advances, with a median growth rate of 6.0 percent.

## Michigan Counties Leading the Way

Ten Michigan counties had job expansion exceeding 10 percent since 2013. Lake, St. Joseph, Kent, and Ottawa counties led the state in percent job gains over this period.

## Regional Differences

West Michigan recorded some of the fastest job growth rates in the state. Some counties in the Upper Peninsula lost employment over this period.



# MICHIGAN LABOR SUPPLY AND JOB DEMAND IN STEM OCCUPATIONS

Jobs and a skilled supply of trained workers in Science, Technology, Engineering, and Mathematic (STEM) occupations are increasingly vital to the Michigan economy. Knowledge-based technical skills are critical for a variety of state industries. It is important to look at the future outlook for STEM jobs in Michigan, and the pipeline of persons receiving education in STEM fields. According to the U.S. Department of Homeland Security, there are 420 STEM-Designated Degree programs. Data exists on the number of persons completing degree programs in STEM fields.

## Completers of Michigan STEM Degrees

The number of Michigan completers in STEM degree programs advanced again in the 2014-2015 academic year, continuing a decade long upward trend. Completers in STEM programs in Michigan measured 26,164, accounting for 17.8 percent of total degree completions.

Michigan's STEM completions rose steadily from 2004-2012, and stabilized in 2013 and 2014. Academic year 2014-2015 recorded new highs in Michigan for both the number of STEM degree completions and the STEM share of total completions. STEM completions increased by nearly 800 to over 26,100 in academic year

2014-2015, and the STEM share of completions was up by 0.6 percentage points.

Michigan compares favorably to the U.S. in regards to STEM completions. Michigan ranked 8th in the nation in total STEM completions while Michigan was 7th nationally in the STEM share of total completions. The states which produced the most total STEM completions were California (97,263), Texas (55,010) and New York (51,175). States which posted the highest STEM share of total completions were Maryland (21.8%), Vermont (20.5%) and North Dakota (19.9%).

Among the many STEM academic programs, certain STEM fields continued to dominate. Michigan STEM degrees with the highest number of completions were Biology/Biological Sciences, General (2,264), Mechanical Engineering (1,699), and Electrical and Electronics Engineering (1,211). Although these three programs continued to account for roughly 20 percent of all STEM completions, there have been signs in recent years of potential growth among additional STEM fields. STEM degrees which have had increases in completions include Molecular Biology (188), which had a 147 percent jump in completions over the past three academic years. Chemical Engineering (474) has enjoyed a significant 25

percent advance in completions, the highest of any Engineering program. Computer and Information Sciences (1,049) recorded the highest numerical gain in completions over the past three years.

Through the past four academic years, Associate's degrees have become a significantly smaller share of STEM degrees earned (13.3%), while Bachelor's (56.1%) and Master's degrees (18.3%) now account for larger portions of STEM degrees. Doctorate (4.4%) and Post-Secondary (7.2%) continue to be small shares of STEM degrees earned.

Similar to the rest of the nation, STEM degrees in Michigan continue to have a very large demographic disparity in regards to gender. While females continue to earn well over half of overall degrees in higher education (58%), they account for only 34 percent of all STEM degrees in Michigan. In addition, graduates in certain STEM fields display an even wider disparity. For the 2014-2015 academic year, only 18 percent of all Engineering and Engineering-related graduates were female. Likewise, females only represented 24 percent of Computer and Information Sciences graduates for 2014-2015.

Although females continued to be widely outnumbered in STEM, there are a few STEM



fields in which females are the majority of program completers. These include Biology/Biological Sciences (57% female), Experimental Psychology (78% female), and Neuroscience (58% female). The majority of female-dominated STEM fields are in Social Sciences and Biological Sciences.

