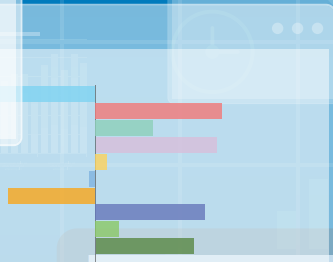
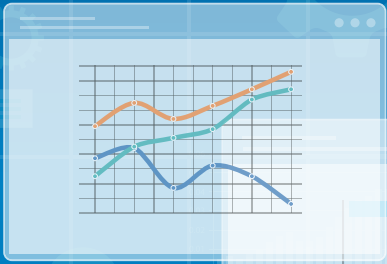
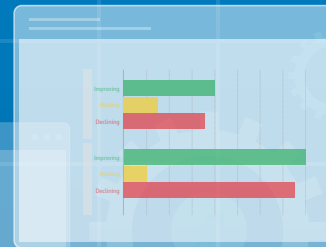
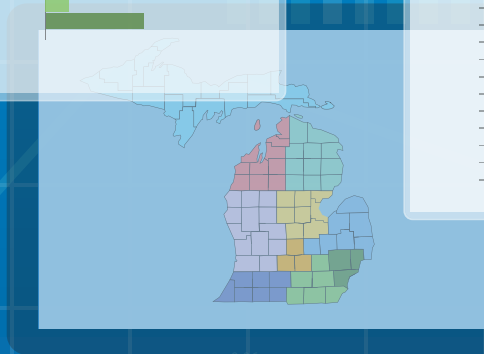


# 2017 Economic Competitiveness Benchmarking Report

Data to Support a Stronger Michigan



31<sup>st</sup> 5.4%  
▲ 4.4%



# Michigan's Economic Competitiveness at a Glance

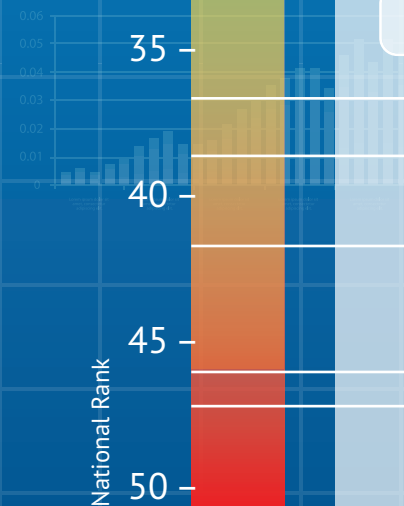
To become a "Top Ten" state for jobs, personal income and a healthy economy, Michigan must be more economically competitive with other states and nations. This will happen when we ensure our costs are lower and our value is as good or better than today's "Top Ten" states.

The chart at right highlights Michigan's progress as measured by key economic indicators. The scale shows a 50-state ranking from best (1) to worst (50), to indicate where Michigan is performing well and where we need to improve.

Michigan can be more competitive by investing to ensure the talent, infrastructure and resources employers value most are available here.

Current "Top Ten" states for jobs, income, GDP and population:

- California
- Massachusetts
- Minnesota
- Nebraska
- New York
- North Dakota
- Pennsylvania
- South Dakota
- Texas
- Washington



## Michigan's Economic Performance

Population

10<sup>th</sup> ▲

Unemployment Rate

30<sup>th</sup> ▲

Per Capita Personal Income

31<sup>st</sup> ▲

Per Capita GDP

33<sup>rd</sup> ▲

## Cost of Doing Business in Michigan

Corporate Tax Climate 8<sup>th</sup> ▼

Overall Business Tax Climate 12<sup>th</sup> ▲

State & Local Gov't Spending 17<sup>th</sup> ▲

Business Climate Rankings 25<sup>th</sup> ▲

Unfunded Pension Liabilities 28<sup>th</sup> ▼

Unfunded OPEB Liabilities 37<sup>th</sup> ▲

## Value of Doing Business in Michigan

University R&D Expenditures 5<sup>th</sup> ▼

Exports 6<sup>th</sup> ▼

U.S. Patents 10<sup>th</sup> ▲

College & Career Readiness 29<sup>th</sup> ▲

Educational Attainment 30<sup>th</sup> ▲

Urban Road Conditions 38<sup>th</sup> ▼

CTE Enrollment 42<sup>nd</sup> ▼

4th Grade Reading Proficiency 46<sup>th</sup> ▼

Out-of-State Enrollment 47<sup>th</sup> ▲

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## **About Business Leaders for Michigan**

Business Leaders for Michigan, the state's business roundtable, is dedicated to making Michigan a "Top Ten" state for jobs, personal income and a healthy economy. The organization is composed exclusively of the chairpersons, chief executive officers, or most senior executives of Michigan's largest companies and universities. Our members drive nearly one-third of the state's economy, provide 390,000 direct jobs in Michigan, generate over \$1 trillion in annual revenue and serve nearly half of all Michigan public university students. Find out more at [www.businessleadersformichigan.com](http://www.businessleadersformichigan.com)





# Introduction

Business Leaders for Michigan is pleased to provide you with this year's fact-based assessment of Michigan's economic competitiveness relative to other states. We compare Michigan's performance on key output (e.g., employment, personal income) and input (e.g., taxes, education) metrics annually to that of "traditional," "new economy," and "Top Ten" benchmark states. These metrics provide multiple reference points to evaluate Michigan's performance.

The conclusions included in this report are used by Business Leaders for Michigan and policymakers alike to help develop strategies for making Michigan a "Top Ten" state for jobs, personal income, and a healthy economy.

**If Michigan were performing like a "Top Ten" state today, there would be:**

**34,000** more Michigan people working

**\$9,500** more income per person

**\$11,700** more GDP per person

Research for the 2017 Economic Competitiveness Benchmarking Report was conducted by Anderson Economic Group, a research and consulting firm with expertise in economics, public policy, finance, and industry analysis.

# Methodology

## How To Read This Report

In this report, we use a series of common measures to determine the economic strength of states and regions. The measures are divided into two categories: outputs and inputs.

- **Output indicators** like jobs, income, population and GDP show us the impact of policy decisions. They are the end result of ongoing economic development and policy changes.
- **Input indicators** measure the factors businesses look at when deciding where to locate.

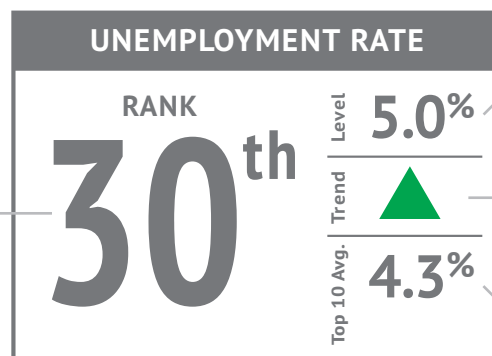
In this report, Michigan's input metrics are divided into two categories: **cost indicators** and **value indicators**. When deciding whether to locate or expand in a region, job providers evaluate the costs (e.g., taxes, fees, utilities) of doing business in a region relative to the value (e.g., talent, infrastructure) it provides. Ultimately, areas that offer more value for equal or lower cost encourage business growth and attraction, which leads to more jobs, higher incomes and a stronger economy.

Factors like the cost of doing business, the incentives available, the pool of talent, and the necessary infrastructure to support company operations are considered. When these indicators are positive, they greatly influence site selection decisions and, ultimately, lead to stronger outputs.

The correlation between inputs and outputs is important to keep in mind when reading this report. Ultimately, the inputs are the factors over which state leaders have the greatest amount of control. This year's benchmarking results can offer continuing direction as we collectively evaluate the next crucial decisions for our economy.

With all this in mind, readers of this benchmarking report can see at a glance what progress has been made, where Michigan ranks relative to the rest of the U.S., and which direction we're moving. The key below shows you how.

Michigan's rank among the 50 states, with #1 being top performance and #50 being worst performance in the category.



Michigan's level of performance for the most recent year

One-year trend



Average performance of the "Top Ten" states

## Methodology, continued

Michigan's performance on economic output and input metrics is compared to selected traditional and new economy peers and the "Top Ten" states.

**Peer States** were selected based on traditional and new economy benchmarks.

### Traditional Benchmarks

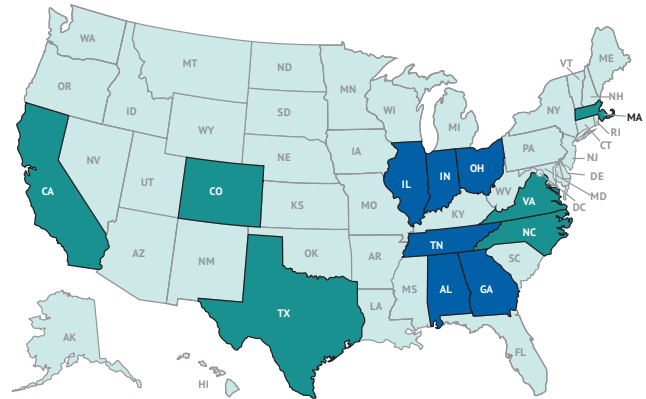
- Alabama
- Georgia
- Illinois
- Indiana
- Ohio
- Tennessee

### New Economy Benchmarks

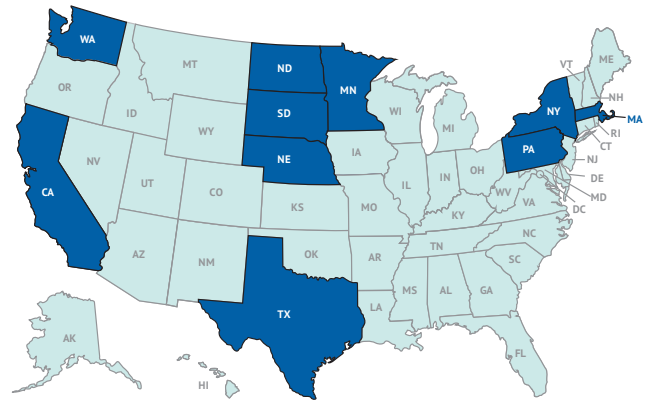
- California
- Colorado
- Massachusetts
- North Carolina
- Texas
- Virginia

**"Top Ten" States** were selected based on their average rankings on key job, economic, personal income, and population indicators (2007–2016). See chart below.

- California
- Massachusetts
- Minnesota
- Nebraska
- New York
- North Dakota
- Pennsylvania
- South Dakota
- Texas
- Washington



**Peer States**  
■ Traditional Benchmarks  
■ New Economy Benchmarks



**"Top Ten" States** ■

## "Top Ten" States for Job and Economic Growth (2007-2016)

Over the last ten years, these states averaged the highest ranking across four basic indicators of jobs, income, GDP, and population. In the report, "Top Ten" refers to this group of states and Michigan's performance relative to their average performance. The table below looks at a weighted average rank for both level and ten-year growth for these four categories.

OVERALL RANK	STATE	EMPLOYMENT LEVEL RANK	EMPLOYMENT GROWTH RANK	PER CAPITA INCOME LEVEL RANK	PER CAPITA INCOME GROWTH RANK	PER CAPITA GDP LEVEL RANK	PER CAPITA GDP GROWTH RANK	POPULATION LEVEL RANK	POPULATION GROWTH RANK
1	North Dakota	1	1	10	11	1	1	47	5
2	Massachusetts	2	3	2	3	2	8	15	27
3	New York	15	2	4	5	15	13	4	38
4	Texas	32	6	24	10	32	6	2	2
5	Pennsylvania	14	7	17	16	14	3	5	41
6	California	31	14	7	8	31	16	1	20
7	Nebraska	4	13	20	15	4	5	37	23
8	Washington	30	17	12	12	30	11	13	8
9	Minnesota	3	24	13	13	3	20	21	24
10	South Dakota	9	15	23	22	9	4	46	16

*Employment is measured per capita to control for state size.*

# Key Findings

## Output

The primary indicators of Michigan's economic output continue to show steady improvement, but gaps in overall levels remain in key areas.

**Michigan's annual unemployment rate is approaching the average of peers and "Top Ten" states.** The improvement in Michigan's annual unemployment rate has been dramatic, dropping nearly nine percentage points since 2009. Private sector employment has exceeded the average growth in "Top Ten" states for three out of the last four years, but Michigan's labor force participation rate, while improved over the last year, remains below the "Top Ten" and peer state averages.

**Per capita personal income in Michigan, while growing, remains well below peers and "Top Ten" states.** Per capita personal income has experienced positive growth every year since 2009, with the exception of a small decline in 2013. Michigan per capita income growth has outpaced the average of "Top Ten" states in each of the last two years, but Michigan's 2016 per capita personal income level was over \$4,000 less than the peer average and over \$9,500 less than "Top Ten" states.

**Despite impressive growth, a significant gap remains between Michigan's per capita GDP levels and those of peer and "Top Ten" states.** Michigan per capita GDP growth has outpaced both the peer and "Top Ten" averages in five of the last seven years, including more than double that of "Top Ten" states from 2014–2015 and nearly 10 times the "Top Ten" growth rate from 2015–2016. In spite of this impressive growth, average per capita GDP of peer states in 2016 was over \$5,000 higher than Michigan's while "Top Ten" per capita GDP was nearly \$12,000 higher.

**Michigan's population has stabilized, but peers and the "Top Ten" are growing faster.** After losing population in 2009, 2010 and 2011, Michigan has had five straight years of either zero or positive growth. During that same period, however, peer and "Top Ten" average population growth has been as much as 10 times higher than Michigan's.

## Input Metrics: Cost and Value

In 2016, Michigan was improving or holding steady in 34 (nearly 70 percent) of the 50 indicators used to measure the cost of locating here and the value provided. However, Michigan's overall ranking remained in the bottom half of states on over half of the measures.

### COST

**Michigan's overall business climate has improved significantly but is still recovering.** Michigan's business climate was considered the worst of all 50 states in 2009. In 2016, Michigan's average ranking among the major business climate indices was 25, marking both tremendous progress and room to improve.

**Michigan's tax climate is among the best in the nation.** Michigan's corporate tax climate continues to be ranked among the 10 best in the nation and the overall business tax climate is ranked 12th.

**Michigan government is generally smaller and costs less, but unfunded OPEB liabilities are larger.** Total state and local government spending in Michigan is six percent lower than the peer average and 20 percent

lower than “Top Ten” states. Michigan also has seven fewer government employees per 1,000 residents than peer states and nine fewer than “Top Ten” states. But Michigan’s unfunded other post-employment benefits (OPEB) liabilities are 15 percent higher than peers and 25 percent higher than the “Top Ten.”

**VALUE**

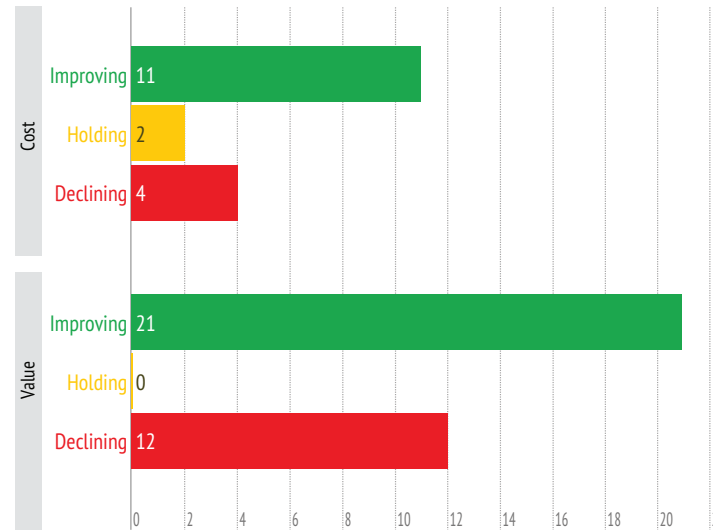
**Michigan’s performance on a number of talent measures is well below peer and “Top Ten” levels.**

In 2016, Michigan ranked in the bottom 10 states for the percentage of 4th graders reading proficiently, the number of students enrolled in career and technical education classes, and the number of out-of-state students enrolled at our colleges and universities. Michigan also ranked in the bottom half of states for the percentage of 8th graders testing proficient in math, the percentage of high schoolers considered career and college ready, the number of critical skills degrees and certificates awarded by our colleges and universities, and the percentage of working age population with an associate’s degree or higher.

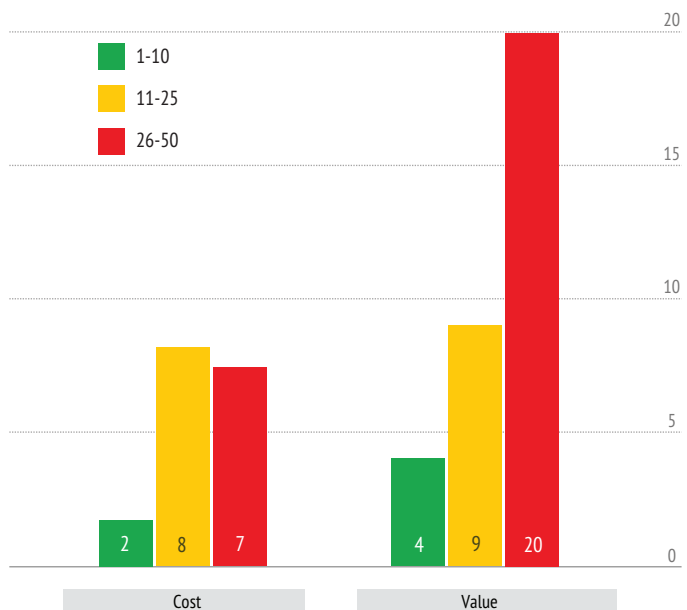
**Several aspects of Michigan’s infrastructure ranked near the bottom of all states.** Michigan ranked 43rd for the cost and 45th for the hours of delay due to traffic congestion. We ranked 37th and 38th, respectively, for the percent of bridges and urban roads in poor condition.

**Innovation continues to be a distinguishing strength.** Michigan ranked in the top ten states for the value of goods exported (6th), research and development investment by universities (5th), and patents awarded per 100,000 residents (10th).

**Trends: Cost and Value Indicators 2015-2016**



**Absolute Rankings: Cost and Value Indicators 2015-2016**



*Key Findings:  
Michigan's Performance –  
2009-2016*

As measured by key outputs, Michigan's economy is experiencing "Top Ten" growth. Michigan has also taken steps to improve several cost inputs, while more work is needed on key value inputs.

		Trend <sup>1</sup>		Top 10 <sup>2</sup>		
		2009	2016	2009	2016	
<i>Jobs, Income &amp; the Economy</i>						
OUTPUT	Unemployment Rate	▼	▲			
	Employment Growth	▼	▲		○	
	Labor Force Participation	▼	▲			
	Labor Force Growth	▼	▲		○	
	Per Capita Personal Income	▼	▲			
	Per Capita Personal Income Growth	▼	▲		○	
	Per Capita GDP	▼	▲			
	Per Capita GDP Growth	▼	▲		○	
	Michigan GDP/U.S. GDP	▼	▲			
	Population	▼	▲	○	○	
Population Growth	▼	▲				
<i>Compete</i>						
INPUT - Cost	Business Climate Rankings	▼	▲			
	<i>Taxes</i>					
	Corporate Tax Climate	▲	▼		○	
	Overall Business Tax Climate	▲	▲		○	
	Days Required to Pay Taxes	▼	▲	○	○	
	<i>Labor</i>					
	Unit Cost of Labor	▲	▲			
	Value Added Per Worker	▼	▲			
	Union Representation	▼	▲			
	<i>Energy</i>					
	Electricity Cost - Commercial	▲	▼	○		
	Electricity Cost - Industrial	▼	▼	○	○	
	Natural Gas Costs	▲	▲			
	Gasoline Costs	▲	▲	○	○	
	<i>Government</i>					
	State Unfunded Pension Liability	▼	▼			
	State Unfunded OPEB Liability	▼	▲			
	Local Debt Service	▼	▲		○	
	Total State & Local Spending	▼	▲	○	○	
	Government Employees Per Capita	▼	▲	○	○	
Local Payroll Spending Per State Resident	▼	▲	○	○		
<i>Invest</i>						
INPUT - Value	<i>Talent</i>					
	4th Grade Reading Proficiency	▼	▼			
	8th Grade Math Proficiency	▲	▼			
	Secondary Career & Tech Ed Enrollment	▲	▼			
	Career & College Readiness	▲	▲			
	Out-of-State Enrollment	▲	▲			
	Degrees Conferred	▲	▲			
	Tech Ed-Critical Skills, Degrees & Certs	▲	▲			
	Educational Attainment	▲	▲			
	Talent Migration (Residents with Bachelor's)	▼	▲			
	Median Age	▼	▼			
	<i>Infrastructure</i>					
	% of Urban Roads in Poor Condition	▲	▼			
	% of Bridges in Poor Condition	▲	▲			
	Traffic Congestion - Hours of Delay	▲	▼			
	Traffic Congestion - Cost	▲	▲			
	Drinking Water System Conditions	▼	▲	○	○	
	Energy Grid Reliability	▲	▲			
	Broadband Speed	▲	▲	○	○	
	Broadband Penetration	▲	▲			
	<i>Innovation</i>					
	Exports	▼	▼	○	○	
	University R&D Expenditures	▲	▼	○	○	
	U.S. Patents per 100,000 Residents	▲	▲		○	
	Venture Capital Investment	▼	▼			
	Entrepreneurial Activity	▲	▲			
	Net New Establishments	▼	▲			
	New Construction Permits	▼	▲			
	<i>Grow</i>					
	Economic Development Expenditures	▼	▲			
<i>Key Assets</i>						
Share of National Employment	▲	▼				
Average Earnings	▲	▲	○			
Real GDP Per Capita	▲	▲				
<i>Place</i>						
% of Population Age 25-34	▼	▲				
Commute Time	▼	▼		○		
Violent Crime Rate	▲	▲				
Cost of Living	▼	▼				

<sup>1</sup> Based on available data, the trends for some metrics reflect years other than 2009 and 2016. Please see report for more detail.  
<sup>2</sup> Top Ten denotes where Michigan's level in a given metric is equal to or better than the average level for the "Top Ten" states.



## Output Metrics

Statewide output metrics demonstrate the results of our shared efforts to keep Michigan competitive. They help show the impact of key policies, investments, and leadership at all levels.

As has been the case for many of the last six years, jobs, personal income and the economy in Michigan grew faster in 2016 than in most other states. However, absolute levels of key economic measures such as per capita personal income and per capita GDP are still average or below.

Michigan can't afford to slow any of its efforts to boost prosperity. In fact, it's essential that we operate with even more strategic precision as we compete with other states and nations for new jobs, growth and investments.

**10<sup>th</sup>**  
in  
Per Capita Personal  
Income Growth

**14<sup>th</sup>**  
in  
Employment  
Growth

**7<sup>th</sup>**  
in  
Per Capita  
GDP Growth

**30<sup>th</sup>**  
in  
Unemployment  
Rate

**33<sup>rd</sup>**  
in  
Per Capita  
GDP

**31<sup>st</sup>**  
in  
Per Capita  
Personal Income

# Unemployment Rate



**What it is:**

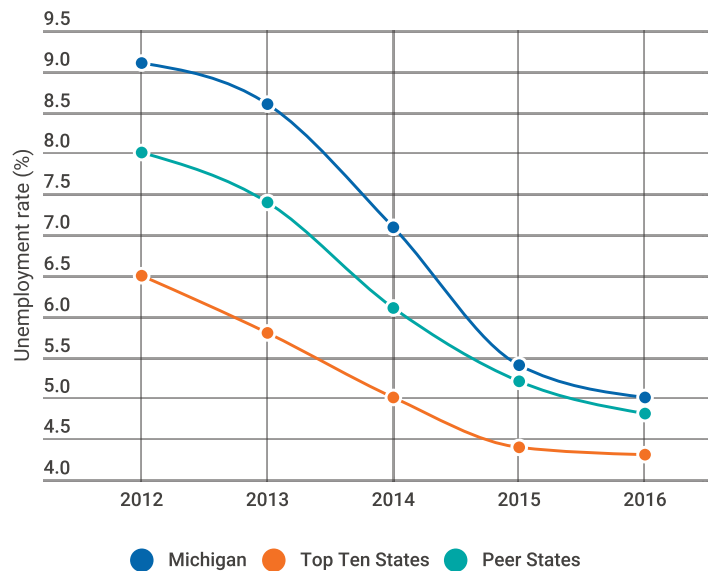
Average share of labor force that is looking for work but does not have a job.

**Why it matters:**

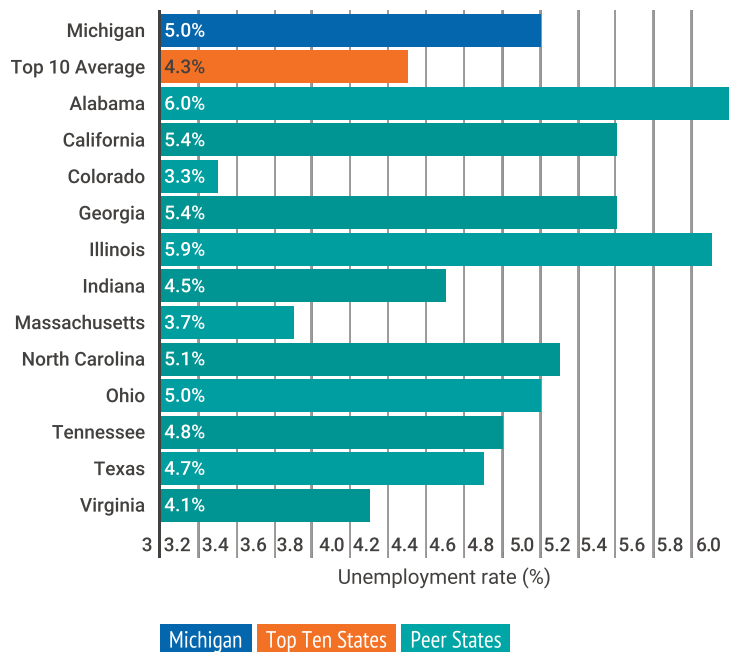
A lower unemployment rate indicates that more residents are able to find employment.

*Michigan's annual unemployment rate has dropped nearly nine points since 2009, from 13.8 percent to 5.0 percent and is now only 0.7 percentage points higher than the "Top Ten" and only 0.2 percentage points higher than peer states.*

**Unemployment Rate Trends**



**Unemployment Rate Standings**



Bureau of Labor Statistics (Local Area Unemployment Statistics)



# Employment Growth



**What it is:**

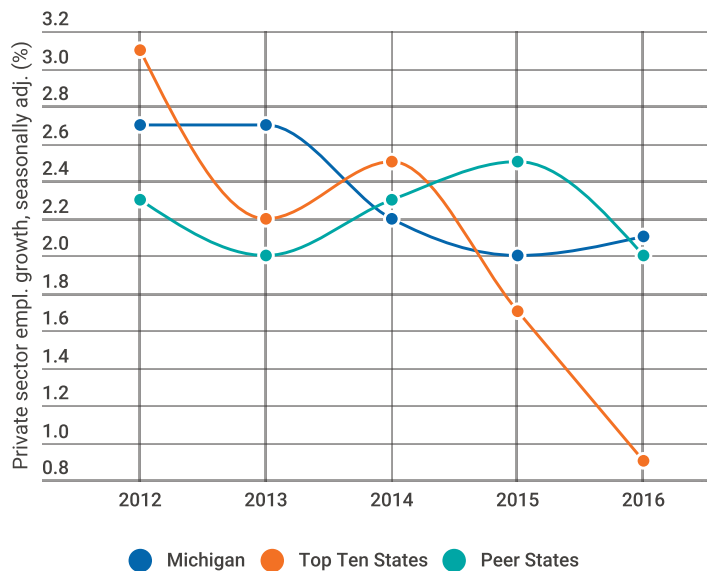
Year-over-year change in the number of residents with a private-sector job.

**Why it matters:**

Higher levels of private employment indicate both economic strength and prosperity among the state's residents.

*Michigan ranked 14th in private sector employment growth from 2015 to 2016, up from the 24th fastest growth rate the prior period. Michigan's private sector employment growth rate was more than double that of the "Top Ten" average, and trailed only Washington and California among peer states.*

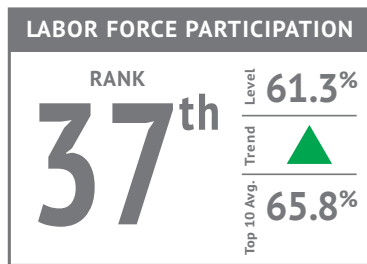
## Employment Growth Trends



## Employment Standings



# Labor Force Participation



## What it is:

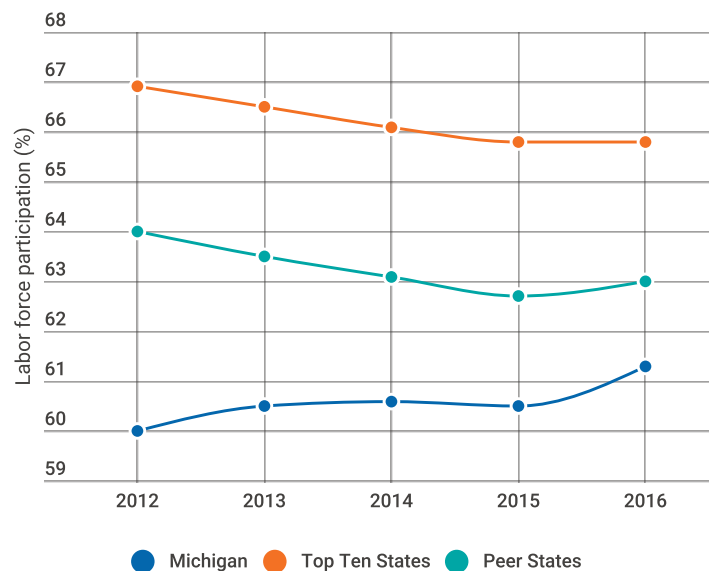
The share of the population age 16 and older, not including residents who are on active duty or institutionalized, that is employed or looking for work.

## Why it matters:

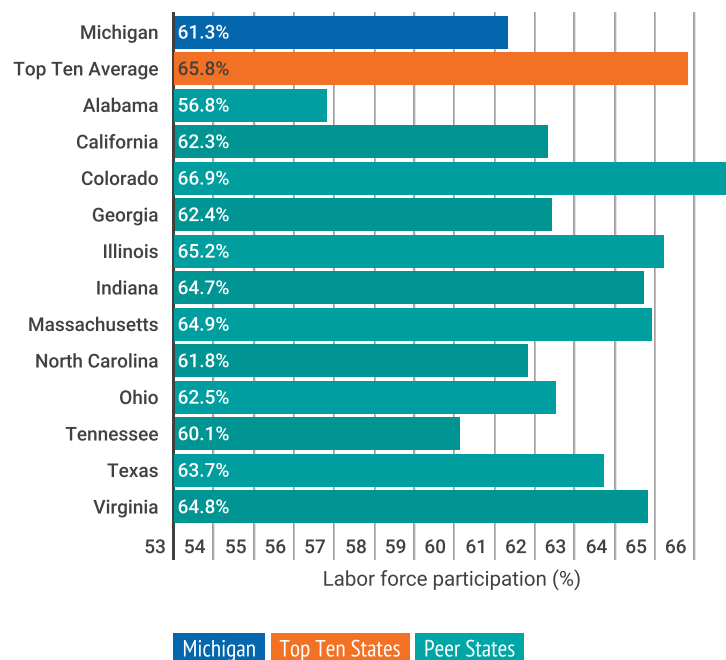
Members of the working-age population can stop looking for work and drop out of the labor force due to many reasons, including disability, old age, or discouragement. Higher labor force participation is a sign of a healthier economy and workforce.

*Labor force participation increased in Michigan from 2015 to 2016, reversing a decline from the previous year. The labor force participation rate in Michigan is 4.5 percentage points less than the “Top Ten” average and 1.7 percentage points less than the peer state average. Michigan’s labor force participation rate in 2016 was lower than that for all peer states except for Alabama and Tennessee.*

### Labor Force Participation Trends



### Labor Force Participation Standings



Bureau of Labor Statistics (Local Area Unemployment Statistics)

# Labor Force Growth



**What it is:**

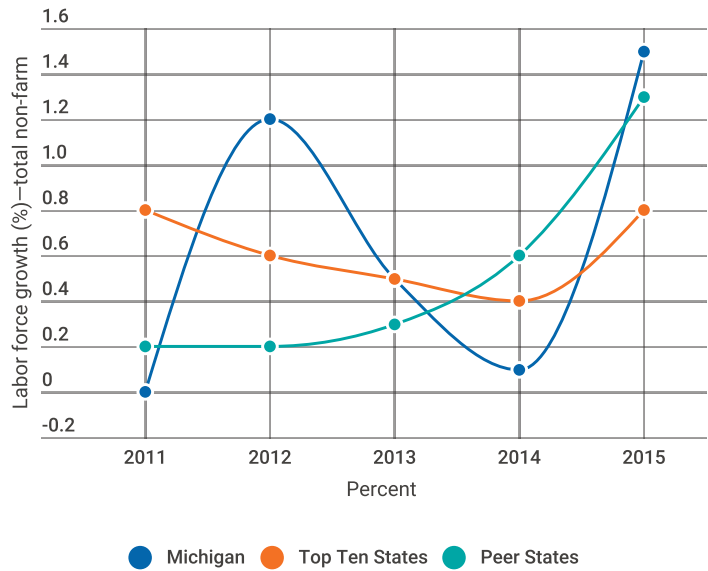
Year-over-year change in the number of residents employed or looking for work.

