MICHIGAN'S
LABOR MARKET NEWS

Michigan's Population
Projections to 2045

Map of the Month:
Population Migration Flows

Relevant Rankings:
Population Change by State
and for Michigan Counties

Michigan's payroll jobs up in January despite auto layoffs

JANUARY 2019 JOBLESS RATE

MICHIGAN

4.0%

NATIONAL

4.0%

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IT'S BIGGER THAN DATA.

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

Michigan's jobless rate held steady over the month at 4.0 percent this past January. In fact, recently revised data show little movement in this measure in the last several months. Over the month, both the number of employed and unemployed rose slightly, resulting in a slight uptick in the state's labor force. The U.S. unemployment rate also registered 4.0 percent in January.

Payroll jobs edged higher by 9,800 in January, with employment gains spread across many sectors but partially offset by temporary layoffs in *Manufacturing*. Since January 2018, payrolls have grown by 47,000 or 1.1 percent with major gains in *Construction*, *Manufacturing*, and a number of service-providing industries.

This month, we are excited to highlight new information from our Bureau. Our Michigan population projections provide, for the very first time, a readily-available set of population projections for the state, counties, and other sub-state areas. Such information provides a vital tool for state and local decision makers and data users from all areas of business, government, and nonprofit organizations. Our *Feature Article* talks about why and how we produced these projections, while highlighting some key take-aways from these data. The *Map of the Month* provides a picture of migration flow rates by county, which is an important input in our projections. The *Ask the Demographer* this month provides further context on projections methodology and addresses some limitations behind projections data.

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

JASON PALMER
DIRECTOR

Bureau of Labor Market Information
and Strategic Initiatives

MICHIGAN'S JANUARY UNEMPLOYMENT RATE STEADY

Michigan's January 2019 seasonally adjusted unemployment rate was unchanged over the month at 4.0 percent. Newly revised data indicates that the state's rate was stable at 4.0 percent since October 2018. Total employment advanced by 11,000 in January, while unemployment edged up by 2,000. The result was an overall labor force increase in Michigan over the month.

The national jobless rate rose by a tenth of a percentage point in January to 4.0 percent, matching the Michigan rate.

Since January 2018, Michigan's jobless rate declined by half a percentage point. Over the same period, the national unemployment rate edged down by a tenth of a percentage point. Over this period, Michigan employment rose a solid 39,000, and the number of unemployed fell by 23,000.

The data in this release reflects recently revised historical estimates. Monthly labor force estimates for Michigan were revised back to January 2014. This process resulted in a slight downward revision in Michigan's 2018 annual unemployment rate of 0.1 percentage points, from 4.2 to 4.1 percent. Annual average rates for prior years remained unchanged. Michigan's 2018 annual rate of 4.1 percent was two-tenths higher than the U.S average rate of 3.9 percent.

2018 marked the ninth consecutive year of annual unemployment rate reductions in Michigan. Over the last three years, the pace of the jobless rate declines in Michigan was steady. The state jobless rate moved down by 0.4 percentage points in both 2016 and 2017, and edged down 0.5 percentage points in 2018. The state's annual rate fell by 9.6 percentage points since the most recent high of 13.7 percent recorded in 2009. Michigan's 2018 annual rate was the fourth lowest recorded for the state since 1976.

Michigan's Monthly Jobless Rate Stable Since Summer 2018

The chart below shows the monthly unemployment rate trends from January 2018 to January 2019. Michigan's jobless rates declined through the first half of 2018. The state rate hit 3.9 percent in August and September, the lowest statewide jobless rate in Michigan since October of 2000. Michigan's rate has been very stable since June 2018 at about 4.0 percent. The state's unemployment rates have remained within a narrow range of 3.9 to 4.9 percent since the beginning of 2017.

A large portion of the jobless rate declines throughout 2018 were due to decreases in the number of unemployed. Since January of 2018, Michigan's total employment level advanced by 39,000, or 0.8 percent, while the number of unemployed receded by 23,000, or 10.5 percent. On a national level, employment rose by 1.4 percent while unemployment decreased by 1.6 percent.

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Economic Analyst

MICHIGAN LABOR FORCE ESTIMATES (SEASONALLY ADJUSTED)

	JANUARY 2019	DECEMBER 2018	JANUARY 2018	CHANGE OVER THE MONTH	CHANGE OVER THE YEAR
Labor Force	4,915,000	4,903,000	4,899,000	+12,000	+16,000
Employed	4,718,000	4,707,000	4,679,000	+11,000	+39,000
Unemployed	198,000	196,000	221,000	+2,000	-23,000
Jobless Rate	4.0	4.0	4.5	0.0	-0.5

MICHIGAN MONTHLY SEASONALLY ADJUSTED JOBLESS RATES
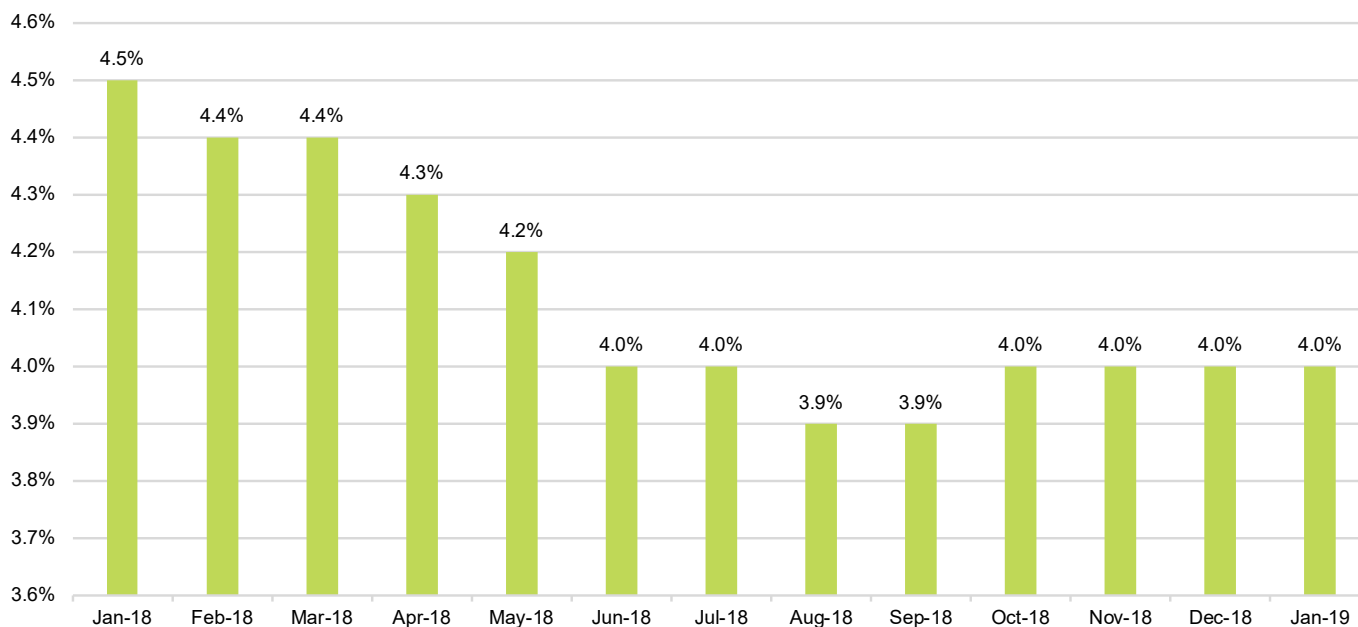
MICHIGAN MONTHLY SEASONALLY ADJUSTED PAYROLL JOBS
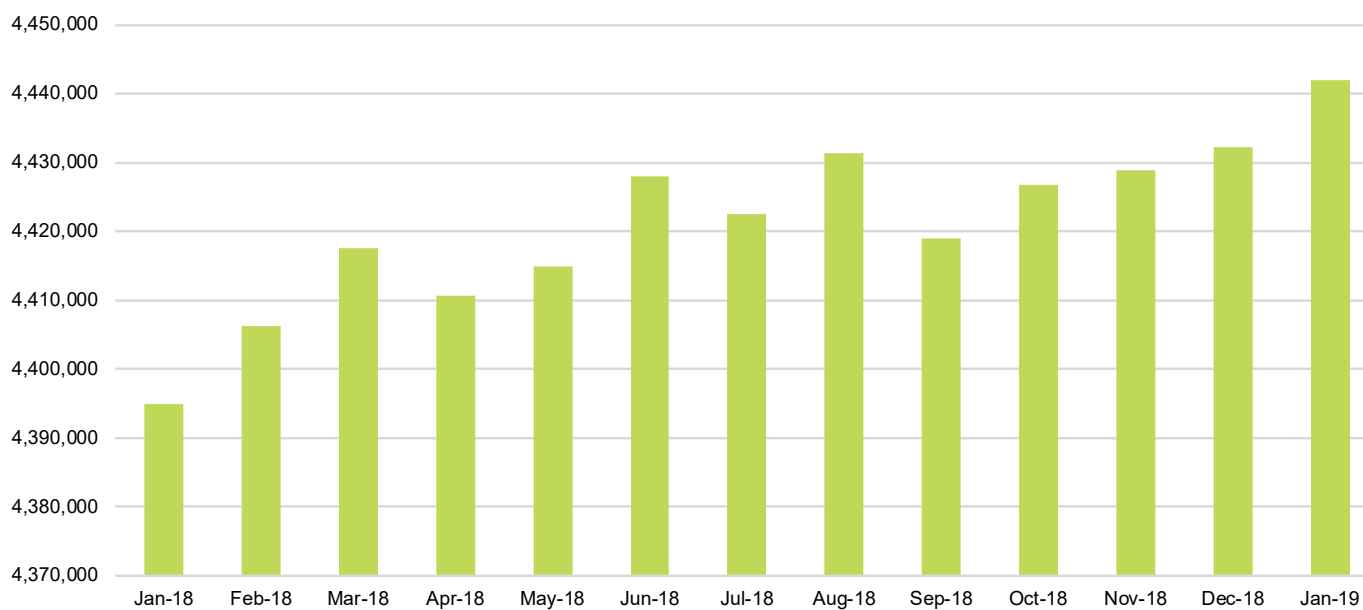
MICHIGAN JOB TRENDS BY INDUSTRY SECTOR

Monthly Overview

Total nonfarm payroll jobs in Michigan moved up by 9,800 in January to 4,442,000. Broad sectors leading this job expansion were *Trade, transportation, and utilities* (+4,400), *Leisure and hospitality* (4,000) and *Construction* (+2,100). Smaller, yet notable, increases were also recorded in *Other services* (+1,000) and *Financial activities* (+900). These gains were offset by a large job cut in *Manufacturing* (-2,700). Temporary auto-related layoffs in January pushed jobs in the *Transportation equipment manufacturing* sector down by 7,600 over the month.

Over the Year Analysis

Between January 2018 and January 2019, total payroll jobs increased by 47,000, or 1.1 percent. This lagged behind the 1.9 percent growth rate nationally during this period. In Michigan, the major sectors of *Construction* (+11,900), *Trade, transportation, and utilities* (+10,000), *Manufacturing* (+9,400), and *Professional and business services* (+6,000) reported the largest job additions since January 2018. Smaller payroll advances also occurred in *Leisure and hospitality* (+4,100), *Financial activities* (+3,300), *Other services* (+2,100), and *Government* (+1,900). The broad sector of *Education and health services* saw payrolls decline by 1,800 over the year.

Michigan 2018 Annual Average Performance

This issue reflects the recent revision of payroll job data for Michigan. Seasonally adjusted job data was revised back to January 2014 for all industries. Some sectors had more extensive revisions, some back to 1990. For newly revised data, go to www.milmi.org/datasearch.

These new revisions show that total nonfarm employment in Michigan grew by 49,600 during 2018 or by 1.1 percent. This was lower than the 1.7 percent job advance nationally for this period.

In Michigan, 2018 marked the eighth consecutive year of payroll job expansion. The 2018 performance matched the 1.1 percent growth rate recorded in 2017, however, both years were the lowest rate of annual job growth since payrolls started to expand in 2011.

The industry sectors with larger than average percent job gains during 2018 included *Construction* (+4.3 percent), *Manufacturing* (+2.2 percent), and *Professional and business services* (+1.6 percent). Employment in *Transportation equipment manufacturing* rose by 2.8 percent during 2018.

The *Information* (-1.1 percent) sector recorded a second consecutive year of payroll job loss during 2018.

Significant Industry Employment Developments

CONSTRUCTION

Job levels in this sector rose by 2,100 over the month. Part of this increase was due to smaller than typical seasonal declines in *Construction of buildings* and *Specialty trade contractors*. On an annual average basis, job levels rose by 7,100, marking eight consecutive years of growth. Between January 2018 and January 2019, employment gains totaled 11,900 for an increase of 7.2 percent. Nationally, job levels moved up by 53,000 over the month and by 4.6 percent over the year.

FEDERAL GOVERNMENT

Federal government employment levels remained essentially unchanged, notching upward by 100 in January. Some federal government agencies were shut down or operating at reduced staffing levels during a lapse in appropriations from December 22, 2018, through January 25, 2019.

In the establishment survey, businesses and government agencies report the number of people on payrolls during the pay period that includes the 12th of the month. Individuals who work or receive pay for any part of the pay period are defined as employed.

In January, both federal employees on furlough and those working without pay during the partial federal government shutdown were considered employed in the establishment survey because they worked or will receive pay for the pay period that included the 12th of the month.

Between January 2018 and January 2019, employment in this sector was unchanged. Nationally, payrolls edged up by 1,000 in January and by 0.1 percent over the year.