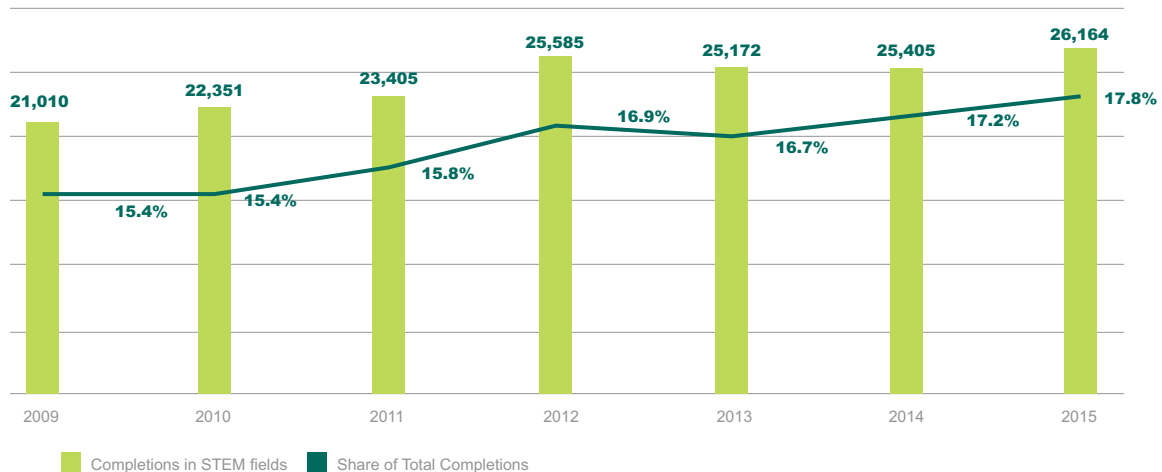
Another key demographic about STEM is the share of program completers who were non-resident aliens. While non-resident aliens

account for only 5.7 percent of all Michigan degree completions, they complete a higher share of state STEM degrees (15.1%). This gap widens when analyzing specific STEM fields. In Engineering, 20 percent of all completions were attained by non-resident aliens. The largest concentration was in Mathematics fields, with non-resident aliens earning 31 percent of degrees.

## Wage Trends of STEM Occupations

The median wage for STEM occupations in 2016 was \$36.88 per hour, which was significantly above the median wage for non-STEM occupations (\$17.32). Among the top STEM occupations in median hourly wage were *Engineering managers* (\$58.81), *Computer and information systems managers* (\$56.17), and *Computer network architects* (\$50.04).

### PROGRAM COMPLETERS IN STEM DESIGNATED DEGREE PROGRAMS 2009-2015



Source: National Center for Education Statistics





STEM jobs comprised 7.2 percent of all jobs by occupation in Michigan during 2016, which was above the national STEM share of jobs (6.3 percent).

### Job Outlook for Michigan STEM Occupations

STEM occupations in Michigan are projected to grow significantly faster than overall jobs between 2014 and 2024. While total statewide employment is expected to increase by only 7.4 percent, STEM jobs are expected to advance at almost double that rate (+13.3 percent). Roughly one out of every eight new Michigan jobs during this period will be a STEM occupation.

Much of the anticipated STEM job growth will be driven by the *Professional, scientific and*

*technical services* sector, which is projected to outpace employment gains in all other broad industry sectors in Michigan over the ten-year forecast period. While STEM occupations are concentrated throughout much of this broad sector, some notable industries include *Architectural, engineering, and related services*, which is expected to add 13,320 new jobs (+16.3 percent) and *Computer systems design and related services* (+10,390 new jobs, +22.3 percent growth). But STEM occupations are not limited to the *Professional, scientific and technical services* sector. In fact, these jobs contribute to a wide range of industries in Michigan, including the auto and health care sectors.

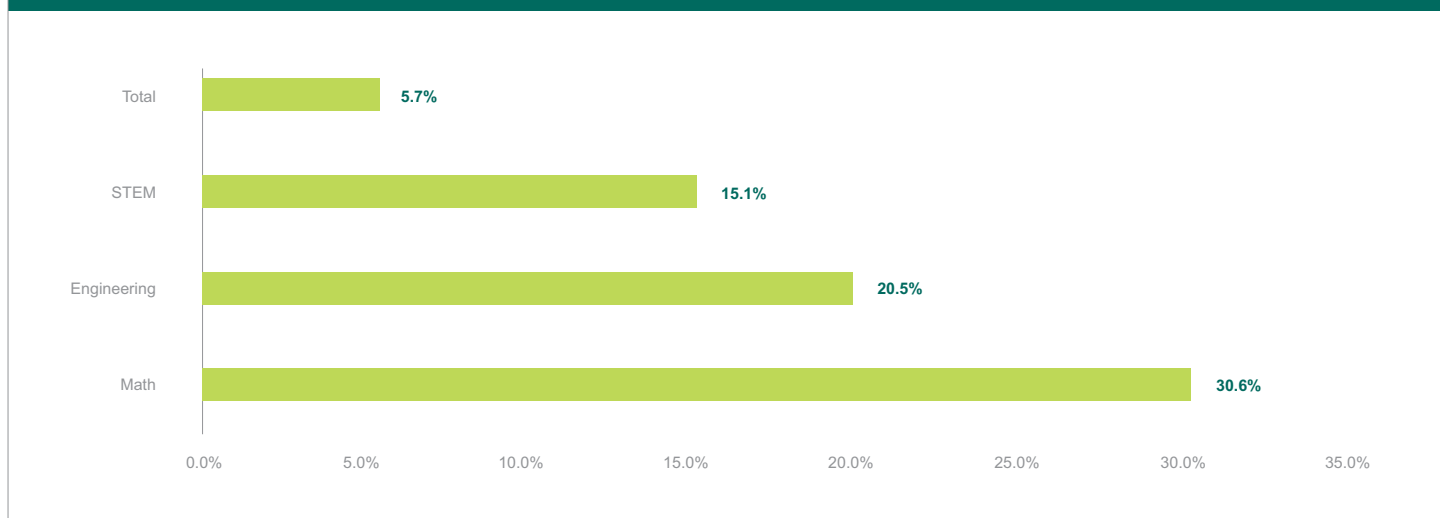
Though STEM occupations as defined in this article range across six different SOC