**Why it matters:**

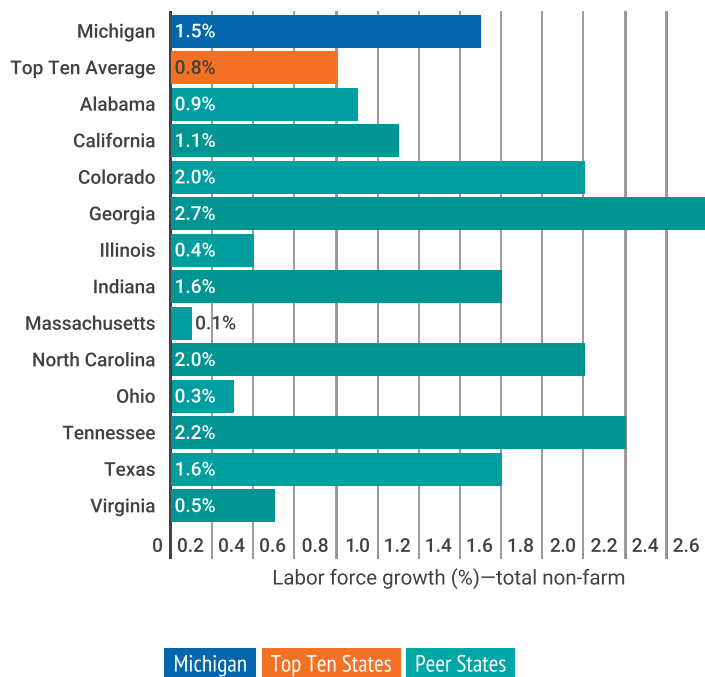
Labor force includes the entire pool of residents that are interested in working, showing less volatility than employment throughout the business cycle. A growing labor force shows a growing pool of workers for businesses.

*The Michigan labor force grew by 1.5 percent from 2015 to 2016 and now stands at 4.8 million participants. This growth rate exceeded the “Top Ten” average of 0.8 percent and peer state average of 1.3 percent.*

## Labor Force Growth Trends

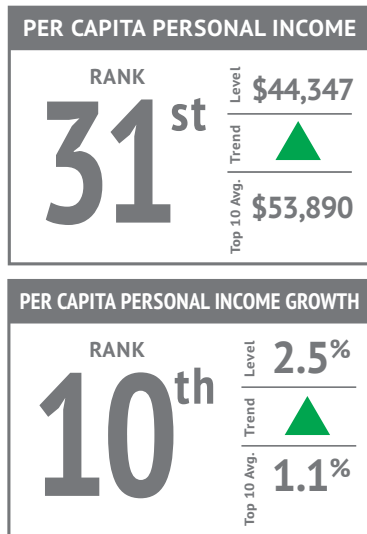


## Labor Force Standings



Bureau of Labor Statistics (Local Area Unemployment Statistics)

# Per Capita Personal Income



**What it is:**

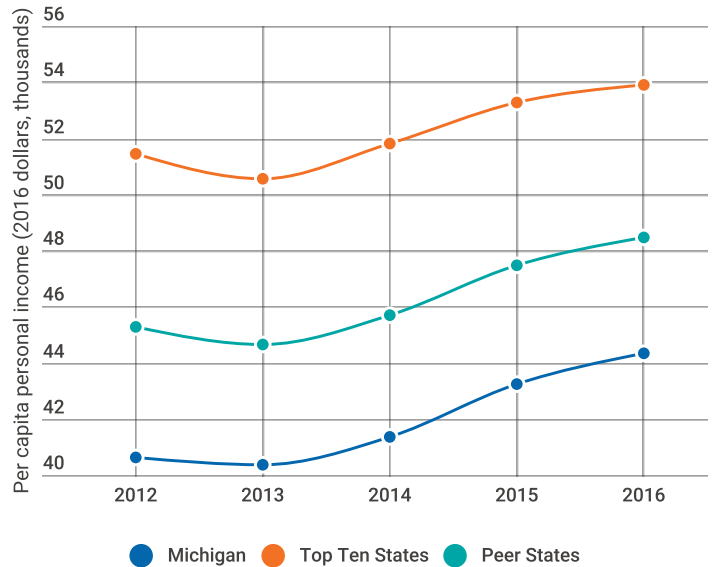
Personal income (2016 dollars) divided by population. Personal income includes salaries, wages, and bonuses from employment; dividends and interest from investments; rental income; pensions, etc.

**Why it matters:**

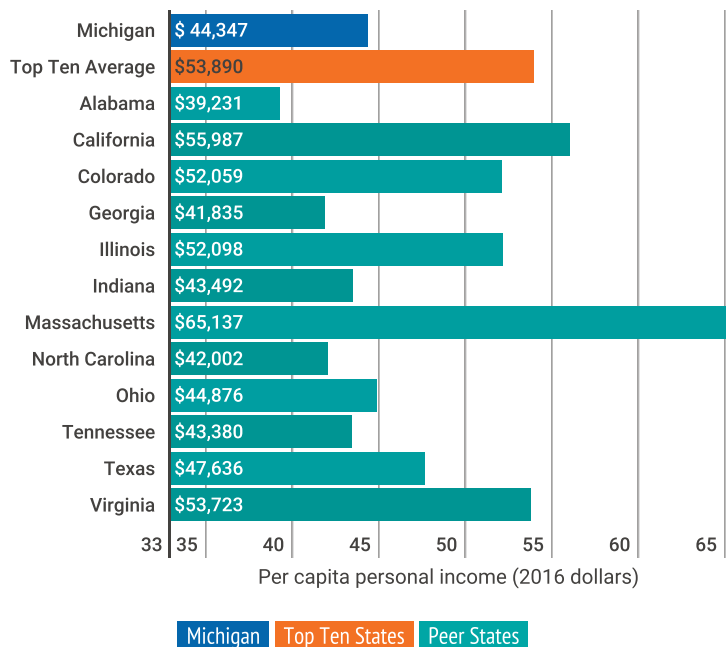
This is an indicator of prosperity and average standard of living in a state.

*Michigan's per capita income growth from 2015 to 2016 was the 10th fastest in the nation – and over twice as fast as the “Top Ten” average. Per capita income growth in Michigan exceeded all of its peers except for California, Georgia, Massachusetts, and Indiana. However, the state's overall per capita income level was below more than half of its peers.*

**Per Capita Personal Income Trends**

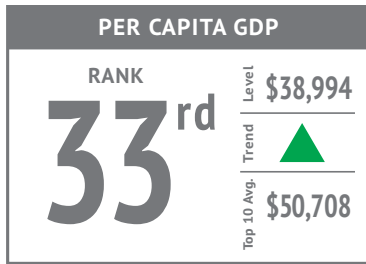


**Per Capita Personal Income Standings**



Bureau of Economic Analysis (Personal Income Table SA5),  
Bureau of Labor Statistics (CPI Inflation Calculator)

# Per Capita GDP



**What it is:**

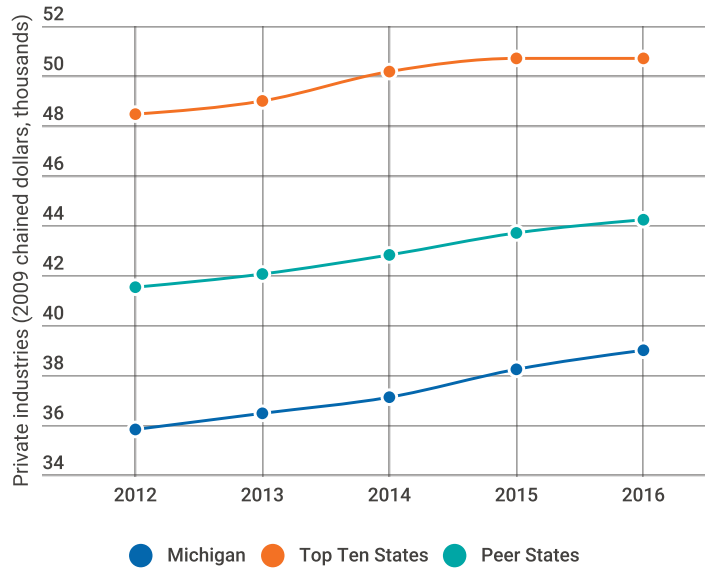
Total amount of goods and services produced by private industries in the state, adjusted for inflation and changes in relative prices, divided by population.

**Why it matters:**

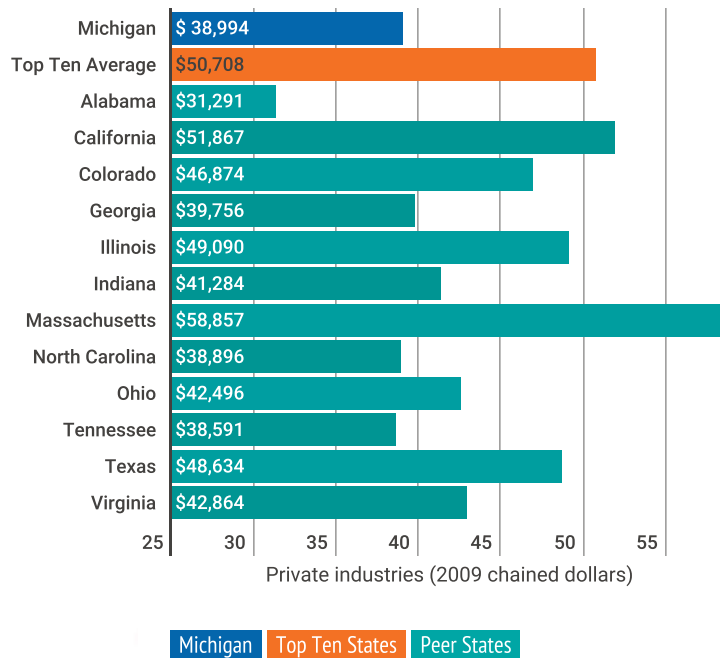
Higher private sector GDP per capita is one of the primary measures of a region's economic strength.

*Michigan's per capita GDP growth between 2015 and 2016 ranked seventh in the nation, higher than the "Top Ten" average and all but three "Top Ten" states. However, Michigan's overall per capita GDP level remained below the "Top Ten" average and all of its peers except for North Carolina, Alabama, and Tennessee.*

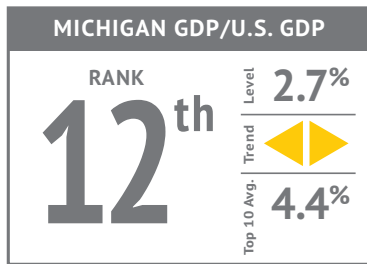
**Per Capita GDP Trends**



**Per Capita GDP Standings**



# Michigan GDP/U.S. GDP



**What it is:**

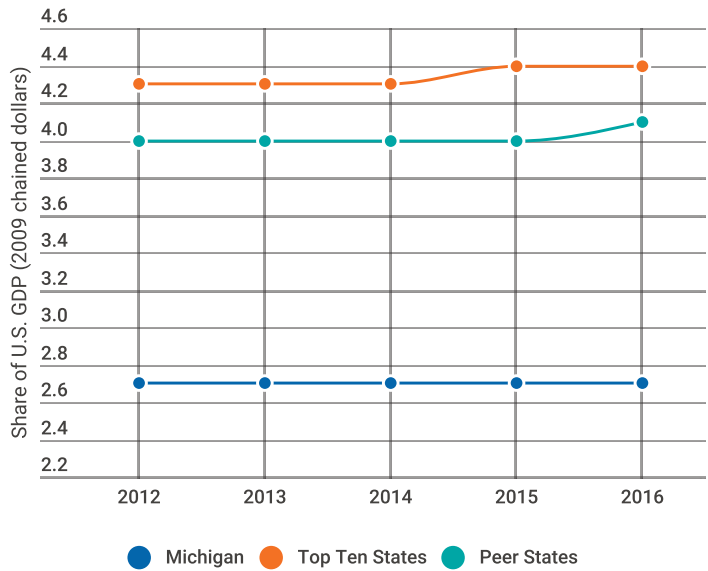
Total amount of goods and services produced in the state, as a share of all goods and services produced in the United States.

**Why it matters:**

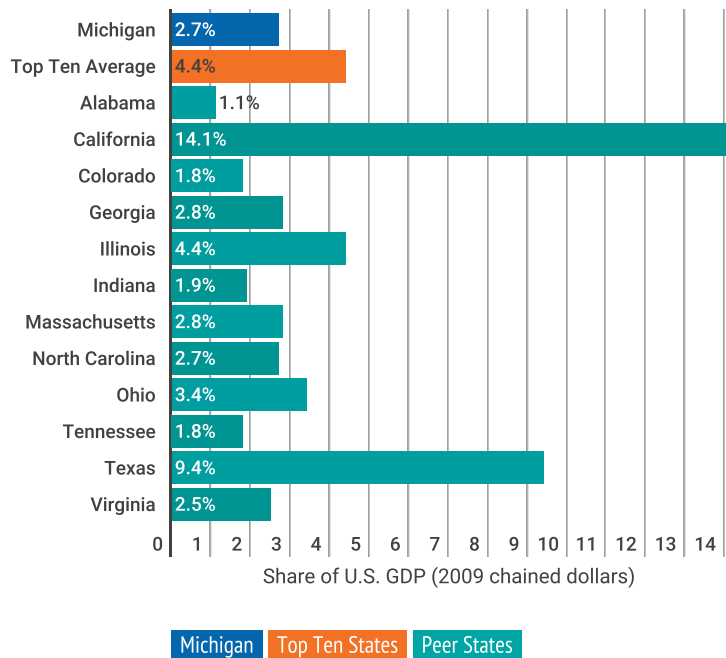
A high share of United States GDP means that much of the country's production is occurring in that state, and can result in higher incomes for state workers.

*Michigan's share of U.S. GDP has remained flat since 2011 at 2.7 percent, falling from 2.9 percent in 2007.*

**Michigan GDP/U.S. GDP Trends**

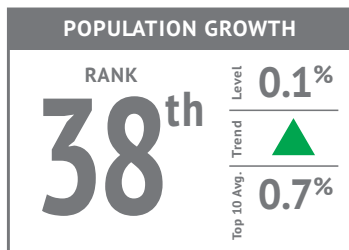
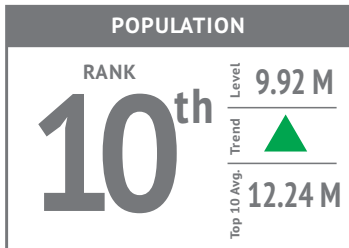


**Michigan GDP/U.S. GDP Standings**



Bureau of Economic Analysis (Real GDP in 2009 Chained Dollars)

# Population



**What it is:**

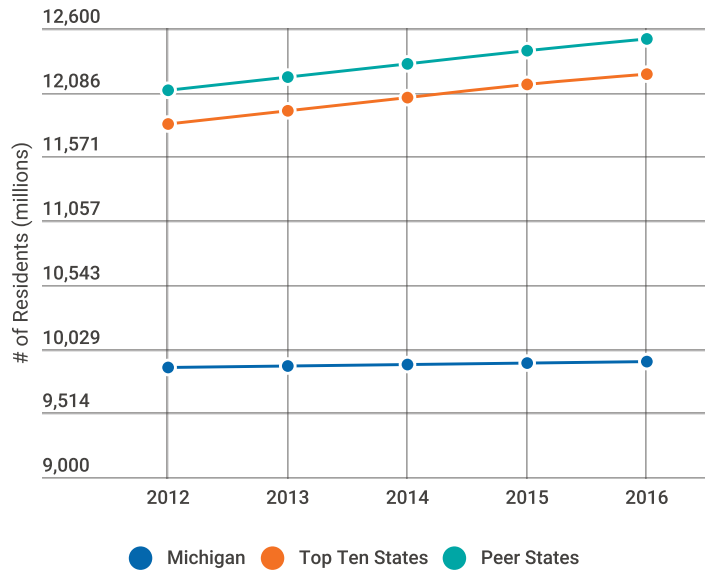
Total number of residents.

**Why it matters:**

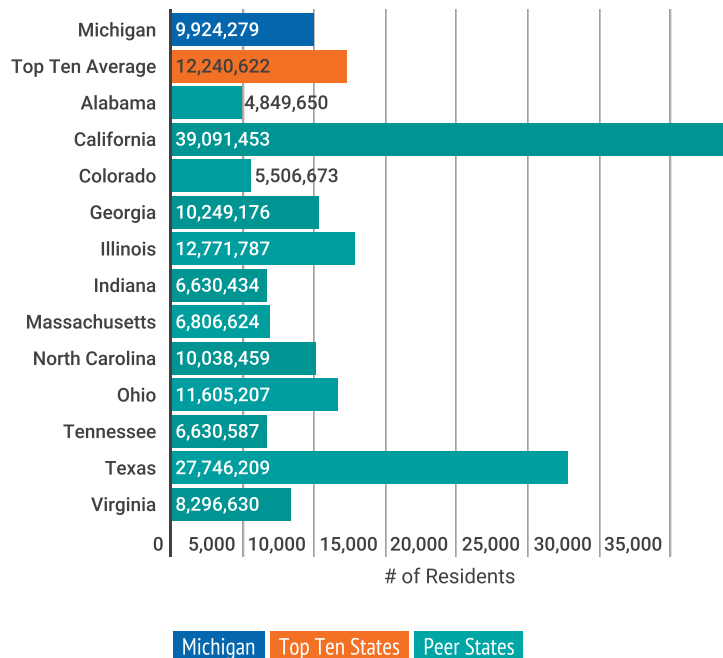
Growth in population is an indicator for how well a state attracts and retains residents. It also affects a state's ability to support shared responsibilities such as maintaining infrastructure and providing education.

*Michigan's population increased slightly from 2015 to 2016, but population growth was slower than all of its peers except for Illinois and Ohio. Michigan remained the 10th most populated state in 2016, but its population level is about two million lower than the "Top Ten" average.*

## Population Trends



## Population Standings



U.S. Census Bureau (Population Estimates)







## Output Conclusions

Michigan needs to act decisively and invest strategically to ensure continued economic results.

The state's recent impressive growth shows that we are on the right track, but absolute performance is not yet on par with the nation's "Top Ten" states, particularly where incomes and GDP levels are concerned.

### *Why is it important to be "Top Ten?"*

"Top Ten" states benefit from more jobs, higher incomes, and healthier economies. If Michigan were performing like a "Top Ten" state today, there would be:

**34,000** more Michigan people working

**\$9,500** more income per person

**\$11,700** more GDP per person

## Input Metrics

Employers generally use common indicators when deciding where to create new jobs:

- **Cost indicators** like taxes, fees, and energy prices allow site selectors to determine the cost associated with locating in a particular region.
- **Value indicators** such as talent and infrastructure help site selectors know the value a region can offer for the business costs to be paid.

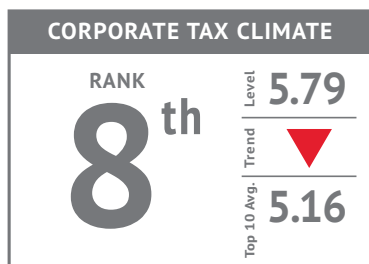
Locations that offer more value for equal or lower costs are more attractive to businesses.

States that are not competitive on costs are not seriously considered by site selectors. When cost indicators are favorable, however, it is value indicators that are capable of helping keep a location competitive. When comparing two or more regions with similar cost structures, the region with better infrastructure, talent and innovation capabilities will often win.

Ultimately, business site selection decisions have a major impact on job creation, income levels, and economic productivity. That is why Michigan must continuously evaluate cost/value input indicators to ensure the best possible balance for business attraction, retention and expansion.



# Corporate Tax Climate



**What it is:**

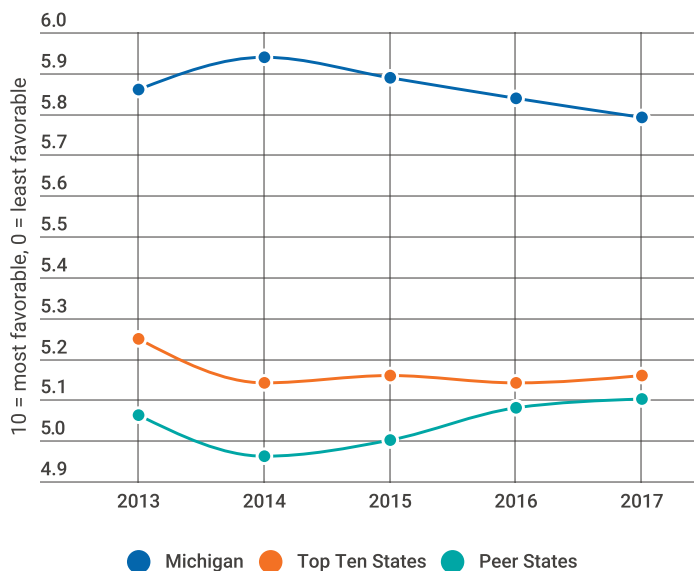
Index that compares corporate tax burdens based on corporate income tax and gross receipts tax (10 = most favorable, 0 = least favorable).

**Why it matters:**

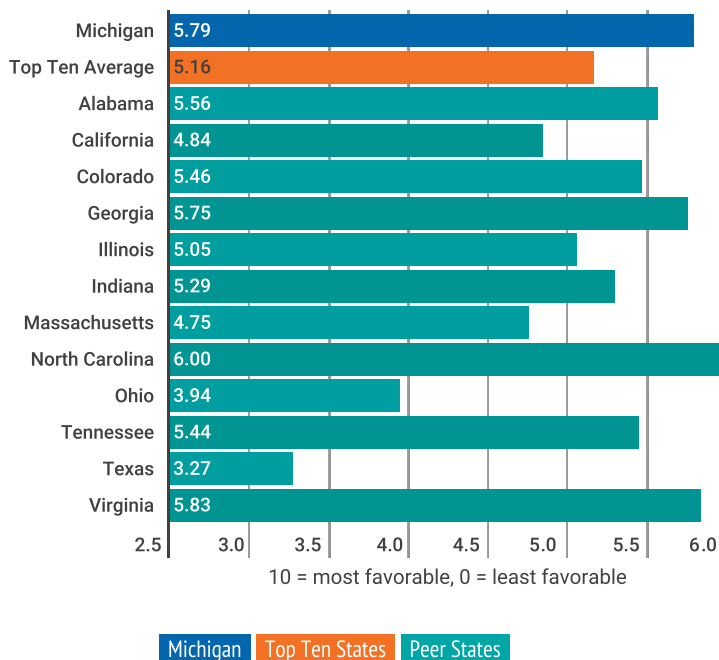
A lower corporate tax burden can improve a state's attractiveness to both new and existing businesses.

*In 2017, Michigan's corporate tax climate was more business-friendly than all of the "Top Ten" states except South Dakota and New York. Michigan was ranked the third most favorable among its peer states, behind North Carolina and Virginia.*

Corporate Tax Climate Trends



Corporate Tax Climate Standings



input  
cost

# Overall Business Tax Climate



**What it is:**

Rankings are based on the overall tax index and component tax indices (corporate tax, individual income tax, sales tax, unemployment insurance tax, and property tax) (10=most favorable, 0= least favorable).

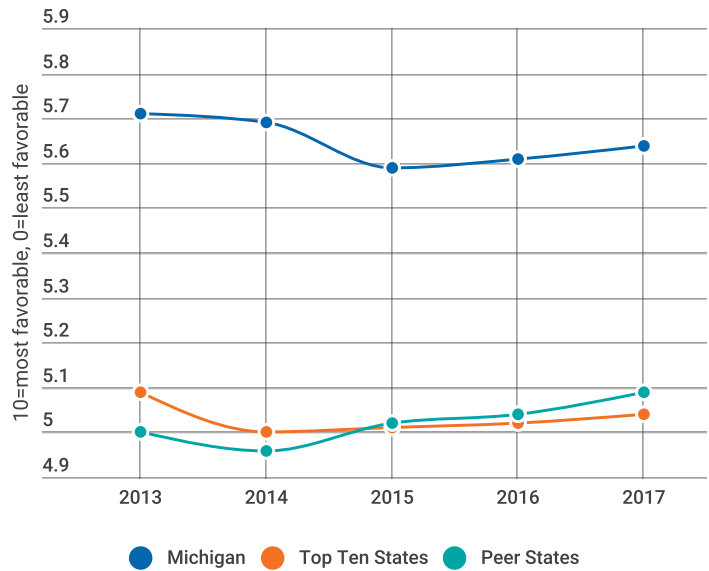
**Why it matters:**

These measures indicate how attractive a state might be to both businesses and individuals in terms of common tax burdens.

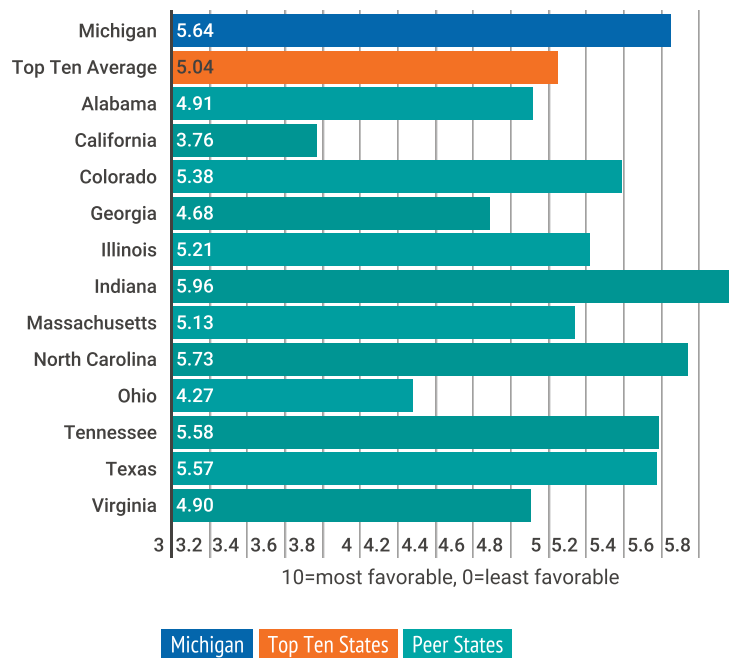
*Michigan had the 12th best overall business tax climate in 2017. The state ranks better than average compared to "Top Ten" and peer states.*

Note: Data for corporate and overall business tax climate rankings use different indices.

## Overall Business Tax Climate Trends



## Overall Business Tax Climate Standings



The Tax Foundation (State Business Tax Climate Index)



# Days Required to Pay Taxes



**What it is:**

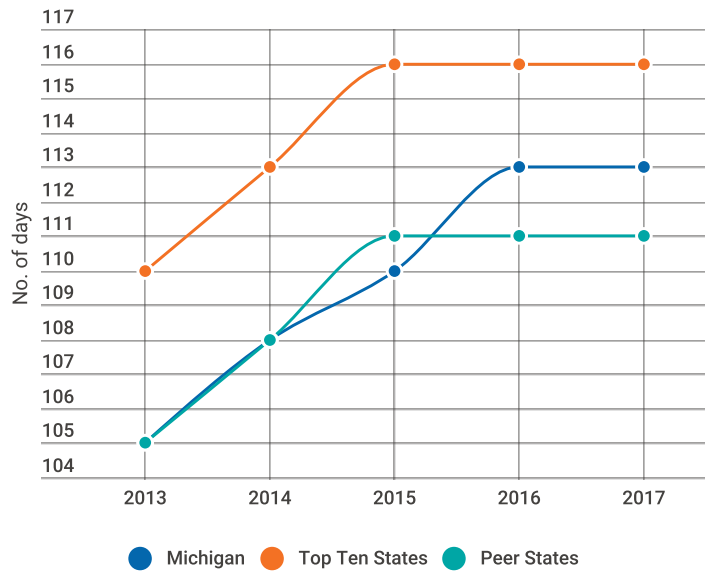
The number of days a year that represent the portion of the year's earnings that are paid in federal, state, and local taxes.

**Why it matters:**

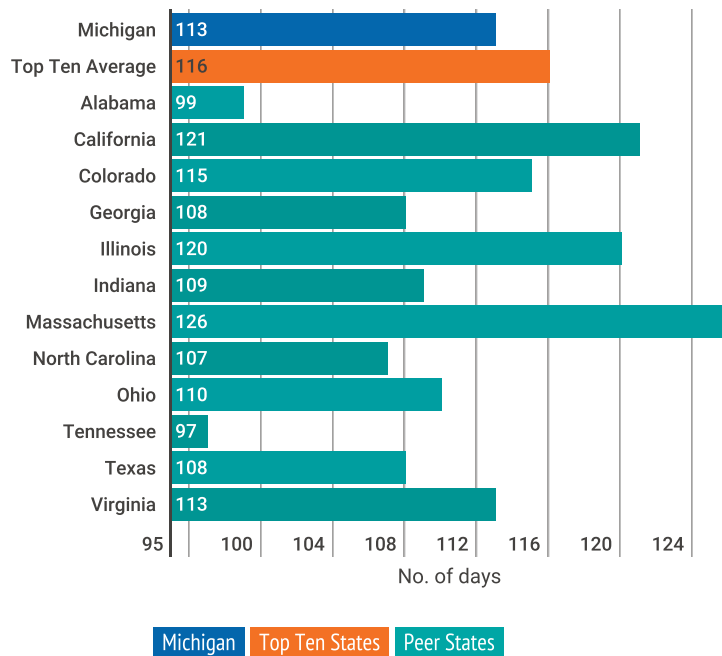
Lower tax burdens mean more take-home income for state residents.

*Michigan's days to pay taxes is commensurate with the "Top Ten" and peer state averages.*

**Days Required to Pay Taxes Trends**

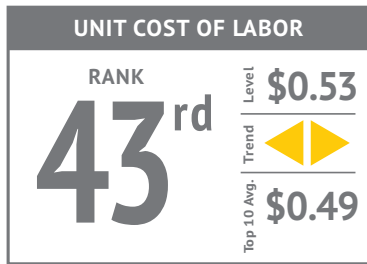


**Days Required to Pay Taxes Standings**



input  
cost

# Unit Cost of Labor



**What it is:**

Private industry compensation divided by private sector GDP.

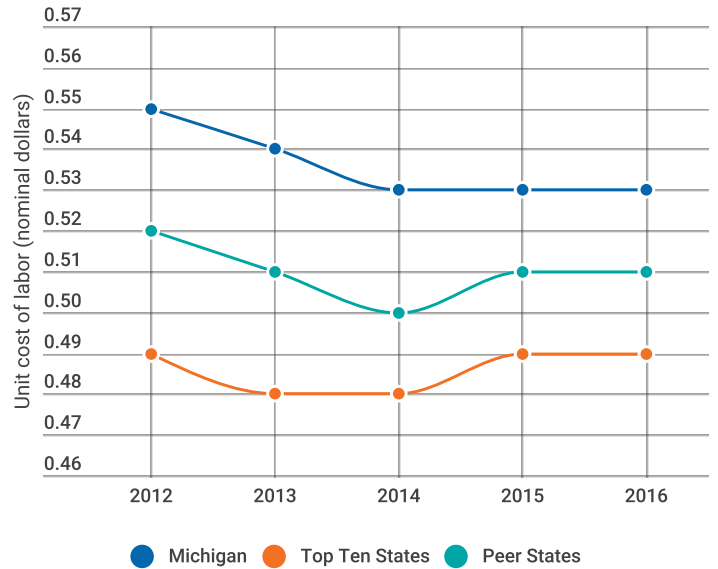
**Why it matters:**

The share of output that is paid to workers indicates the “value proposition” for employers of Michigan workers. Lower unit labor costs make a state a more attractive environment in which to operate.

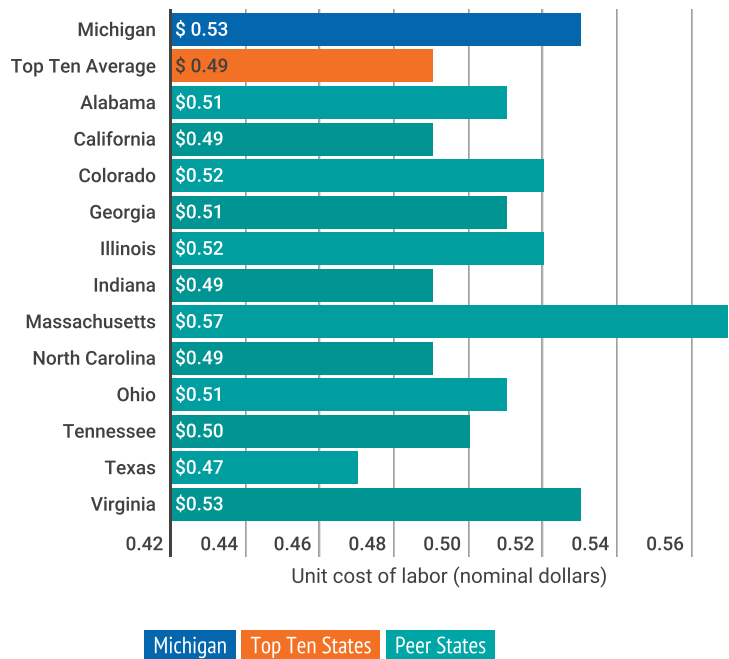
*Michigan’s unit cost of labor has remained constant over the past three years and was approximately 10 percent higher than the “Top Ten” average in 2016. The unit cost of labor in Michigan was equal to or higher than all of its peer states except Massachusetts.*

*Note: GDP is nominal for all private industries.*

## Unit Cost of Labor Trends

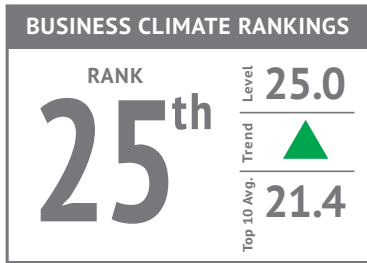


## Unit Cost of Labor Standings



Bureau of Economic Analysis (Real GDP by State, Compensation of Nonfarm Private Employees Table SA6N—Private Industries)

# Business Climate Rankings



**What it is:**

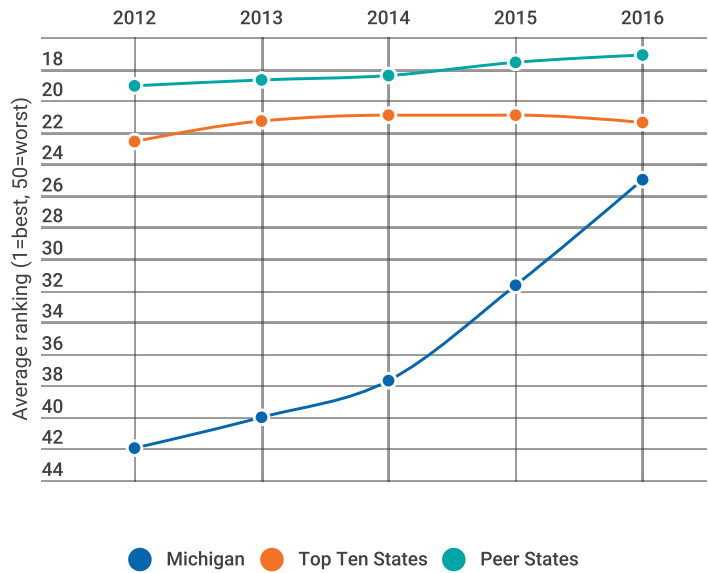
Average of three major business climate indices that account for several factors such as business costs, business leaders' perceptions, regulatory climate, quality of life, etc. (1 = best, 50 = worst).