DURABLE GOODS MANUFACTURING

The number of jobs in the *Durable goods manufacturing* sector declined 3,600 in January. This decrease was due to temporary layoffs in *Transportation equipment manufacturing* (-7,600). The reduction in jobs in the broader sector was mitigated somewhat by atypical hiring in *Fabricated metal products* and *Machinery manufacturing*. On an annual average basis, payrolls expanded by 12,300 in 2018 with the most job additions in *Transportation equipment manufacturing* (+5,300) and *Fabricated metal product manufacturing* (+1,700). This also marked the ninth year of job growth in the broader sector. Since January 2018, job totals advanced by 8,600 or 1.8 percent. Nationally, employment increased by 23,000 over the month and by 2.8 percent over the year.

METROPOLITAN STATISTICAL AREAS (MSAS)

On a *not seasonally adjusted* basis, total nonfarm jobs declined in every Metropolitan Statistical Area (MSA) during January. Statewide, payrolls contracted by 1.9 percent over the month.

Eight metro areas reported job reductions greater than the statewide average, ranging from 2.0 percent in Bay City to 2.7 percent in Saginaw and Ann Arbor. Six MSAs recorded decreases less than the statewide drop that ranged from 0.8 percent in Grand Rapids to 1.8 percent in Detroit.

A primary cause for the reductions in total nonfarm employment in the metro areas was seasonal payroll declines in *Retail trade* and the education components of *State* and *Local government*. Lower winter staffing needs in the *Construction* and *Leisure and hospitality* sectors also played a part in these overall seasonal job contractions.

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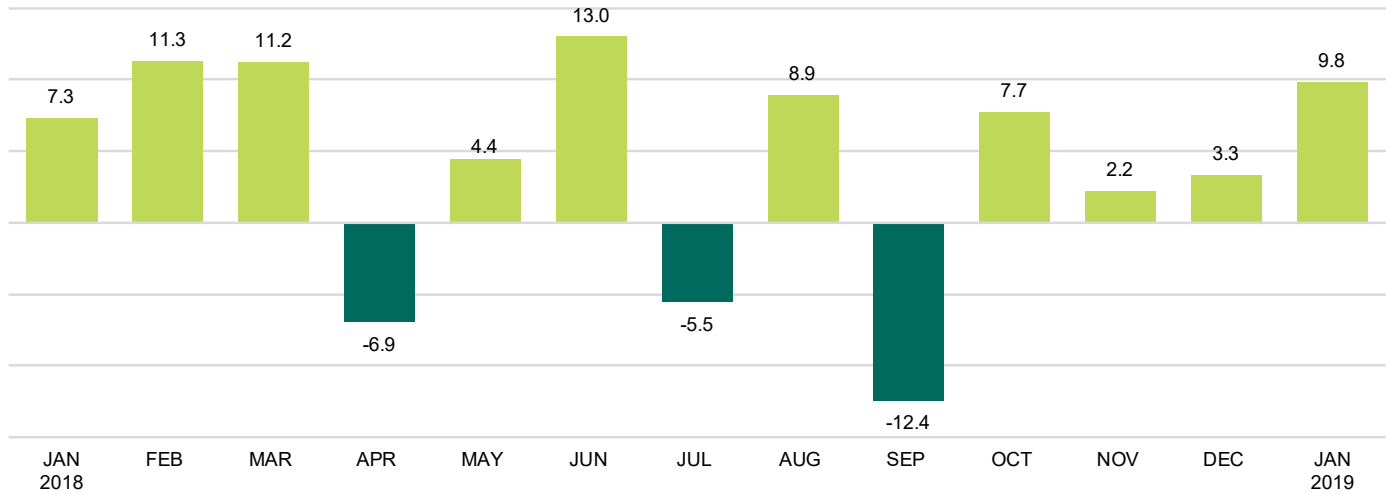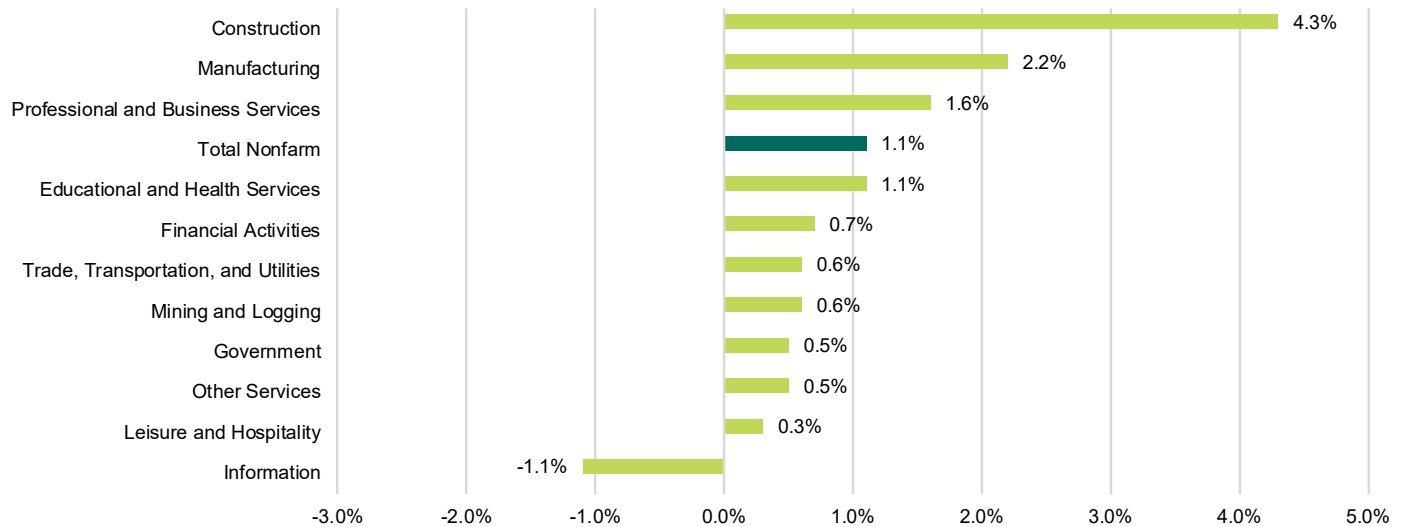## MICHIGAN PAYROLL JOBS (SEASONALLY ADJUSTED)

INDUSTRY	JANUARY 2019	DECEMBER 2018	JANUARY 2018	OVER THE MONTH		OVER THE YEAR	
				LEVEL	PERCENT	LEVEL	PERCENT
TOTAL NONFARM	**4,442,000**	**4,432,200**	**4,395,000**	**9,800**	**0.2%**	**47,000**	**1.1%**
Total Private	3,836,400	3,826,700	3,791,300	0.3%	45,100	1.2%	1.4%
Private Service-Providing	3,021,100	3,010,800	2,997,400	10,300	0.3%	23,700	0.8%
GOODS-PRODUCING	**815,300**	**815,900**	**793,900**	**-600**	**-0.1%**	**21,400**	**2.7%**
Mining, Logging, and Construction	183,800	181,700	171,800	2,100	1.2%	12,000	7.0%
Mining and Logging	7,100	7,100	7,000	0	0.0%	100	1.4%
Construction	176,700	174,600	164,800	2,100	1.2%	11,900	7.2%
Manufacturing	631,500	634,200	622,100	-2,700	-0.4%	9,400	1.5%
Durable Goods	478,500	482,100	469,900	-3,600	-0.7%	8,600	1.8%
Transportation Equipment Manufacturing	188,100	195,700	190,100	-7,600	-3.9%	-2,000	-1.1%
Non-Durable Goods	153,000	152,100	152,200	900	0.6%	800	0.5%
SERVICE-PROVIDING	**3,626,700**	**3,616,300**	**3,601,100**	**10,400**	**0.3%**	**25,600**	**0.7%**
Trade, Transportation, and Utilities	798,800	794,400	788,800	4,400	0.6%	10,000	1.3%
Wholesale Trade	172,000	171,800	171,500	200	0.1%	500	0.3%
Retail Trade	472,100	468,400	472,300	3,700	0.8%	-200	0.0%
Transportation, Warehousing, and Utilities	154,700	154,200	145,000	500	0.3%	9,700	6.7%
Information	56,100	55,700	56,100	400	0.7%	0	0.0%
Financial Activities	221,100	220,200	217,800	900	0.4%	3,300	1.5%
Finance and Insurance	165,100	163,600	163,300	1,500	0.9%	1,800	1.1%
Real Estate and Rental and Leasing	56,000	56,600	54,500	-600	-1.1%	1,500	2.8%
Professional and Business Services	661,700	662,000	655,700	-300	0.0%	6,000	0.9%
Professional, Scientific, and Technical Services	303,000	302,600	295,800	400	0.1%	7,200	2.4%
Management of Companies and Enterprises	69,400	69,200	68,000	200	0.3%	1,400	2.1%
Administrative and Support and Waste Management and Remediation Services	289,300	290,200	291,900	-900	-0.3%	-2,600	-0.9%
Education and Health Services	677,200	677,300	679,000	-100	0.0%	-1,800	-0.3%
Educational Services	73,300	73,000	74,500	300	0.4%	-1,200	-1.6%
Health Care and Social Assistance	603,900	604,300	604,500	-400	-0.1%	-600	-0.1%
Leisure and Hospitality	438,600	434,600	434,500	4,000	0.9%	4,100	0.9%
Arts, Entertainment, and Recreation	52,800	51,500	53,400	1,300	2.5%	-600	-1.1%
Accommodation and Food Services	385,800	383,100	381,100	2,700	0.7%	4,700	1.2%
Other Services	167,600	166,600	165,500	1,000	0.6%	2,100	1.3%
Government	605,600	605,500	603,700	100	0.0%	1,900	0.3%
Federal Government	52,400	52,300	52,400	100	0.2%	0	0.0%
State Government	191,000	190,900	190,300	100	0.1%	700	0.4%
Local Government	362,200	362,300	361,000	-100	0.0%	1,200	0.3%

MICHIGAN OVER THE MONTH PAYROLL JOB CHANGE (IN THOUSANDS)

Month	Change
JAN 2018	7.3
FEB	11.3
MAR	11.2
APR	-6.9
MAY	4.4
JUN	13.0
JUL	-5.5
AUG	8.9
SEP	-12.4
OCT	7.7
NOV	2.2
DEC	3.3
JAN 2019	9.8

PERCENTAGE ANNUAL AVERAGE JOB CHANGE, 2017–2018

Sector	Percentage
Construction	4.3%
Manufacturing	2.2%
Professional and Business Services	1.6%
Total Nonfarm	1.1%
Educational and Health Services	1.1%
Financial Activities	0.7%
Trade, Transportation, and Utilities	0.6%
Mining and Logging	0.6%
Government	0.5%
Other Services	0.5%
Leisure and Hospitality	0.3%
Information	-1.1%

MICHIGAN OVER THE MONTH JOB CHANGE BY SELECT INDUSTRY, DECEMBER 2018–JANUARY 2019

Industry	Job Change
Construction	2,100
Federal Government	100
Durable Goods Manufacturing	-3,600
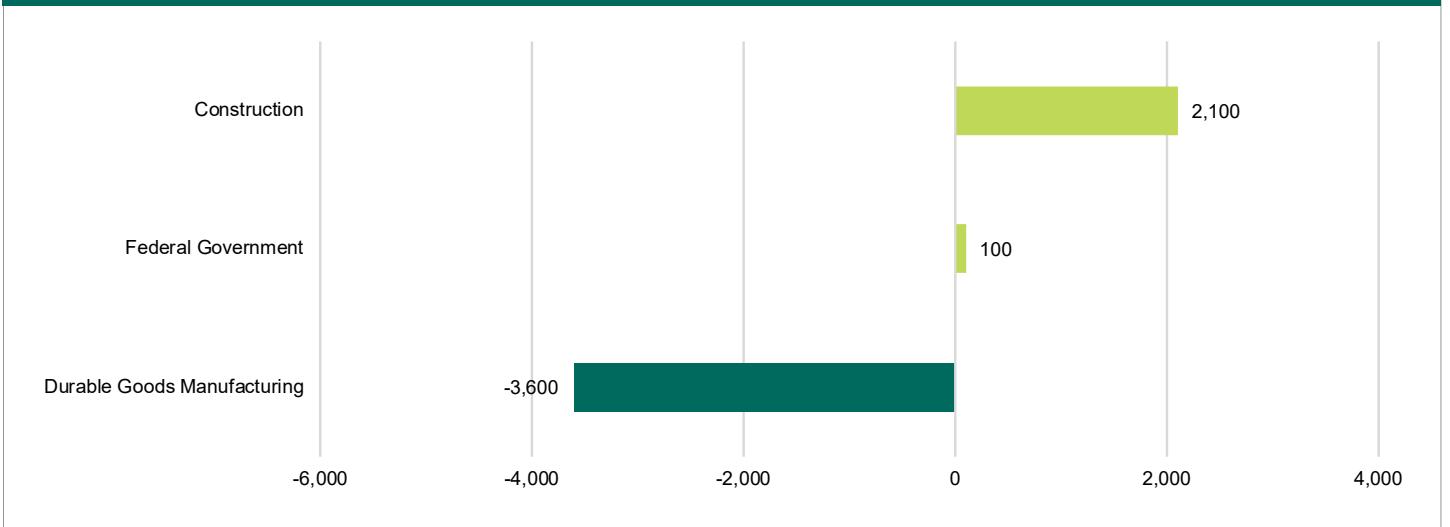
METROPOLITAN AREA JOB CHANGE, DECEMBER 2018–JANUARY 2019 (NOT SEASONALLY ADJUSTED)