occupational groupings, the bulk of these jobs are contained within the *Computer and mathematical* and *Architecture and engineering* occupational groups. These two groups are expected to add jobs at a rate of 15.2 percent and 12.9 percent, respectively, through 2024, and combined should add over 33,000 new jobs during this period. Total STEM occupations are forecast to increase by nearly 41,000 jobs and, after factoring replacement opportunities into the mix, provide almost 11,000 job openings annually during this time.

**LUCAS ARBULU**  
RESEARCH ASSISTANT

**MARK REFFITT**  
ECONOMIC SPECIALIST

### NON-RESIDENT ALIENS—ABOVE AVERAGE SHARE OF STEM COMPLETERS



Source: National Center for Education Statistics

## OCCUPATIONAL FOCUS:

# SOFTWARE DEVELOPERS, APPLICATIONS

There are about 100 job titles classified as Science, Technology, Engineering, and Mathematics (STEM) occupations. Software developers are one of them. A person employed as a *Software developer, applications* can be involved in many components of the software development process, including the research, design, programming, and testing of computer software. Some can develop applications that allow people to do specific tasks on the computer, while others work on developing the underlying systems that run the devices.

### JOB TITLES

- Application Developers
- Application Integration Engineer
- Information Technology Analyst
- Software Architect
- Software Development Engineer
- Technical Consultant

### EDUCATION

*Software developers, applications* primarily have a bachelor's degree in computer science and solid computer programming skills

### SKILLS

- *Systems Analysis*: Determining how a system should work and how changes in conditions, operations, and the environment will affect outcomes.
- *Systems Evaluation*: Identifying measures or indicators of system performance and the actions needed to improve or correct performance, relative to the goals of the system
- *Programming*: Writing computer programs for various purposes.
- *Operations Analysis* : Analyzing needs and product requirements to create a design.

### TASKS

- Analyze user needs and software requirements to determine feasibility of design within time and cost constraints.
- Design, develop and modify software systems, using scientific analysis and mathematical models to predict and measure outcome and consequences of design.
- Coordinate software system installation and monitor equipment functioning to ensure specifications are met.

## Long-Term Projections - 2014 - 2024

Between 2014 and 2024, job opportunities for *Software developers, applications* in Michigan will grow nearly three times as fast as total

statewide occupations. *Software developers, applications* jobs will increase by 20 percent (+3,150) by 2024.

The average number of annual job openings for *Software developers, applications* will total 541. This occupation is unique in that the majority of annual job openings in Michigan (58 percent) will be generated by job expansion in the occupation, which is well above the 33 percent of growth openings among all occupations.

## Short-Term Projections 2016—2018

In the shorter term, the total number of Michigan jobs for *Software developers, applications* is expected to increase by 750 (+4.4 percent). This two-year growth rate should be double the rate recorded by all occupations in the state of Michigan (+2.2 percent).

Between the second quarters of 2016 and 2018, annual openings for *Software developers, applications* will total 585. Job expansion (+376) will account for an unusually high share of total annual openings in this occupation (64 percent).