**Why it matters:**

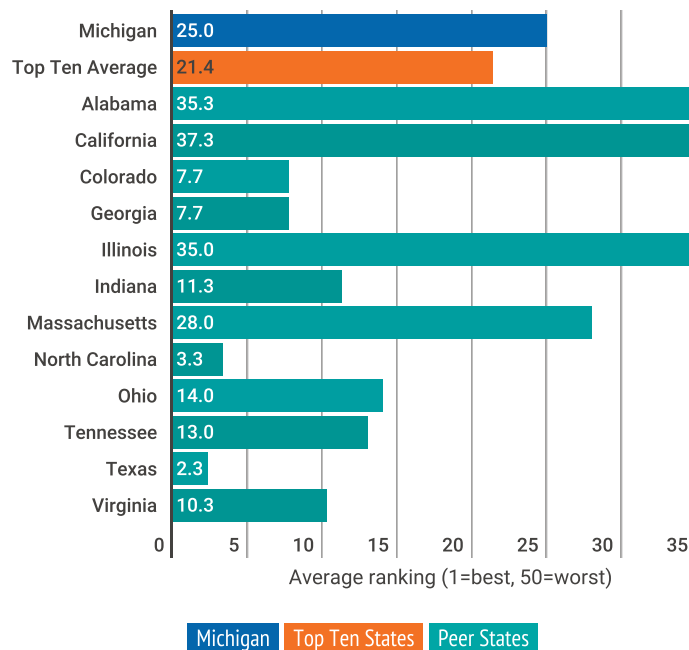
This measure is an indicator of how attractive a state might be for businesses.

*Michigan's average ranking across three major business climate indices improved by eight spots from 2015 to 2016, putting the state at 25th out of 50. Since 2009, Michigan's aggregate ranking has improved 25 spots; however, Michigan's average rank still lags behind the "Top Ten" average and the peer state average.*

**Business Climate Rankings Trends**



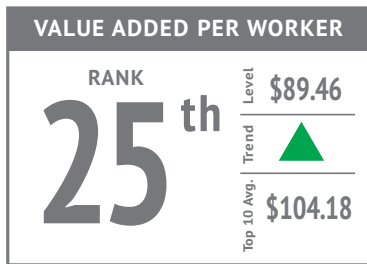
**Business Climate Rankings Standings**



input  
cost

CEO Magazine (Best and Worst States for Business),  
CNBC (Top States for Business), Forbes (Best States for Business)

# Value Added Per Worker



**What it is:**

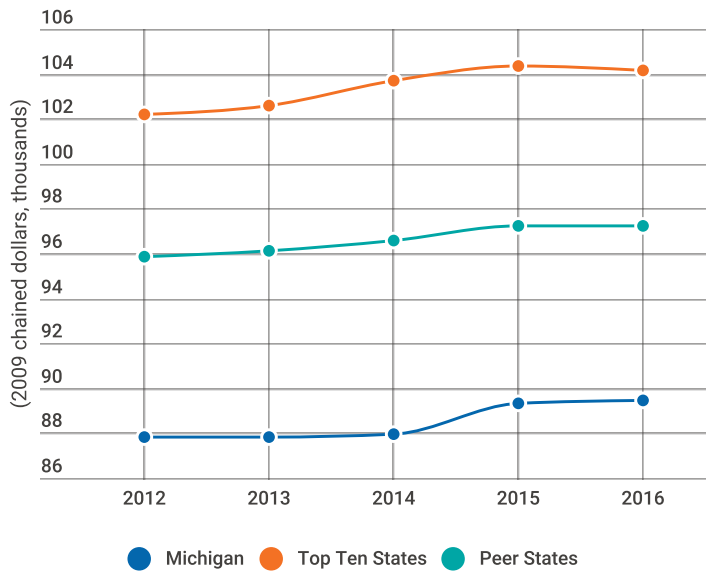
Real private industry GDP divided by average annual non-farm employment.

**Why it matters:**

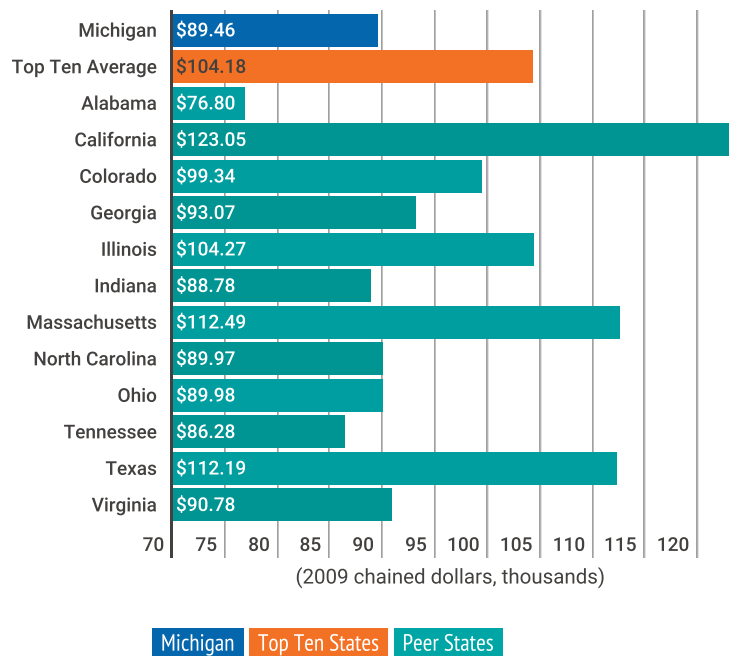
This is a measure of the amount of production per worker, which is an important way to increase income and economic activity.

*Value added per worker in Michigan was 12 percent lower than the “Top Ten” average in 2016, and the state ranked below all but three of its peer states.*

**Value Added Per Worker Trends**



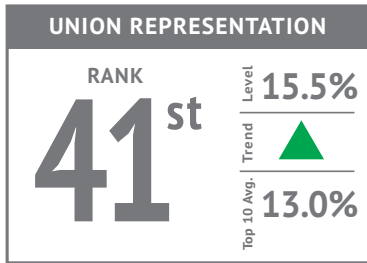
**Value Added Per Worker Standings**



Bureau of Economic Analysis (Real GDP by State)  
 Bureau of Labor Statistics (State and Metro Area Employment, Hours, and Earnings)



# Union Representation



**What it is:**

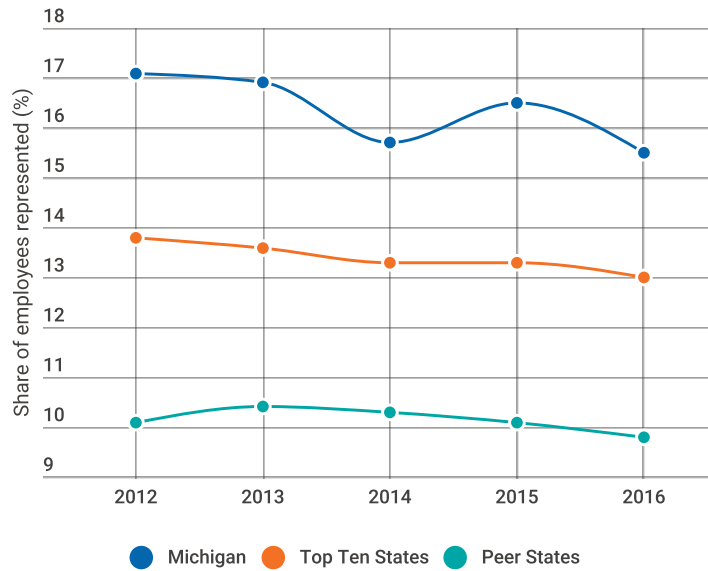
Employees represented by a union (as a percent of those employed).

**Why it matters:**

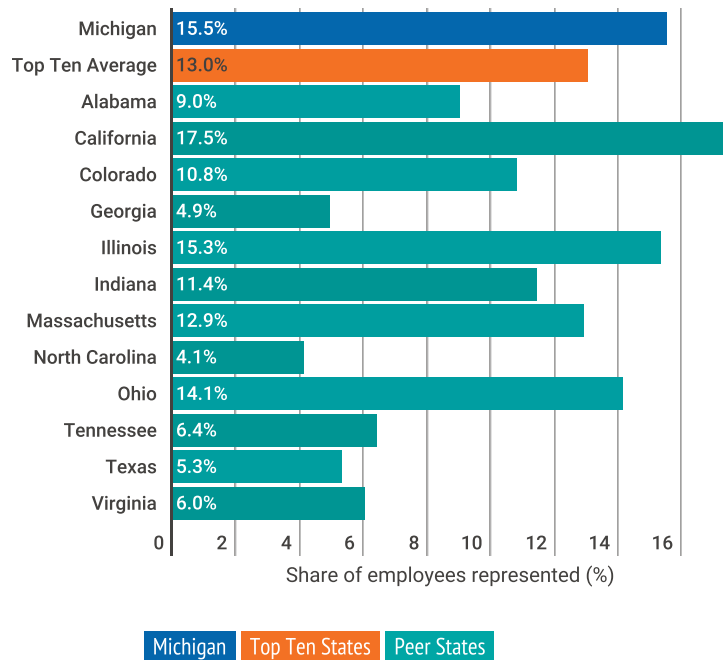
An indicator of labor market bargaining power, labor flexibility, and pro-business sentiments in the state. For some employers, lower union membership makes a state a more attractive place to operate.

*The percentage of workers in Michigan represented by a union has fallen over four percentage points since 2009 and ranked 9th highest in 2016 at 15.5 percent. Michigan's rate was 2.5 percentage points higher than the "Top Ten" average and higher than all peer states except California.*

**Union Representation Trends**

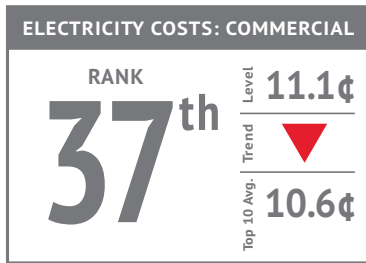


**Union Representation Standings**



input  
cost

# Electricity Costs - Commercial



**What it is:**

Price per kilowatt-hour (kwh) of electricity for commercial users.

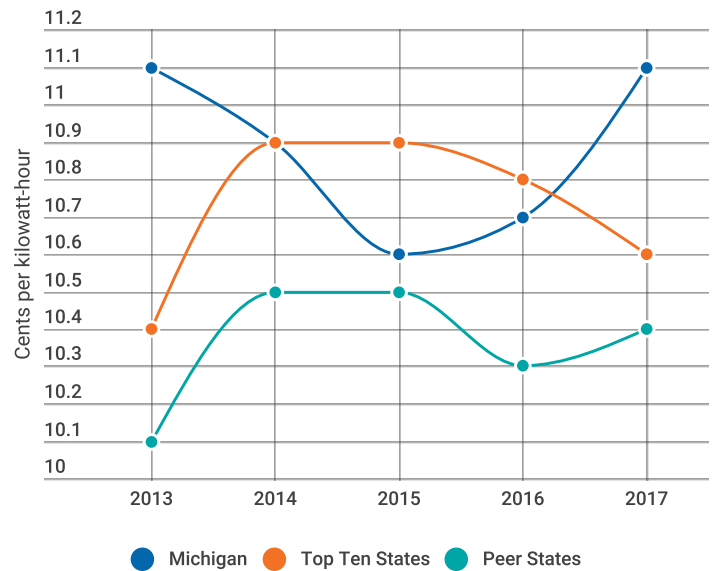
**Why it matters:**

Maintaining competitive energy costs contributes to a state's attractiveness to businesses.

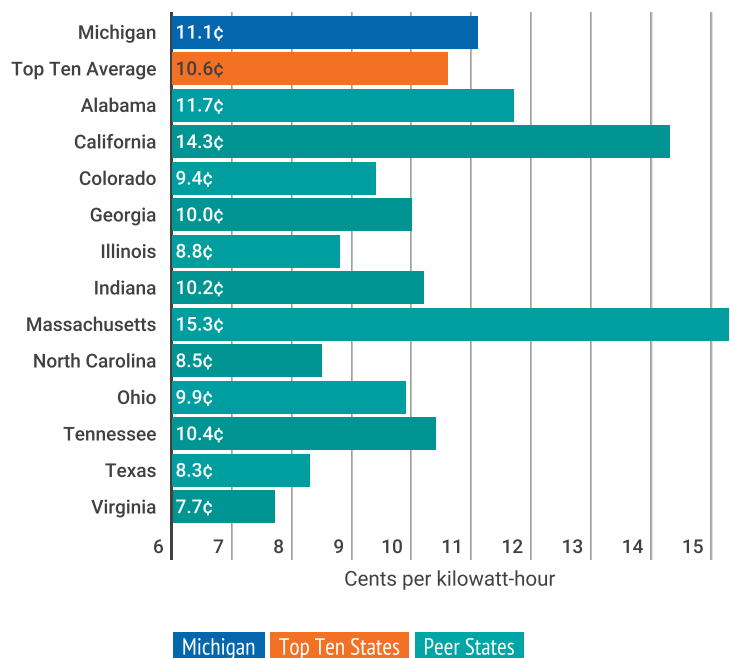
*In 2017, Michigan's electricity costs for commercial customers were higher than the "Top Ten" average and higher than those in all peer states except Alabama, California, and Massachusetts.*

Note: 2017 figures are calculated using data through March 2017.

**Electricity Costs - Commercial Trends**

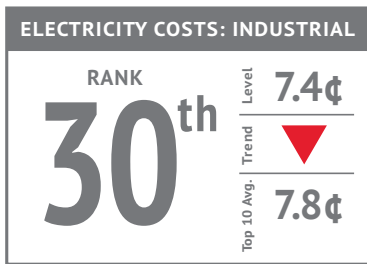


**Electricity Costs - Commercial Standings**



Energy Information Administration (Electricity Data Interactive)

# Electricity Costs - Industrial



**What it is:**

Price per kilowatt-hour (kwh) of electricity for industrial users.

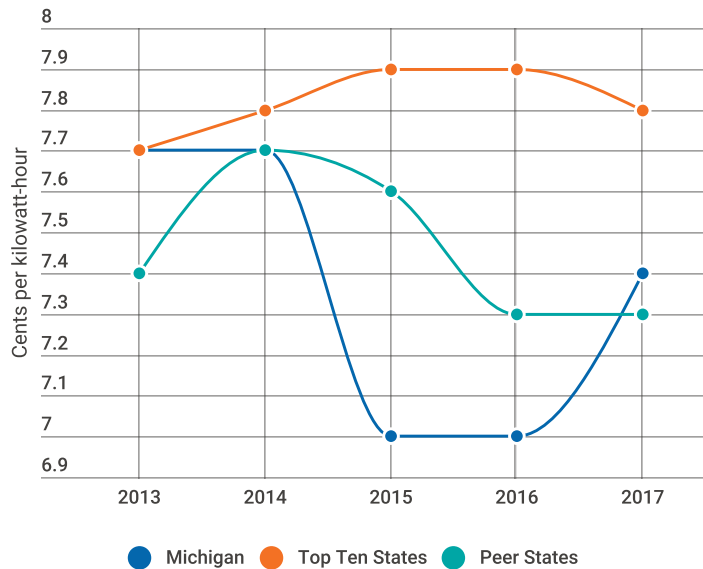
**Why it matters:**

Maintaining competitive energy costs contributes to a state's attractiveness to businesses.

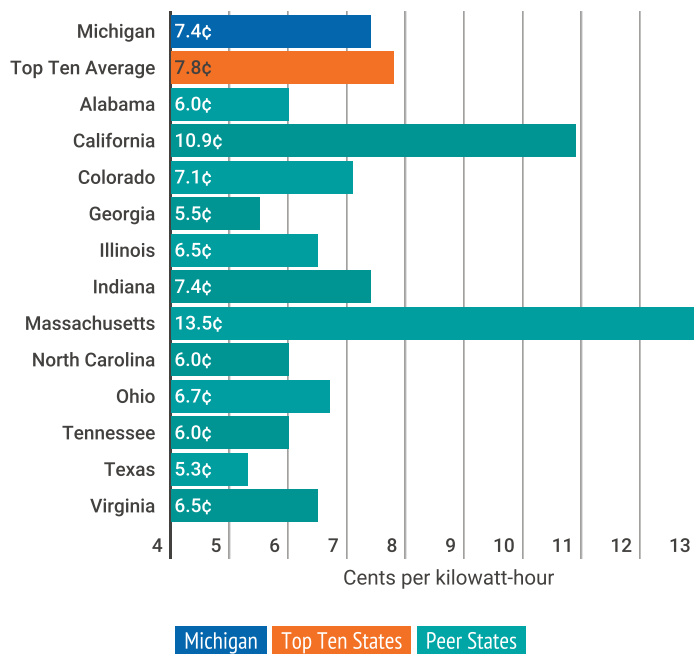
*In 2017, Michigan's electricity costs for industrial users were 0.4 cents lower than the "Top Ten" average and on par with the average of peer states.*

Note: 2017 figures are calculated using data through March 2017.

**Electricity Costs - Industrial Trends**



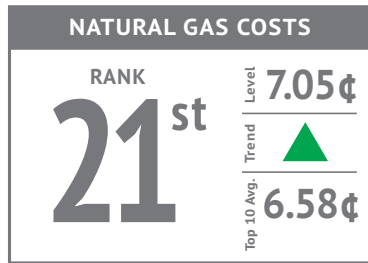
**Electricity Costs - Industrial Standings**



input cost

Business Leaders for Michigan | 2017 Economic Competitiveness Benchmarking Report

# Natural Gas Costs



**What it is:**

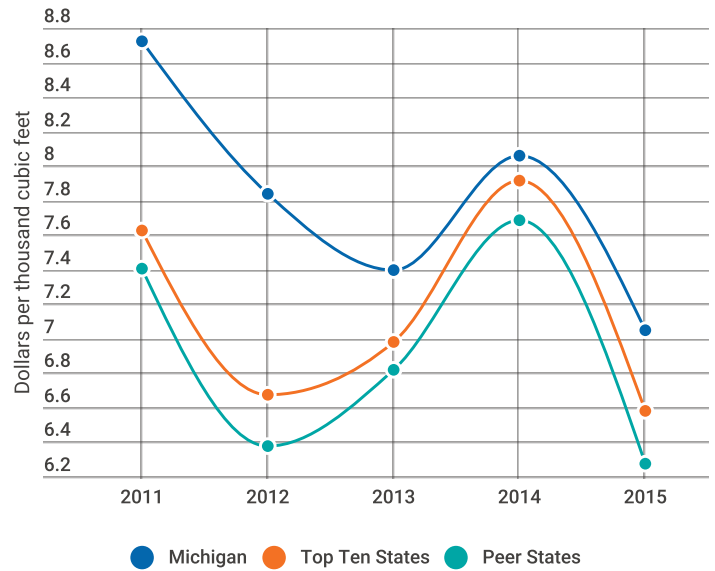
A weighted average of the price per thousand cubic feet of natural gas for industrial and commercial users, weighted by the proportion of consumption from each sector.

**Why it matters:**

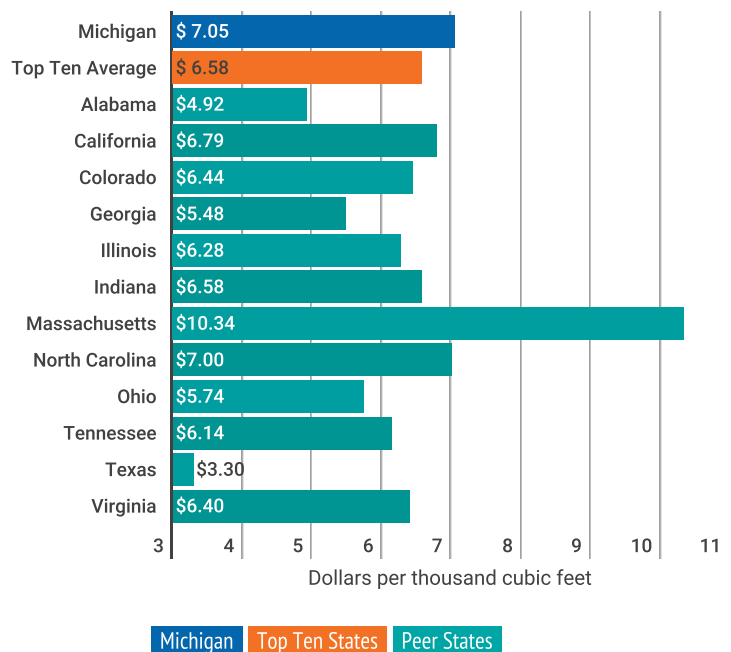
Maintaining competitive energy costs contributes to a state's attractiveness to businesses.

*Michigan's natural gas prices have generally been falling over the last several years but remain higher than the "Top Ten" average and the average of peer states.*

**Natural Gas Costs Trends**

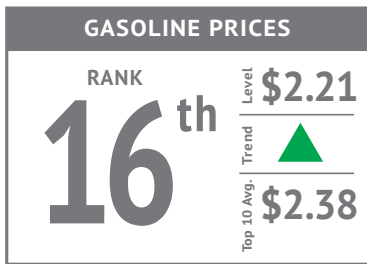


**Natural Gas Costs Standings**



Energy Information Administration (Natural Gas Data Interactive)

# Gasoline Costs



**What it is:**

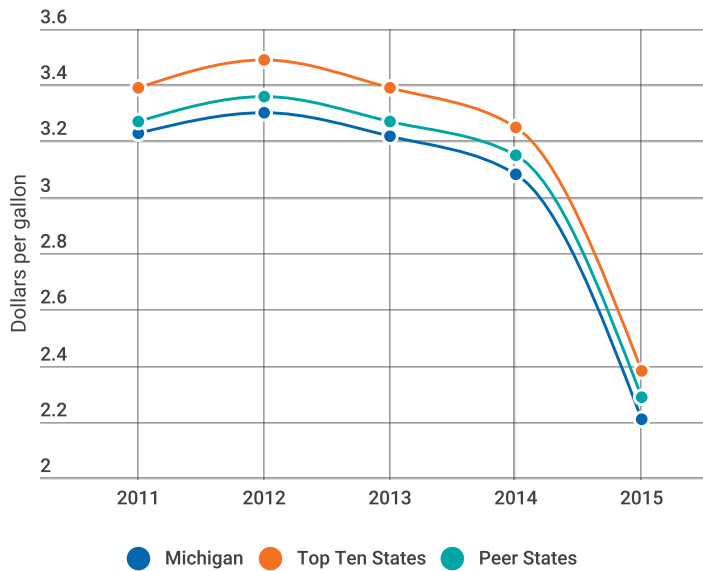
The price per gallon of fuel for all users, converted from price per BTU.

**Why it matters:**

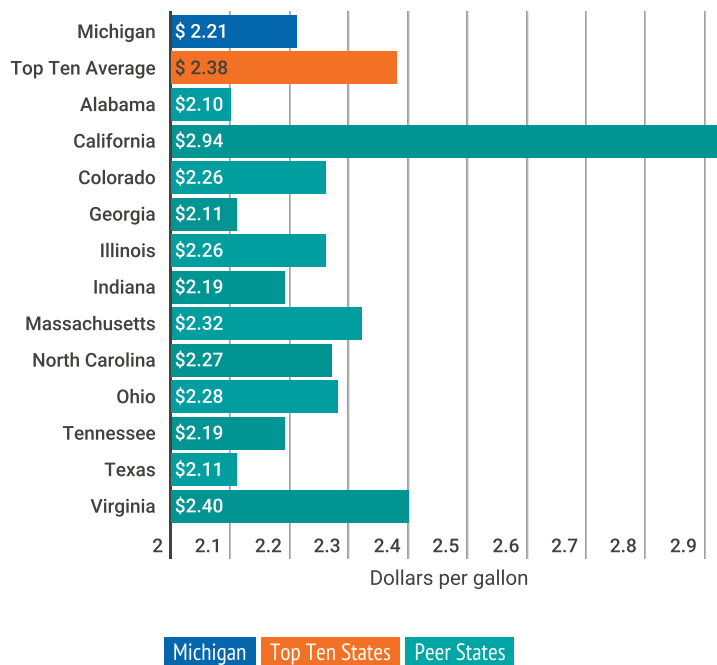
Maintaining competitive energy costs contributes to a state's attractiveness to businesses.

*Between 2014 and 2015, the average price for a gallon of gas in Michigan fell almost 90 cents. In 2015, Michigan's average price was lower than the "Top Ten" and peer state averages.*

**Gasoline Costs Trends**

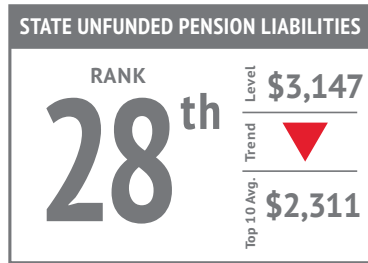


**Gasoline Costs Standings**



input  
cost

# State Unfunded Pension Liabilities



**What it is:**

State government pension benefit unfunded actuarial accrued liability (UAAL) divided by population.

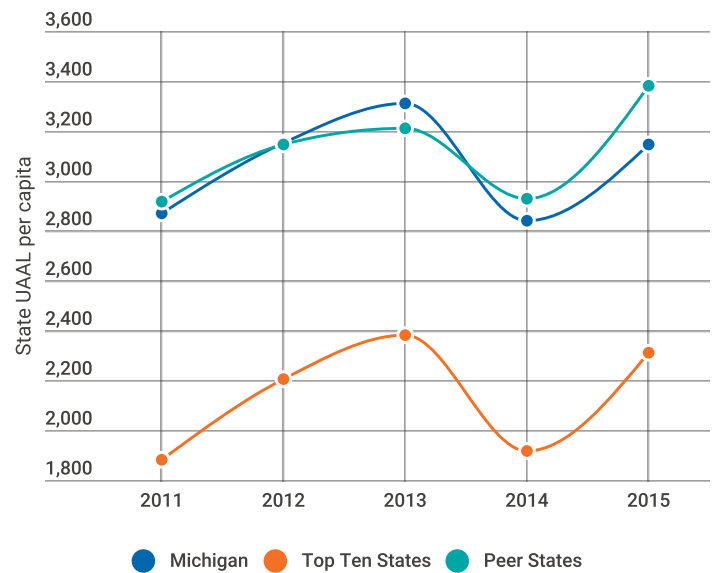
**Why it matters:**

This measure indicates the burden of unfunded retiree benefits on taxpayers. Payments for high unfunded liabilities may crowd out spending for competing needs, such as infrastructure and education.

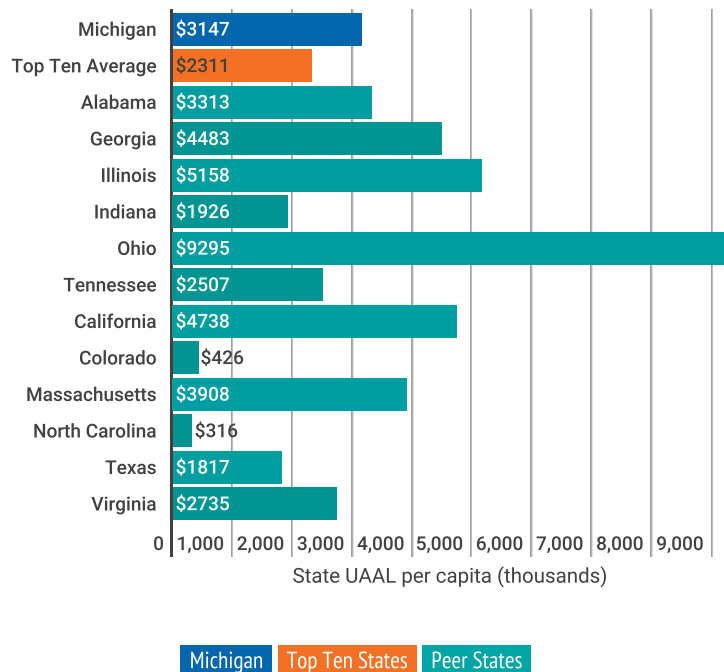
*In 2015, Michigan's pension unfunded liability per capita was over 35 percent higher than the "Top Ten" average and seven percent lower than the peer state average.*

Note: Unfunded liabilities are measured in UAAL, or unfunded actuarial accrued liabilities.

**State Unfunded Pension Liabilities Trends**

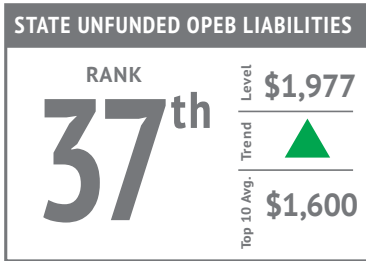


**State Unfunded Pension Liabilities Standings**



U.S. Census Bureau (Census of Governments), Pew Center on the States.

# State Unfunded Non-Pension (OPEB) Liabilities



**What it is:**

State government unfunded other postemployment benefit liability (OPEB) divided by population.

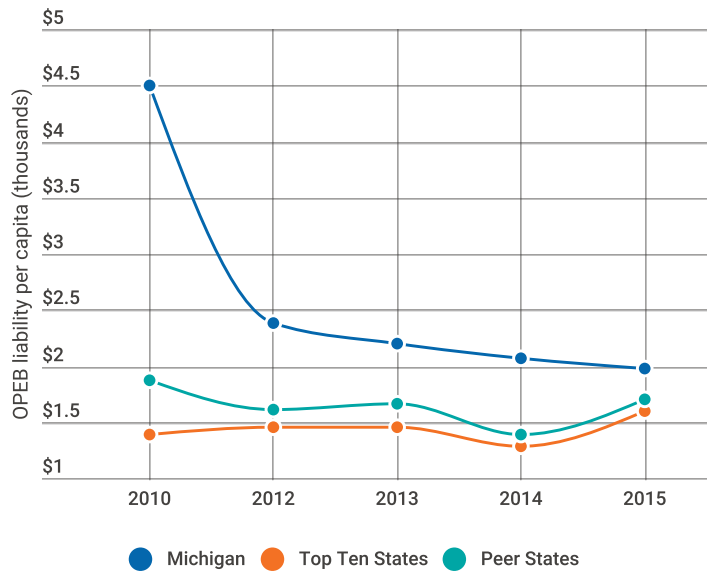
**Why it matters:**

This measure indicates the burden of unfunded retiree benefits on taxpayers. Payments for high unfunded liabilities may crowd out spending for competing needs, such as infrastructure and education.

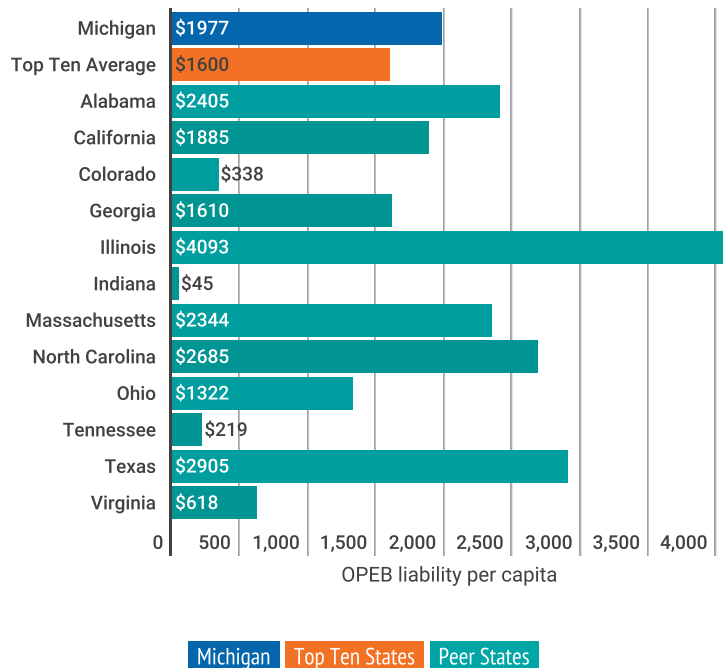
*Michigan's OPEB unfunded liability per capita has decreased each year since 2013, but remains higher than the average of "Top Ten" states and the average of peer states.*

Note: "Top Ten" average for OPEB excludes Nebraska due to data availability. Cannot make inter-year comparisons for OPEB due to use of a different data source for 2012.

**OPEB Liabilities Trends**



**OPEB Liabilities Standings**



U.S. Census Bureau (Census of Governments), Pew Center on the States

input  
cost

Business Leaders for Michigan | 2017 Economic Competitiveness Benchmarking Report

# Local Debt Service



**What it is:**

Local government interest payments on debt, divided by local government direct expenditures (both in current dollars).