Metropolitan Area	Job Change
Grand Rapids	-0.8%
Muskegon	-1.2%
Flint	-1.5%
Kalamazoo	-1.7%
Monroe	-1.7%
Detroit	-1.8%
Michigan	-1.9%
Bay City	-2.0%
Jackson	-2.2%
Lansing	-2.3%
Battle Creek	-2.4%
Midland	-2.6%
Benton Harbor	-2.6%
Saginaw	-2.7%
Ann Arbor	-2.7%
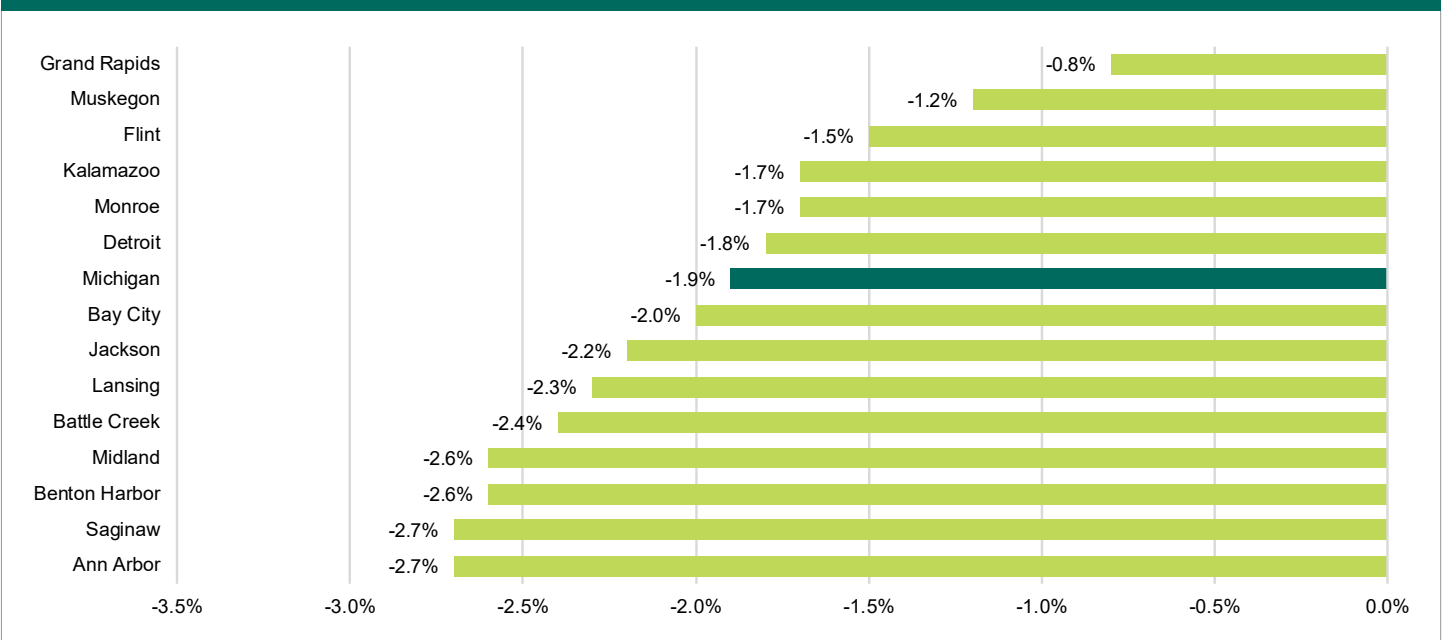
REGIONAL LABOR MARKET ANALYSIS

Labor force estimates for Michigan counties and metro areas have been revised for all months of 2018. Revised data will be released in coming weeks for 2014-2017.In addition, unadjusted payroll job data for Michigan and all metro areas was revised for 2017 and 2018. Certain industries had more extensive data revisions, some back to 1990. For newly revised data go to www.milmi.org/datasearch.

ANN ARBOR METROPOLITAN AREA

- The Ann Arbor jobless rate inched up by a tenth of a percentage point over the month to 2.9 percent in January.

- Total employment rose by 0.8 percent over the year, an increase a full percentage point below that of the state at 1.8 percent.

MONTHLY INDUSTRY DEVELOPMENTS
- Payroll employment in Ann Arbor fell by 6,100 over the month, or 2.7 percent, largely due to a 4,100 seasonal job decline in the region's *Government* sector.

INDUSTRY TRENDS
- The region's *Durable goods* sector demonstrated a ten-year high level of 10,500 jobs in January.

- On a percentage basis, Ann Arbor, along with Saginaw, exhibited the largest over-the-month drop in nonfarm jobs in January (-2.7%).

BAY CITY METROPOLITAN AREA

- The unemployment rate in Bay City rose by 1.2 percentage points over the month to 5.8 percent.

- The region exhibited the largest over-the-month increase in jobless rate out of all Michigan metropolitan statistical areas.

MONTHLY INDUSTRY DEVELOPMENTS
- Nonfarm employment in the Bay City metro area fell by 700 over the month, or 2.0 percent.

- The most pronounced over-the-month industry declines were seen in *Trade, transportation and utilities* (-300) and *Mining logging and construction* (-200).

INDUSTRY TRENDS
- The region's *Private service providing* sector registered 23,700 jobs in January, the lowest level in over 20 years.

FLINT METROPOLITAN AREA

- The January 2019 Flint area unemployment rate (5.5 percent) increased by eight-tenths of a percentage point.

- Total unemployment fell by 9.0 percent over the year.

MONTHLY INDUSTRY DEVELOPMENTS
- Nonfarm jobs in Flint declined by 2,100 over the month, or 1.5 percent.

- Industries with the most pronounced seasonal job cuts included *Government* (-900) and *Retail trade* (-600).

INDUSTRY TRENDS
- The region's *Wholesale trade* sector matched an eleven-year peak of 5,400 jobs in January.

BATTLE CREEK METROPOLITAN AREA

- The Battle Creek MSA jobless rate rose slightly by 0.2 percentage points to 4.4 percent. Employment declined seasonally by 700, while unemployment advanced by 200 over the month.

- Over the past year, the number of unemployed moved down 300, while employment advanced, leading to a jobless rate reduction of six-tenths of a percentage point.

MONTHLY INDUSTRY DEVELOPMENTS
- January nonfarm jobs in the Battle Creek MSA fell by 2.4 percent (-1,400). Seasonal job cuts occurred in private and public *Education*, *Retail trade*, *Construction and mining*, and *Leisure and hospitality*.

- Since January 2018, jobs in the Battle Creek MSA have expanded at a rate of 1.4 percent (+800).

INDUSTRY TRENDS
- Since 2010, payroll employment in the Battle Creek MSA rose at a rate half the statewide average.

DETROIT-WARREN-DEARBORN METRO AREA

- The January 2019 Detroit metro jobless rate advanced by 0.2 percentage points over the month to 4.5 percent.

- The Detroit MSA recorded the largest over-the-year increase in total employment out of all Michigan regions, up by 2.5 percent since January 2018.

MONTHLY INDUSTRY DEVELOPMENTS
- Detroit payroll jobs dropped sharply by 37,700 in January, down 1.8 percent, with job reductions in the *Manufacturing* sector.

INDUSTRY TRENDS
- Temporary layoffs in the auto industry occurred in January, pushing jobs down in *Transportation equipment manufacturing* by a significant 7,900 over the month.

GRAND RAPIDS-WYOMING METRO AREA

- Joblessness in the Grand Rapids metro area rose by 0.3 percentage points over the month to 3.2 percent in January.

- The region exhibited the second largest over-the-year labor force increase (behind the Detroit MSA), up by 1.9 percent since January 2018.

MONTHLY INDUSTRY DEVELOPMENTS
- Grand Rapids' payroll job count fell by 4,500 over the month, or 0.8 percent.

- Private sector industries with the largest job declines included *Professional and business services* (-900) and *Educational services* (-900).

INDUSTRY TRENDS
- *Finance and insurance* in Grand Rapids reached an all-time high level of 21,600 jobs in January.

CIVILIAN LABOR FORCE AND NONFARM PAYROLL JOBS

	ANN ARBOR			BATTLE CREEK			BAY CITY		
	JAN 2019	DEC 2018	JAN 2018	JAN 2019	DEC 2018	JAN 2018	JAN 2019	DEC 2018	JAN 2018
PLACE OF RESIDENCE									
Labor Force	193,400	195,800	192,800	62,500	63,000	62,100	50,300	50,200	50,300
Employment	187,700	190,400	186,300	59,700	60,400	59,000	47,400	47,900	47,200
Unemployment	5,700	5,400	6,500	2,800	2,600	3,100	2,900	2,300	3,200
Rate (percent)	2.9%	2.8%	3.4%	4.4%	4.2%	5.0%	5.8%	4.6%	6.3%
PLACE OF WORK									
Total Nonfarm Jobs	221,600	227,700	219,800	57,600	59,000	56,800	34,900	35,600	34,600
Mining, Logging, and Construction	3,900	4,400	3,900	1,300	1,500	1,400	1,000	1,200	1,000
Manufacturing	15,200	15,300	14,700	12,200	12,100	11,800	4,600	4,500	4,400
Trade, Transportation, and Utilities	26,200	26,700	25,900	9,100	9,600	8,800	7,400	7,700	7,400
Wholesale Trade	6,200	6,200	6,000	*	*	*	*	*	*
Retail Trade	16,100	16,500	16,200	5,800	6,100	5,500	5,000	5,100	5,000
Information	5,300	5,300	5,300	*	*	*	400	400	400
Financial Activities	6,800	6,900	7,000	1,200	1,200	1,200	1,300	1,300	1,300
Professional and Business Services	30,300	30,400	29,500	6,000	6,100	6,200	2,700	2,700	2,500
Educational and Health Services	27,500	27,900	28,000	10,900	11,100	10,700	6,400	6,500	6,500
Leisure and Hospitality	17,400	17,700	17,600	4,100	4,200	4,000	4,200	4,300	4,400
Other Services	6,400	6,400	6,300	1,800	1,900	1,900	1,300	1,300	1,300
Government	82,600	86,700	81,600	10,700	11,100	10,400	5,600	5,700	5,400

	DETROIT-WARREN-DEARBORN			FLINT			GRAND RAPIDS-WYOMING		
	JAN 2019	DEC 2018	JAN 2018	JAN 2019	DEC 2018	JAN 2018	JAN 2019	DEC 2018	JAN 2018
PLACE OF RESIDENCE									
Labor Force	2,143,000	2,140,000	2,102,000	182,300	181,900	181,200	582,800	578,400	572,200
Employment	2,046,000	2,048,000	1,997,000	172,200	173,400	170,100	564,400	561,700	551,100
Unemployment	97,000	91,000	105,000	10,100	8,500	11,100	18,400	16,800	21,100
Rate (percent)	4.5%	4.3%	5.0%	5.5%	4.7%	6.1%	3.2%	2.9%	3.7%
PLACE OF WORK									
Total Nonfarm Jobs	2,009,900	2,047,600	1,989,700	140,400	142,500	138,100	566,200	570,700	553,100
Mining, Logging, and Construction	71,000	74,700	66,300	5,400	5,700	4,900	25,000	25,200	22,500
Manufacturing	254,100	262,700	254,300	12,500	12,400	12,300	119,200	119,200	116,100
Trade, Transportation, and Utilities	379,600	388,800	370,100	29,600	30,300	29,200	97,200	98,300	95,500
Wholesale Trade	87,100	87,500	85,900	5,400	5,400	5,100	31,700	31,700	31,500
Retail Trade	212,800	219,400	210,900	19,900	20,500	20,200	49,600	50,300	48,600
Information	27,000	27,200	27,100	3,900	3,800	4,000	6,400	6,400	6,200
Financial Activities	115,700	116,100	114,800	6,000	6,000	5,900	27,100	26,600	26,100
Professional and Business Services	394,500	398,200	391,100	17,000	17,100	16,400	76,300	77,200	77,500
Educational and Health Services	316,600	320,600	314,700	26,600	26,700	26,800	93,100	94,400	92,600
Leisure and Hospitality	191,400	194,000	192,100	15,200	15,300	14,700	51,200	51,000	47,500
Other Services	74,200	75,300	74,100	5,300	5,400	5,300	22,100	22,300	21,800
Government	185,800	190,000	185,100	18,900	19,800	18,600	48,600	50,100	47,300

* Data Not Available

JACKSON METROPOLITAN AREA

- In January, employment in the Jackson MSA declined by 1.3 percent (-900), while unemployment was up 400. Consequently, the jobless rate rose by five-tenths of a percentage point to 4.3 percent.
- Since January 2018, employment was up 800, while unemployment declined by 500. The jobless rate fell by 0.7 percentage points.

MONTHLY INDUSTRY DEVELOPMENTS

- January nonfarm payroll jobs in the Jackson metro area dropped by 2.2 percent (-1,300). Seasonal job cuts were recorded in *Education*, *Professional and business services*, and in Retail trade.
- Since January 2018, jobs in the Jackson MSA have expanded by 1.2 percent (+700).

INDUSTRY TRENDS

- Since 2010, Jackson metro area jobs grew by 11.9 percent, about four percent shy of the statewide rate of gain.

KALAMAZOO-PORTAGE METRO AREA

- The Kalamazoo-Portage MSA jobless rate edged up by 0.3 percentage points in January to 4.0 percent. This was well below the Michigan unadjusted rate of 4.6 percent.
- Over the past year, the number of area unemployed moved down by 13.0 percent, while employment inched up just 1.6 percent. The area unemployment rate dropped from 4.6 percent to 4.0 percent.