### MICHIGAN QUICK FACTS: SOFTWARE DEVELOPERS, APPLICATIONS

Number of Jobs – 2016	20,090
Employment Change 2016-2018	750 (+4.4%)
Annual Openings 2016-2018	585
Employment Change 2014-2024	3,150 (+20.0%)
Annual Openings 2014-2024	541
Median Wage – 2016	\$82,770 per year \$39.79 per hour
Wage Range	\$50,120 - \$128,520 per year \$24.10 - \$61.79 per hour
Education Requirements	Bachelor's Degree
Primary Industries	Professional , Scientific, and Technical Services Management of Companies and Enterprises
Real-time Job Ads – March 2017	2,311

# MICHIGAN JOB ADS FALL IN MARCH

According to The Conference Board's Help Wanted Online Data Series, Michigan's seasonally adjusted job advertisements total fell by 2.3 percent in March to 141,640. This was the second consecutive month of reduced job ad totals in the state, following a 7.4 percent decline in February.

Nationally, seasonally adjusted job ads advanced by 2.2 percent in March. Most Midwest states also experienced job ad gains. Indiana recorded the greatest percentage increase in job ads among nearby states in March, up 4.4 percent, followed by Ohio, up 3.9 percent over the month. Job ads edged up in Wisconsin and Illinois by 2.6 and 1.9 percent respectively in March.

## Michigan Ad Rate Falls Below U.S. Level for First Time Since 2014

The Michigan ad rate, or the number of job ads per 100 labor force participants, fell to 2.88 in March, down .07 from the February level.

Notably, the U.S. ad rate exceeded the Michigan level for the first time since February 2014. The U.S. ad rate was 2.90 in March

Michigan's Supply/Demand (SD) rate, or the number of unemployed persons per job advertisement, fell slightly to 1.75 in March, due to the drop in both the number of unemployed and job advertisements over the month. The Michigan SD rate remained above the national rate for the sixth consecutive month, with the national rate at 1.62 in March.

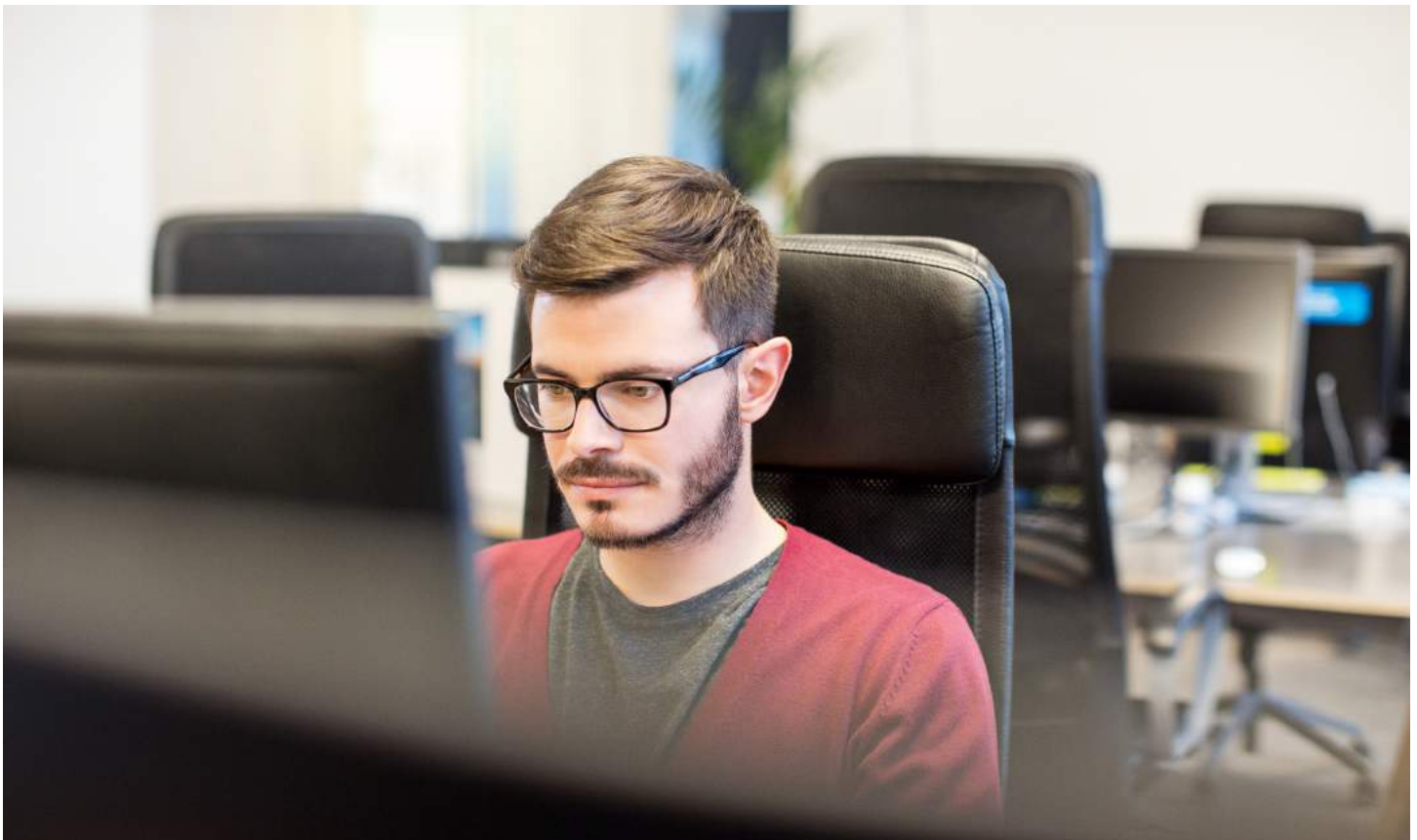
## Michigan Job Ads by Education Requirement