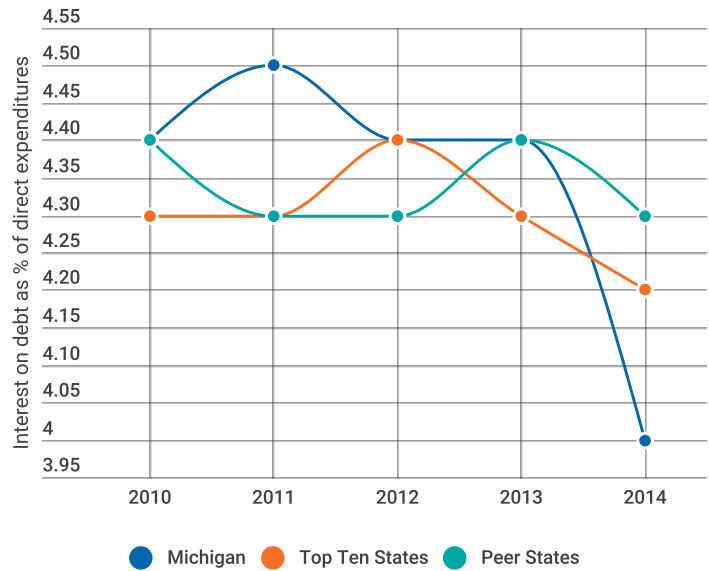
**Why it matters:**

Maintaining debt service at low levels is an indicator of fiscal sustainability.

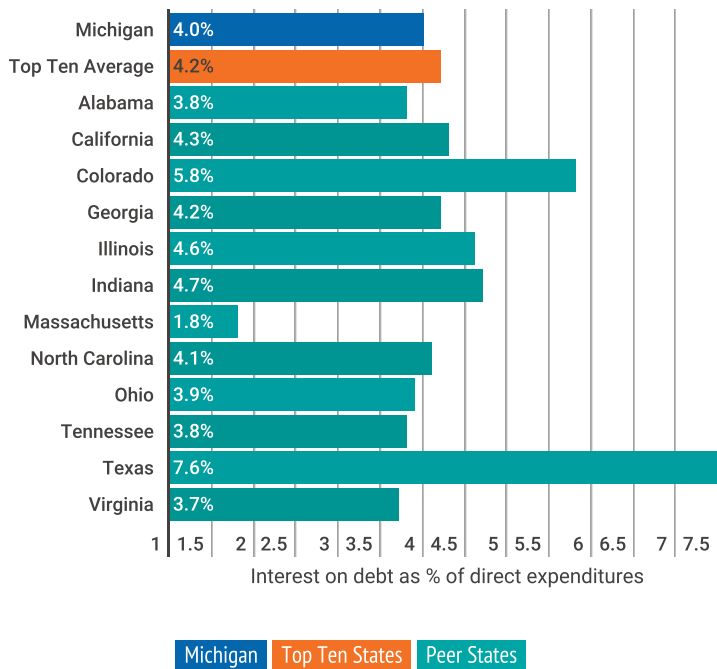
*Local government interest on debt in Michigan ranked in the bottom half of the nation but is less than the average of “Top Ten” and peer states.*

Note: This measure does not include debt service on principal since the Census of Governments does not report a direct debt service measure.

## Local Debt Service Trends



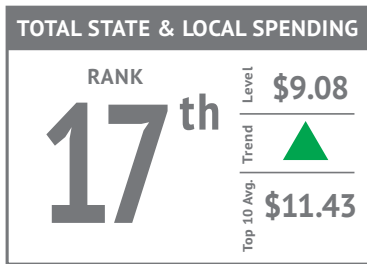
## Local Debt Service Standings



U.S. Census Bureau (Annual Survey of State and Local Government Finances)



# Total State & Local Spending



**What it is:**

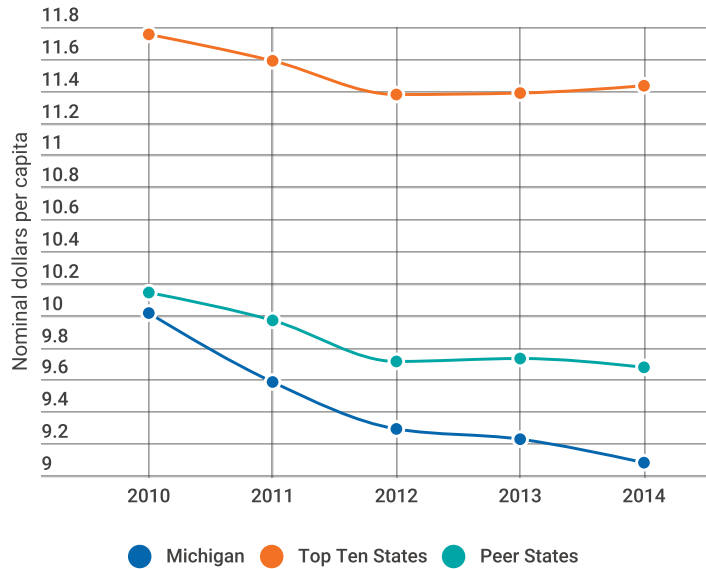
Total state and local government expenditures (2015 dollars) divided by population.

**Why it matters:**

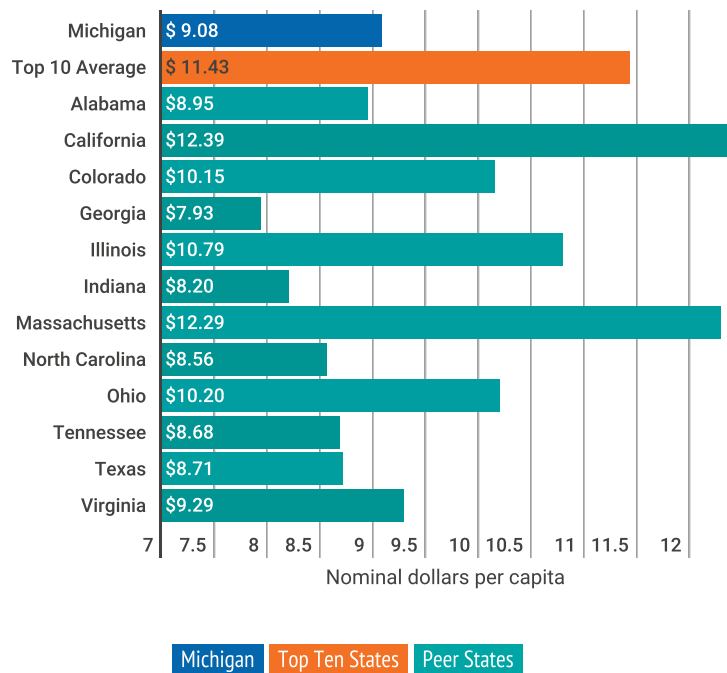
State and local government expenditures are made in important areas such as education, infrastructure, and public safety. However, high government expenditures may mean less private sector economic activity by redirecting dollars and employees for public sector use.

*Michigan's state and local government spending was 20 percent lower than the "Top Ten" average in 2014, and six percent lower than the average of peer states.*

**Total State & Local Spending Trends**

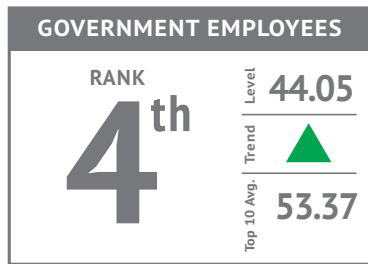


**Total State & Local Spending Standings**



input  
cost

# Government Employees



**What it is:**

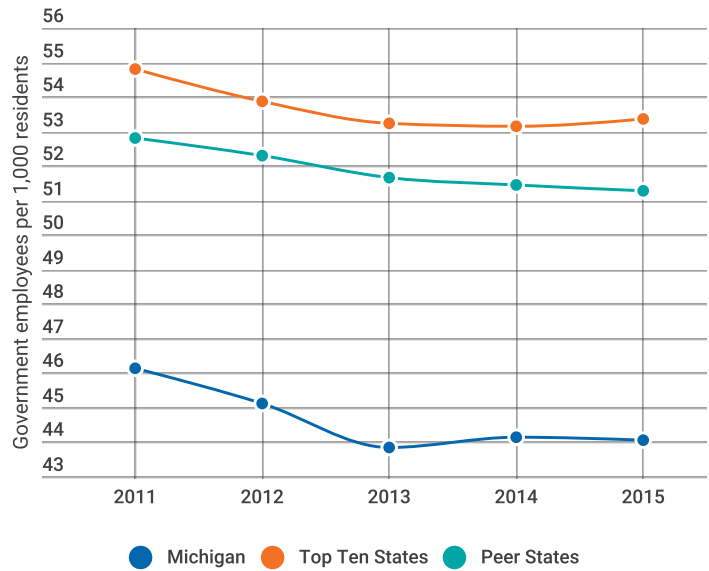
The number of full-time equivalent state and local government employees per 1,000 people.

**Why it matters:**

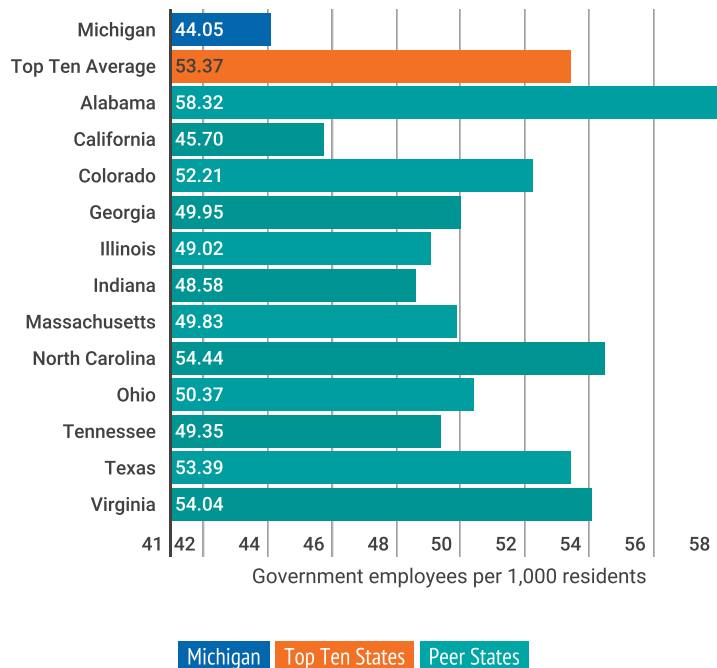
High levels of government employment can contribute to quality government service, but can also lead to high taxes, administrative burden, and higher legacy costs.

*Michigan's number of government employees per capita declined slightly between 2014 and 2015. The state has fewer government employees per capita than any "Top Ten" or peer state.*

**Government Employees Trends**

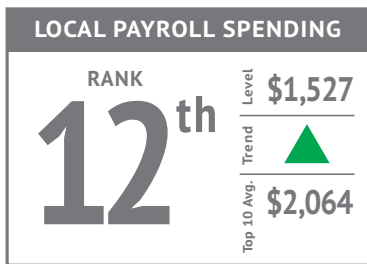


**Government Employees Standings**



U.S. Census Bureau (Annual Survey of Public Employment & Payroll)

# Local Government Payroll Spending



**What it is:**

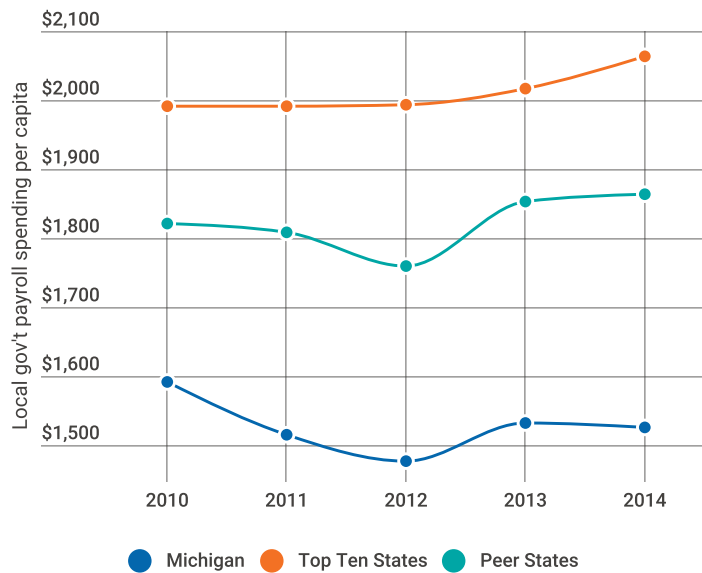
Local government payroll spending per resident.

**Why it matters:**

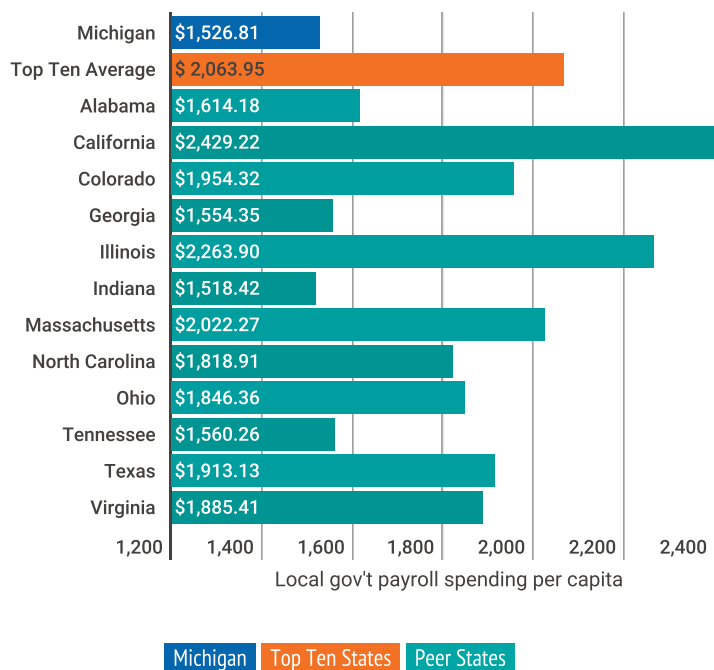
Government payrolls are an indicator of the expanse and quality of government services offered. However, high payroll figures can also indicate large administrative costs and inefficiency.

*Local government administrative spending in Michigan is significantly less than the "Top Ten" average, and much lower than the peer state average.*

Local Government Payroll Spending Trends

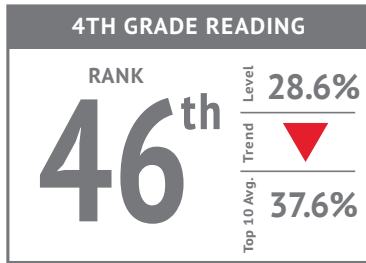


Local Government Payroll Spending Standings



input  
cost

# 4th Grade Reading



**What it is:**

The percent of 4th grade students who attained a proficient level for reading.

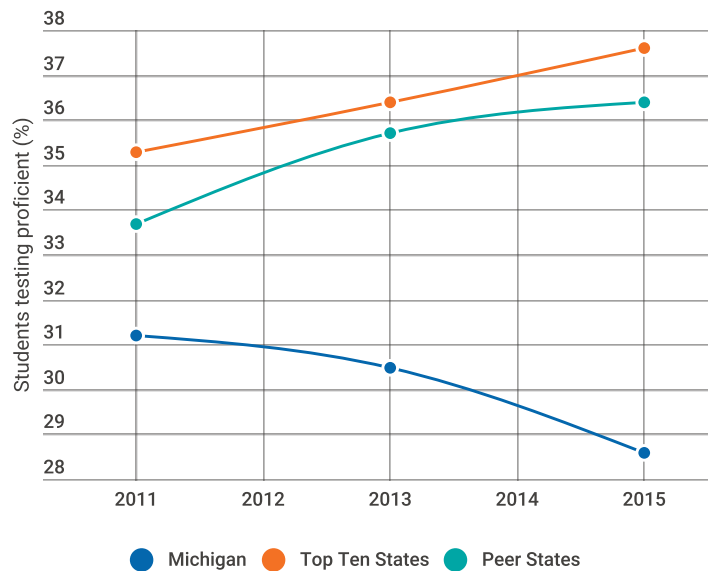
**Why it matters:**

This provides an indicator of how well schools are meeting competitive academic standards.

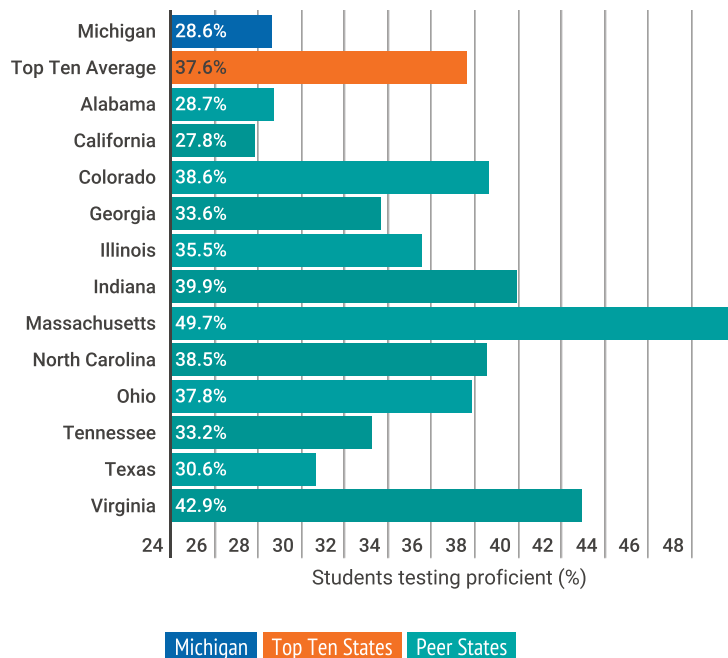
*Michigan 4th grade reading performance is below both the “Top Ten” average and the peer state average. Fewer Michigan students have reached the “proficient” level during each of the last three years. In 2015, nearly 10 percent fewer students achieved this benchmark relative to the “Top Ten” states, ranking Michigan 46th in the nation.*

Note: Data is only released every two years. No new update is available in this category. Performance reflects that shown in prior year benchmarking report.

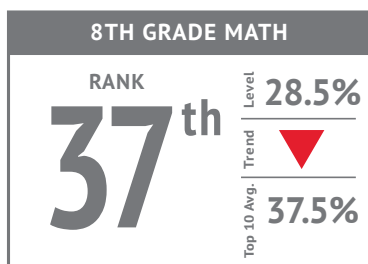
## 4th Grade Reading Trends



## 4th Grade Reading Standings



# 8th Grade Math



**What it is:**

The percent of 8th grade students who attained a proficient level for math.

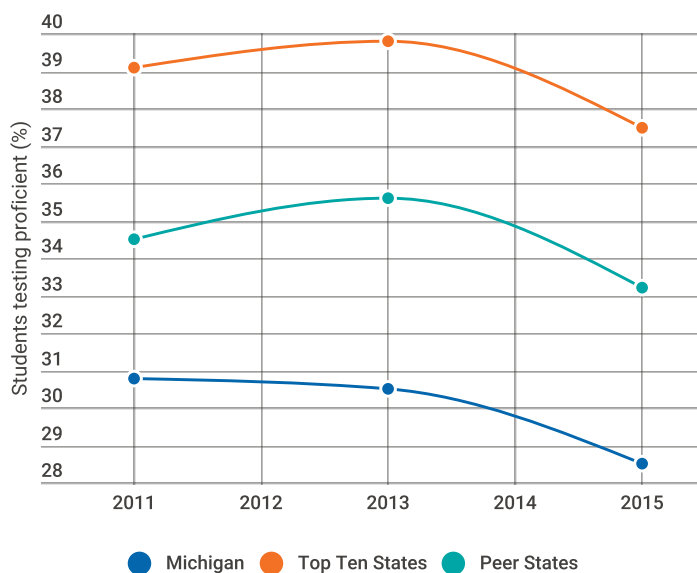
**Why it matters:**

This provides an indicator of how well schools are meeting competitive academic standards.

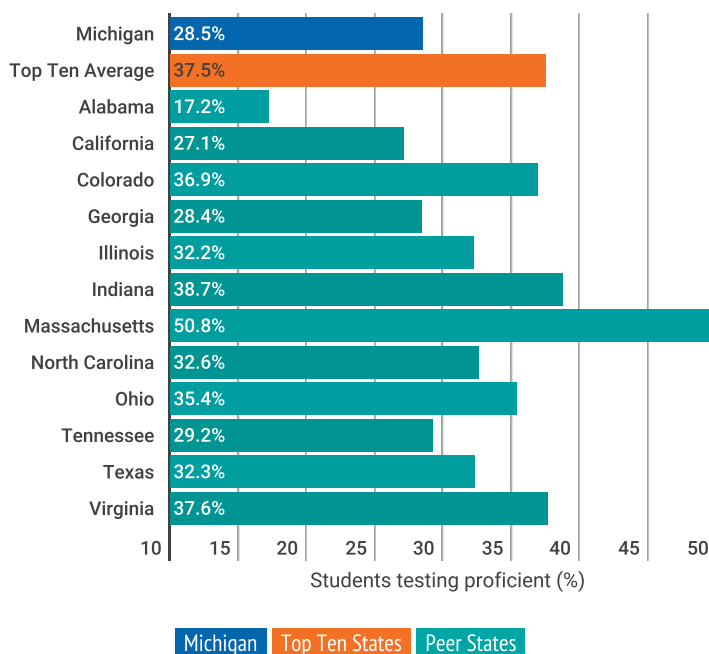
*Michigan 8th graders are performing below both the “Top Ten” average and the peer state average. Nearly 10 percent fewer students achieved the “proficient” level relative to “Top Ten” states. The percentage of students attaining this benchmark increased from 2007 to 2011, fell slightly in 2013, and saw a larger decrease in 2015.*

Note: Data is only released every two years. No new update is available in this category. Performance reflects that shown in prior year benchmarking report.

**8th Grade Math Trends**

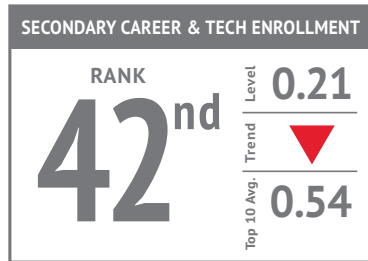


**8th Grade Math Standings**



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# Career & Technical Education Enrollment



**What it is:**

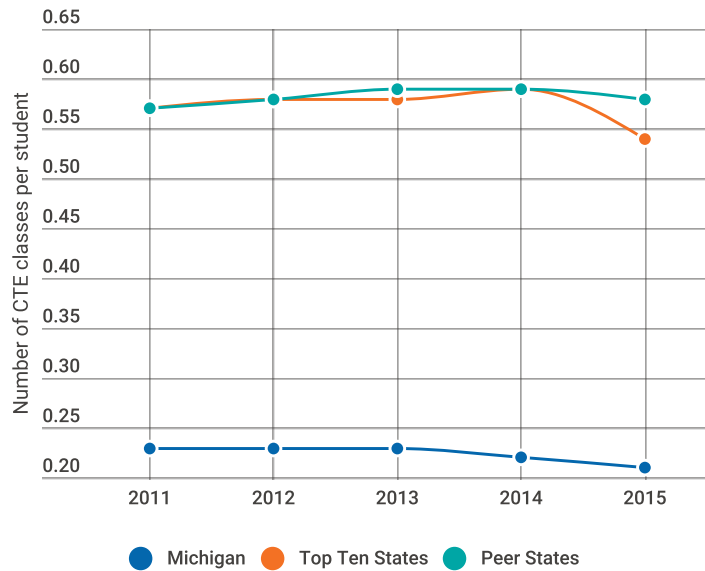
The average number of career-oriented and/or technical education classes in which public high school students are enrolled.

**Why it matters:**

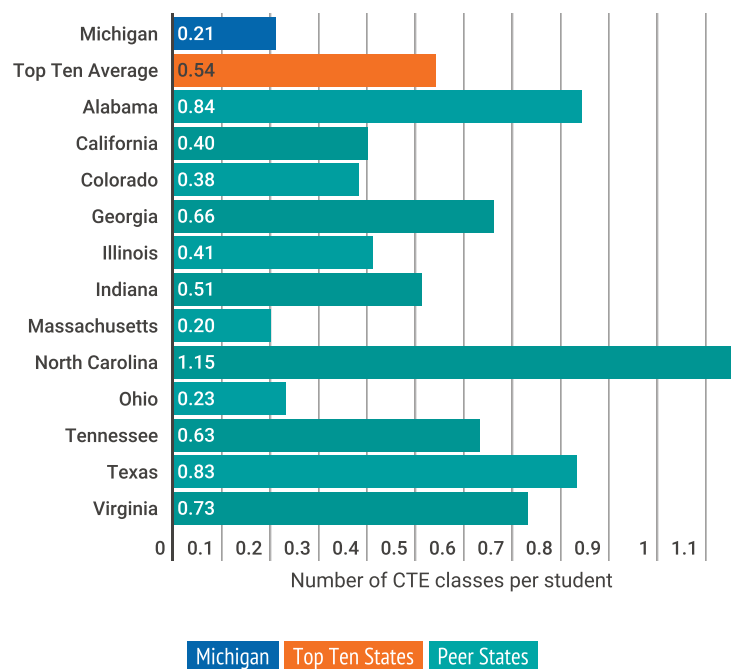
Serves as a measure of how well high school students are being prepared for highly-skilled technical professions.

*Fewer than one in four students in public high schools in Michigan was enrolled in a career or technical education class in 2015. This is less than one-half the enrollment rate for both "Top Ten" and peer states.*

**Career & Technical Education Enrollment Trends**



**Career & Technical Education Enrollment Standings**



National Center for Education Statistics (Table 203.10. Enrollment in Public Elementary and Secondary Schools, by Level and Grades), Perkins Collaborative Resource Network

# Career & College Readiness



**What it is:**

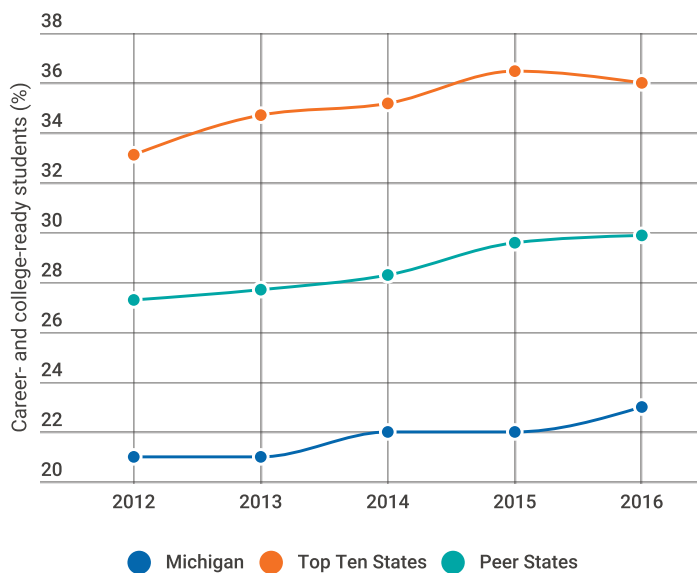
Percent of students tested that met or exceeded the ACT College Readiness Benchmarks in all four subjects (English, reading, mathematics, science).

**Why it matters:**

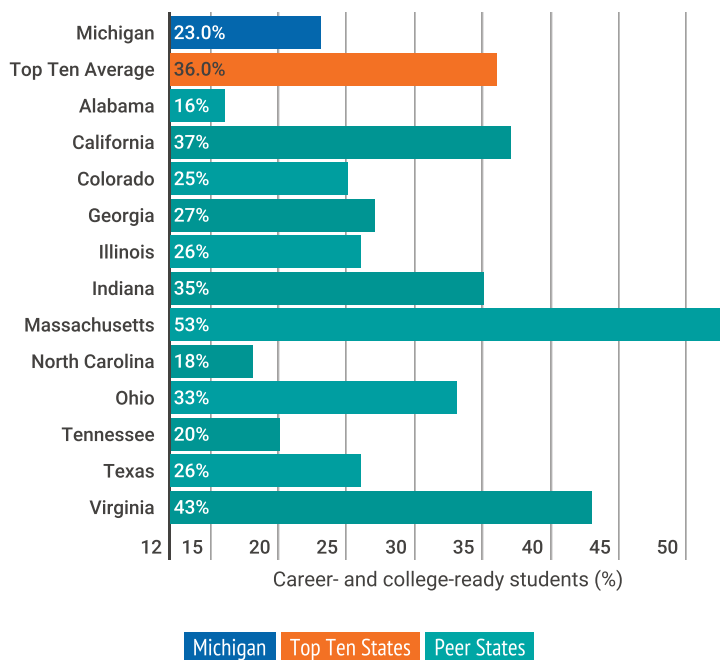
This is an indicator of how well-prepared high school graduates are for entering college and future careers.

*The percentage of “college- and career-ready” graduates in Michigan rose from 2015 to 2016, but still is 13 percentage points lower than the “Top Ten” average. Michigan was among the bottom half of states in terms of college-ready graduates and was outranked by all but three of its peer states: Alabama, Tennessee, and North Carolina.*

**Career & College Readiness Trends**



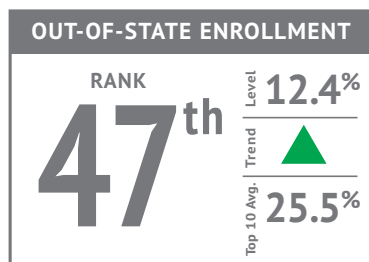
**Career & College Readiness Standings**



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# Out-of-State Enrollment



**What it is:**

Percent of first-year undergraduates from out of state.

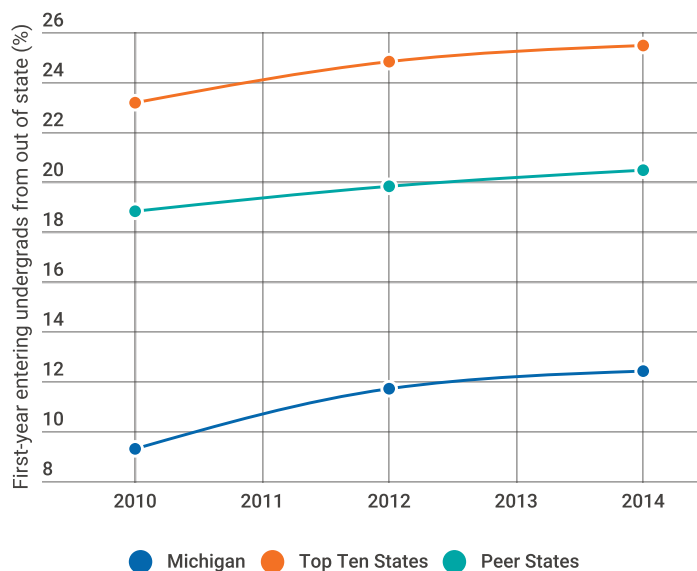
**Why it matters:**

This indicates how well higher education institutions are attracting students from out-of-state to provide an infusion of talent and capital. This should be compared with in-state enrollment to ensure that states are maintaining in-state enrollment.

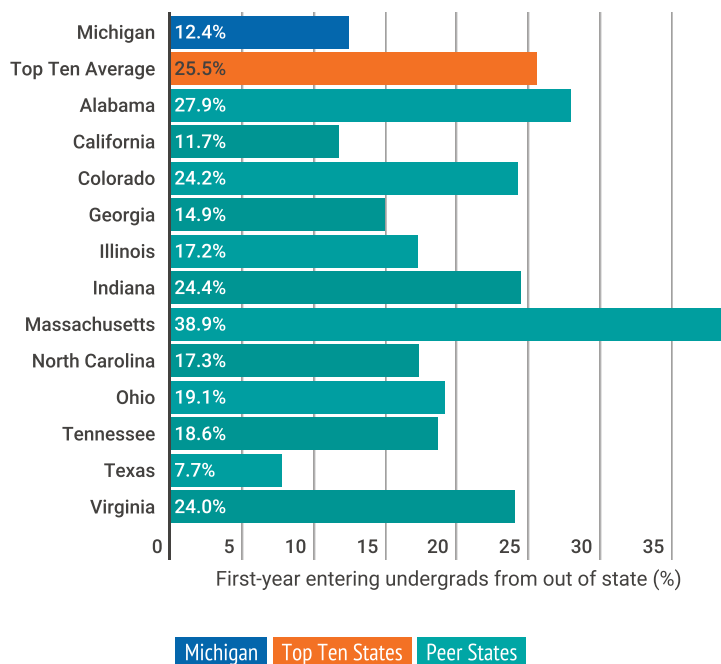
*The rate of out-of-state enrollment at higher education institutions in Michigan was less than half of the “Top Ten” average in 2014 and trailed only California and Texas among peer states. However, Michigan institutions increased their out-of-state enrollment rate almost a full percentage point from 2012 to 2014 mirroring the increase for “Top Ten” average.*

Note: No new update is available in this category. Performance reflects that shown in prior year benchmarking report

**Out-of-State Enrollment Trends**



**Out-of-State Enrollment Standings**

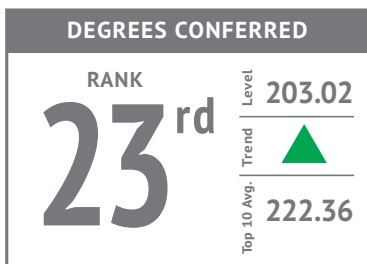


National Center for Education Statistics (Residence and Migration of First-Time Degree-Seeking Undergraduates)



# Degrees Conferred

## Associate+ Per 10,000



**What it is:**

Total associate, bachelor's, master's, and doctorate degrees conferred per 10,000 residents by public and private institutions.