MONTHLY INDUSTRY DEVELOPMENTS

- January nonfarm payroll jobs moved down seasonally in the metro area by 2,600 or 1.7 percent, mainly due to seasonal job reductions in *Local and state education*, *Retail trade*, *Professional and business services*, and *Leisure and hospitality*.
- Since January 2018, jobs in most major sectors of the Kalamazoo-Portage MSA advanced.

INDUSTRY TRENDS

- Since 2010, payroll jobs in the Kalamazoo-Portage MSA grew by 11.2 percent (versus 16.3 percent statewide).

LANSING-EAST LANSING METRO AREA

- Lansing's jobless rate advanced by 0.9 percentage points in January to 4.1 percent.
- Total employment fell by 1.0 percent over the month.

MONTHLY INDUSTRY DEVELOPMENTS

- Nonfarm jobs in Lansing moved down by 5,400 over the month, or 2.3 percent.
- Job reductions in January were seen in most major industries, apart from *Wholesale trade* and *Information* which remained unchanged.

INDUSTRY TRENDS

- For the fourth consecutive month, Lansing's *Non-durable goods manufacturing* sector in January reached an eighteen-year high of 5,600 jobs.

MIDLAND METROPOLITAN AREA

- The Midland metro area unemployment rate moved up in January by half a percentage point to 4.3 percent.
- The civilian labor force fell by 1.0 percent both over the month and over the year.

MONTHLY INDUSTRY DEVELOPMENTS

- Midland's payroll job count declined by 1,000 over the month, or 2.6 percent, due to job reductions in *Service providing* industries.

INDUSTRY TRENDS

- Total nonfarm jobs in Midland remained unchanged over the year.

MONROE METROPOLITAN AREA

- The jobless rate in Monroe increased by 0.5 percentage points over the month to 4.5 percent.
- The number of unemployed in January declined by 8.1 percent over the year.

MONTHLY INDUSTRY DEVELOPMENTS

- Job levels in the Monroe MSA decreased by 700 between December and January, or 1.7 percent, due to minor declines in most major industry sectors.

INDUSTRY TRENDS

- *Education and health services* in Monroe reached its ten-year low level of 5,000 jobs in January, a level last seen in August of 2018.

MUSKEGON METROPOLITAN AREA

- Muskegon's jobless rate inched up by three-tenths of a percentage point in January to 4.7 percent.
- The region demonstrated the second largest decline in unemployment rate over the year (behind Midland), decreasing by 0.8 percentage points since January 2018.

MONTHLY INDUSTRY DEVELOPMENTS

- Muskegon's payroll job count fell by 800 since December, a decline of 1.2 percent, due to minor reductions in most major industries.

INDUSTRY TRENDS

- Nonfarm jobs in Muskegon rose in 2018 for the eighth consecutive year. From 2016 to 2018. the region added 2,000 jobs, and since 2010, payroll jobs expanded by 7,100.

CIVILIAN LABOR FORCE AND NONFARM PAYROLL JOBS

	JACKSON			KALAMAZOO-PORTAGE			LANSING-EAST LANSING		
	JAN 2019	DEC 2018	JAN 2018	JAN 2019	DEC 2018	JAN 2018	JAN 2019	DEC 2018	JAN 2018
PLACE OF RESIDENCE									
Labor Force	74,000	74,500	73,700	168,300	168,300	166,800	247,400	247,800	248,400
Employment	70,800	71,700	70,000	161,600	162,100	159,100	237,400	239,800	236,800
Unemployment	3,200	2,800	3,700	6,700	6,200	7,700	10,000	8,000	11,600
Rate (percent)	4.3%	3.8%	5.0%	4.0%	3.7%	4.6%	4.1%	3.2%	4.7%
PLACE OF WORK									
Total Nonfarm Jobs	58,100	59,400	57,400	148,800	151,400	146,700	233,500	238,900	233,400
Mining, Logging, and Construction	1,800	1,900	1,800	6,100	6,200	5,600	7,500	7,900	6,900
Manufacturing	10,100	10,000	9,900	22,900	22,600	22,300	18,900	20,300	19,000
Trade, Transportation, and Utilities	12,200	12,600	12,100	26,900	27,600	26,100	36,700	37,600	37,500
Wholesale Trade	*	*	*	6,600	6,600	6,400	6,600	6,600	6,600
Retail Trade	6,400	6,600	6,500	16,300	16,900	16,000	21,200	22,000	22,200
Information	300	300	300	800	800	900	2,700	2,700	2,800
Financial Activities	2,100	2,100	2,000	8,300	8,300	8,200	16,700	16,800	16,300
Professional and Business Services	5,900	6,100	5,400	17,200	17,600	17,000	23,000	23,700	23,300
Educational and Health Services	10,100	10,500	10,400	24,200	24,500	24,400	32,300	32,600	32,500
Leisure and Hospitality	5,100	5,200	5,200	15,500	15,800	15,300	18,500	18,800	18,800
Other Services	2,500	2,500	2,500	5,200	5,300	5,300	10,300	10,400	10,000
Government	8,000	8,200	7,800	21,700	22,700	21,600	66,900	68,100	66,300

	MIDLAND			MONROE			MUSKEGON		
	JAN 2019	DEC 2018	JAN 2018	JAN 2019	DEC 2018	JAN 2018	JAN 2019	DEC 2018	JAN 2018
PLACE OF RESIDENCE									
Labor Force	39,900	40,300	40,300	75,600	75,800	74,900	78,100	77,700	77,100
Employment	38,200	38,800	38,200	72,200	72,700	71,100	74,400	74,300	72,900
Unemployment	1,700	1,500	2,100	3,400	3,100	3,700	3,600	3,400	4,200
Rate (percent)	4.3%	3.8%	5.2%	4.5%	4.0%	5.0%	4.7%	4.4%	5.5%
PLACE OF WORK									
Total Nonfarm Jobs	37,000	38,000	37,000	41,500	42,200	40,600	64,800	65,600	63,600
Mining, Logging, and Construction	*	*	*	2,100	2,200	1,800	2,300	2,400	2,200
Manufacturing	*	*	*	5,700	5,700	5,400	14,000	14,100	13,900
Trade, Transportation, and Utilities	*	*	*	10,600	10,800	10,800	14,100	14,400	13,500
Wholesale Trade	*	*	*	1,800	1,800	1,800	*	*	*
Retail Trade	*	*	*	4,800	4,900	5,000	11,100	11,400	10,900
Information	*	*	*	*	*	*	300	300	300
Financial Activities	*	*	*	900	900	900	1,800	1,800	1,700
Professional and Business Services	*	*	*	5,600	5,700	5,300	3,600	3,500	3,800
Educational and Health Services	*	*	*	5,000	5,100	5,200	12,000	12,200	11,800
Leisure and Hospitality	*	*	*	4,400	4,500	4,000	7,100	7,200	6,800
Other Services	*	*	*	1,400	1,400	1,400	2,200	2,200	2,200
Government	3,000	3,000	3,000	5,400	5,500	5,300	7,400	7,500	7,400

* Data Not Available

NILES-BENTON HARBOR METRO AREA

- The January 2019 Niles-Benton Harbor metro area jobless rate (4.8 percent) edged up by four-tenths of a percentage point. Employment levels fell over the month (-800), while unemployment went up 300.

- Over the past year, employment rose by 600, while unemployment dropped by 400. The jobless rate dipped by six-tenths of a percentage point over this period.

MONTHLY INDUSTRY DEVELOPMENTS

- Jobs in the Niles-Benton Harbor MSA fell in January for the seventh consecutive month. A 300-job decrease each was recorded seasonally in *Government, Leisure and hospitality*, and *Retail trade*.

- Since January 2018, employment in most major sectors improved or remained unchanged, with the exception of *Construction and mining* (-200).

INDUSTRY TRENDS

- Since 2010, payroll jobs in the Niles-Benton Harbor MSA grew at about half the statewide rate of 16.3 percent.

SAGINAW METROPOLITAN AREA

- Since December, Saginaw's unemployment rate increased by 1.1 percentage points to 5.7 percent in January.

- The region's civilian labor force remained unchanged both over the month and over the year.

MONTHLY INDUSTRY DEVELOPMENTS

- Saginaw's payroll job count declined by 2,400 over the month, or 2.7 percent.

- The most pronounced over-the-month job decreases occurred in the *Manufacturing* (-500) and *Trade, transportation and utilities* (-500) sectors.
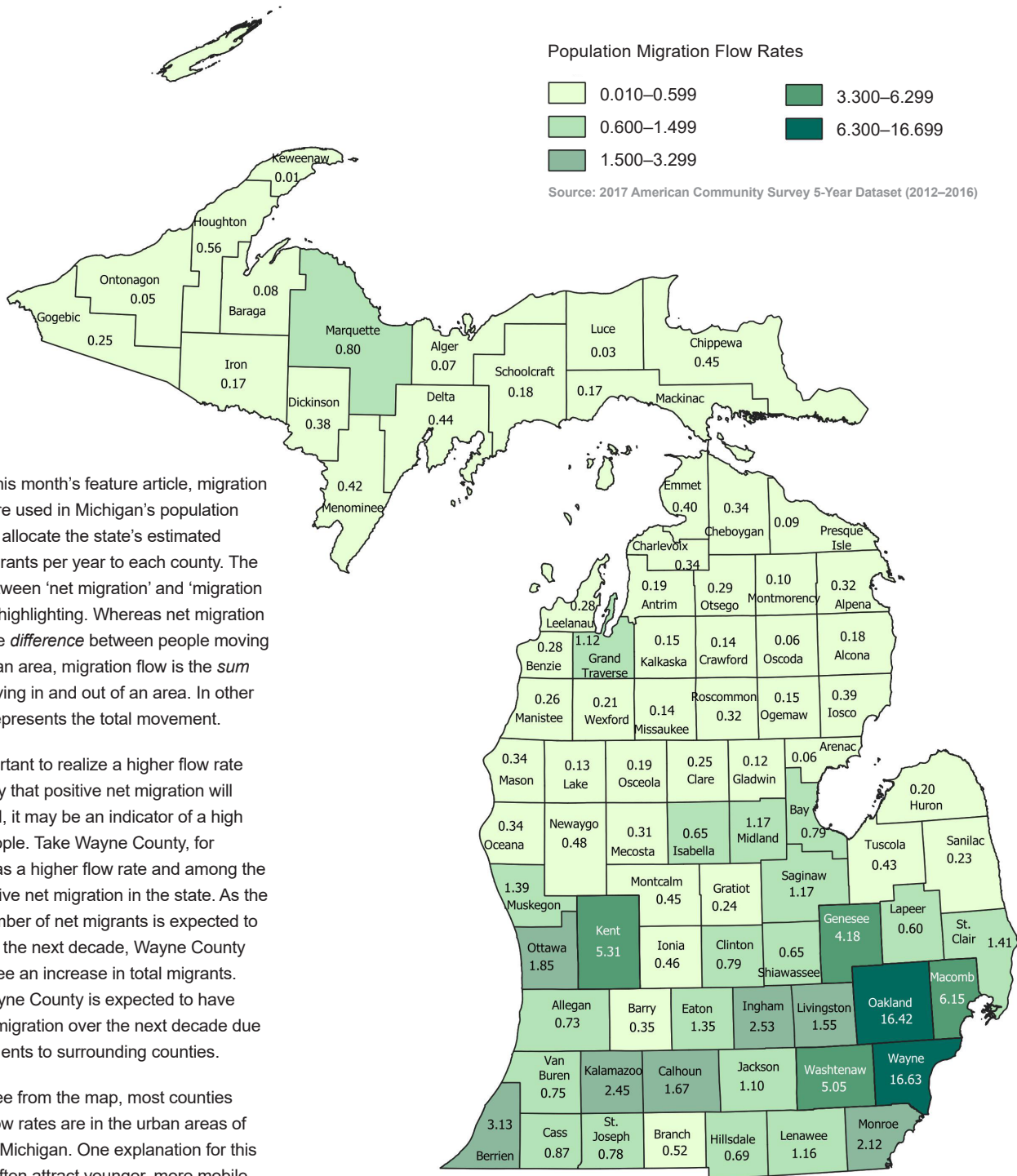
INDUSTRY TRENDS

- On a percentage basis, Saginaw demonstrated the smallest over-the-year increase in nonfarm jobs, edging up by 0.1 percent since January 2018. The Lansing and Midland metro areas recorded no percent job change over this period.