About two thirds of Michigan's total job ads require either a Bachelor's degree or a high school diploma/some college. In total, just over half of all job ads in Michigan require at least some postsecondary degree, i.e. at least an Associate's degree.

## Ads by Occupation (Not Seasonally Adjusted)

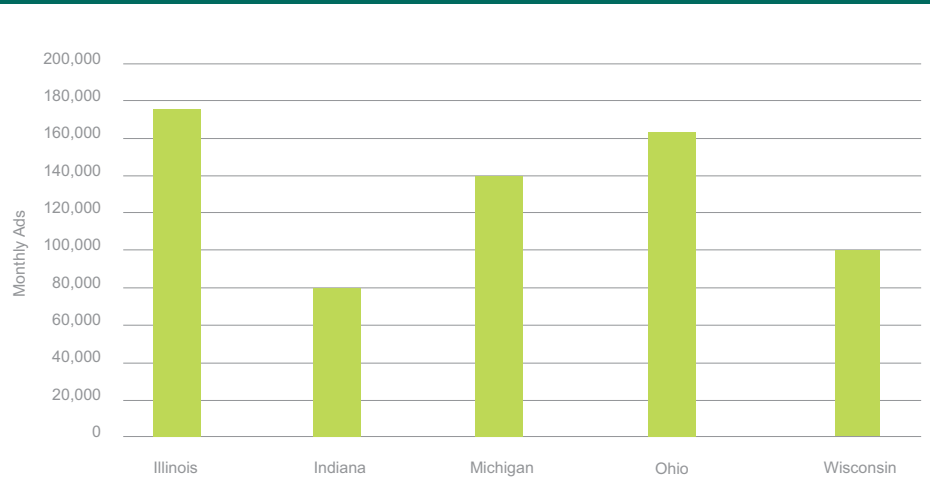
Information is available on advertised Michigan job vacancies by broad occupation, but this data is not seasonally adjusted. Of the 10 major occupational groups, only four registered increases in total job ads in March, led by *Construction and repair* and *Production occupations*, each up 400 ads over the month. *Administrative support* and *Professional* occupations had the largest reduction in job ads over the month, down by 500 ads each.

Of Michigan's 137,200 non-seasonally adjusted ads in March, 55,850 were newly-posted ads. The greatest number of new job ads were posted for *Professional* occupations (+16,050). Many of these new job openings were for *Computer and mathematical* occupations.



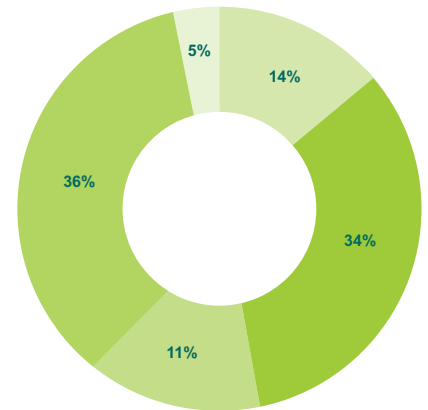


## MARCH ADS—MIDWEST STATES



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

## MICHIGAN JOB ADS BY EDUCATION REQUIREMENT



- High School Diploma or Some College, No Degree (34%)
- Bachelor's Degree (36%)
- Associate's Degree or Vocational Training (11%)
- No Formal Education Credential (14%)
- Master's Degree or Higher (5%)