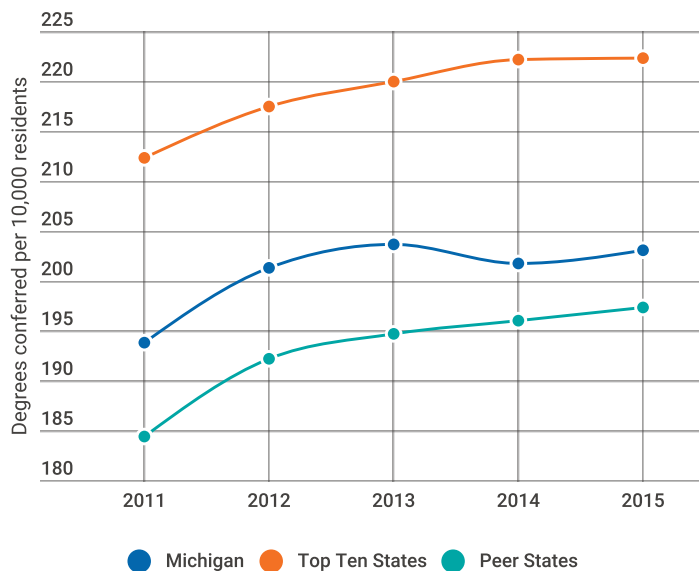
**Why it matters:**

Educational attainment is a factor in assessing the quality of a state's talent pool.

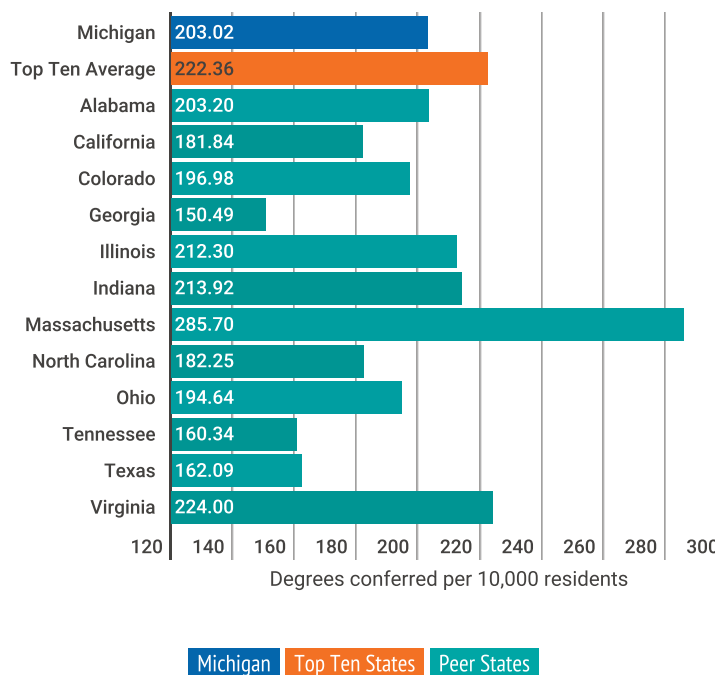
*The number of degrees conferred by higher education institutions in Michigan increased slightly from 2014 to 2015 but remains below the "Top Ten" average. Michigan was near the middle of its peers in terms of the number of degrees conferred per 10,000 of population.*

Note: Degrees include associate, bachelor's, and graduate/professional degrees. Higher education institutions include all public and private degree-granting institutions. All years are consistent in their inclusion of degrees whether first or second majors.

### Degrees Conferred Trends



### Degrees Conferred Standings

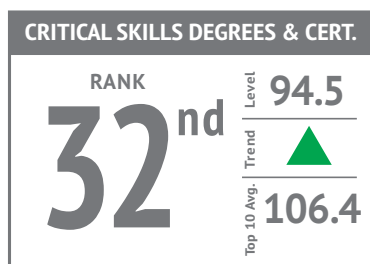


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# Technical Education

## Critical Skills Degrees & Certificates



**What it is:**

Total critical skills degrees and certificates conferred divided by the working age population (ages 20 through 64, inclusive).

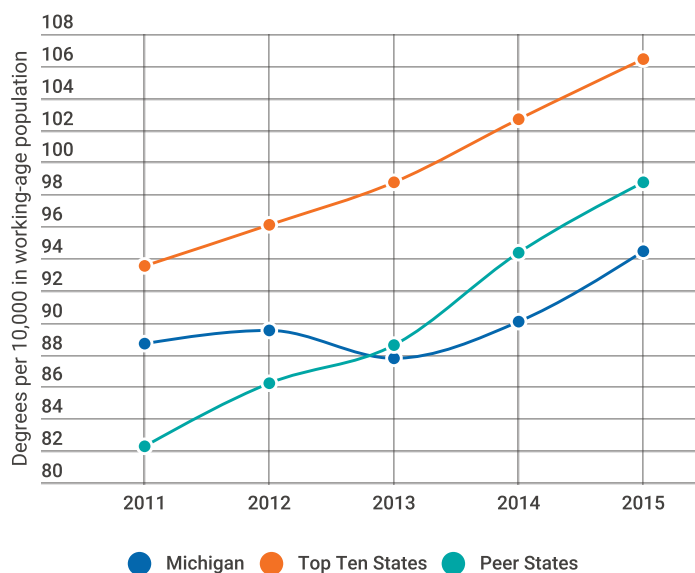
**Why it matters:**

These degrees especially prepare students for high-skilled occupations, particularly in the STEM fields, which are the types of jobs Michigan expects to increase in the future.

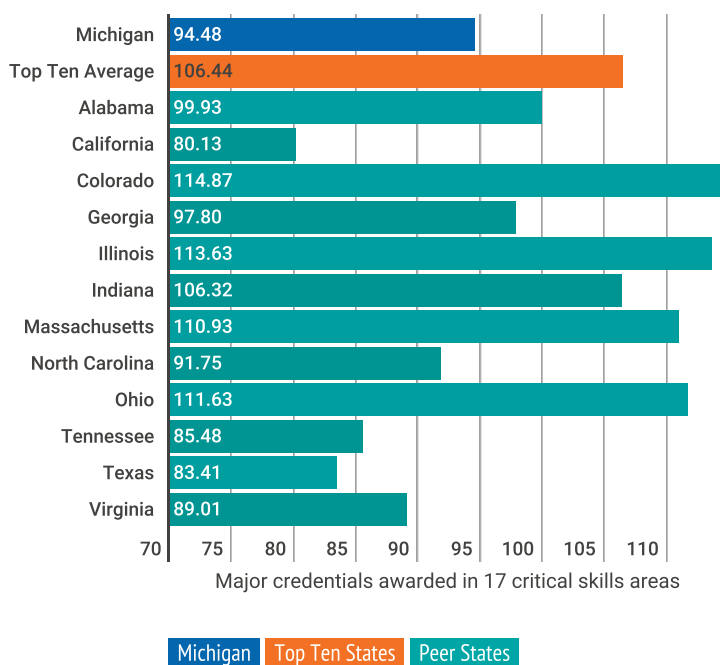
*Michigan ranks 32nd in terms of critical skills degrees and certificates awarded. The state ranks slightly below the “Top Ten” and peer state averages.*

Note: Higher education institutions include all public and private degree-granting institutions. Differences in this year's data reflect revisions as a result of newer data being collected.

**Technical Education Trends**



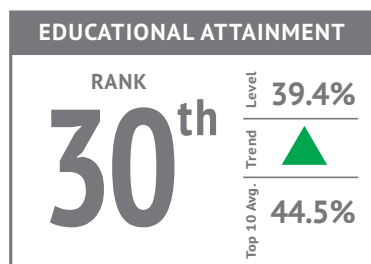
**Technical Education Standings**



National Center for Education Statistics (Integrated Postsecondary Education Data System), U.S. Census Bureau (Population Estimates)

# Educational Attainment

## Population age 25-64 with Associate+



**What it is:**

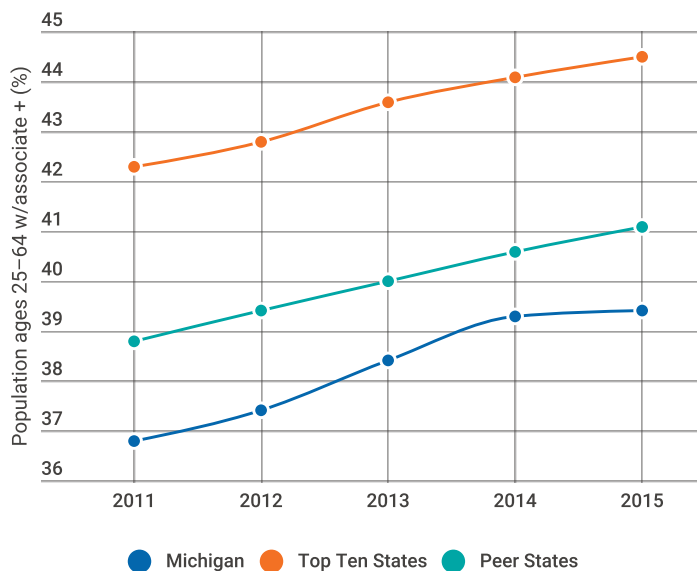
Share of residents aged 25 to 64 with an associate degree or higher.

**Why it matters:**

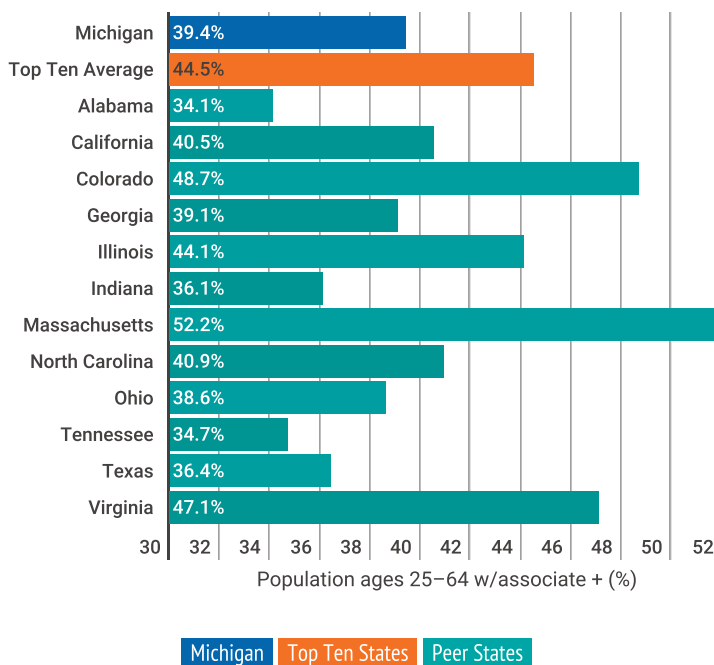
The availability of highly educated talent can promote future growth of the economy, particularly in highly skilled professions. More education also correlates strongly with higher wages.

*Michigan ranks among the bottom half of states in terms of educational attainment—only slightly lower than the peer state average but five percentage points lower than “Top Ten” states.*

**Educational Attainment Trends**



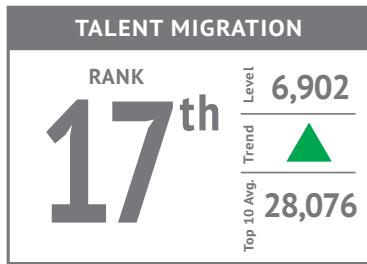
**Educational Attainment Standings**



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# Talent Migration

Adults with Bachelor's Degree or Higher



**What it is:**

Immigrants with a bachelor's degree or higher minus emigrants with a bachelor's degree or higher.

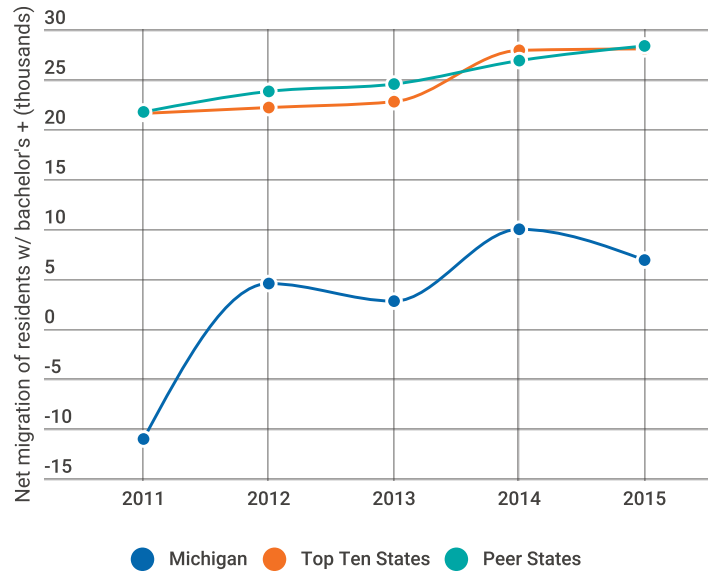
**Why it matters:**

This measure indicates how well a state attracts and retains highly educated individuals to live in the state.

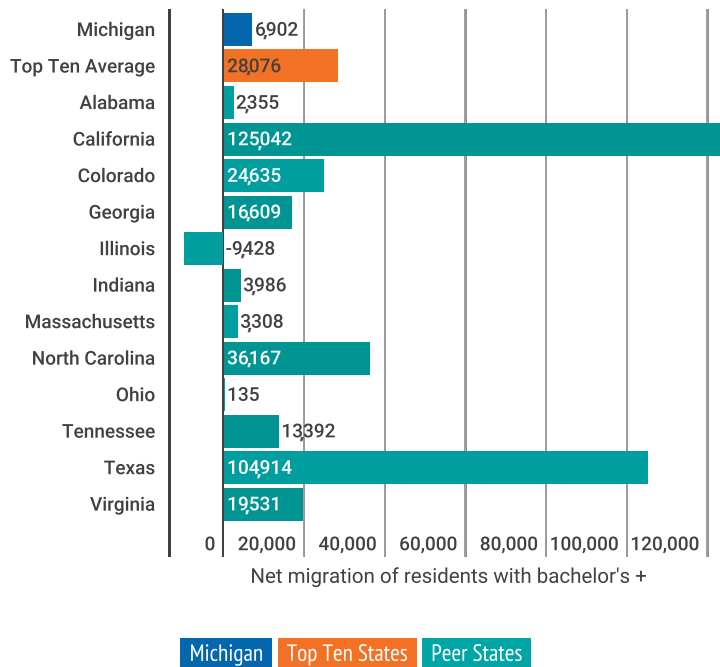
*Michigan ranked 17th for talent migration in 2015. The total net migration for the state exceeded that of seven "Top Ten" states.*

Note: This measure does not take into account emigrants who have moved to another country.

## Talent Migration Trends

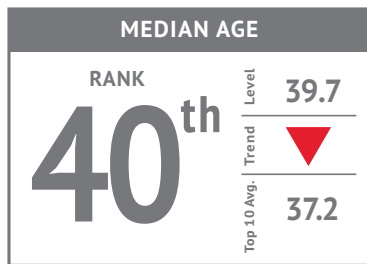


## Talent Migration Standings



U.S. Census Bureau (American Community Survey)

# Median Age



**What it is:**

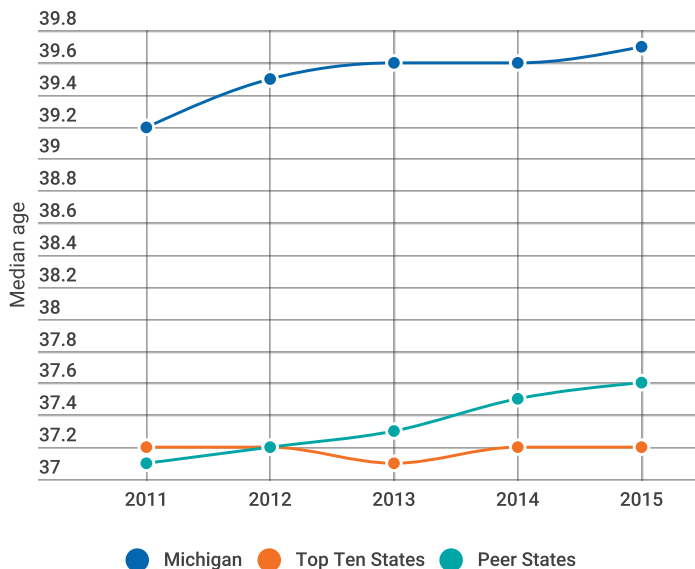
Median age of state residents.

**Why it matters:**

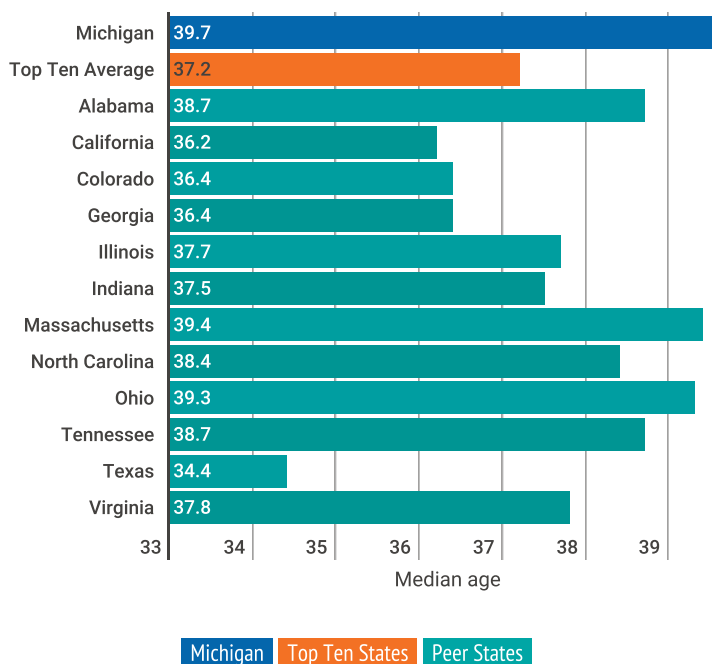
Increase in the median age is an indicator of an aging population, where the population growth rate of middle age and senior citizens outpaces that for children and young adults. States with a high median age among residents may be good at attracting retirees, but it also can be a sign that younger people are seeking out other places to work and raise a family.

*Michigan was the ninth oldest state in 2015, with median age increasing by 0.1 years from 2014 to 2015. Since 2006, the state's median age has increased by 2.4 years. Michigan's median age was higher than all of its peers and all of the "Top Ten" states except Pennsylvania.*

## Median Age Trends



## Median Age Standings

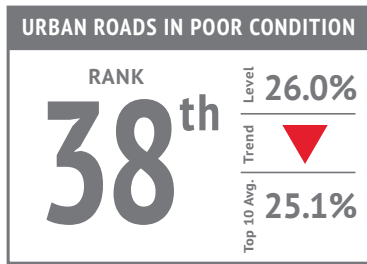


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U.S. Census Bureau (American Community Survey)

# Urban Roads in Poor Condition



**What it is:**

Share of urban roads in poor condition, by length.

**Why it matters:**

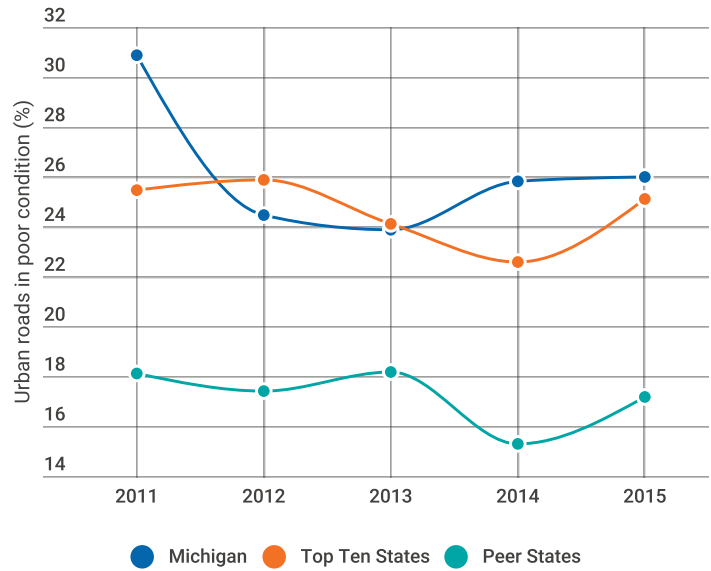
A strong, reliable transportation system benefits both businesses and individuals. Poor road quality imposes many tangible costs and reduces productivity.

*The percentage of poor-quality urban roads in Michigan increased slightly between 2014 and 2015.*

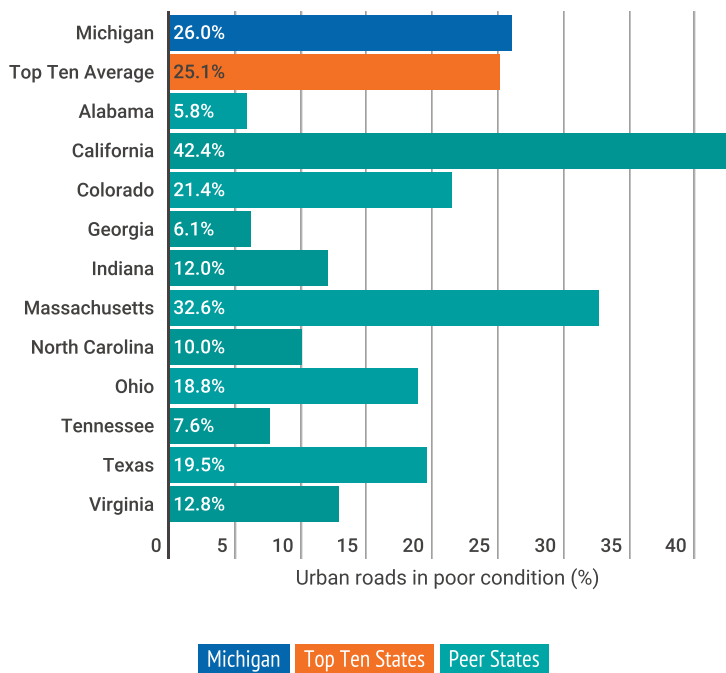
*Urban road quality was worse in Michigan than the “Top Ten” and peer state averages. Michigan ranked 38th among all states. Among peers, only California had a greater percentage of urban roads in poor condition.*

Note: Includes interstate highways, freeways, expressways, and major arterial roads in urban areas. Some values missing due to data reporting issues.

**Urban Roads in Poor Condition Trends**

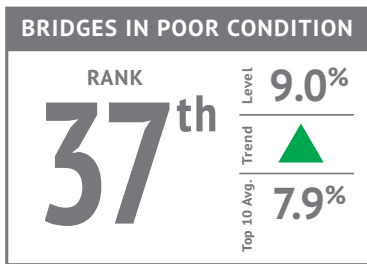


**Urban Roads in Poor Condition Standings**



U.S. Department of Transportation (Length by Pavement Roughness)

# Bridges in Poor Condition



**What it is:**

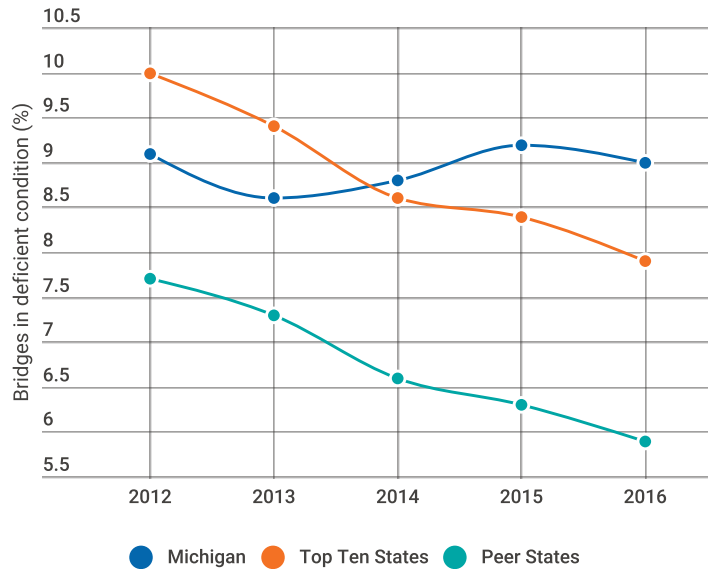
Percent of bridges in deficient condition, by area.

**Why it matters:**

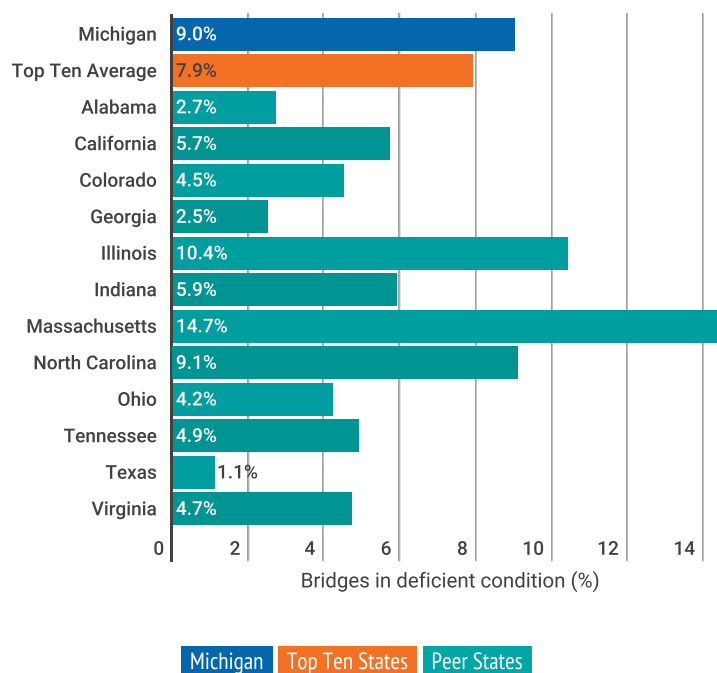
A strong, reliable transportation system benefits both businesses and individuals. Poor bridge quality imposes many tangible costs and reduces productivity.

*The share of bridges categorized as poor in Michigan increased by 0.2 percent between 2015 and 2016. Michigan trails the “Top Ten” average, and has a higher proportion of deficient bridges than all peer states except for Illinois, Massachusetts, and North Carolina.*

## Deficient Bridge Trends



## Deficient Bridge Standings

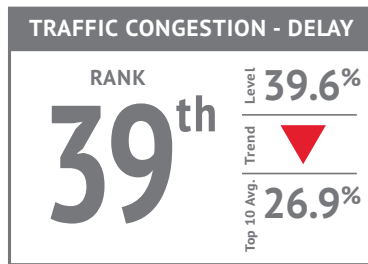


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U.S. Department of Transportation (Highway Bridge by Wearing Surface)

# Traffic Congestion – Hours of Delay



**What it is:**

Hours of delay per resident in urbanized areas.

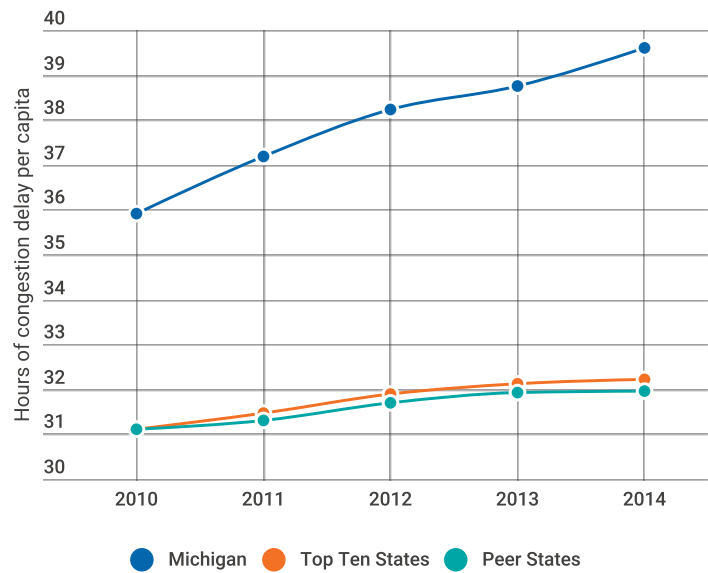
**Why it matters:**

High amounts of delay waste productive time and add additional costs to employment, preventing some workers from entering the workforce.

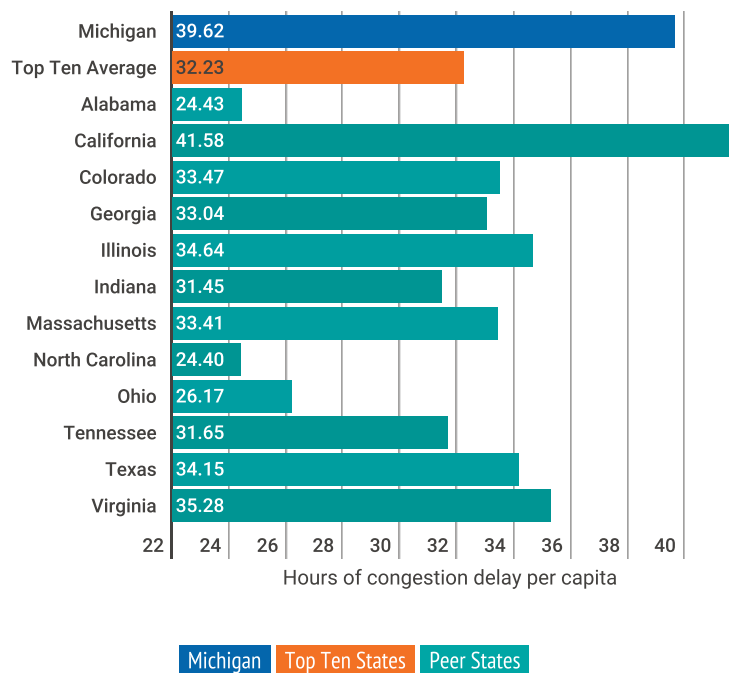
*Michigan drivers in urban areas spend over 40 percent more time in congested traffic than drivers in the average “Top Ten” state.*

*Note: Due to data limitations, 2016 data is not yet available.*

Traffic Congestion - Hours of Delay Trends



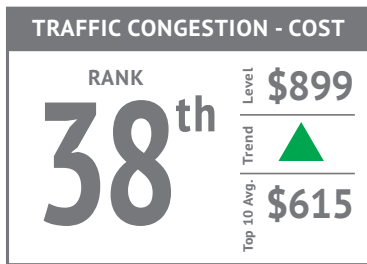
Traffic Congestion - Hours of Delay Standings



Texas A&M Transportation Institute (Annual Urban Mobility Scorecard)  
U.S. Census Bureau (American Community Survey)



# Traffic Congestion – Cost



**What it is:**

The cost of traffic congestion (in 2016 dollars) per resident in urban areas.

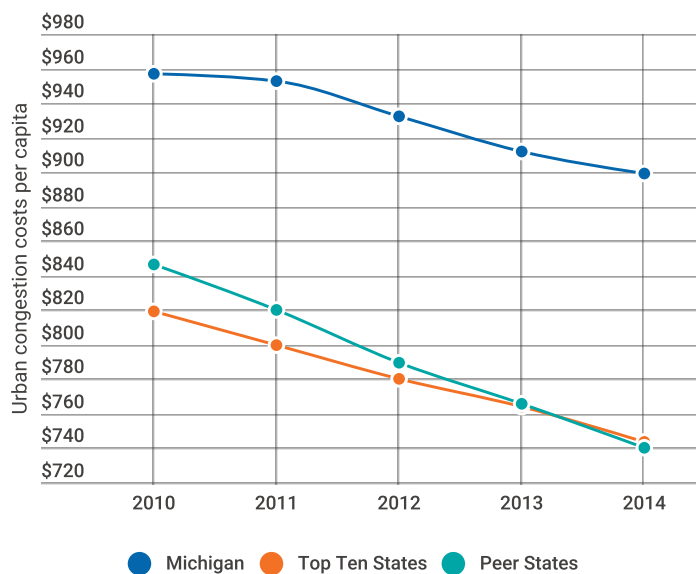
**Why it matters:**

High costs of congestion waste productive time and add additional costs to employment, preventing some workers from entering the workforce. They also impose environmental costs by reducing air quality.

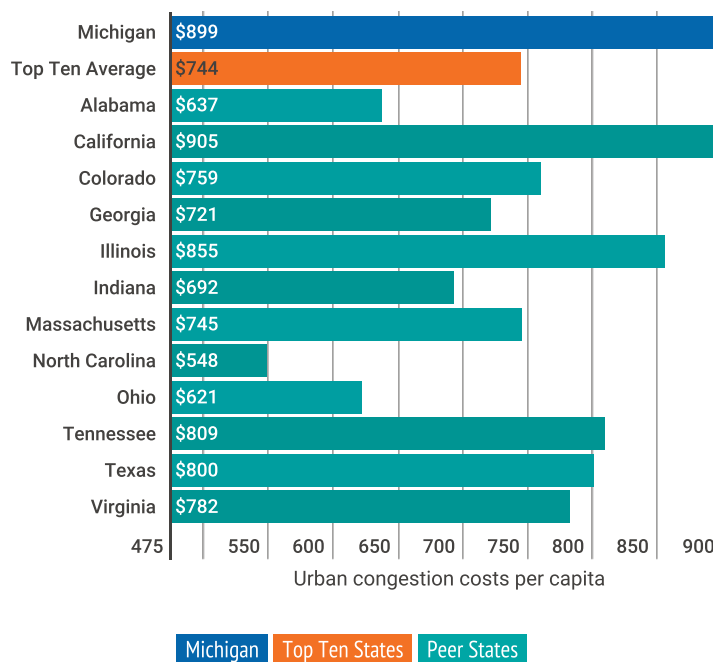
*In 2014, Michigan ranked in the middle of all states in terms of the cost of congestion. However, the cost of congestion has decreased each year since 2005.*

*Note: Due to data limitations, 2016 data is not yet available.*

**Traffic Congestion - Cost Trends**



**Traffic Congestion - Cost Standings**

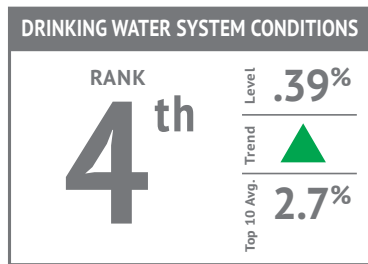


Texas A&M Transportation Institute (Annual Urban Mobility Scorecard)  
U.S. Census Bureau (American Community Survey)

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# Drinking Water System Conditions



**What it is:**

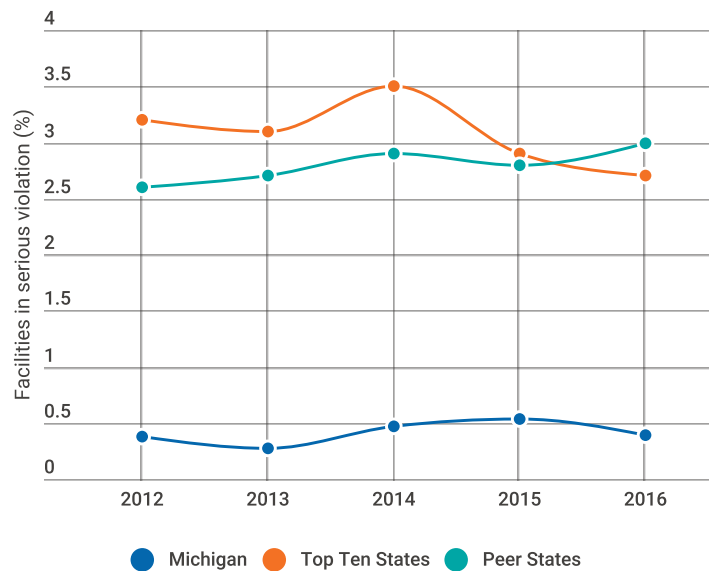
The percent of drinking water facilities in the state with a serious violation, according to EPA standards.