CIVILIAN LABOR FORCE AND NONFARM PAYROLL JOBS

	NILES-BENTON HARBOR			SAGINAW		
	JAN 2019	DEC 2018	JAN 2018	JAN 2019	DEC 2018	JAN 2018
PLACE OF RESIDENCE						
Labor Force	71,900	72,300	71,700	86,900	86,900	86,900
Employment	68,400	69,200	67,800	81,900	82,900	81,600
Unemployment	3,500	3,200	3,900	4,900	4,000	5,300
Rate (percent)	4.8%	4.4%	5.4%	5.7%	4.6%	6.1%
PLACE OF WORK						
Total Nonfarm Jobs	60,500	62,100	59,900	86,700	89,100	86,600
Mining, Logging, and Construction	1,800	2,000	2,000	2,800	3,100	2,500
Manufacturing	13,400	13,300	13,100	12,000	12,500	12,500
Trade, Transportation, and Utilities	10,300	11,000	10,300	17,100	17,600	16,300
Wholesale Trade	*	*	*	2,000	2,000	2,100
Retail Trade	6,700	7,000	6,400	12,400	12,700	11,700
Information	500	500	500	1,300	1,400	1,400
Financial Activities	2,500	2,400	2,400	3,600	3,600	3,700
Professional and Business Services	5,400	5,600	5,400	10,900	11,300	11,000
Educational and Health Services	9,300	9,400	9,000	15,900	16,000	16,100
Leisure and Hospitality	6,600	6,900	6,500	8,800	9,000	8,900
Other Services	2,300	2,300	2,300	3,300	3,400	3,100
Government	8,400	8,700	8,400	11,000	11,200	11,100

	UPPER PENINSULA			NORTHEAST MICHIGAN			NORTHWEST MICHIGAN		
	JAN 2019	DEC 2018	JAN 2018	JAN 2019	DEC 2018	JAN 2018	JAN 2019	DEC 2018	JAN 2018
PLACE OF RESIDENCE									
Labor Force	134,800	135,500	134,800	81,000	80,300	80,800	146,600	146,400	144,900
Employment	125,600	127,400	125,000	73,600	74,200	72,700	137,800	138,900	135,300
Unemployment	9,200	8,000	9,700	7,400	6,100	8,000	8,800	7,500	9,600
Rate (percent)	6.8%	5.9%	7.2%	9.2%	7.6%	9.9%	6.0%	5.1%	6.7%

POPULATION MIGRATION FLOW RATES

Population Migration Flow Rates

☐ 0.010–0.599	☐ 3.300–6.299
☐ 0.600–1.499	☐ 6.300–16.699
☐ 1.500–3.299	

Source: 2017 American Community Survey 5-Year Dataset (2012–2016)

Keweenaw 0.01
Houghton 0.56
Ontonagon 0.05
Baraga 0.08
Gogebic 0.25
Iron 0.17
Marquette 0.80
Alger 0.07
Schoolcraft 0.18
Luce 0.03
Chippewa 0.45
Dickinson 0.38
Delta 0.44
Mackinac 0.17
Menominee 0.42

Emmet 0.40
Cheboygan 0.34
Presque Isle 0.09
Charlevoix 0.34
Antrim 0.19
Otsego 0.29
Montmorency 0.10
Alpena 0.32
Leelanau 0.28
Grand Traverse 1.12
Kalkaska 0.15
Crawford 0.14
Oscoda 0.06
Alcona 0.18
Benzie 0.28
Manistee 0.26
Wexford 0.21
Missaukee 0.14
Roscommon 0.32
Ogemaw 0.15
Iosco 0.39
Mason 0.34
Lake 0.13
Osceola 0.19
Clare 0.25
Gladwin 0.12
Arenac 0.06
Oceana 0.34
Newaygo 0.48
Mecosta 0.31
Isabella 0.65
Midland 1.17
Bay 0.79
Huron 0.20
Muskegon 1.39
Montcalm 0.45
Gratiot 0.24
Saginaw 1.17
Tuscola 0.43
Sanilac 0.23
Kent 5.31
Ionia 0.46
Clinton 0.79
Genesee 4.18
Lapeer 0.60
St. Clair 1.41
Ottawa 1.85
Shiawassee 0.65
Macomb 6.15
Allegan 0.73
Barry 0.35
Eaton 1.35
Ingham 2.53
Livingston 1.55
Oakland 16.42
Van Buren 0.75
Kalamazoo 2.45
Calhoun 1.67
Jackson 1.10
Washtenaw 5.05
Wayne 16.63
Berrien 3.13
Cass 0.87
St. Joseph 0.78
Branch 0.52
Hillsdale 0.69
Lenawee 1.16
Monroe 2.12

As stated in this month's feature article, migration flow rates were used in Michigan's population projections to allocate the state's estimated future net migrants per year to each county. The distinction between 'net migration' and 'migration flow' is worth highlighting. Whereas net migration represents the *difference* between people moving in and out of an area, migration flow is the *sum* of people moving in and out of an area. In other words, flow represents the total movement.

It is also important to realize a higher flow rate does not imply that positive net migration will occur. Instead, it may be an indicator of a high outflow of people. Take Wayne County, for example. It has a higher flow rate and among the highest negative net migration in the state. As the statewide number of net migrants is expected to increase over the next decade, Wayne County should also see an increase in total migrants. However, Wayne County is expected to have negative net migration over the next decade due a loss of residents to surrounding counties.

As you can see from the map, most counties with higher flow rates are in the urban areas of southeastern Michigan. One explanation for this is that cities often attract younger, more mobile populations. Some millennials move into cities for employment opportunities or to live an urban lifestyle, while others move away to suburbs to settle down and start families.

Although college students are probably the most mobile of all, this subpopulation was excluded from the flow rates, since estimates of net migrants were based on jobs and the workforce population (ages 25-74). Because they are much less likely to become permanent residents of the county where they are attending college, the migration of college students was instead maintained with the migration baseline mentioned in the feature article of this issue.

ASHLEY TARVER
Demographic Analyst

MICHIGAN'S POPULATION PROJECTIONS TO 2045

Why Population Projections?

Until now, Michigan lacked a readily available set of state and sub-state population projections. Filling this vital information gap, the Bureau of Labor Market Information and Strategic Initiatives recently completed an initiative to produce long-term population projections for the state, counties, and other sub-state areas. Culminating in 36,936 cells of data, projections were produced for males and females, and aggregated into five-year age groups at five-year increments from 2020 to 2045.

Population projections are an important public and private planning tool. For example, such data provides information on:

- the senior citizen population, allowing health and human services professionals to anticipate demand on their services.

- youth and young adults, giving administrators and educators insights on the school-age population.

- future demand for infrastructure, helping planners decide on new projects and prioritize improvements.

- inputs into labor force projections, that, when complete, will help educators and workforce developers prepare our talent for in-demand jobs.

The purpose of this article is to provide a brief overview of some of the key findings from these newly released projections. This article discusses Michigan's recent population trends, methodology and assumptions behind the projections, and provides some highlights from the data, including the importance of migration to the state's projected population growth.

Recent Population Trends

Michigan's population is particularly susceptible to economic downturns. So, with two recessions[1] in the first part of the century, it is no wonder the state has seen population reductions. In fact, Michigan was the only state

in the nation to register a decline in population between the 2000 and 2010 decennial censuses (Mackun and Wilson, 2011). And as job losses continued[2] and state unemployment rates peaked[3], Michigan faced negative net migration of up to 87,000 people annually in the years following the Great Recession. Since 2010, Michigan has fallen from the 8th to the 10th most populous state, being passed by Georgia and North Carolina.

Population cuts of this significance have consequences. First, more than 100 federal programs used Census Bureau data to distribute more than $675 billion in funds during fiscal year 2015 (Hotchkiss, M. and Phelan, J., 2017). Therefore, declining population can mean less federal funding for Michigan. Next, Michigan's political influence at the national level is also impacted because a smaller population equates to less representation in Congress. After the 2010 census, Michigan lost one seat in the U.S. House of Representatives and correspondingly one electoral college vote, continuing a trend

[1] According to the National Bureau of Economic Research the U.S. economy was in recession from March 2001 to November 2001 and December 2007 to June 2009.
[2] Michigan's estimated annual average nonfarm payroll job count fell by 404,500, or 9.5 percent, between 2007 and 2010 (U.S. Bureau of Labor Statistics, Current Employment Statistics).
[3] Michigan's unemployment rate peaked at 14.6 percent in June 2009 (U.S. Bureau of Labor Statistics, Local Area Unemployment Statistics).

## FIGURE 1: PROJECTED MICHIGAN POPULATION
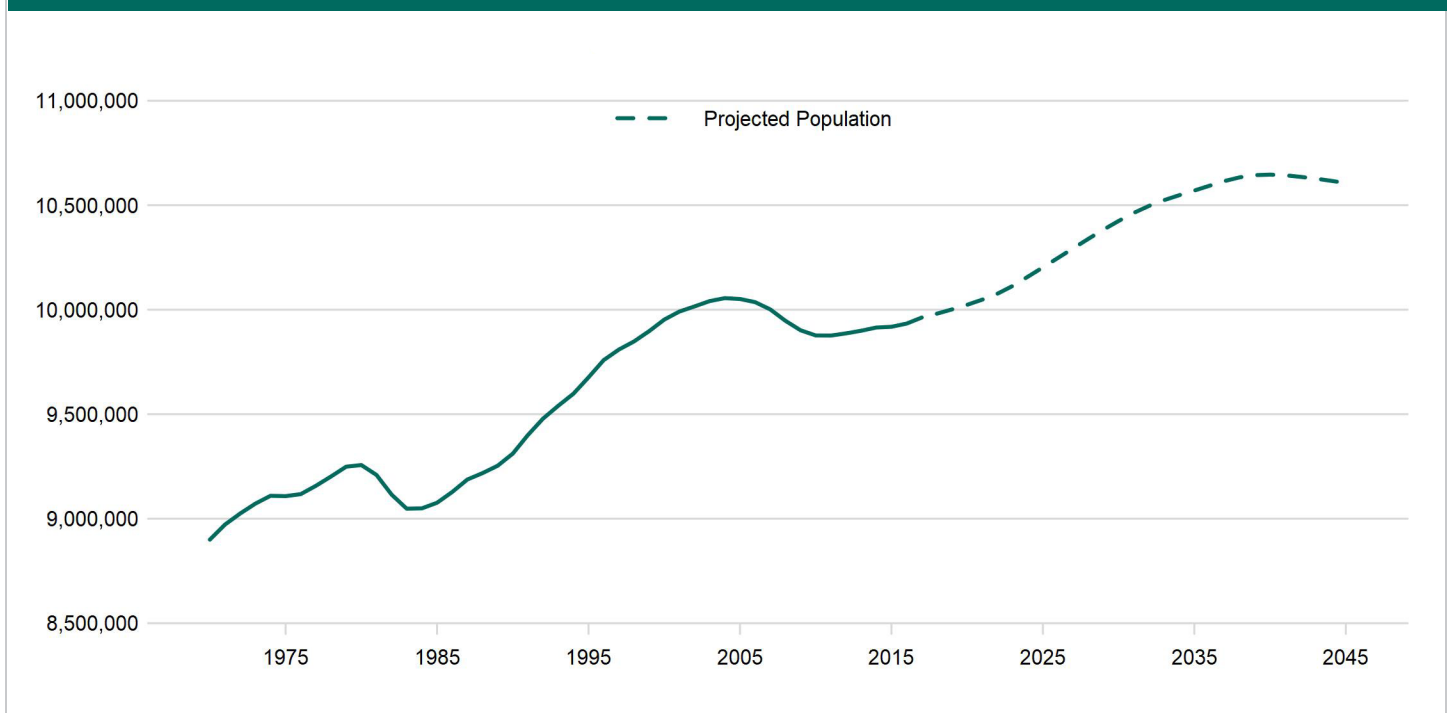
of Michigan losing at least one seat in the U.S. House of Representatives following each census since 1980. Finally, a declining population also means a shrinking labor force, and therefore fewer workers to meet the demand of employers today and in the future.

Projection Methodology and Assumptions

Population change is determined by two factors: natural change (births minus deaths) and net migration (people moving in minus people moving out). Natural increase occurs when births exceed deaths. Conversely, natural decline happens when deaths exceed births. Positive net migration occurs when there are more people moving in than moving out; whereas, negative net migration is when more people are moving out than moving in.
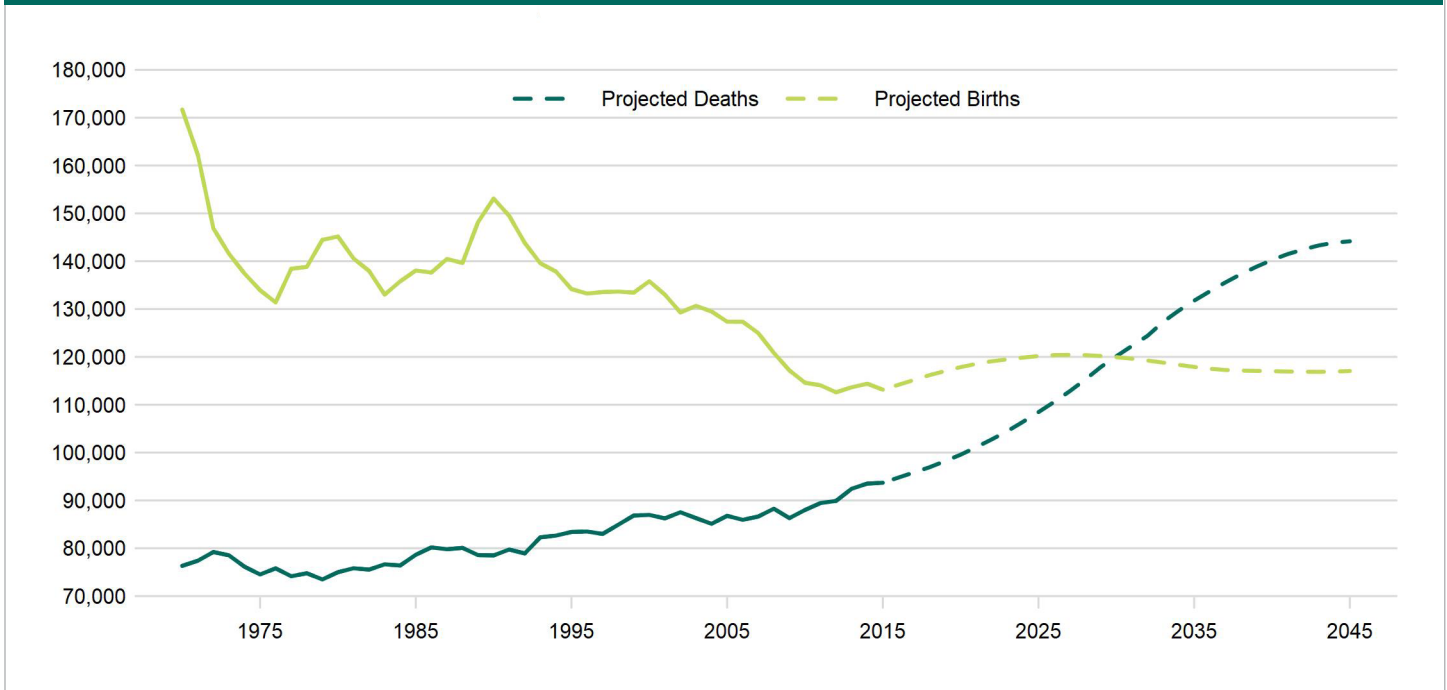
METHODOLOGY

Projecting migration is often the biggest challenge to projecting population. This is particularly so under the dynamic conditions currently facing Michigan, which includes continued economic recovery and an aging population. Simply projecting an average net migration from the past several years would likely underestimate migration in the short-term because Michigan's net migration recently changed from negative to positive. Similarly, a method that used past rates of increase to project net migration would produce unrealistic population growth, because the recent rate of gain in Michigan's net migration is unlikely to continue. Another consideration for estimating Michigan's future net migration is the dramatic change in age structure that is currently affecting Michigan's workforce. Michigan's baby boomers, which are currently a large portion of the population, will continue retiring through at least 2029. This will lead to further declines in the state's workforce and should fuel demand for labor, which will require immigration to replace retiring workers.

