The Detroit Regional Chamber is proud to bring the business community the sixth annual State of the Region, which benchmarks the Detroit region’s economic health against our national peers.

The region has continued to progress over the past year. Job growth, office and industrial vacancy rates, and median home values are all a testament to that. Over the past five years, the region has experienced significant median household income growth of 15.3% since 2014, rising to $60,513.

This report not only highlights where the region is performing well, it also showcases areas for continued improvement. This past July, the unemployment rate increased for the first time since 2009 and despite increases in values, the region is last among peers in key economic indicators including educational attainment and labor force participation. Detroit’s poverty rate, while declining over the past five years, still remains the highest among peers. Progress is being made, but we cannot take our eye off the prize.

Through the University Economic Analysis Partnership – a collaboration between the City of Detroit, Michigan State University, University of Michigan and Wayne State University – the City will be providing Detroit-specific data that will help the city and region to better measure areas of opportunity and continue on an upward trajectory.

Moving into a new decade, there is a lot to celebrate and to double down on. Through regional collaboration and continued support from civic, business, and government leadership, the city, region, and state will continue to build on the progress that has been made.

Sandy K. Baruah
President and CEO
Detroit Regional Chamber

Detroit is keeping pace with our evolving economy. Our talent pool, affordable real estate and low cost of living have created a technology boom in our region, fueling a sense of optimism among both small and large organizations.

The future of transportation is being born right here with new technologies like autonomous vehicles and green mobility. The Motor City remains a leader in the automotive industry, undeterred by the rapid technological changes needed to compete in today’s market. And young people are noticing. Since 2014, Detroit’s millennial population has increased by 10.9%, ranking us second among peer regions.

Innovation and an entrepreneurial spirit are thriving in Michigan, demonstrated by our remarkable patent record over the last five years. Between 2014 and 2018, we’ve seen a 30.6% increase in the number of patents awarded, over 26 percentage points above the national average.

At Citizens, we’re excited to see continued economic growth, but work remains to be done to ensure the overall health of our region. That is why we continue to support local organizations to strengthen our community, including the Detroit Regional Chamber with its focus on education, economic development and workforce preparedness, as well as the Gleaners Community Food Bank that works to provide a hunger-free summer to children.

We’re happy to join you as we recognize our region’s success over the past year – and look forward to working together to ensure an even brighter future.

Rick Hampson
President, Michigan
Citizens Bank

Equip your business with the comprehensive data resource it needs. Explore the Detroit Regional Data Center to create custom charts and graphics, stay informed on industry performance, track economic trends, and understand the region’s changing demographics.

Learn more at detroitdatacenter.org
DEFINING THE REGION

The Detroit region is a united 11-county area that encompasses more than 300 municipalities and 7,062 square miles with rich geographic, human, and business assets. Home to numerous best-in-class educational institutions and more than 300,000 businesses including 10 Fortune 500 companies, and 1,300 foreign firms from 38 countries – the region has the talent, resources, and cutting-edge facilities to drive innovation. Anchored by the city of Detroit and located on an international border supported by robust logistics infrastructure, the region offers unrivaled opportunities to compete in the global economy.

With a population more than 5.4 million people, the region has seen 0.6% growth since 2010. The counties that have experienced the largest growth include Washtenaw, Livingston, and Oakland.

Note: Data benchmarked against peer Metropolitan Statistical Areas (MSA) use the six-county Detroit region. All other data, unless specified city or state, use the 11-county Detroit region.