**Why it matters:**

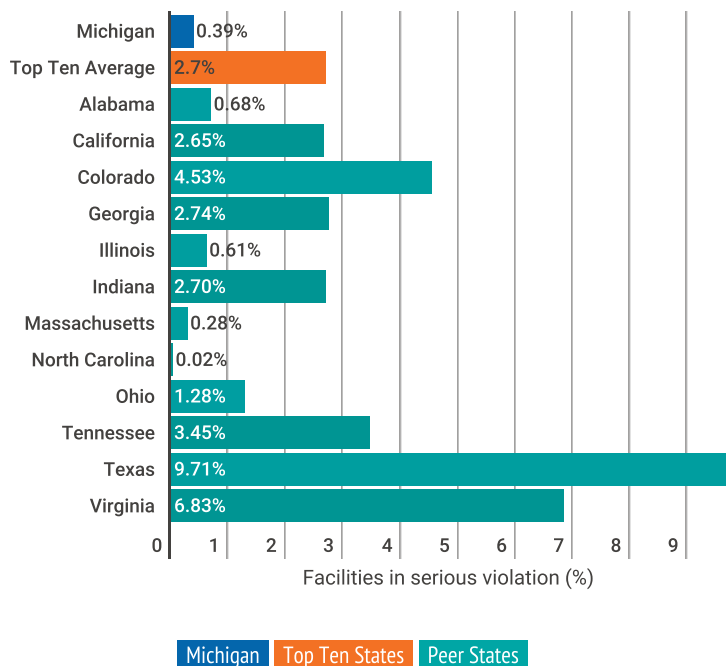
Clean drinking water prevents disease and can have life-long positive impacts on cognition and health.

*Michigan ranks among the “Top Ten” states for drinking water quality nationwide. The state’s performance exceeds eight of the “Top Ten” states.*

Drinking Water System Conditions Trends

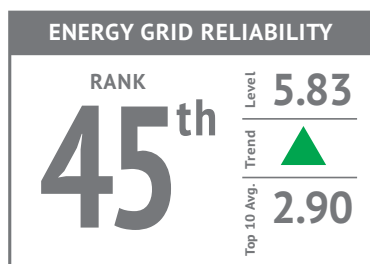


Drinking Water System Conditions Standings



Environmental Protection Agency (Drinking Water Dashboard)

# Energy Grid Reliability



**What it is:**

Duration of power outage per customer (in hours).

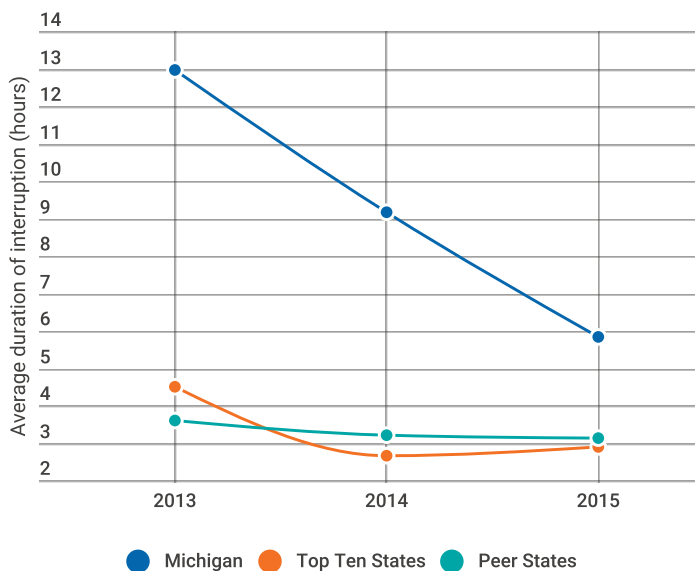
**Why it matters:**

An unreliable power grid can signal low quality infrastructure and discourage businesses from locating in that state.

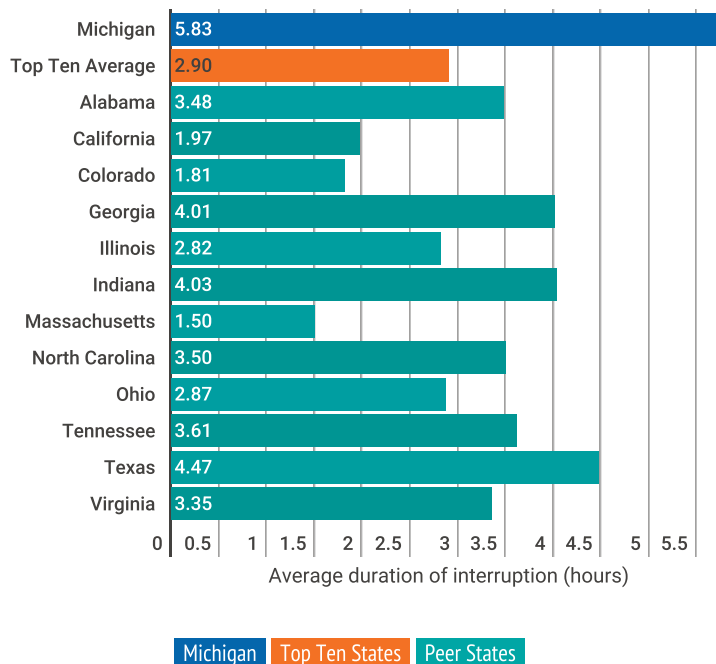
*Michigan ranks near the bottom of states in outages per customer. While the average duration of the outage fell to nearly half the length of the 2013 level, the average duration of the outage per customer is over one and a half times longer than the average of all the states.*

Note: Due to data limitations, 2016 data is not yet available. However, 2015 has been updated slightly to reflect new prior year data.

**Energy Grid Reliability Trends**



**Energy Grid Reliability Standings**

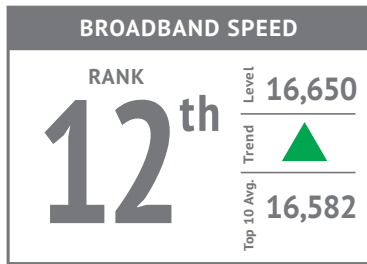


U.S. Energy Information Administration

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# Broadband Speed



**What it is:**

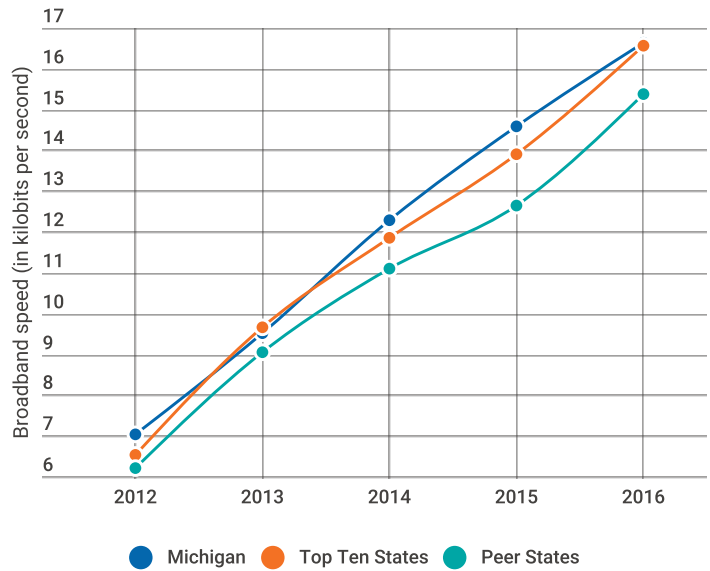
Average speed for downloading and uploading information, in kilobits per second.

**Why it matters:**

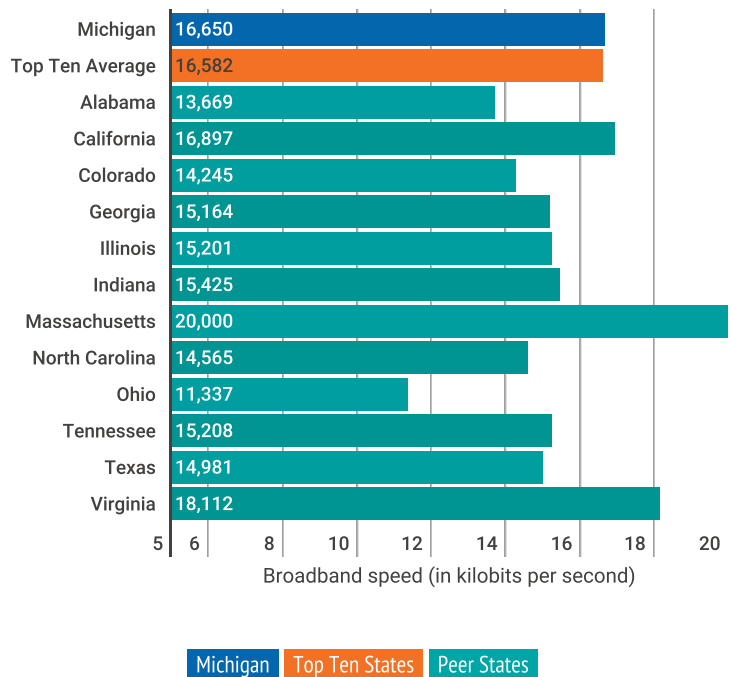
Strong telecommunications infrastructure can improve productivity and is attractive for businesses.

*Michigan ranks 12th nationally in terms of broadband connection speed, matching the average of “Top Ten” states and exceeding the peer state average.*

## Broadband Speed Trends

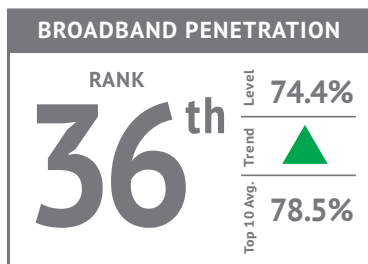


## Broadband Speed Standings



Akami (Internet Connection Speeds)

# Broadband Penetration



**What it is:**

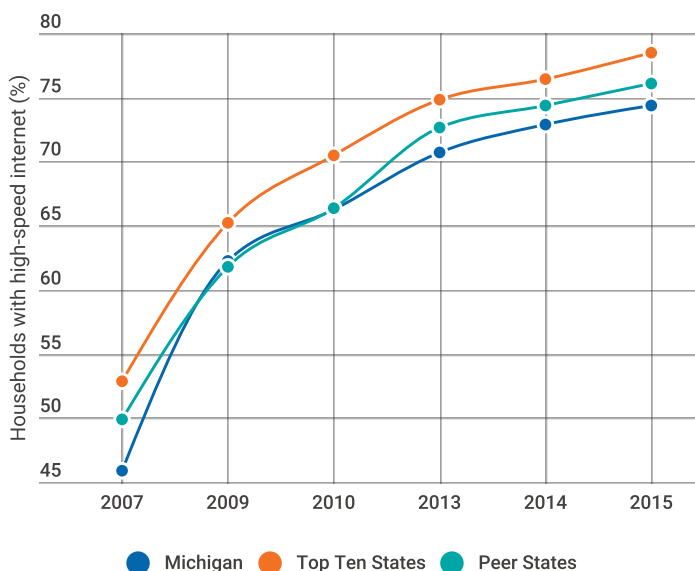
The percentage of households with high-speed Internet connections, based on household survey data.

**Why it matters:**

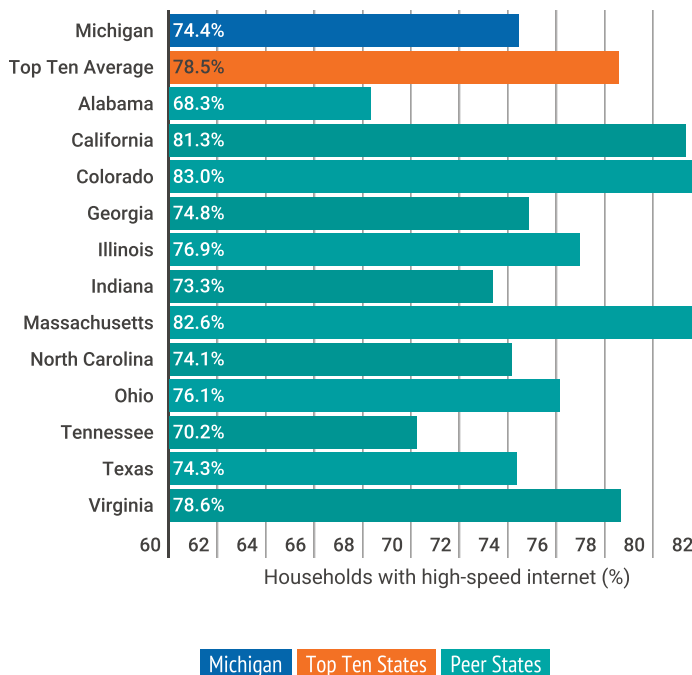
Access to Internet at home makes it easier and low-cost for students, workers, and entrepreneurs to stay connected.

*Michigan ranks 36th in terms of the number of households with access to quality internet service. The state ranks below the averages of both "Top Ten" and peer states.*

**Broadband Penetration Trends**



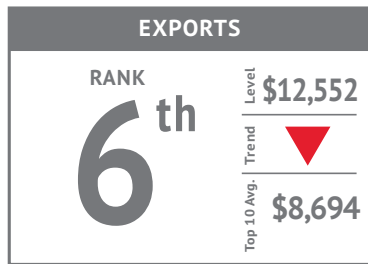
**Broadband Penetration Standings**



U.S. Census Bureau (American Community Survey)

# Exports

Per \$100,000 of GDP



**What it is:**

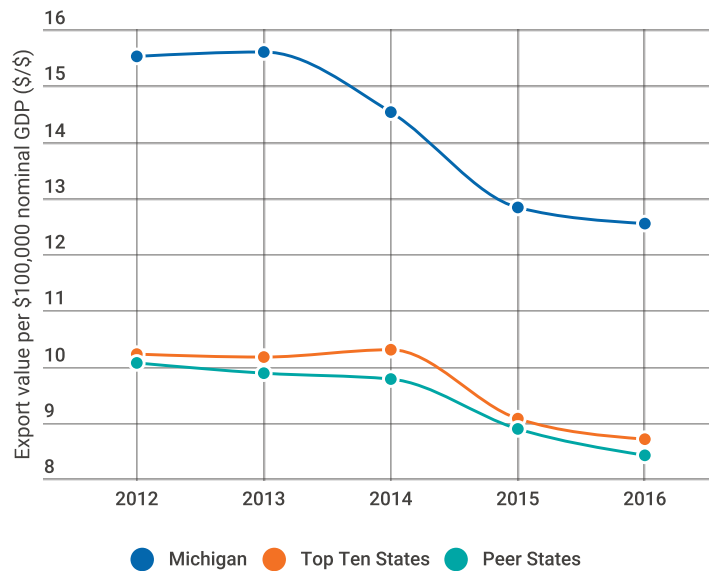
Total value of goods originating in a state that were shipped out of the country, as a share of total GDP.

**Why it matters:**

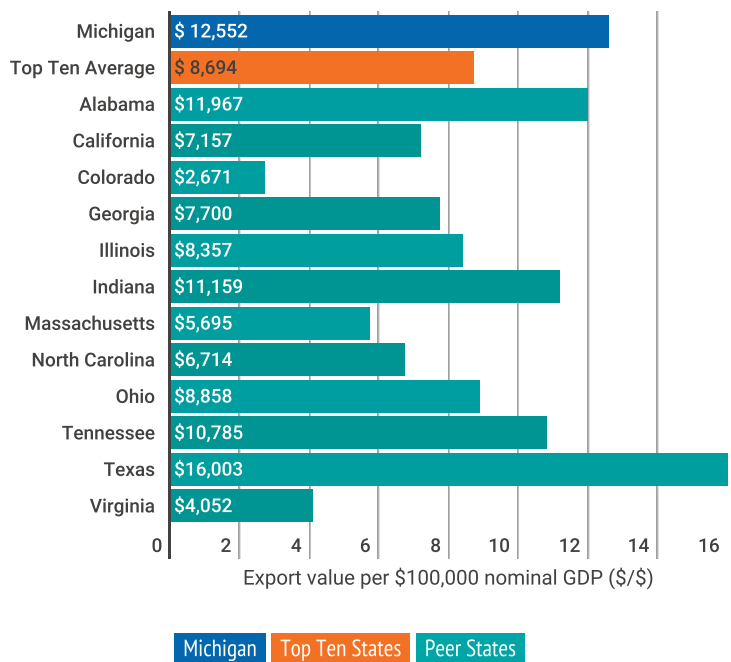
Exports help support jobs and growth of the state economy.

*Michigan had the sixth-highest value of exports (scaled by GDP) in 2016 in total goods. The level of exports from Michigan exceeded the “Top Ten” average and those of all peer states except Texas.*

## Exports Trends



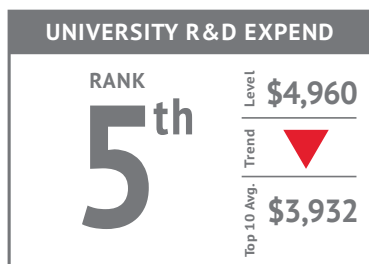
## Exports Standings



Department of Commerce (TradeStats Express)  
Bureau of Economic Analysis (GDP in current dollars - private industries)

# University R&D Expenditures

Per \$1M of GDP



**What it is:**

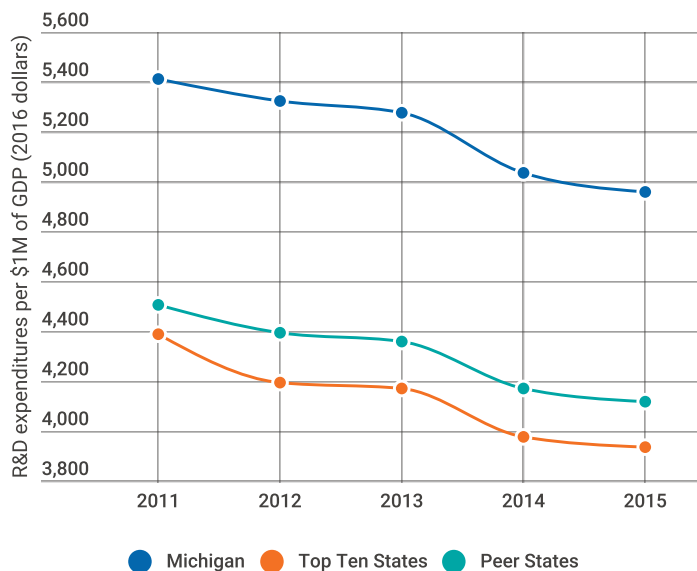
Research and development expenditures by higher education institutions, as a share of total GDP.

**Why it matters:**

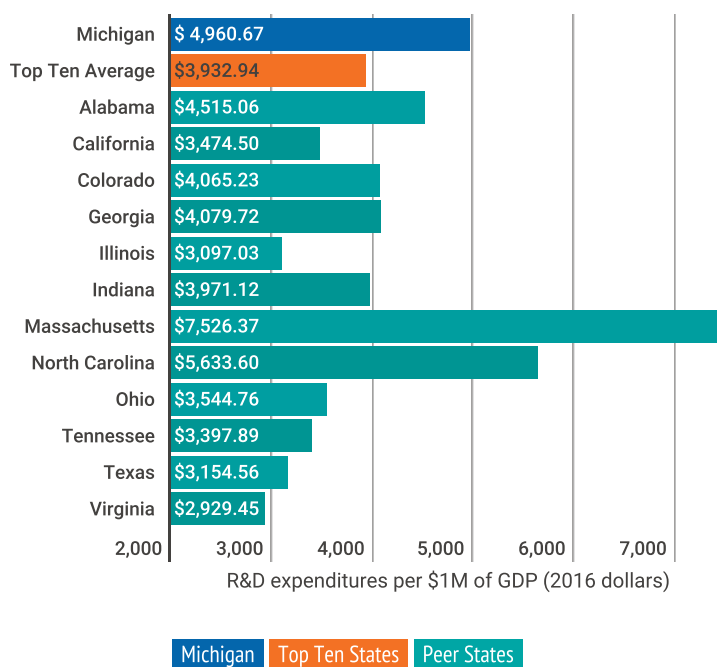
Research and development expenditures by universities improve the state's attractiveness to out-of-state students and talent, and provide an important source of innovation and entrepreneurship in the state.

*Research and development expenditures at universities in Michigan were sixth in the nation in 2015, and were higher than all of the "Top Ten" states except Massachusetts. Michigan universities' research and development expenditures were greater than those of all of its peers except Massachusetts and North Carolina.*

University R&D Expenditure Trends



University R&D Expenditure Standings



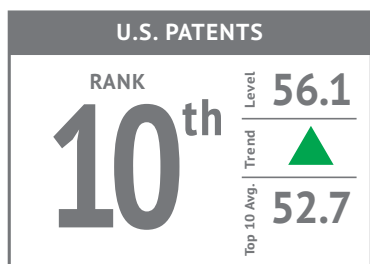
input value

Business Leaders for Michigan | 2017 Economic Competitiveness Benchmarking Report

National Center for Science and Engineering Statistics (Higher Ed R&D Expenditures)  
Bureau of Economic Analysis (GDP in current dollars -all industries)

# U.S. Patents

## Per 100,000 Residents



**What it is:**

Number of U.S. patents awarded per 100,000 residents.

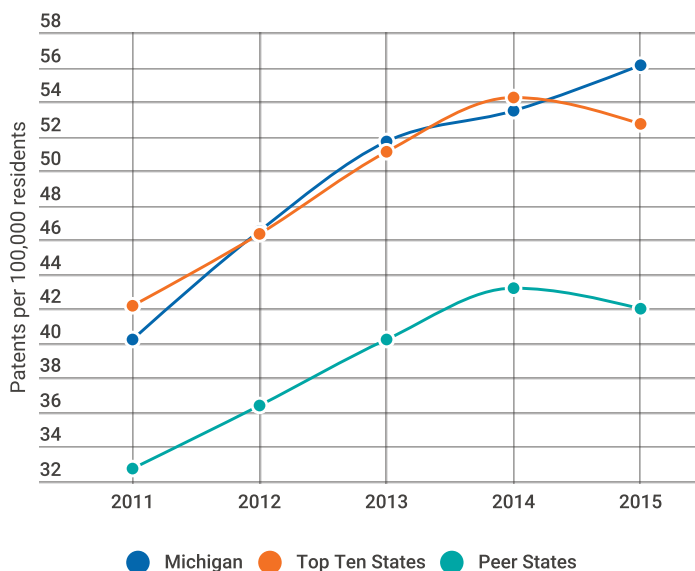
**Why it matters:**

Patents provide an incentive for innovators and entrepreneurs to improve technology. The states whose residents are the source of this innovation have an advantage in reaping the economic benefits derived from them.

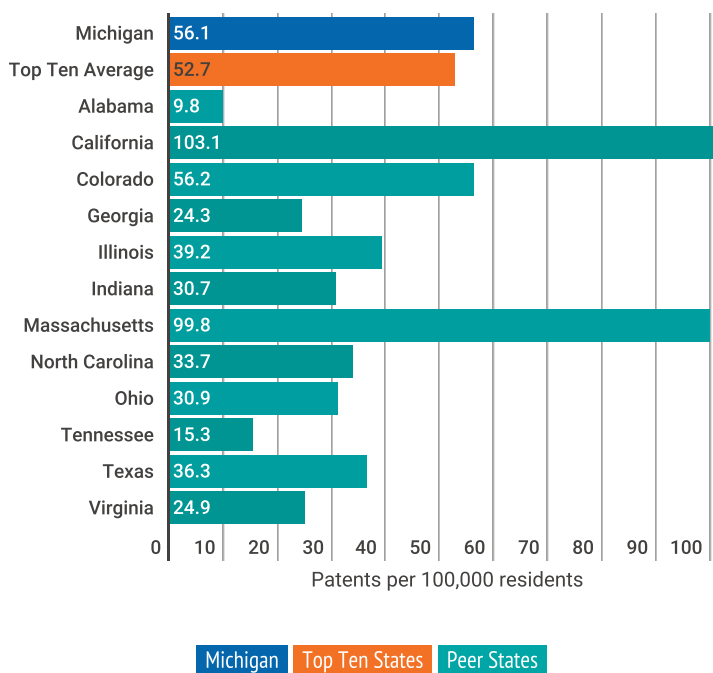
*Michigan ranked 10th in the nation in the number of patents issued and exceeded the “Top Ten” average. Michigan inventors were more prolific than those for all of its peers except Massachusetts, Colorado, and California on a per capita basis.*

Note: No new update is available in this category. Performance reflects that shown in prior year benchmarking report.

### U.S. Patent Trends



### U.S. Patent Standings

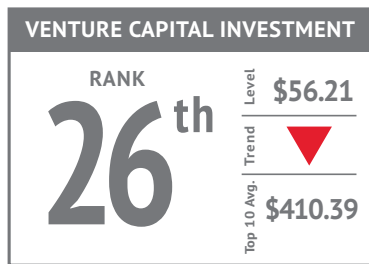


U.S. Patent & Trademark Office (Statistics), U.S. Census Bureau (Population Estimates)



# Venture Capital Investment

Per \$100,000 of GDP



**What it is:**

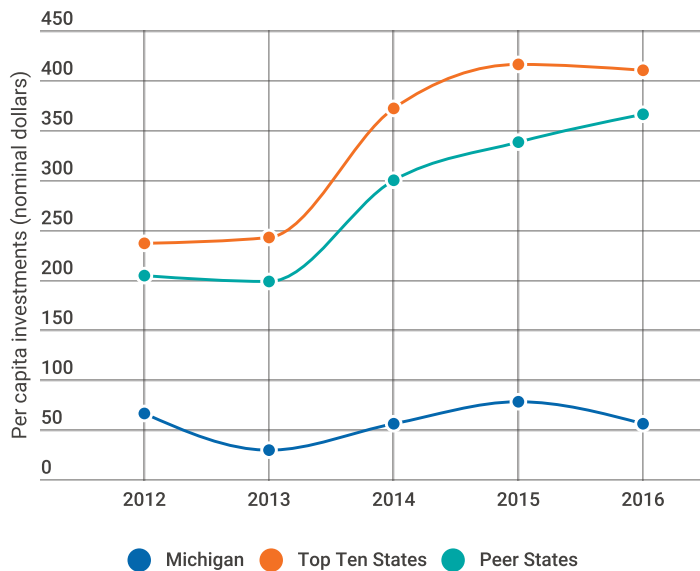
Total capital infusions by venture capital funds and investors per \$100,000 in nominal GDP.

**Why it matters:**

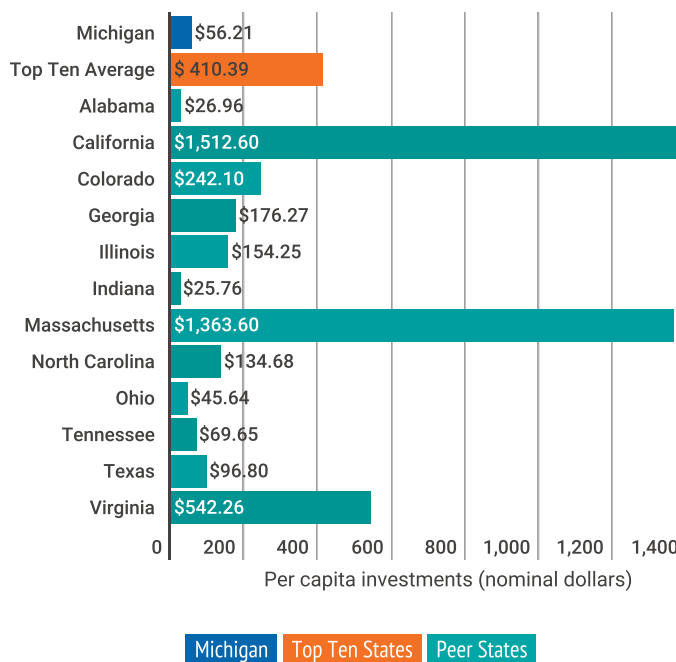
This measure indicates a state's leadership in innovation and entrepreneurship and ability to attract funding for high-risk firms.

*This is a volatile indicator. Venture capital investment in Michigan declined 28 percent from 2015 to 2016, although investment rates remain significantly higher than in 2007. Venture capital investment in Michigan is substantially lower than the "Top Ten" average, and lagged all but three peer states in 2016.*

Venture Capital Investment Trends



Venture Capital Investment Standings



input value

Business Leaders for Michigan | 2017 Economic Competitiveness Benchmarking Report

PWC/Moneytree Historical Trend Data

# Entrepreneurial Activity



**What it is:**

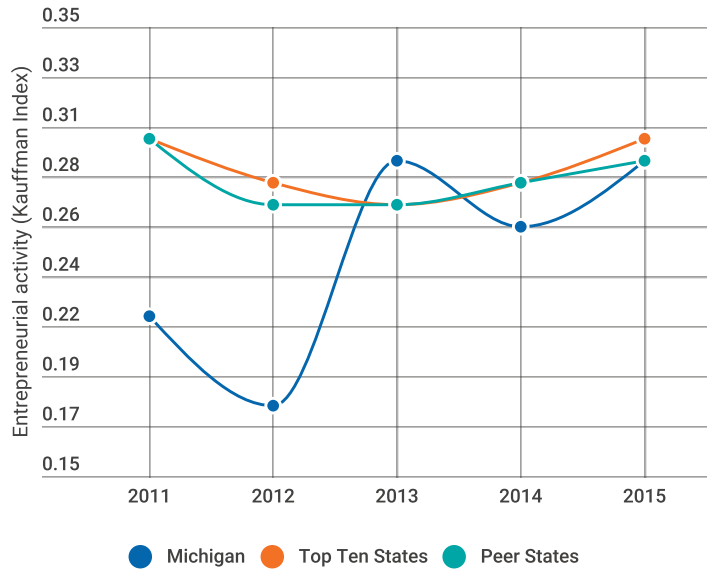
Kauffman Index of Entrepreneurial Activity (the share of individuals age 20 to 64 who previously did not own a business and subsequently started a business with 15 or more hours worked during the year).

**Why it matters:**

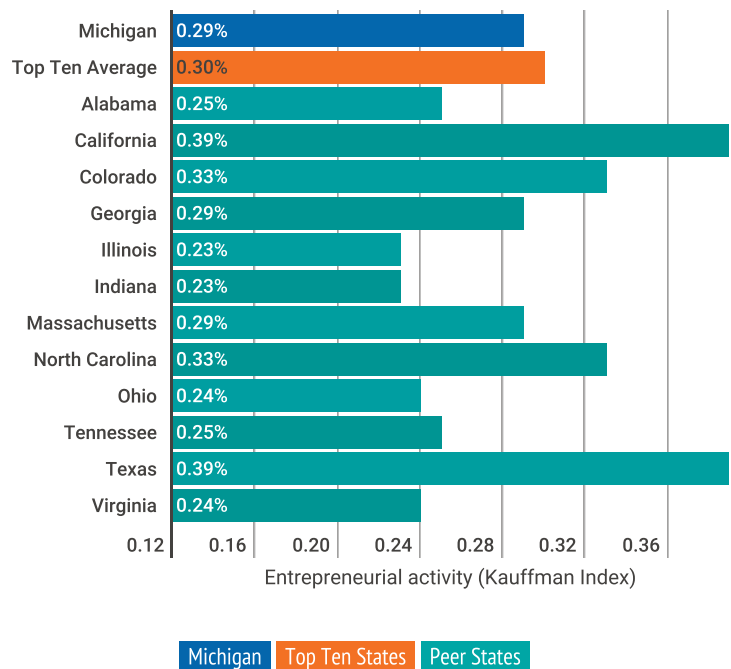
This measure indicates the number of entrepreneurs in the state. Greater entrepreneurship, in the right environment, can lead to more innovation and more successful businesses in the state.