To project net state migration, a regression equation was developed that estimated annual net migrants from 2000 to 2017 as a function of jobs, and the population of Michigan residents aged 25–74. As expected, Michigan's past numbers of net migrants were positively related to job numbers but negatively related to the number of working age people in Michigan. Thus, since the number of jobs is projected to increase, while the prime-age working population declines, net

migration into Michigan is projected to advance during the next decade.

Net migration, along with births and deaths, was applied to 2017 official U.S. Census Bureau resident population estimates for each county to advance projections forward each year. These projections use the cohort component method, which requires independent estimates of birth rates, survival rates, and net migration. Age specific birth rates for women 15–54 were calculated from county-level birth records collected from 2013 to 2015 (Michigan Department of Health and Human Services). Age specific (0–85+ years-old) survival rates were calculated from county-level mortality records collected from 2011 to 2015 (Michigan Department of Health and Human Services).

County-level projections relied on a combination of methods to estimate net migration. First, to estimate a recent migration baseline that accounted for county-to-county and interstate migration, differences between expected population (population in the prior year multiplied by survival rates) and observed population estimates from 2015–2017 from the U.S. Census Bureau were compared. Counties with observed populations exceeding the expected population were assumed to have positive net migration, and vice versa. Second, during each year of the projections, the total predicted state-level net migrants were allocated to each county based on its share of the state's

total migration flow (see this issue's *Map of the Month* on page 15).

ASSUMPTIONS

As with any projection, the degree to which the underlying assumptions are robust determines the accuracy of the population estimates. The projections discussed here assume no major economic recession will occur, and that job openings created by baby boomer retirements will attract people from outside Michigan. However, increased labor force participation rates among older Michiganders or job automation could reduce job openings and net migration.

It is also crucial to recognize that, although the U.S. Census Bureau estimated a net migration of 10,481 people into Michigan in 2017, the number of people moving to Michigan from within the United States was –12,698. Thus, Michigan is still losing residents to other states and therefore the state's population growth is largely dependent on international migration. Thus, to the extent that barriers to international migration limit the flow of people, the projections could overestimate population growth.

Highlights from Michigan's Population Projections

Migration into Michigan is expected to expand for the next decade as workers move to the state to fill job openings left by retiring baby boomers. Michigan's population is expected to increase to around 10,646,000 by about

FIGURE 3: **PROJECTED PERCENT CHANGE IN POPULATION, 2020–2030**

Population Loss
Population Gain
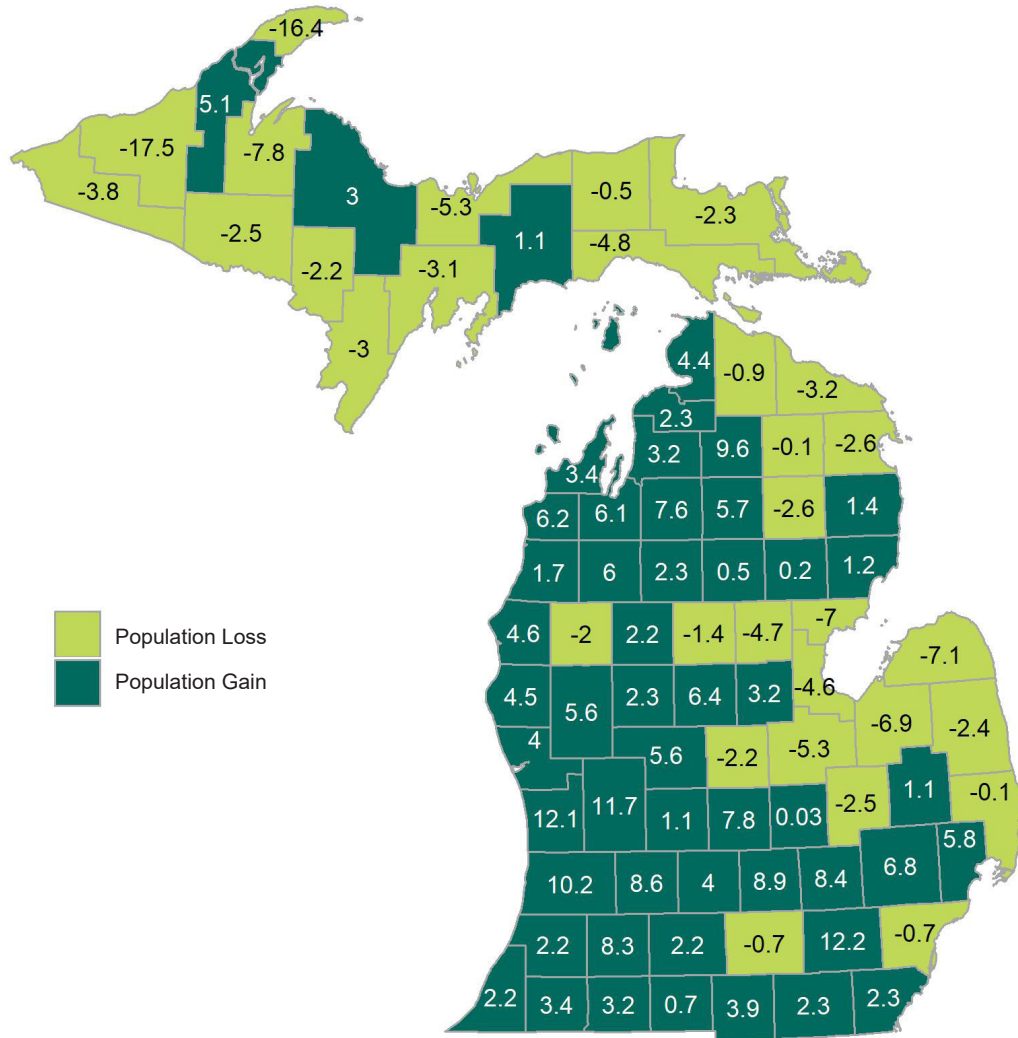
2040 and then decline through 2045 as the baby boomer generation shrinks. As with any projection, there is more confidence in the short-term, in this case the 2020 to 2030 period. These projections are also more relevant to planners.

In the short-term, 2020–2030, Michigan's population is projected to increase from 10,023,000 to 10,425,000 residents (Figure 1). This represents a modest annual population growth rate of 0.4 percent, which is less than the projected U.S. population annual growth rate of 0.7 percent during this time frame (Census, 2017). Since Michigan's population growth rates are projected to trail the nation, the state will likely be home to a smaller share of the nation's population over the next decade. Even though Michigan will likely continue to gain residents in the near-term, the relative contribution of natural change to population growth will continue its long-term decline.

For example, in 1970 the state experienced a natural increase of 95,346 residents, a number trimmed to just 19,456 by 2015. Importantly, by 2030 Michigan will be in natural decline, meaning deaths will exceed births (Figure 2). Thereafter, through the end of the projection period, Michigan's natural population change will no longer positively contribute to population gains, and growth will depend entirely on migration.

COUNTY-LEVEL POPULATION PROJECTIONS

There is wide variation in projected population trajectories among counties, ranging from a loss of 17.5 percent to a gain of 12.2 percent between 2020 and 2030 (Figure 3). Counties with projected reductions in population are mostly in the Upper Peninsula, Northeastern Lower Peninsula, and Thumb area (Figure 3). Alternatively, between 2020 and 2030,

52 counties are projected to gain residents (Figure 3). Of these, 20 counties are projected to increase by less than 3 percent over the decade (less than 0.3 percent annually), which is relatively minor growth. Counties with the largest projected rates of population expansion are mostly concentrated in the southern Lower Peninsula, particularly in the greater Detroit and Grand Rapids metro areas.

The variation among counties in population growth rates are driven by differences in natural change and net migration (Figures 4 through 7). Considering natural change, 48 counties are expected to be in natural decline by 2020, including nearly all rural counties in the Thumb, Northern Lower Peninsula, and Upper Peninsula (Figure 4). Additionally, many of these same counties will continue to experience net migration that is negative, or insufficient to offset natural decline (Figures 6 and 7).
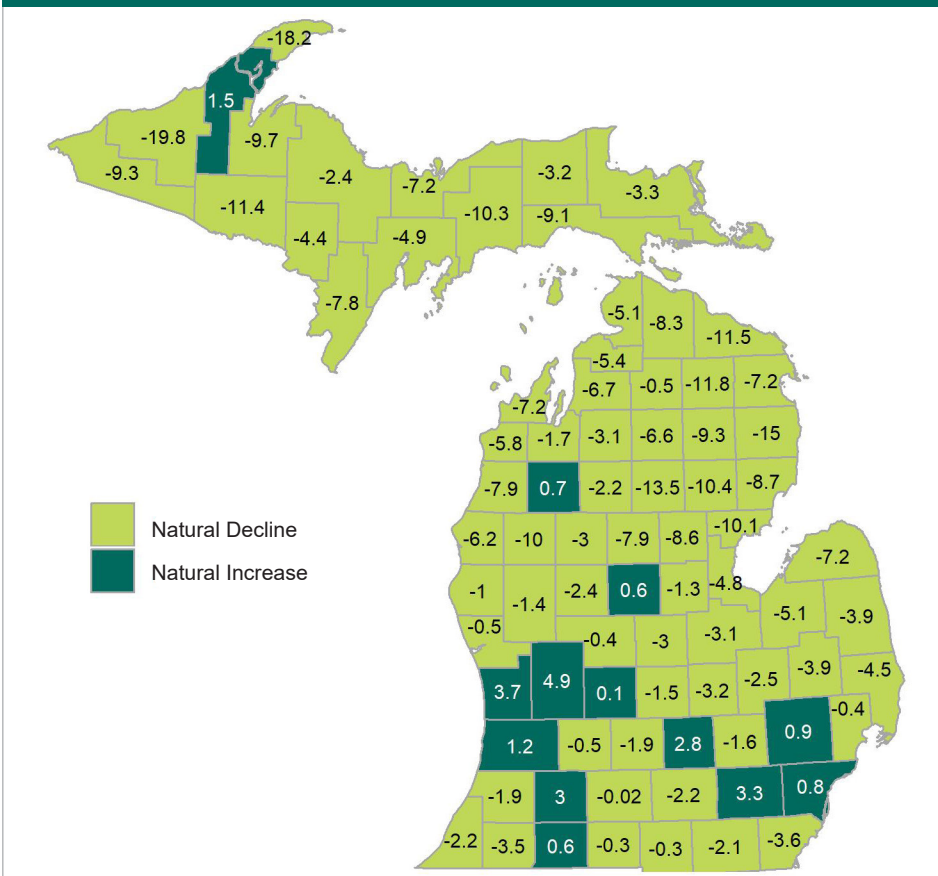
FIGURE 4: **NATURAL RATE OF CHANGE (PER 1,000 RESIDENTS), 2020**

Natural Decline
Natural Increase

FIGURE 5: **NATURAL RATE OF CHANGE (PER 1,000 RESIDENTS), 2030**

Natural Decline
Natural Increase
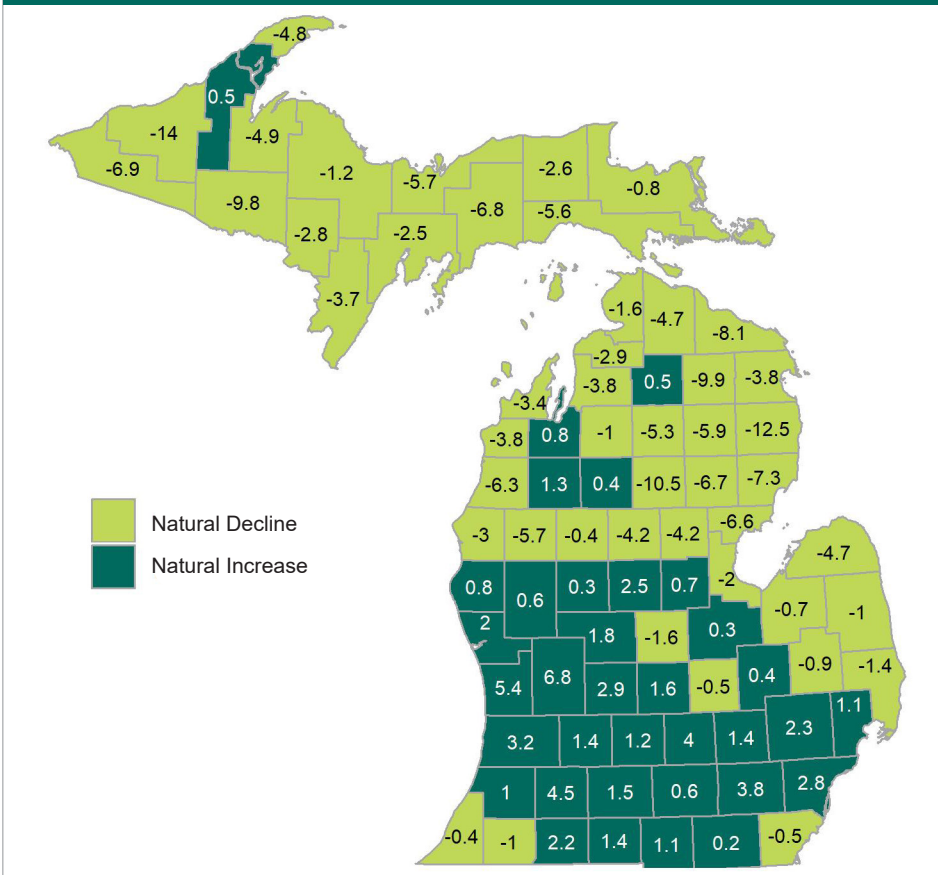
One reason for this is that many rural counties experience substantial out-migration of residents after completion of high school, which has been occurring for decades. This out-migration of young people contributes to natural decline in two ways. First, it results in fewer residents in the reproductive age classes (20s and 30s), reducing births. Second, these counties are experiencing an accelerating number of deaths due to a large percentage of residents over age 65, compared to the state. As a result, natural change has turned negative sooner in many rural counties than in other areas of the state.