POPULATION OVERVIEW 2018

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Detroit Region</td>
<td>5,389,392</td>
<td>5,421,194</td>
<td>0.6</td>
<td>2,151,419</td>
</tr>
<tr>
<td>Genesee</td>
<td>425,790</td>
<td>406,892</td>
<td>(4.4)</td>
<td>169,469</td>
</tr>
<tr>
<td>Lapeer</td>
<td>88,319</td>
<td>88,028</td>
<td>(0.3)</td>
<td>33,560</td>
</tr>
<tr>
<td>Lenawee</td>
<td>99,892</td>
<td>98,266</td>
<td>(1.6)</td>
<td>38,388</td>
</tr>
<tr>
<td>Livingston</td>
<td>180,967</td>
<td>191,224</td>
<td>5.7</td>
<td>72,676</td>
</tr>
<tr>
<td>Macomb</td>
<td>840,978</td>
<td>874,759</td>
<td>4.0</td>
<td>347,508</td>
</tr>
<tr>
<td>Monroe</td>
<td>152,021</td>
<td>150,439</td>
<td>(1.0)</td>
<td>61,586</td>
</tr>
<tr>
<td>Oakland</td>
<td>1,202,362</td>
<td>1,259,201</td>
<td>4.7</td>
<td>503,645</td>
</tr>
<tr>
<td>St. Clair</td>
<td>163,040</td>
<td>159,337</td>
<td>(2.3)</td>
<td>65,751</td>
</tr>
<tr>
<td>Shiawassee</td>
<td>70,648</td>
<td>68,192</td>
<td>(3.5)</td>
<td>28,218</td>
</tr>
<tr>
<td>Washtenaw</td>
<td>345,066</td>
<td>370,963</td>
<td>7.6</td>
<td>138,672</td>
</tr>
<tr>
<td>Wayne</td>
<td>1,820,641</td>
<td>1,753,893</td>
<td>(3.7)</td>
<td>687,546</td>
</tr>
<tr>
<td>Detroit</td>
<td>713,777</td>
<td>672,662</td>
<td>(5.8)</td>
<td>266,333</td>
</tr>
<tr>
<td>Michigan</td>
<td>9,883,640</td>
<td>9,995,915</td>
<td>1.1</td>
<td>3,957,466</td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau, 2018 QuickFacts
The Detroit Regional Chamber has an economic development strategy to ensure the 11-county Detroit region is educated, employed, and healthy to compete in the 21st century global economy. The strategy is centered around key metrics used to measure our region against successful peer regions.

**Regional Jobs**
- **Goal:** 1.5% above the national average
- **Current:** 1.4% (Detroit) 1.5% (National)

**Unemployment**
- **Goal:** 4.5%
- **Current:** 4.0% (Detroit) 3.3% (National)

**Per Capita Income**
- **Goal:** $37,577
- **Current:** $33,733

**Public Transit**
- **Goal:** 55 million ridership
- **Current:** 42.6 million ridership

**Population Growth**
- **Goal:** 1.0% annual growth
- **Current:** 0.6% annual growth

**Detroit’s Community Well-Being Index**
- **Goal:** Above 50th percentile
- **Current:** 117 out of 156

**Third-Grade Reading Scores**
- **Goal:** 58%
- **Current:** 43.2% (2018-2019)

**Adults with Postsecondary Degrees**
- **Goal:** 60%*
- **Current:** 40.7%**
  *Professional certificates and above by 2030
  **Associate degree and above

**Patent Growth**
- **Goal:** Grow faster than national average
- **Current:** 3.4% (Michigan)
-3.6% (National) (2017-2018)

**Foreign Direct Investment**
- **Goal:** $12.1 billion
- **Current:** $10 billion

**International Firms**
- **Goal:** 125 new foreign facilities
- **Current:** 132 new foreign facilities

**Foreign-Born Population with a Degree**
- **Goal:** Top five ranking among peer regions
- **Current:** Ranked fifth

**Global Connectivity**
- **Goal:** No. 1 in the world
- **Current:** Tied for No. 1 in the world with Germany and Japan

**Mobility Testing Facilities/Projects**
- **Goal:** No. 1 in CAV policies implemented
- **Current:** Tied for No. 1 in CAV policies implemented with Nevada

**Increase CAV Policies**
- **Goal:** No. 1 in CAV policies implemented
- **Current:** Tied for No. 1 in CAV policies implemented with Nevada
The Detroit regional economy continues to grow in jobs, per capita income, median home values, and educational attainment among other indicators. Additionally, population, labor force participation, and poverty rates have slightly improved. However, over the past year growth has decreased for key metrics including exports, housing permits, and foreign direct investment, while unemployment rates increased slightly.