*Entrepreneurial activity in Michigan was on par with the “Top Ten” average in 2015. Entrepreneurial activity in Michigan ranked in the middle of its peers in 2015, after ranking near the bottom of its peers in 2012.*

**Entrepreneurial Activity Trends**

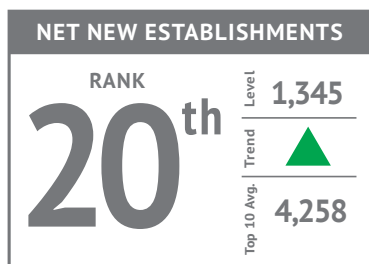


**Entrepreneurial Activity Standings**



Ewing Marion Kauffman Foundation (Kauffman Index of Entrepreneurial Activity)

# Net New Establishments



**What it is:**

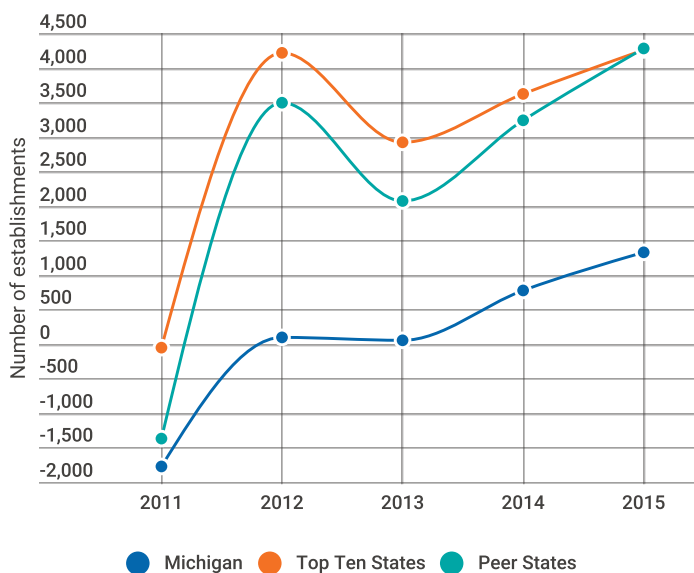
The number of new businesses opened during the year less the number of businesses closed.

**Why it matters:**

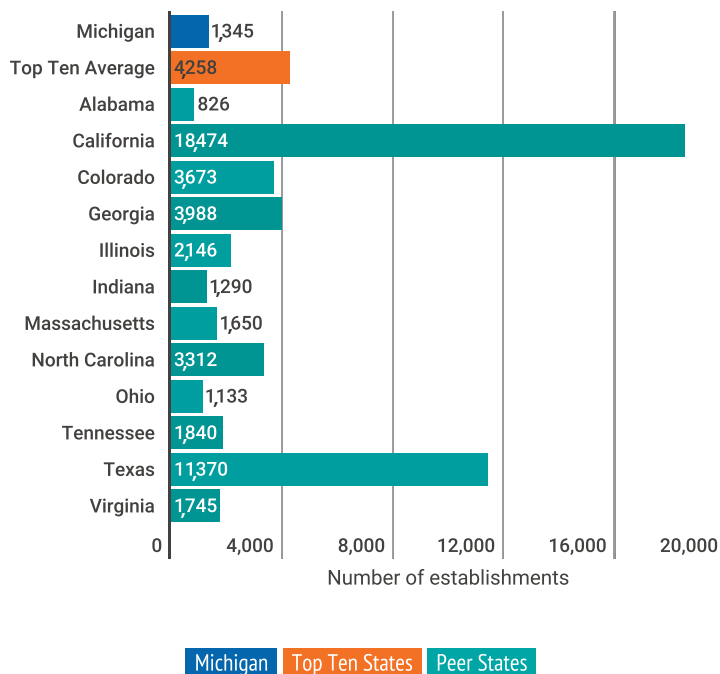
Independent of employment, new business creation can provide economic growth, a more stable economic foundation, and a more diverse economy.

*Michigan ranked 20th in 2015 in terms of net new business establishments—a significant improvement from 2010 when the state ranked 48th. However, Michigan’s new establishment rate still falls far below the “Top Ten” and peer state averages.*

**Net New Establishments Trends**

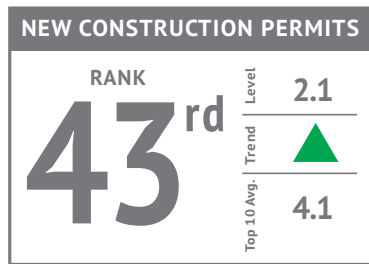


**Net New Establishments Standings**



input value

# New Construction Permits



**What it is:**

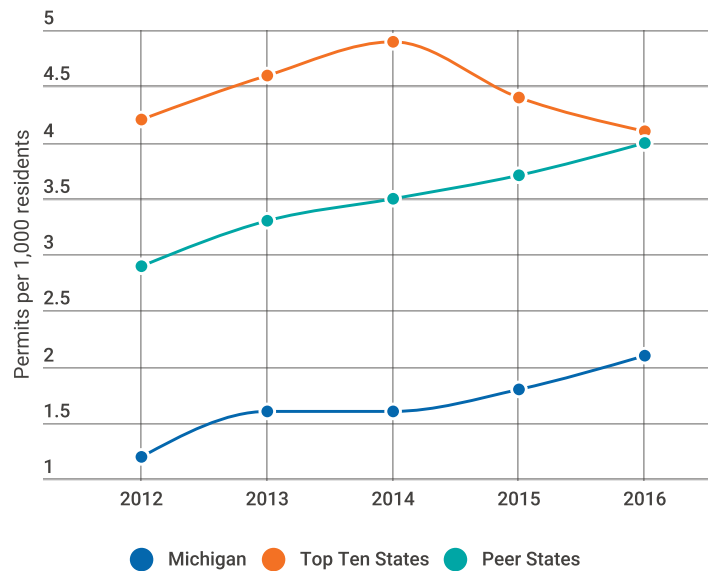
The number of new, privately owned, housing units authorized for construction per 1,000 residents.

**Why it matters:**

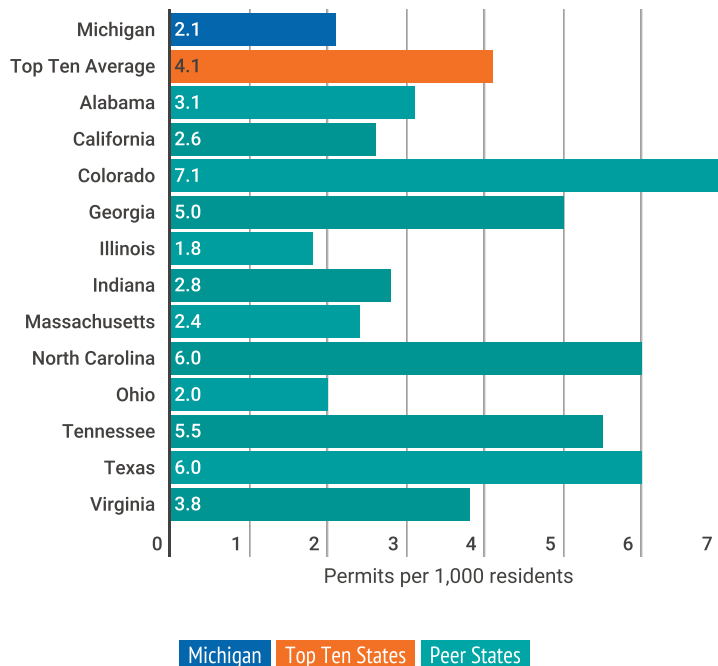
This measure indicates how quickly new housing stock is being created in the state—a proxy for growing population and household formation, and a source of economic growth.

*Permits for new construction in Michigan continued to improve in 2016. However, there were fewer new construction permits issued per capita in Michigan than in all “Top Ten” states save Pennsylvania. The state lagged behind all peer states except Illinois and Ohio.*

**New Construction Permit Trends**

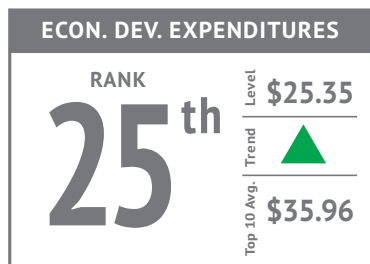


**New Construction Permit Standings**



U.S. Census Bureau (Building Permits Survey)

# Economic Development Expenditures



**What it is:**

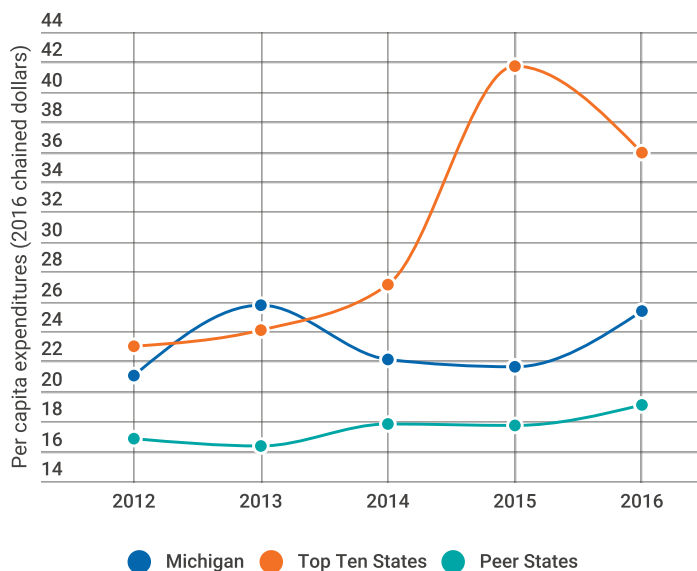
State and local government expenditures on economic development programs and incentives (2016 dollars), divided by population.

**Why it matters:**

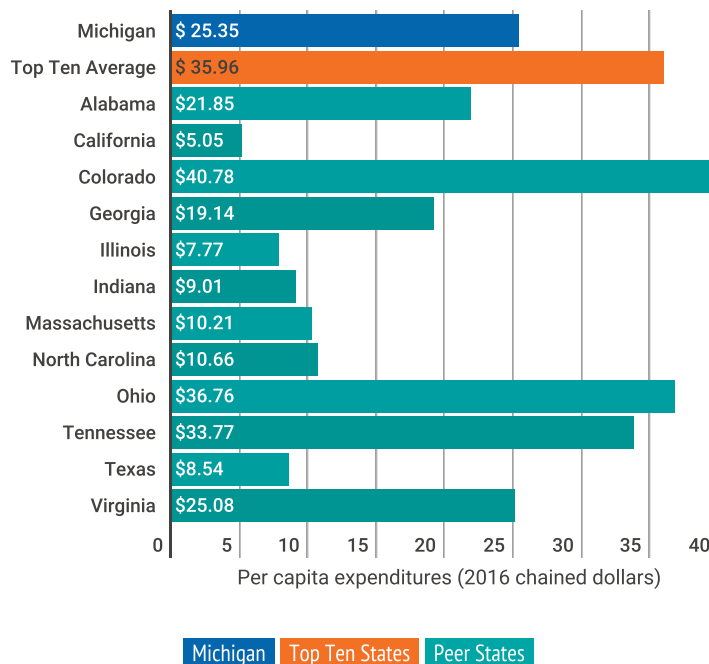
This measure indicates the total scale of public spending on economic development programs and incentives in a state. Well-targeted incentives can attract businesses and increase employment in a state.

*Michigan's economic development expenditures per capita in 2016 were 30 percent lower than the "Top Ten" average. Michigan ranked fourth among its peers in terms of the level of economic development expenditures and exceeded the peer state average.*

**Economic Development Expenditures Trends**



**Economic Development Expenditures Standings**

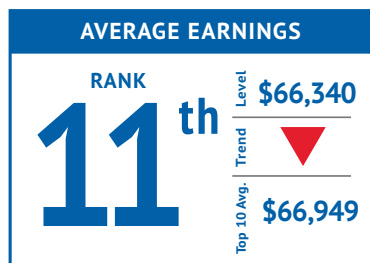


input value

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Council for Community and Economic Research (State Economic Development Expenditures Database), U.S. Census Bureau (Population Estimates)

# Key Assets – Average Earnings



**What it is:**

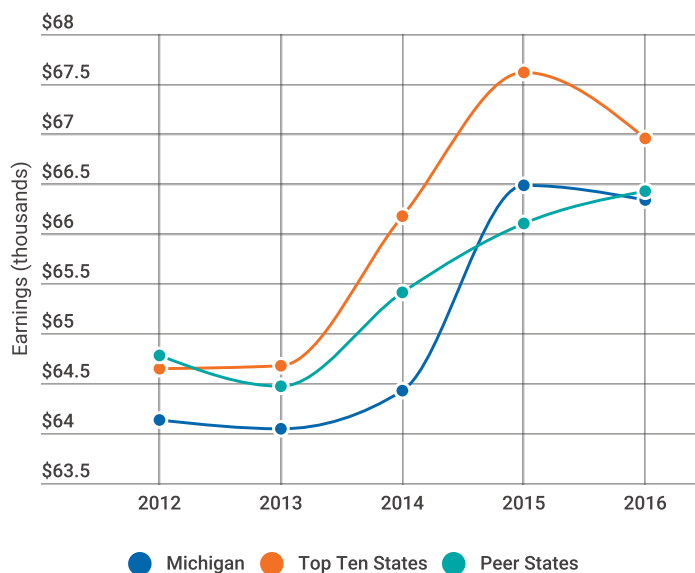
Average annual earnings (in 2016 dollars) in the engineering, geographic trade, higher education, life sciences, automotive, and natural resources sectors.

**Why it matters:**

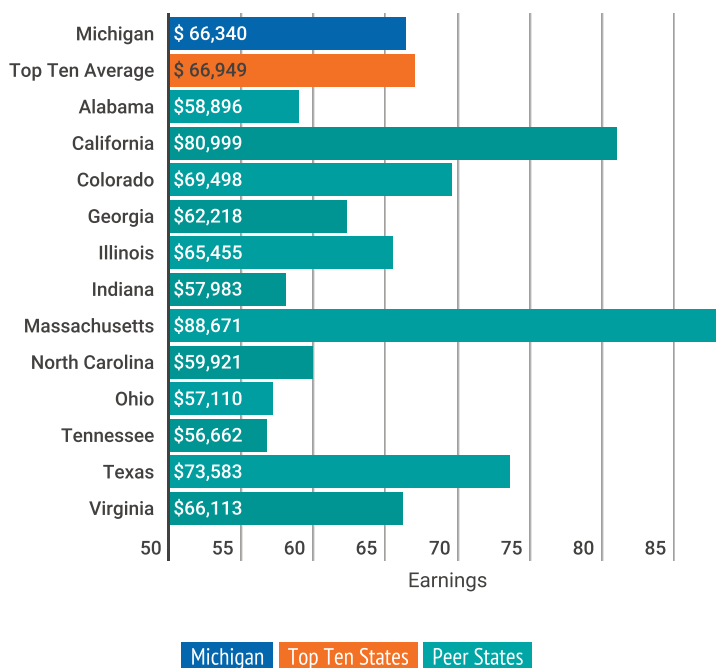
These six sectors represent major opportunities crucial for growing Michigan's economy and moving it forward in the new global economy. These three major indicators (GDP, employment, and earnings) show how these sectors are contributing to a state's production and to residents' well-being.

*Earnings in Michigan's key industries declined slightly between 2015 and 2016. The state's key industry earnings are slightly below the "Top Ten" average and are on par with the peer state average.*

Key Assets – Average Earnings Trends

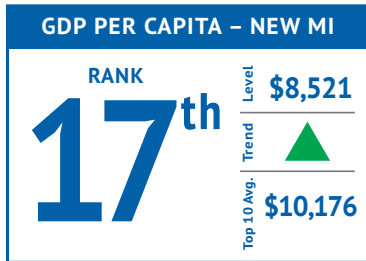


Key Assets – Average Earnings Standings



AEG analysis using base data from Bureau of Labor Statistics, Quarterly Census of Employment and Wages, American Association of Railroads, and the Integrated Postsecondary Education Data System (spreadsheets)

# Key Assets – Real GDP Per Capita



**What it is:**

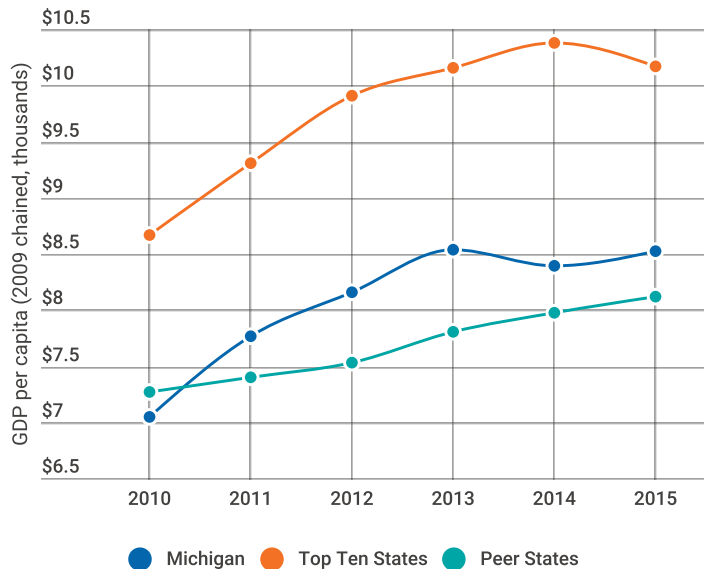
Real GDP in the engineering, geographic trade, higher education, life sciences, automotive, and natural resources sectors.

**Why it matters:**

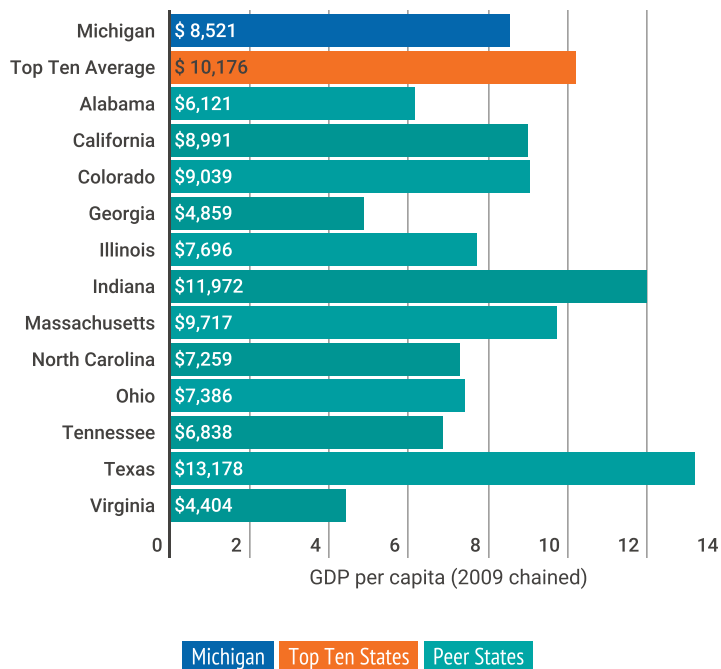
These six sectors represent major opportunities crucial for growing Michigan's economy and moving it forward in the new global economy. These three major indicators (GDP, employment, and earnings) show how these sectors are contributing to a state's production and to residents' well-being.

*Real GDP among key industries has improved considerably over the past few years, but Michigan ranks in the middle of the pack among its peers and below the "Top Ten" average.*

**Key Assets – Real GDP Per Capita Trends**



**Key Assets – Real GDP Per Capita Standings**



input  
value

AEG analysis using base data from Bureau of Labor Statistics, Quarterly Census of Employment and Wages, American Association of Railroads, and the Integrated Postsecondary Education Data System (spreadsheets)

# Key Assets – Share of National Employment



**What it is:**

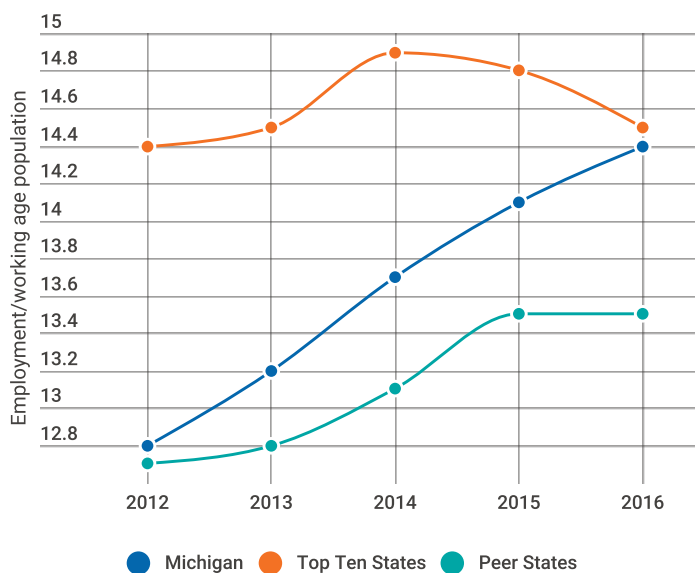
Employment as a share of working-age population in the engineering, geographic trade, higher education, life sciences, automotive, and natural resources sectors.

**Why it matters:**

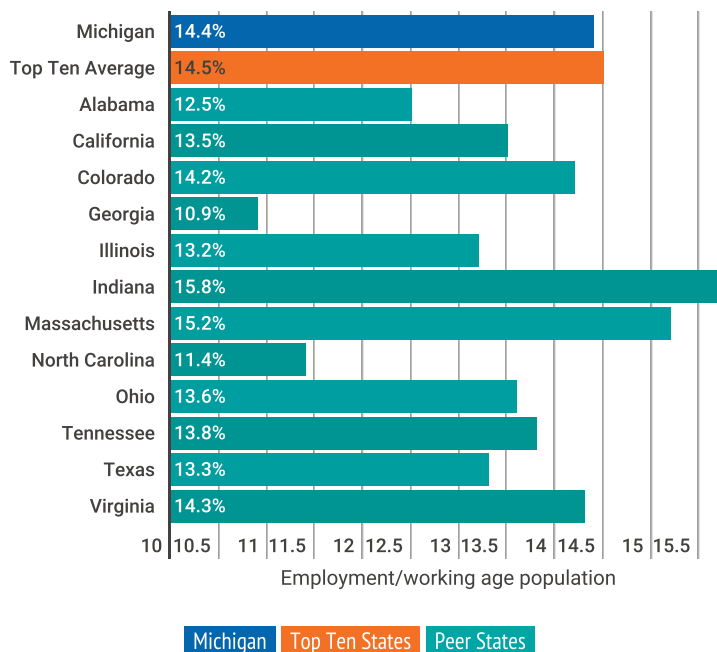
These six sectors represent major opportunities crucial for growing Michigan's economy and moving it forward in the new global economy. These three major indicators (GDP, employment, and earnings) show how these sectors are contributing to a state's production and to residents' well-being.

*Michigan's share of the working age population working in key opportunity industries increased by 0.3 percent between 2015 and 2016 and is close to the "Top Ten" state average. Michigan also exceeds the peer state average.*

**Key Assets - Share of National Employment Trends**



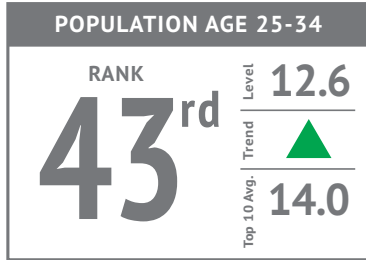
**Key Assets - Share of National Employment Standings**



AEG analysis using base data from Bureau of Labor Statistics, Quarterly Census of Employment and Wages and the US Census Bureau (spreadsheets)



# Population Age 25-34



**What it is:**

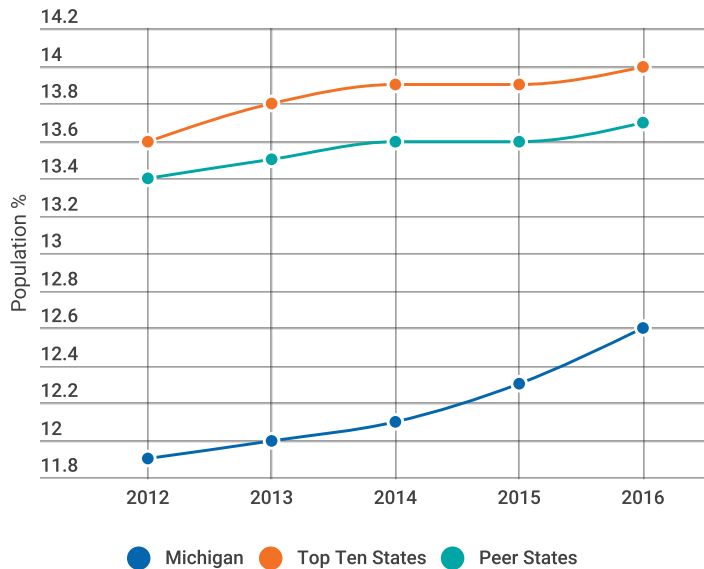
The percent of a state's population between the ages of 25 and 34.

**Why it matters:**

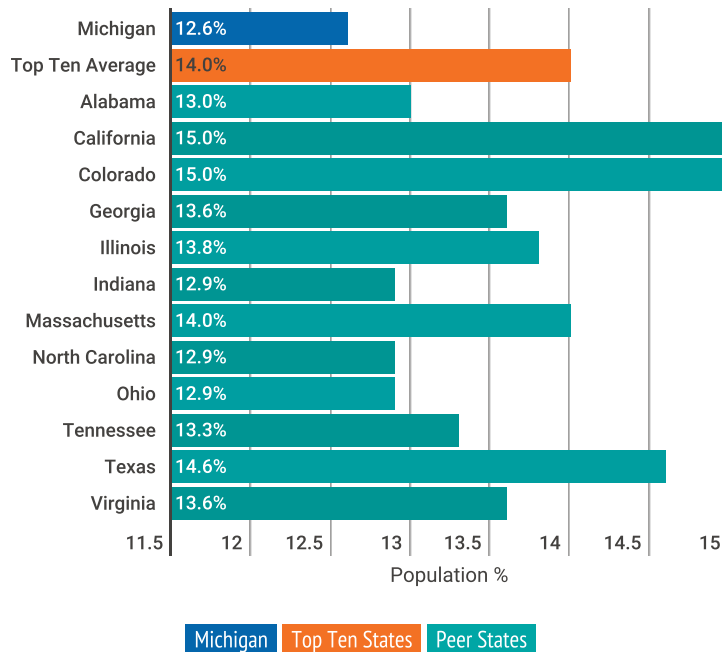
Growth in prime working-age population is an indicator for how well a state attracts and retains workers. This affects a state's ability to grow, attract businesses, and maintain public infrastructure and programs.

*The percentage of young working-age people in Michigan has increased by 0.7 percentage points since 2012. However, Michigan has the lowest percentage of population age 25–34 among all of its peers and among all “Top Ten” states.*

Population Age 25-34 Trends

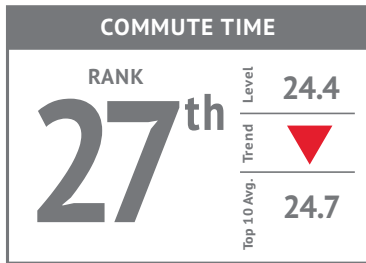


Population Age 25-34 Standings



input value

# Commute Time



**What it is:**

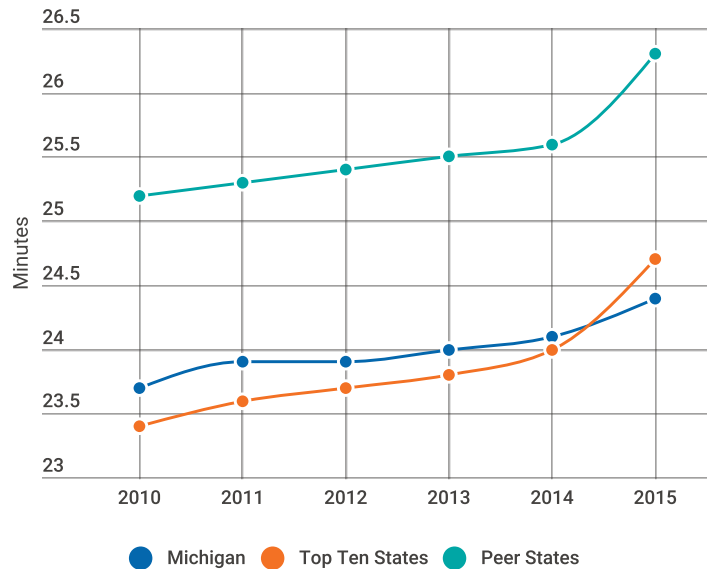
The average number of minutes it takes for a worker to travel to and from work.

**Why it matters:**

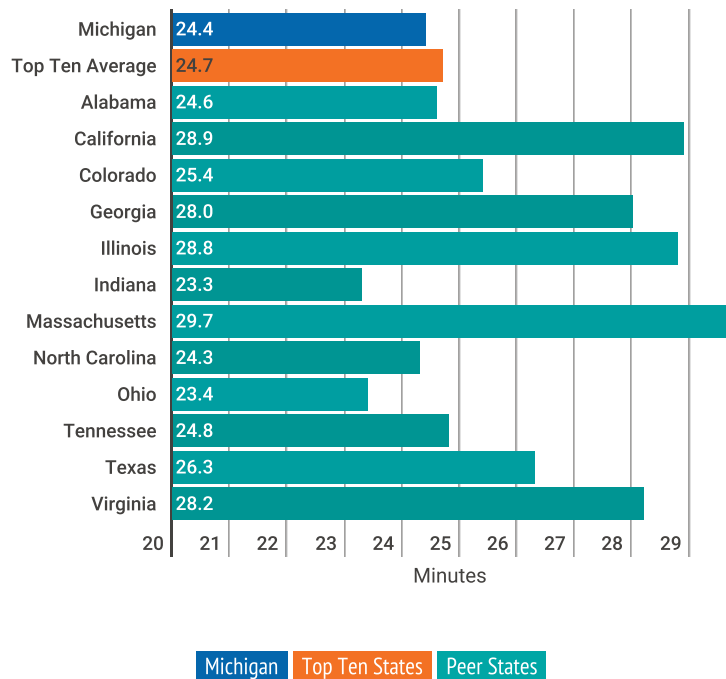
A shorter commute time means easier access to jobs for workers and less productive time wasted during commutes.

*Michigan ranks in the middle of all states for commute time, nearly equal to the “Top Ten” average but shorter than the average commute time of peer states.*

## Commute Time Trends

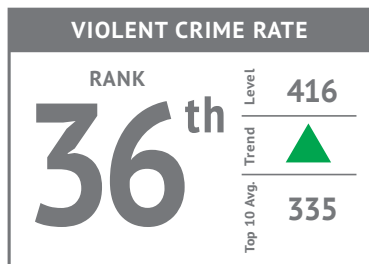


## Commute Time Standings



U.S. Census Bureau (American Community Survey—Commuting Characteristics by Sex)

# Violent Crime Rate



**What it is:**

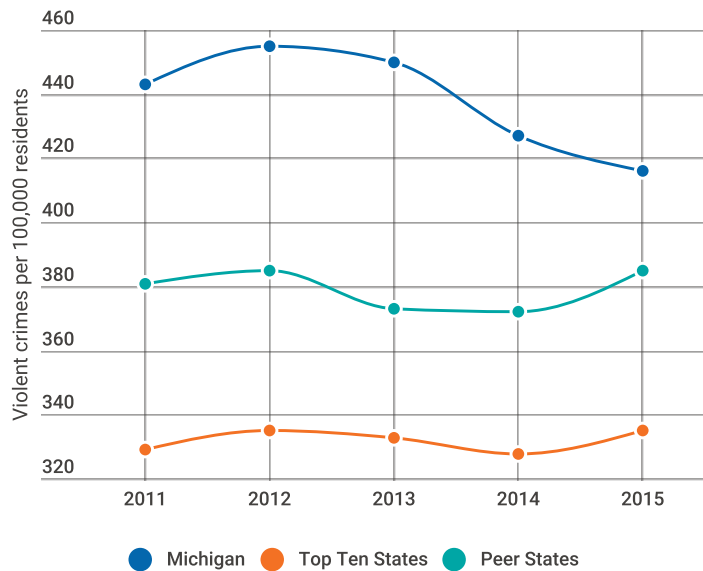
The number of violent crimes per 100,000 residents.

**Why it matters:**

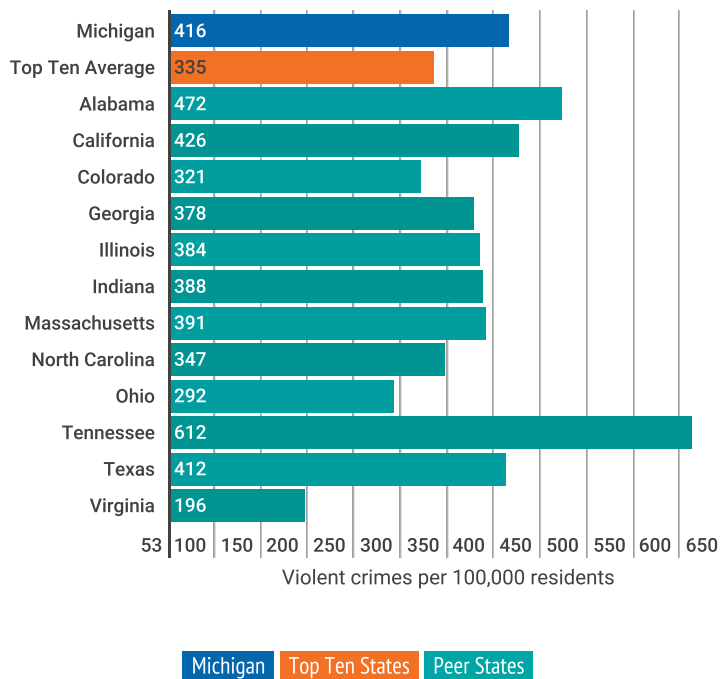
Lower violent crime means a safer living and working environment, making the state a more attractive place to live and start a business.