By 2030, however, many urban counties will also be experiencing natural decline, resulting largely from two factors. First, the large outflow of young people during much of this century reduced the number of women giving birth throughout the state. Second, Michigan, along with the nation, has experienced a long-term drop in birth rates. In 2017, the number of children born per 1,000 women aged 15–44 in Michigan was about 60, well below the approximate 92 recorded in 1970. Correspondingly, only 13 counties are expected to have positive rates of natural change by 2030, and nearly all these counties will experience a narrowing between numbers of births and deaths during the next decade (Figures 4 and 5).

Out-of-state net migration also varies substantially across counties. For example, Kent, Macomb, Oakland, Washtenaw, and Wayne counties are estimated to experience 50 percent of Michigan's total, non-student migration flow (Census, 2016). As a result, because Michigan is expected to have positive net migration over the next decade, many of the anticipated migrants moving to Michigan will likely settle in these counties. This is one reason that most of these counties are expected to have relatively high population growth rates, except for Wayne County, which is projected to decline in population (Figure 3). Although Wayne County is projected to lose fewer people to migration in 2030 than 2020 (Figures 6 and 7), it is expected to continue to have negative net migration partially because it tends to lose residents to surrounding counties.

Conclusions

During the early 21st Century, the decrease in Michigan's population was caused by the large number of young people leaving the state in search of jobs and the fall in births that followed (Figure 2). Simultaneously, the number of deaths in Michigan rose because the state's median age advanced during this time. Further, by 2030, Michigan's population will pass a

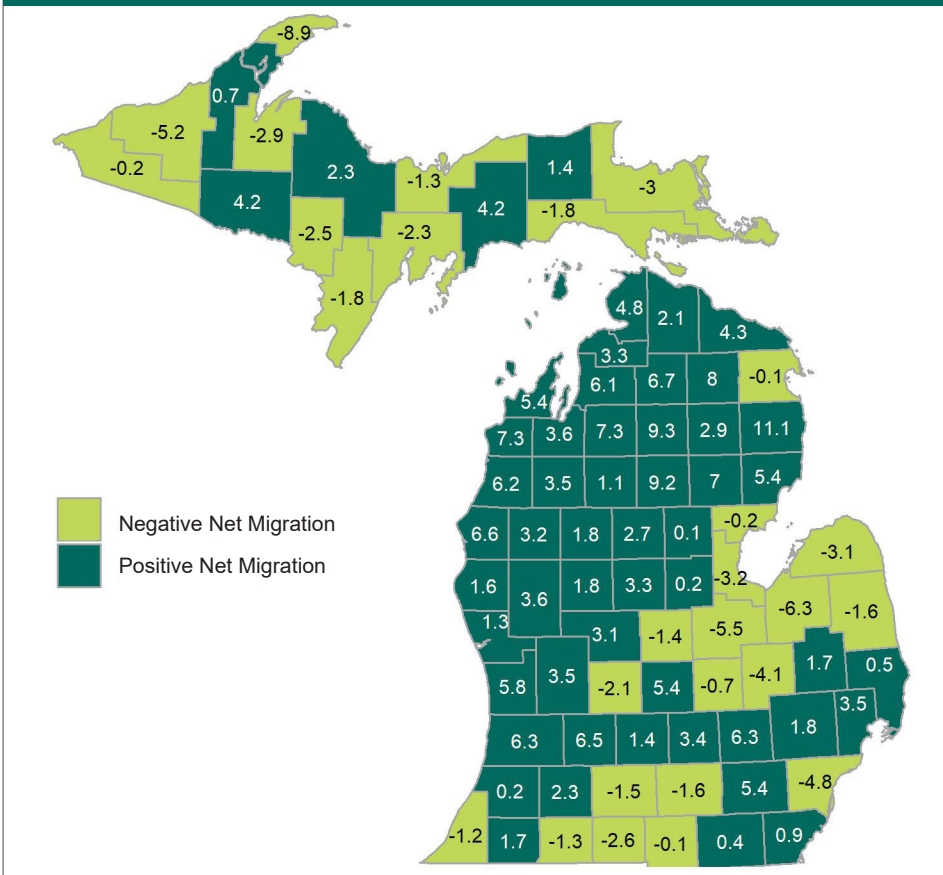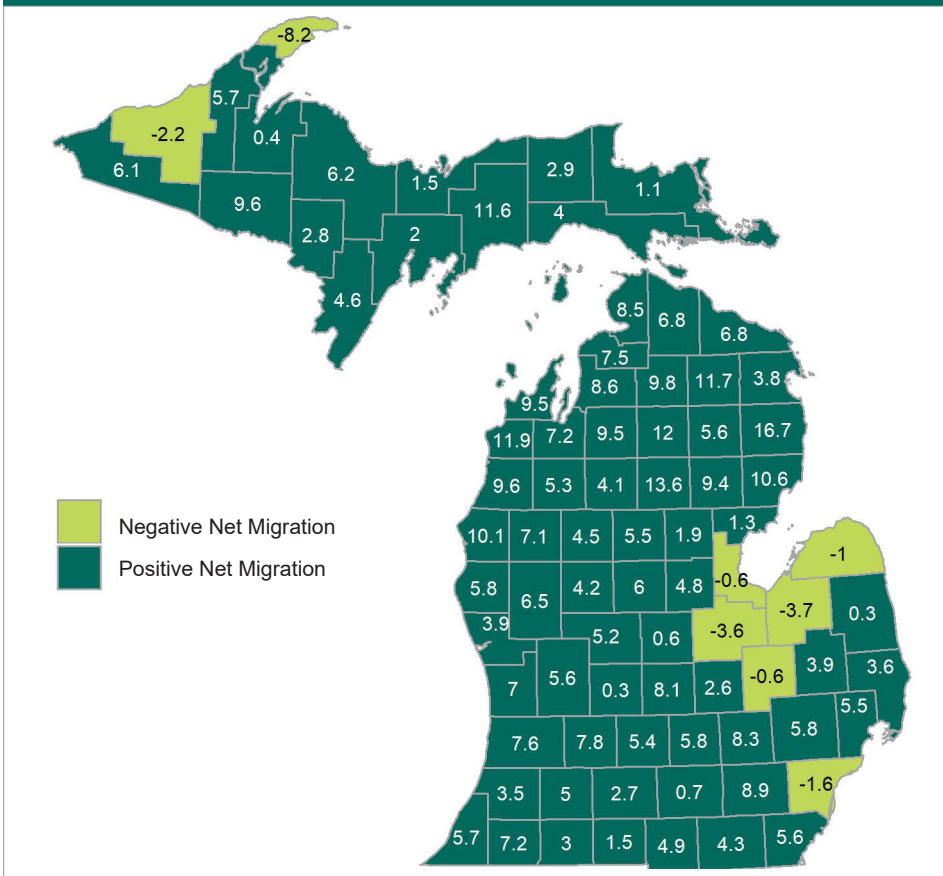FIGURE 6: NET MIGRATION RATE (PER 1,000 RESIDENTS), 2020

Negative Net Migration
Positive Net Migration

FIGURE 7: NET MIGRATION RATE (PER 1,000 RESIDENTS), 2030

Negative Net Migration
Positive Net Migration

critical demographic juncture; one where all baby boomers will be over age 65. Although births in Michigan are projected to move up from current levels, particularly over the next decade, the disproportionate aging of the population is projected to result in state-level natural decline by 2030. Thus, growth of Michigan's population will increasingly depend on attracting people from outside the state.

Michigan's population has yet to recover to its peak of 10,055,315 residents in 2004 but is projected to pass this milestone around 2022. Thereafter, these projections depict three phases to Michigan population dynamics through 2045. First, in the short-term, Michigan's population is projected to continue increasing as baby boomer retirements attract out-of-state workers, who will live in Michigan simultaneously with retirees. Next, after 2029, Michigan's net migration will fall because most job openings vacated by baby boomers will have been filled. Finally, as migration recedes, the state's population is projected to decrease as the baby boomer generation experiences the increased effects of mortality.

A detailed report containing full methodology and projections of county-level births, deaths, net migrants, and population will be available later this year. In the meantime, the full set of population projections can be downloaded from the Bureau's website at http://milmi.org/datasearch/popproj

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JANUARY JOB ADVERTISEMENTS ADVANCE

January 2019 registered an increase in Michigan's seasonally-adjusted job advertisements, up about 2,100 ads to 152,332. Four of the past five years have exhibited an increase in Michigan job postings in January. This was the second straight month of job ad gains following four consecutive months of decline.

Michigan's regional states of Illinois, Indiana, Ohio, and Wisconsin also posted additional job advertisements for the month. Illinois had the largest increase of ads at 4,139 while Indiana posted the smallest addition of 741. Michigan and its regional states recorded an average monthly ad gain of 1.6 percent in January. This significantly outpaced a small drop in ads nationally.

Ad Rate Advances in January

The number of job postings per 100 individuals in the labor force, referred to as the ad rate, saw a modest increase to 3.10 in January. This gain in the ad rate resulted from a faster pace of monthly job postings than the increase in persons entering the labor force. No change was exhibited in the ad rate over the month nationwide.

The supply-demand rate, or the number of unemployed persons per job ad, inched down slightly over the month to 1.30. This slight change resulted from the number of unemployed increasing slightly less than the number of job postings. Michigan's supply-demand rate for the month is on par with the 12-month average of 1.30.

Non-seasonally Adjusted Job Ads

Information is available on advertised jobs by broad occupational group from the Help Wanted Online Data Series, but the data is *not seasonally adjusted*.
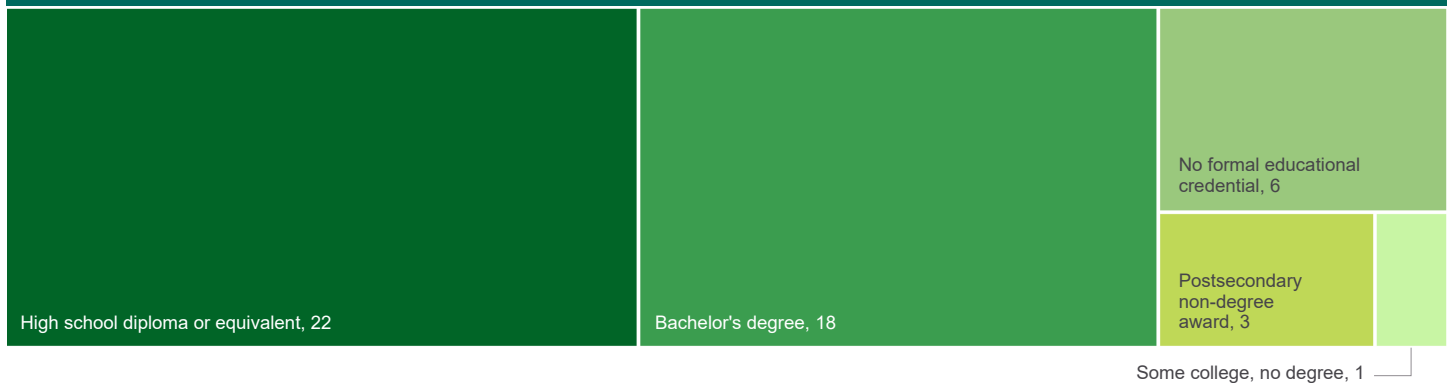
All of the Metropolitan Statistical Areas (MSAs) in Michigan posted a reduction in non-seasonally adjusted job advertisements in January. The 5.8 percent (-8,143 ads) drop in Michigan ads was led by the Bay City MSA with the largest percentage reduction of 10.7 percent (-91 ads), while the Muskegon MSA recorded the smallest decline of five-tenths of a percent. Detroit posted a loss of 3,839 ads (-5.8 percent).