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



## TOTAL AVAILABLE ADS (NOT SEASONALLY ADJUSTED)

OCCUPATION CATEGORIES	MAR 2017	FEB 2017	MAR 2016	# CHANGE MONTH	% CHANGE MONTH
<b>TOTAL</b>	<b>137,200</b>	<b>137,950</b>	<b>170,700</b>	<b>-750</b>	<b>-0.5%</b>
Professional	43,150	43,650	50,050	-500	-1.1%
Healthcare	20,650	20,800	24,500	-150	-0.7%
Sales	13,850	14,050	19,000	-200	-1.4%
Administrative Support	12,750	13,250	16,900	-500	-3.8%
Management	9,500	9,550	12,500	-50	-0.5%
Service	13,200	13,050	15,850	150	1.1%
Construction And Repair	9,300	8,900	10,900	400	4.5%
Production	6,700	6,300	7,950	400	6.3%
Transportation	7,800	8,200	12,750	-400	-4.9%
Farming, Fishing, And Forestry	300	200	300	100	50.0%

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



## ASK THE ECONOMIST

**Q: Is it true that most future job opportunities in Michigan will require advanced degrees, like those required for Science, Technology, Engineering, and Math jobs?**

## A: No, not necessarily...

There will be employment opportunities in Michigan for job seekers with different education levels. Using Michigan's long-term occupational projections from our Bureau, you can analyze tomorrow's employment opportunities by looking at either projected *growth* or annual *openings*.

What do we learn when we look at job growth and annual openings for different education levels? First, jobs requiring a high school diploma or less are expected to expand in Michigan by just 6.6 percent through the year 2024, which is less than the projected job gain for all occupations of 7.4 percent. Nevertheless, these occupations will generate about 92,000 annual openings, a sizable number representing about two thirds of the total openings in a given year. In contrast, Michigan jobs requiring a bachelor's degree or more will grow by an impressive 9.4 percent and contribute 35,700 total openings each year. So, there will be employment opportunities for jobseekers with different education levels, but generally with more *growth* coming from titles requiring higher levels of education and more annual *openings* coming from those requiring less education.

Why is it important to consider both the rates of job growth among occupations and the number of job openings? A jobseeker who is looking for a job right now might primarily care about total annual job openings for a particular occupation, whereas someone who is thinking about future

job opportunities and more stable long-term career gains may want to focus on how an occupation is expected to grow over time.

What about earnings? In 2016, the median Michigan wage for jobs requiring a bachelor's degree or higher was \$35.01 per hour, nearly two and a half times the median of \$14.48 per hour for jobs requiring a high school diploma

projected to expand by 13.3 percent and provide 10,900 annual openings. Skilled Trades jobs are expected to grow by 11.5 percent over this period and generate 6,800 annual openings. And, both Skilled Trades jobs and STEM occupations pay workers a wage above the 2016 median wage of \$17.32 per hour, with STEM titles paying a median \$36.88 per hour and Skilled Trades paying a median \$21.43 per hour. Importantly, most STEM occupations require a bachelor's degree or higher and all Skilled Trades occupations require some education or training beyond high school.

In summary, while there will indeed be employment opportunities for jobseekers with different education levels, job titles with higher levels of education are associated with more growth and higher earnings.

---

## What is the long-term outlook for Skilled Trades and STEM jobs in Michigan? Really good...

or less. So, while occupations like *Food preparation*, *Home health aides*, and *Customer service representatives* will have many job openings, these jobs tend to provide below average earnings.

Two groups of job titles we hear a lot about are Skilled Trades and Science, Technology, Engineering, and Math (STEM). What is the job outlook for these groups? Really good. By 2024, STEM occupations in Michigan are







**STATE OF MICHIGAN**

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

**Detroit Office**

Cadillac Place  
3032 West Grand Blvd.  
Suite 9-150  
Detroit, MI 48202

Cadillac Place, 3032 W. Grand Boulevard, Suite 9-150;  
Detroit, Michigan 48202.  
For more information please contact:  
Labor Market Analysis Section,  
(313) 456-3090.

The Michigan Department of Technology, Management & Budget is an equal opportunity employer/program. Auxiliary aids, services, and other reasonable accommodations are available upon request to individuals with disabilities.