In 2018, Michigan’s real Gross Domestic Product (GDP) reached $468 billion, ranking the 13th largest GDP in the U.S. The five-year and one-year growth lagged slightly behind the national average.

In 2017, the Detroit region's real GDP five-year growth lagged slightly behind the national average, while one-year growth outperformed the national growth rate.

**REAL GDP GROWTH, MICHIGAN 2014-2018**

<table>
<thead>
<tr>
<th>State</th>
<th>Five-Year Growth</th>
<th>One-Year Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Washington</td>
<td>13.1%</td>
<td>19.1%</td>
</tr>
<tr>
<td>Georgia</td>
<td>12.6%</td>
<td>10.9%</td>
</tr>
<tr>
<td>Texas</td>
<td>10.6%</td>
<td>10.6%</td>
</tr>
<tr>
<td>Massachusetts</td>
<td>8.8%</td>
<td>10.2%</td>
</tr>
<tr>
<td>National</td>
<td>8.8%</td>
<td>7.5%</td>
</tr>
<tr>
<td>Michigan</td>
<td>7.5%</td>
<td>7.1%</td>
</tr>
<tr>
<td>Minnesota</td>
<td>5.5%</td>
<td>4.1%</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>3.5%</td>
<td>2.9%</td>
</tr>
<tr>
<td>Ohio</td>
<td>3.5%</td>
<td>2.7%</td>
</tr>
<tr>
<td>Illinois</td>
<td>2.7%</td>
<td>2.1%</td>
</tr>
<tr>
<td>Missouri</td>
<td>2.5%</td>
<td>2.1%</td>
</tr>
</tbody>
</table>

Source: U.S. Bureau of Economic Analysis

**REAL GDP GROWTH, DETROIT MSA 2013-2017**

<table>
<thead>
<tr>
<th>City</th>
<th>Five-Year Growth</th>
<th>One-Year Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seattle</td>
<td>16.4%</td>
<td>18.3%</td>
</tr>
<tr>
<td>Dallas</td>
<td>16.0%</td>
<td>16.0%</td>
</tr>
<tr>
<td>Atlanta</td>
<td>11.0%</td>
<td>9.7%</td>
</tr>
<tr>
<td>Pittsburgh</td>
<td>10.8%</td>
<td>9.5%</td>
</tr>
<tr>
<td>Boston</td>
<td>9.6%</td>
<td>9.4%</td>
</tr>
<tr>
<td>Minneapolis</td>
<td>8.9%</td>
<td>9.4%</td>
</tr>
<tr>
<td>Cleveland</td>
<td>7.3%</td>
<td>7.3%</td>
</tr>
<tr>
<td>National</td>
<td>7.3%</td>
<td>7.3%</td>
</tr>
<tr>
<td>Detroit</td>
<td>2.5%</td>
<td>2.5%</td>
</tr>
<tr>
<td>Chicago</td>
<td>2.5%</td>
<td>2.5%</td>
</tr>
<tr>
<td>St. Louis</td>
<td>2.5%</td>
<td>2.5%</td>
</tr>
</tbody>
</table>

Note: The Detroit region GDP data for 2018 will be available in mid-December 2019 and an updated comparison will be available in January 2020.

Source: U.S. Bureau of Economic Analysis
The Detroit region’s highly skilled workforce of 2.67 million is larger than the workforces of 28 states. The labor force participation rate in the region slightly increased over the past year to 62.6%, outpacing the national rate and tying with Seattle. However, the region has the lowest labor force participation among peer regions.