Job postings among all major occupational categories above 1,000 ads also dropped over the month. *Transportation*-related job ads declined 11.3 percent (-965 ads) with *Professional*-related postings down 5.8 percent (-2,156 ads). The sub-occupational group of *Computer and mathematical* postings fell 8.1 percent (-878 ads).
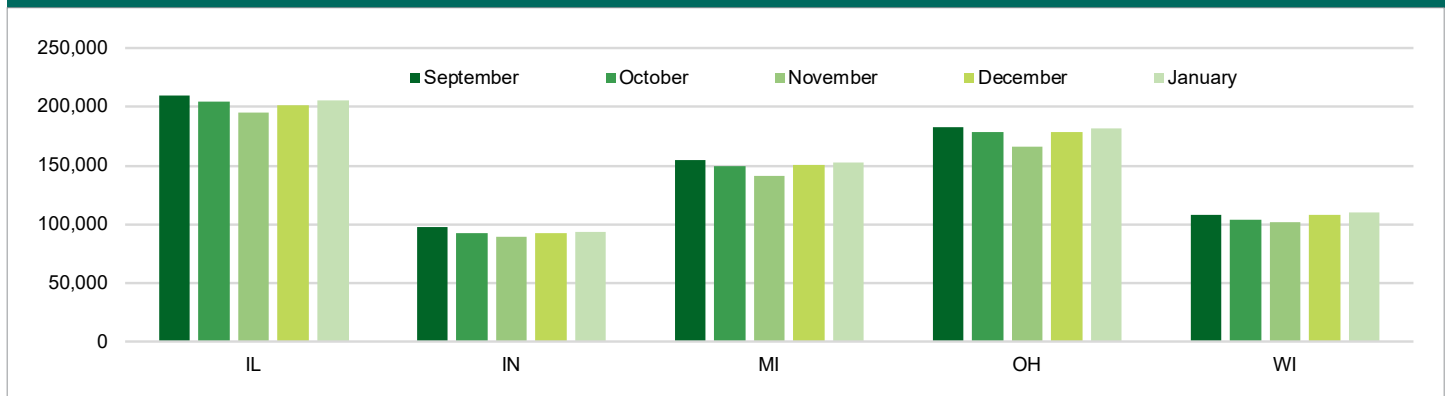
Registered nurses continued to record the highest number of job postings in the state with 6,077 in January. *First-line supervisors of retail sales workers* had the second largest number of job ads (4,897 ads) followed by ads for *Retail salespersons* (4,835 ads). Almost 26 percent of job ads in the state were less than 30 days old, and 70 percent were for full-time employment. Among the top 50 occupations with the most job ads, 18 required a bachelor's degree, and 22 required a high school diploma or equivalent.
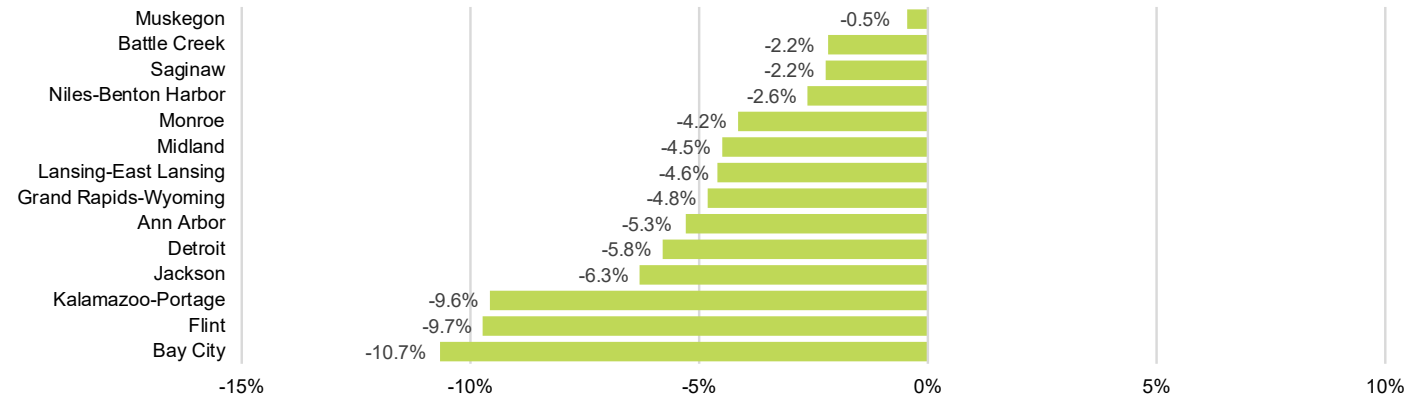
MARCUS REASON
Economic Analyst

EDUCATION REQUIREMENTS OF TOP 50 ADS

High school diploma or equivalent, 22
Bachelor's degree, 18
No formal educational credential, 6
Postsecondary non-degree award, 3
Some college, no degree, 1

MONTHLY CHANGE IN JOB ADS, SELECTED STATES

Legend: September, October, November, December, January

States: IL, IN, MI, OH, WI

MONTHLY CHANGE IN JOB ADS BY METRO AREA

LABOR DEMAND BY OCCUPATION (NOT SEASONALLY ADJUSTED)

OCCUPATION CATEGORIES	JANUARY 2018	DECEMBER 2018	JANUARY 2019	OVER THE MONTH	
				LEVEL	PERCENT
TOTAL	**145,829**	**140,651**	**132,508**	**-8,143**	**-5.8%**
Administrative Support	14,267	13,897	13,104	-793	-5.7%
Office and Administrative Support	14,267	13,897	13,104	-793	-5.7%
Construction and Repair	8,389	7,523	7,004	-519	-6.9%
Construction and Extraction	2,419	1,845	1,663	-182	-9.9%
Installation, Maintenance, and Repair	5,970	5,678	5,341	-337	-5.9%
Farming, Fishing, and Forestry	265	277	295	18	6.5%
Farming, Fishing, and Forestry	265	277	295	18	6.5%
Healthcare	27,093	23,165	22,172	-993	-4.3%
Healthcare Practitioners and Technical	20,696	17,589	16,684	-905	-5.1%
Healthcare Support	6,397	5,576	5,488	-88	-1.6%
Management	9,901	9,919	9,122	-797	-8.0%
Management	9,901	9,919	9,122	-797	-8.0%
Production	5,167	4,628	4,249	-379	-8.2%
Production	5,167	4,628	4,249	-379	-8.2%
Professional	36,403	37,479	35,323	-2,156	-5.8%
Architecture and Engineering	6,936	7,317	6,709	-608	-8.3%
Arts, Design, Entertainment, Sports, and Media	2,798	2,367	2,380	13	0.5%
Business and Financial Operations	6,927	7,090	6,569	-521	-7.3%
Community and Social Services	3,129	2,867	2,807	-60	-2.1%
Computer and Mathematical	9,737	10,778	9,900	-878	-8.1%
Education, Training, and Library	5,353	5,386	5,267	-119	-2.2%
Legal	303	332	342	10	3.0%
Life, Physical, and Social Science	1,220	1,342	1,349	7	0.5%
Sales	19,109	18,202	17,252	-950	-5.2%
Sales and Related	19,109	18,202	17,252	-950	-5.2%
Service	16,831	17,039	16,430	-609	-3.6%
Building and Grounds Cleaning and Maintenance	3,368	2,914	2,723	-191	-6.6%
Food Preparation and Serving Related	8,583	9,797	9,448	-349	-3.6%
Personal Care and Service	2,434	2,284	2,209	-75	-3.3%
Protective Service	2,446	2,044	2,050	6	0.3%
Transportation	8,404	8,522	7,557	-965	-11.3%
Transportation and Material Moving	8,404	8,522	7,557	-965	-11.3%

RELEVANT RANKINGS

POPULATION CHANGE RANK BY STATE, 2010–2017

RANK BY NUMERIC CHANGE	STATE	2017 POPULATION	2010–2017 POPULATION CHANGE	PERCENT CHANGE
1	Texas	28,304,596	3,158,496	12.6%
2	California	39,536,653	2,282,135	6.1%
3	Florida	20,984,400	2,179,806	11.6%
4	Georgia	10,429,379	740,689	7.6%
5	North Carolina	10,273,419	737,698	7.7%
23	Idaho	1,716,943	149,293	9.5%
24	Missouri	6,113,532	124,607	2.1%
25	Ohio	11,658,609	121,879	1.1%
26	Kentucky	4,454,189	114,849	2.6%
27	Wisconsin	5,795,483	108,195	1.9%
28	Pennsylvania	12,805,537	102,680	0.8%
34	Michigan	9,962,311	78,182	0.8%
46	Maine	1,335,907	7,545	0.6%
47	Rhode Island	1,059,639	6,694	0.6%
48	Vermont	623,657	-2,084	-0.3%
49	Illinois	12,802,023	-29,542	-0.2%
50	West Virginia	1,815,857	-37,149	-2.0%

Source: U.S. Census Bureau, Population Estimates Program 2017

POPULATION CHANGE RANK BY MICHIGAN COUNTY, 2010–2017

RANK BY NUMERIC CHANGE	COUNTY	2017 POPULATION	2010–2017 POPULATION CHANGE	PERCENT CHANGE
1	Oakland	1,250,836	48,450	4.0%
2	Kent	648,594	45,972	7.6%
3	Macomb	871,375	30,328	3.6%
4	Ottawa	286,383	22,582	8.6%
5	Washtenaw	367,627	22,561	6.5%
6	Kalamazoo	262,985	12,658	5.1%
7	Ingham	290,186	9,295	3.3%
8	Livingston	189,651	8,687	4.8%
9	Allegan	116,447	5,037	4.5%
10	Grand Traverse	91,807	4,821	5.5%
79	Bay	104,239	-3,532	-3.3%
80	St. Clair	159,350	-3,690	-2.3%
81	Saginaw	191,934	-8,235	-4.1%
82	Genesee	407,385	-18,403	-4.3%
83	Wayne	1,753,616	-66,957	-3.7%

Source: U.S. Census Bureau, Population Estimates Program 2017

ASK THE DEMOGRAPHER

Are demographic projections accurate predictions of future population size?

Not exactly. Projections are better thought of as what may happen.

Demographic projections are estimates of possible future populations, which are based on the current, measurable trends in an area. As such, they are not predictions of the future. That answer is largely unsatisfying to many people, but clarity is important when talking about data that will be used for planning and resource allocation purposes.

There are several ways to produce a population projection series, all of which have certain limitations and benefits. Without going into the more complicated means of projecting populations, the three most common approaches use historical trend extrapolations, cohort change ratios, and independent estimations of the components of change. Each of these methods are valid and useful for producing projections but each is more appropriate to particular situations.

The main difference with these methods is the amount of data necessary to produce a projection series. Historical extrapolations require the least amount of data to produce. Generally, the data inputs are total populations, with a minimum of two points in time. From those data points, the user can apply the change observed over the reference period to future periods. This method generally produces a straight line and can vastly over or underestimate the population if the line is extrapolated too far into the future. The main benefit of this method is its limited data requirement, but its main drawback is limited accuracy and time horizon.

When looking at the Cohort Change Ratio (CCR) method, commonly called the Hamilton-Perry method of population projections, the user also only needs data from two points, but those data need to include age-specific population estimates. The data user will determine the change ratios for each age cohort between the two periods and apply those ratios to step the population forward. This method typically produces more accurate projections than simple historical extrapolations. When the cohort ratios are applied to the population, they are inherently applying the actual effects of mortality and migration to each cohort as the ratio itself

is a representation of those factors observed between the reference periods. The CCR method is applied in many projection series and is a method that can provide high quality results with a limited amount of data. One drawback is the relatively long lag in directionality or magnitude shifts, depending on the reference periods. For example, if a population has recently experienced an atypical demographic event, such as a substantial out migration due to job losses, this method may fail to accurately predict future population trends.

The method that is typically agreed to be most accurate, but which also requires the most data inputs, is the cohort component method. This is the method that Michigan's Bureau of Labor Market Information and Strategic Initiatives (LMISI) has used to produce the population projections that are now available through our website. To produce a projection series with the cohort component method, the data user must project each component of population change (births, deaths, and migration) independently and then sum the results for each age cohort. This means that LMISI produced estimates for births, deaths, and migration for each age group, selected geography, and year in the projection series.

To accomplish this task, data were collected from the Michigan Department of Health and Human Services (MDHHS), Michigan Department of Corrections (MDOC), and the U.S. Census Bureau. The data from MDHHS provided the basis for determining fertility and mortality rates, whereas the data from MDOC allowed us to make corrections for recent changes to group quarters populations, e.g. prison closures. The data from the U.S. Census Bureau was used to calculate migration rates and to set base populations.

When evaluating accuracy of a projection series, that evaluation occurs after points in the projection period have occurred. There is not a way to determine a projection series' accuracy until the period has elapsed. This is because the projection series itself is an exercise that uses current data as inputs while attempting to model future populations.

Projections tend to deviate from true values based on assumptions which are incorrect or where there is some mistake in the process. The source of deviance from true future populations stems from the difference from the future reality as compared to the present circumstances.

Present circumstances enter the projections through the assumptions made when producing the projections. The most basic assumption that a projection specialist makes is that present conditions affecting births, deaths, and migration will continue into the future. Every projection specialist knows that the day they publish a projection series, there is the possibility a major economic downturn will make the projections too high or a major technological innovation will make them too low.

Ultimately, when evaluating a projection series, the user must understand the data and its limitations. A projections series is not a prediction of the future, rather it is a representation of what the future will look like using current data as inputs. The benefit of a quality projection series is that it gives data consumers insight into the relative contribution of the specific demographic components of population change. This will allow planners to craft better informed policy and make more efficient use of scarce resources.

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Michigan's State Demographer

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