*Violent crime rates in Michigan fell slightly from 2014 to 2015, and remain far below the rates of five to 10 years ago. That said, Michigan violent crime rates are above the “Top Ten” average and higher than all peer states except Alabama, California, and Tennessee.*

**Violent Crime Rate Trends**

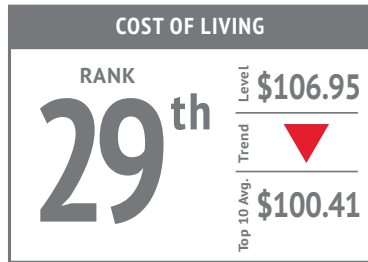


**Violent Crime Rate Standings**



input value

# Cost of Living



**What it is:**

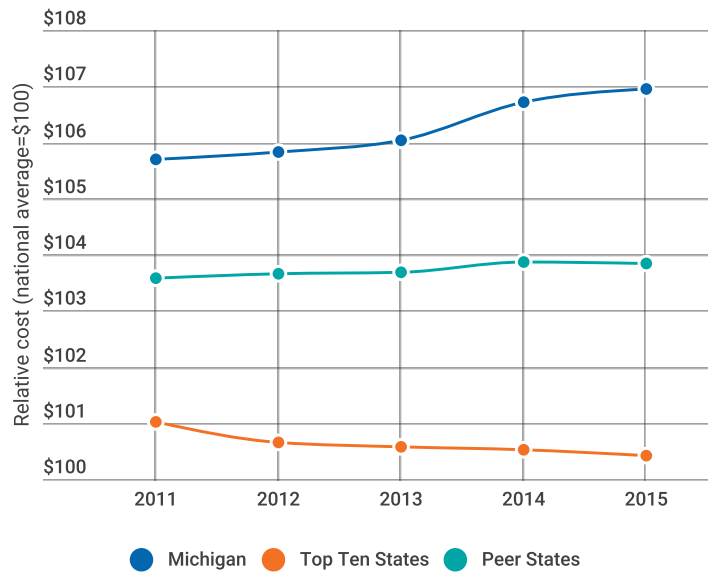
An estimation of the differences in the price levels of goods and services across states.

**Why it matters:**

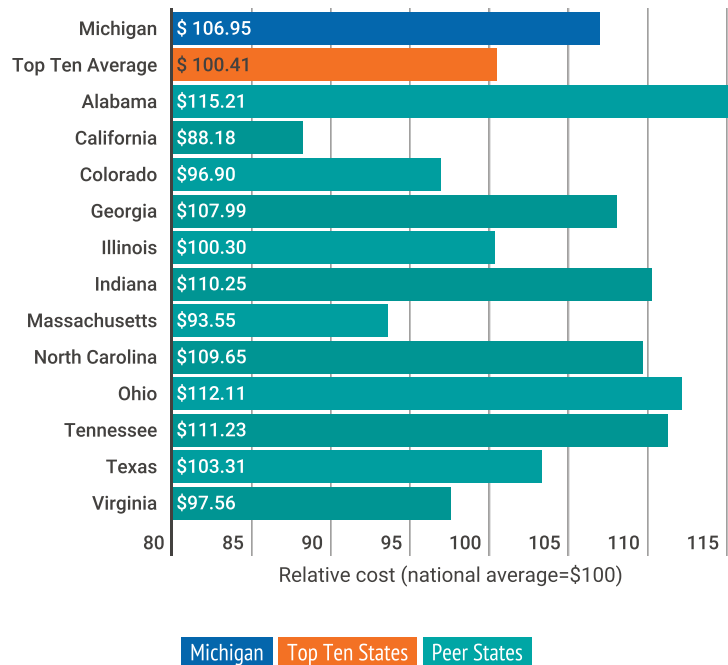
A higher cost of living means businesses and households must pay more for an identical good or service. This can indicate a high desire to live in an area, but can also prevent businesses and households from purchasing necessary items.

*Michigan ranks in the bottom half of states as measured by cost of living. The average of "Top Ten" states was \$6 lower for the same basket of goods. Michigan ranks in the middle among peer states.*

## Cost of Living Trends



## Cost of Living Standings



## Input Conclusions

In 2016, Michigan continued to hold steady with respect to most cost inputs; the state has done well in terms of making it affordable for employers to locate and expand here. As other states and nations continue to improve their own cost structures, however, Michigan must continue to drive forward efforts to remain competitive from a cost standpoint.

The state's value inputs remain mixed, with talent and infrastructure gaps continuing in 2016. Michigan's educational results lag those of most other states and, with a population that continues to age out of the workforce, the state is likely to face a critical shortage of skilled workers to help attract the business opportunities Michigan needs. Michigan's infrastructure also continues to lag most other states. While key strength areas—innovation, R&D and exports—remain solid, they are not enough to drive site selection decisions in Michigan's favor without improvements in other core value inputs.

# Michigan's Regional Performance

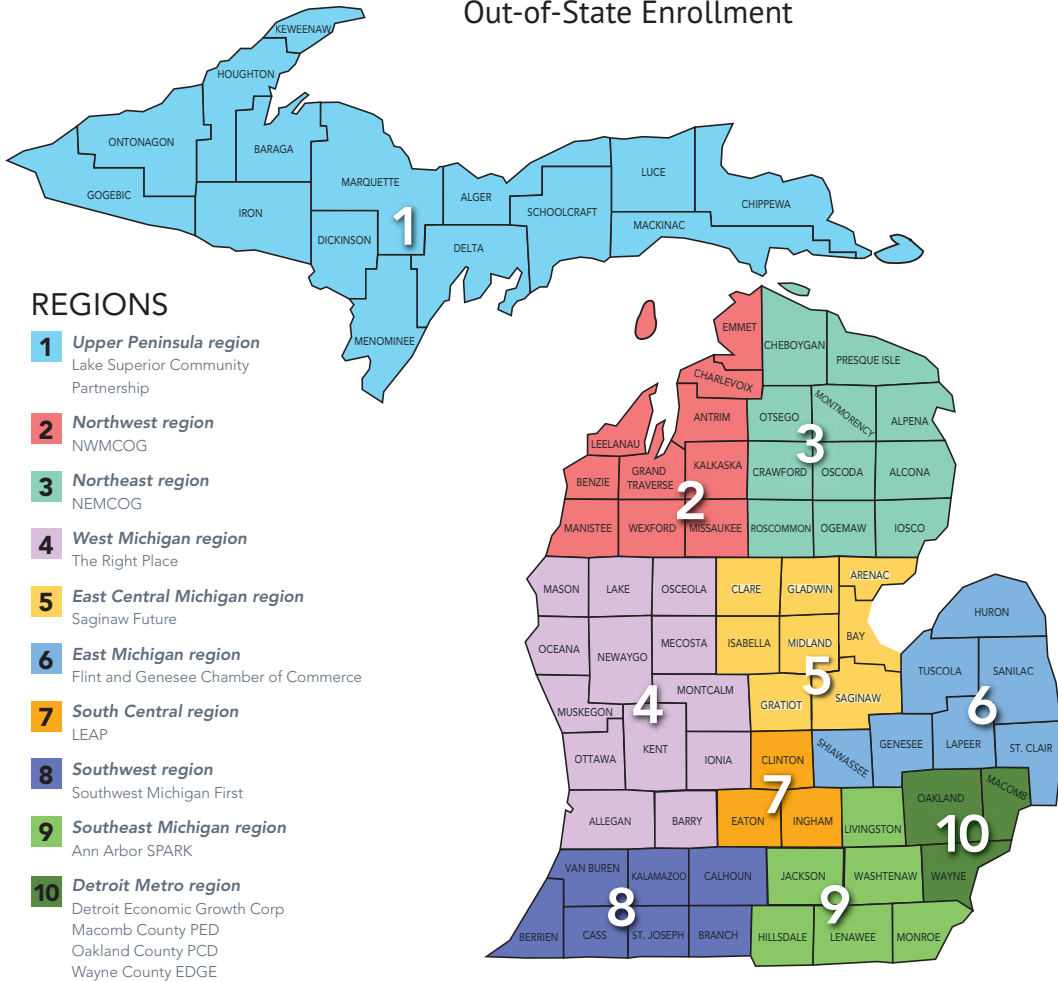
Michigan is not one economy; rather it is multiple economies identified by common regional assets. This section illustrates the economic performance of Michigan's regions over the last five years.

## Output

- Employment Growth
- Unemployment Rate
- Labor Force Growth
- Per Capita Personal Income
- Population

## Input

- Educational Attainment
- Degrees Conferred
- Technical Education
- Patents Per Capita
- Population Age 25-34
- New Construction Permits
- Out-of-State Enrollment



# Employment Growth

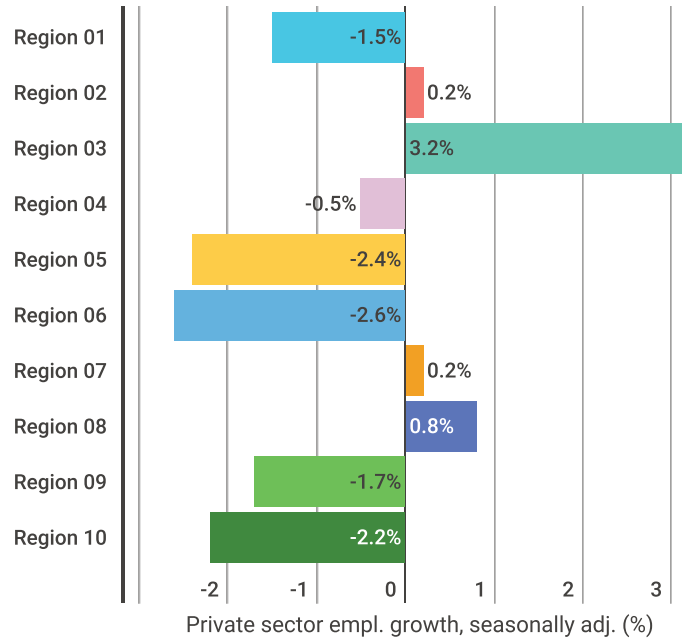
**What it is:**

Year-over-year change in the number of residents with a private-sector job.

**Why it matters:**

Higher levels of private employment indicate both economic strength and prosperity among the state's residents.

## 2011-16 Employment CAGR



Bureau of Labor Statistics (Quarterly Census of Employment and Wages)

# Unemployment Rate

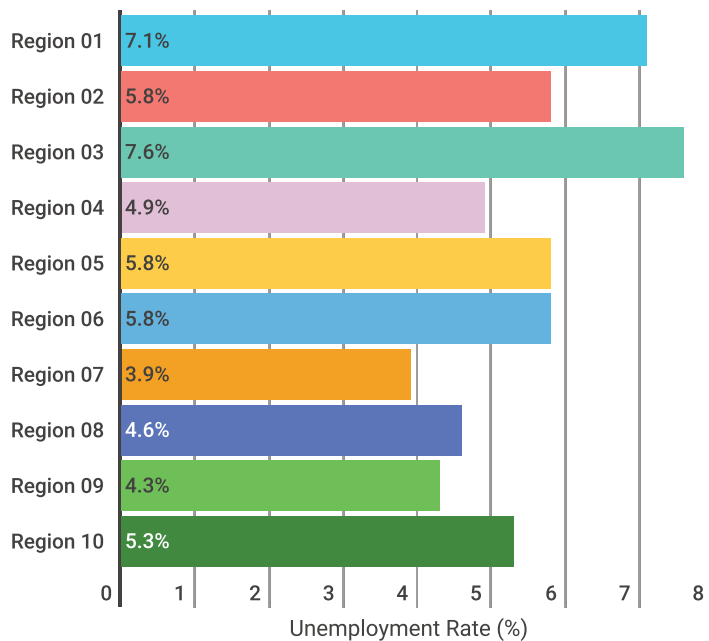
**What it is:**

Average share of labor force that is looking for work but does not have a job.

**Why it matters:**

A lower unemployment rate indicates that more residents are able to find employment.

## 2016 Unemployment Rate



Bureau of Labor Statistics (Local Area Unemployment Statistics)

## Labor Force Growth

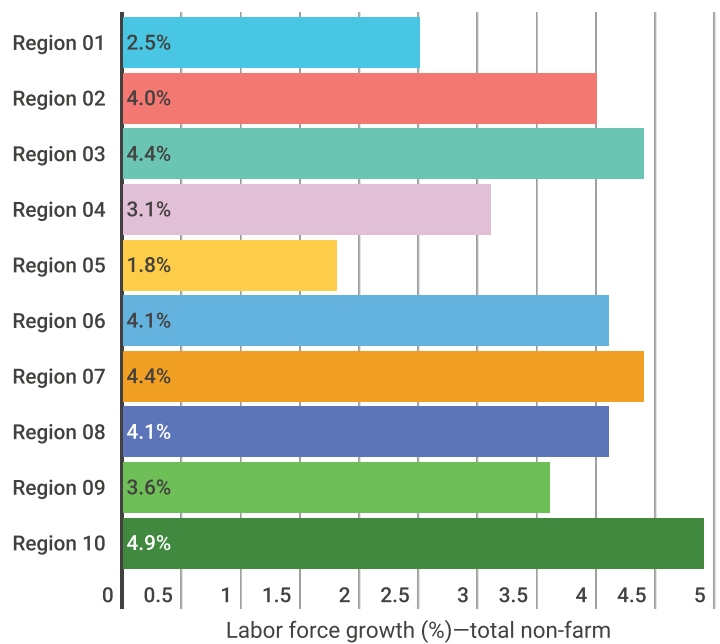
**What it is:**

The share of the population age 16 and older, not including residents who are on active duty or institutionalized, that is employed or looking for work.

**Why it matters:**

Members of the working-age population can stop looking for work and drop out of the labor force due to many reasons, including disability, old age, or discouragement. Higher labor force participation is a sign of a healthier economy and workforce.

2011–16 Labor Force CAGR



Bureau of Economic Analysis (Personal Income Summary),  
Bureau of Labor Statistics (CPI Inflation Calculator)

## Educational Attainment

**What it is:**

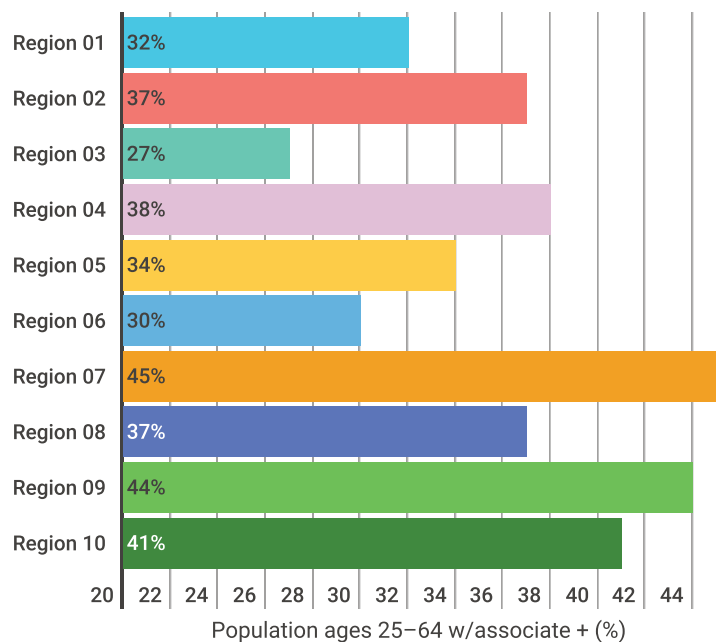
Share of residents aged 25 to 64 with an associate degree or higher.

**Why it matters:**

The availability of highly educated talent can promote future growth of the economy, particularly in highly skilled professions. More education also correlates strongly with higher wages.

*Note: No new update is available in this category. Performance reflects that shown in prior year benchmarking report.*

2010–14 Educational Attainment



U.S. Census Bureau (American Community Survey)



# Per Capita Personal Income

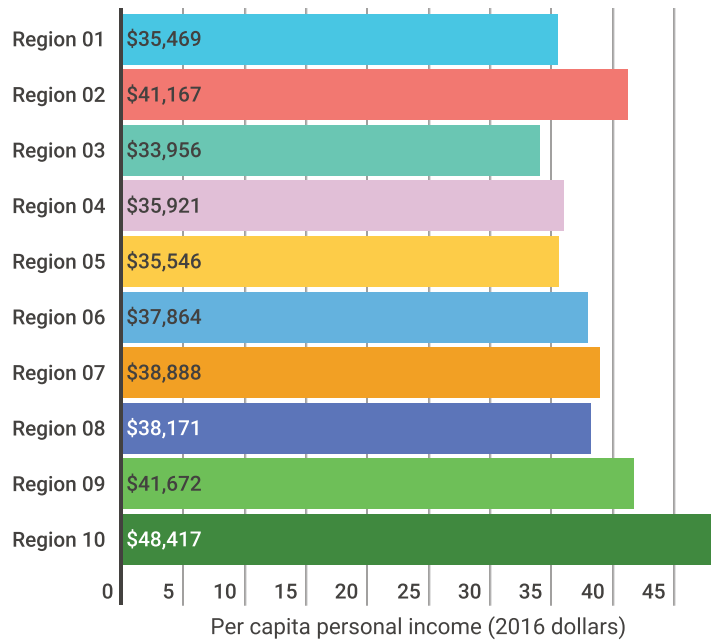
## What it is:

Personal income (2016 dollars) divided by population. Personal income includes salaries, wages, and bonuses from employment; dividends and interest from investments; rental income; pensions, etc.

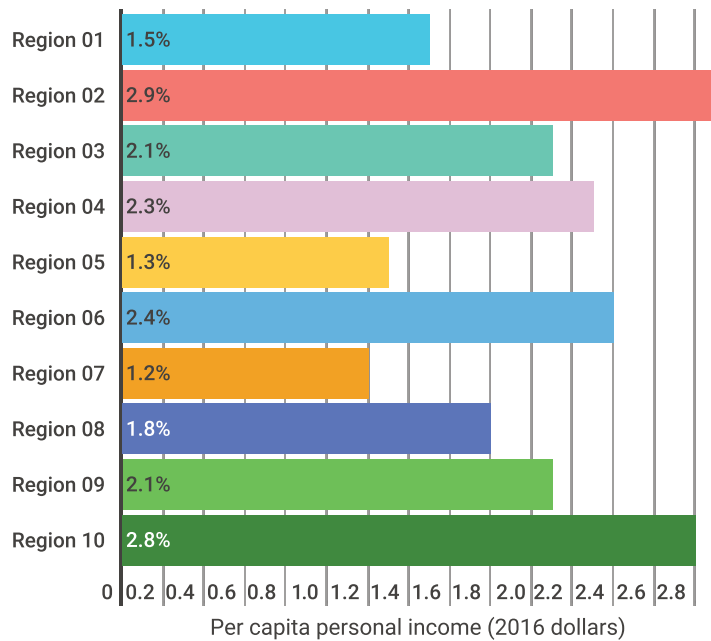
## Why it matters:

This is an indicator of prosperity and average standard of living in a state.

### 2015 Per Capita Personal Income



### 2010-15 Per Capita Personal Income CAGR



Bureau of Economic Analysis (Personal Income Table SA5),  
Bureau of Labor Statistics (CPI Inflation Calculator)

# Population

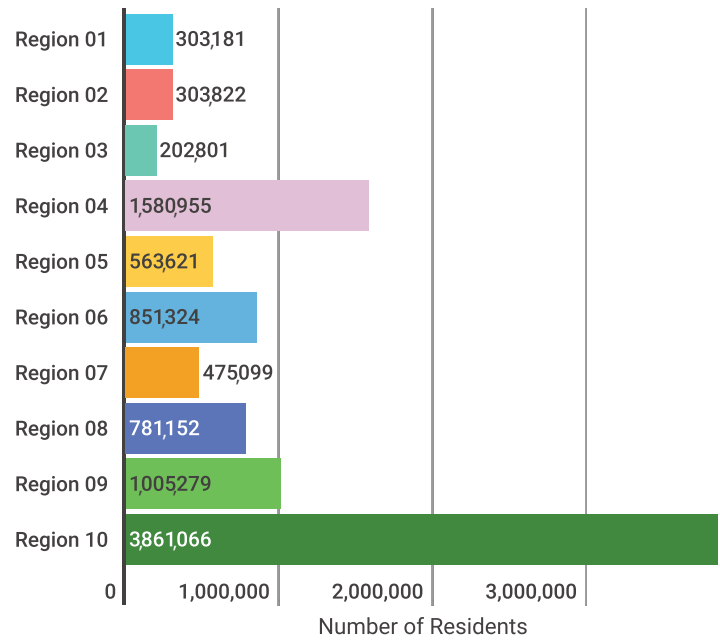
**What it is:**

Total number of residents.

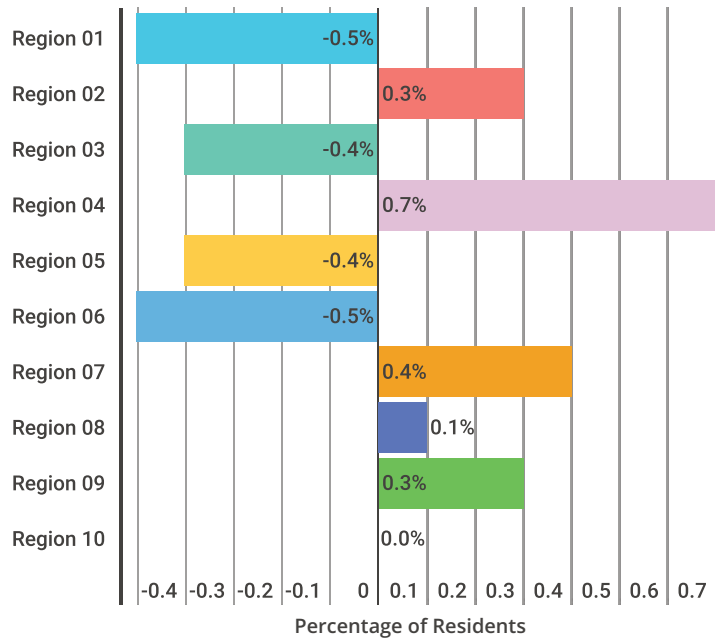
**Why it matters:**

Growth in population is an indicator for how well a state attracts and retains residents. It also affects a state's ability to support shared responsibilities such as maintaining infrastructure and providing education.

**2016 Population**



**2011-16 Population CAGR**



U.S. Census Bureau (Population Estimates)

# Degrees Conferred

**What it is:**

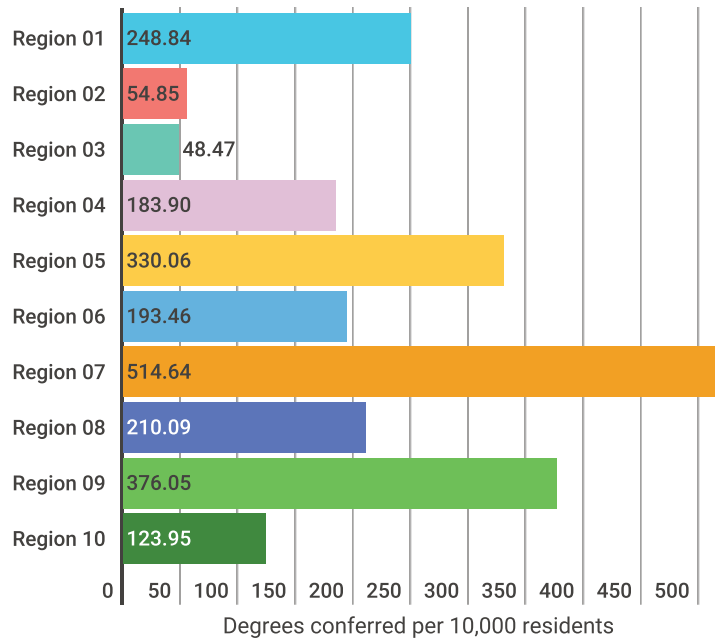
Total associate, bachelor's, master's, and doctorate degrees conferred per 10,000 residents by public and private institutions.

**Why it matters:**

Educational attainment is a factor in assessing the quality of a state's talent pool.

*Note: Degrees include associate, bachelor's, and graduate/professional degrees. Higher education institutions include all public and private degree-granting institutions. All years are consistent in their inclusion of degrees whether first or second majors.*

## 2015 Degrees Conferred



*National Center for Education Statistics (Integrated Postsecondary Education Data System), U.S. Census Bureau (Population Estimates)*

# Technical Education

## Critical Skills Degrees and Certificates

**What it is:**

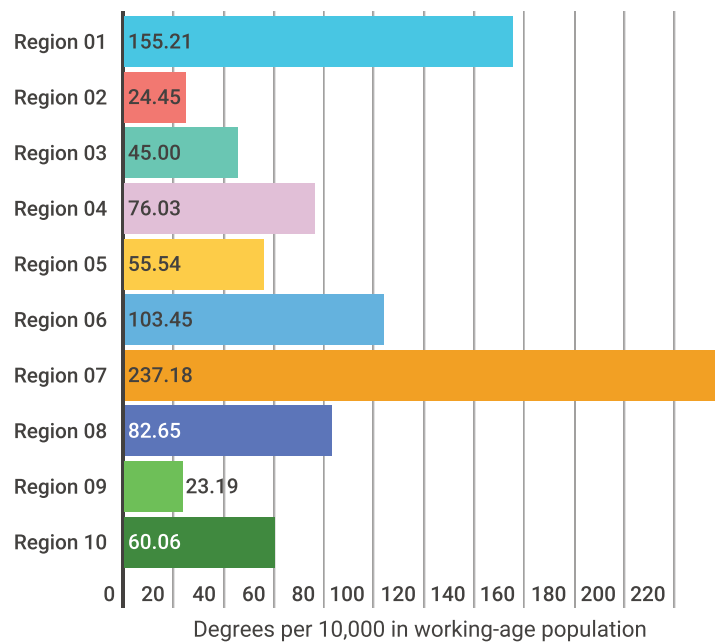
Total critical skills degrees and certificates conferred divided by the working age population (ages 20 through 64, inclusive).

**Why it matters:**

These degrees especially prepare students for high-skilled occupations, particularly in the STEM fields, which are the types of jobs Michigan expects to increase in the future.

*Note: Higher education institutions include all public and private degree-granting institutions. Differences in this year's data reflect revisions as a result of newer data being collected.*

## 2016 Technical Education



*National Center for Education Statistics (Integrated Postsecondary Education Data System), U.S. Census Bureau (Population Estimates)*

## Patents Per Capita

**What it is:**

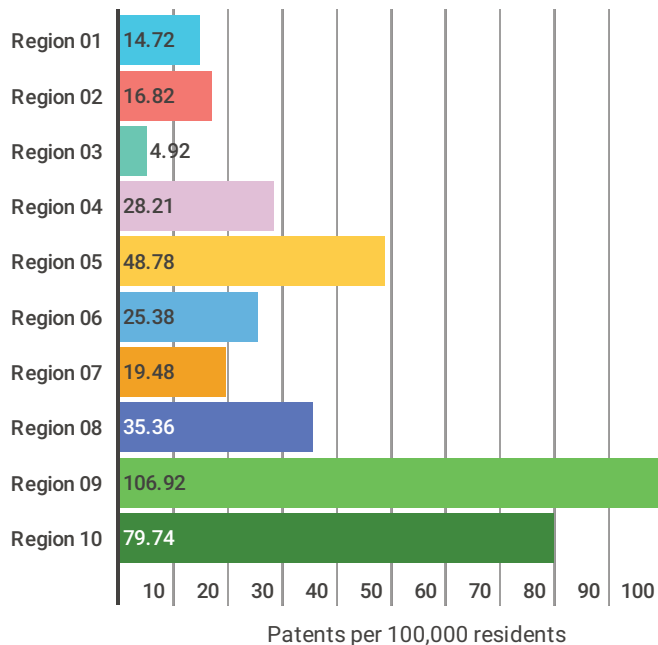
Number of U.S. patents awarded per 100,000 residents.

**Why it matters:**

Patents provide an incentive for innovators and entrepreneurs to improve technology. The states whose residents are the source of this innovation have an advantage in reaping the economic benefits derived from them.

*Note: No new update is available in this category. Performance reflects that shown in prior year benchmarking report.*

### 2015 Patents Per Capita



*U.S. Patent and Trademark Office (Patents By Country, State, and Year - Utility Patents), U.S. Census Bureau (Population Estimates)*

## Population Age 25-34

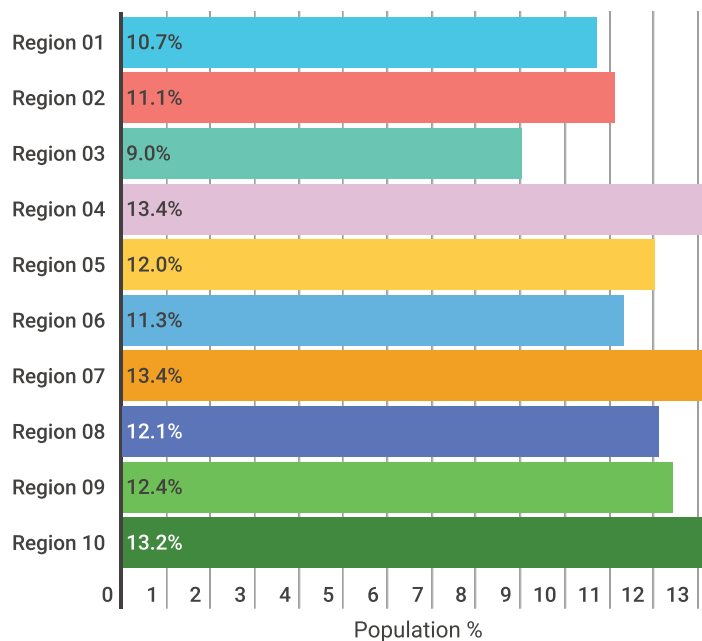
**What it is:**

The percent of a state's population between the ages of 25 and 34.

**Why it matters:**

Growth in prime working-age population is an indicator for how well a state attracts and retains workers. This affects a state's ability to grow, attract businesses, and maintain public infrastructure and programs.

### 2016 Population Age 25-34



*Intercensal Estimates of the Resident Population by Sex and Age for States 2000-2010 Annual Estimates of the Resident Population for Selected Age by Sex 2010-2015*

## New Construction Permits

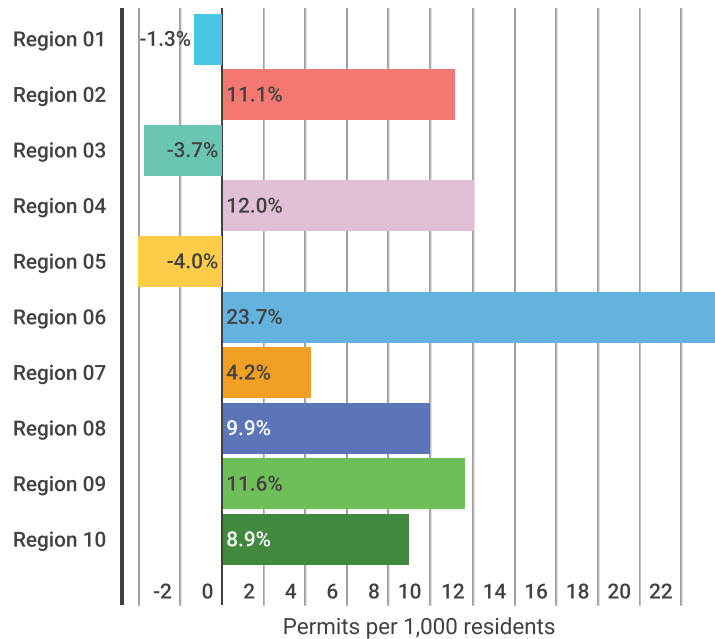
### What it is:

The number of new, privately owned housing units authorized for construction per 1,000 residents.

### Why it matters:

This measure indicates how quickly new housing stock is being created in the state—a proxy for growing population and household formation, and a source of economic growth.

### 2011-16 New Construction Permits CAGR



U.S. Census Bureau (Building Permit Survey)

## Out-of-State Enrollment

### What it is:

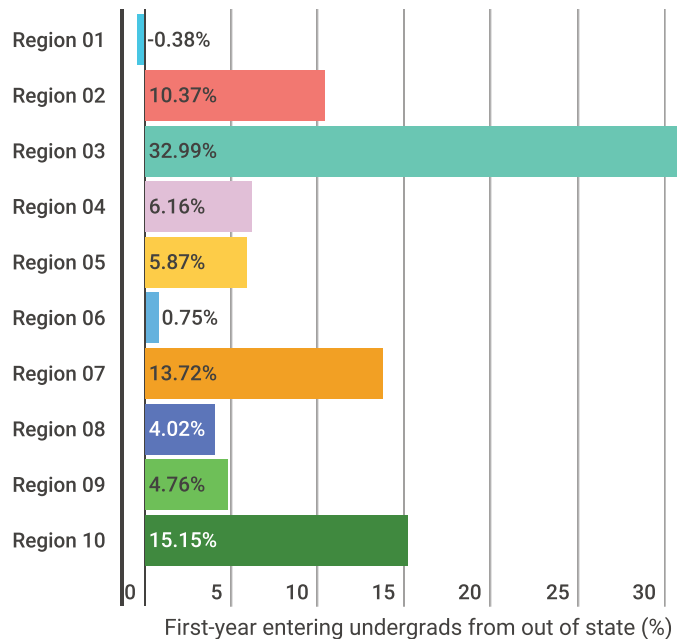
Percent of first-year undergraduates from out of state.

### Why it matters:

This indicates how well higher education institutions are attracting students from out-of-state to provide an infusion of talent and capital. This should be compared with in-state enrollment to ensure that states are maintaining in-state enrollment.

*Note: No new update is available in this category. Performance reflects that shown in prior year benchmarking report.*

### 2010-2014 Average Annual Enrollment Change CAGR



NCES Residence and Migration of First-time Degree Seeking Undergraduates

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 Western Michigan

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