The Detroit region, which includes the cities of Ann Arbor, Detroit, Flint, and Monroe, experienced a rise in the monthly unemployment rate in July 2019 for the first time since 2009. The region falls within 1.3 percentage points of the national rate.

Additionally, the city of Detroit’s unemployment rate was 11.1% in July 2019, down from a peak of 28.3% in 2009.

Source: U.S. Census Bureau, 2018 American Community Survey One-Year Estimates

Source: U.S. Bureau of Labor Statistics
Note: Regional unemployment rates have been adjusted by BLS for previous years.
Since 2014, private sector job growth has remained positive for the Detroit region. Ranking fourth among peers, the region falls just below the nation in both five-year and one-year growth rates.

The region has gained more than 318,000 private sector jobs since the recession, similar to Boston and Seattle.

**ONE-YEAR CHANGE**

↑ Detroit: 1.4%  
National: 1.9%  
#4 Among peers in year-over-year change

**JOBS BY INDUSTRY 2019**

Health care and social assistance continues to be the Detroit region’s largest industry, accounting for 13.9% of the region’s employment. The top four industries – health care, government, manufacturing, and retail trade – employ more than 1.2 million people.

**Source:** EMSI
ECONOMIC INDICATORS

PER CAPITA INCOME GROWTH 2014-2018

In 2018, the Detroit region's per capita income reached $33,733. Despite above-average growth over the past five years, the region experienced the lowest per capita income growth among peers last year at 2.5%.

OFFICE AND INDUSTRIAL VACANCY RATES, NATIONAL COMPARISON 2014-2019

Office vacancy rates have declined every year since 2010, when they peaked at 17%. Today, industrial vacancy rates remain below the national rate for the sixth straight year at 3.2%. The region’s office vacancy rates remain below the national rate by 0.6%.

Office
Following the second quarter of 2019, the region’s office vacancy rate dropped to 9.1%. Quoted rental rates were $19.74 per square foot, up from $19.32 the previous year.

Industrial
Compared to peer regions, Detroit’s industrial vacancy rate was the lowest mid-year 2019 at 3.2%, followed by Minneapolis and Cleveland. From 2018 to 2019, quoted rates increased to $6.24 per square foot from $5.94 the previous year.
RESIDENTIAL CONSTRUCTION PERMITS GROWTH 2014-2018

Over the past five years, the region’s residential construction permits totaled 38,510, with a record high of 10,000 in 2017. However, the permits declined 29% in the region over the past year, most significantly impacted by a decrease in construction permits for structures with five units or more. Detroit ranks sixth among peer regions, with a residential construction growth rate of 13.8% since 2014.

Source: U.S. Census Bureau, 2018 American Community Survey One-Year Estimates

BUSINESS

The Detroit region is home to 10 of Michigan’s 16 Fortune 500 companies with headquarters located in the state. The region’s dynamic business bases are anchored by the automotive, health care, and manufacturing sectors. As the epicenter of the global automotive industry, Ford Motor Company and General Motors Co. are among the top 15. Kelly Services also continues to near the list at 503.

Penske Corp. and Rock Ventures lead as the Detroit region’s largest private companies with a combined revenue of more than $38 billion. Additionally, FCA US LLC, located in Auburn Hills, employs more than 35,000 people in Southeast Michigan, and earned $79.1 billion in revenue in 2018.

2019 FORTUNE 500 COMPANIES

<table>
<thead>
<tr>
<th>RANK</th>
<th>COMPANY</th>
<th>2019 REVENUES (MILLIONS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>Ford Motor Company</td>
<td>$160,338</td>
</tr>
<tr>
<td>13</td>
<td>General Motors Co.</td>
<td>$147,849</td>
</tr>
<tr>
<td>136</td>
<td>Penske Automotive Group</td>
<td>$22,785</td>
</tr>
<tr>
<td>147</td>
<td>Lear Corp.</td>
<td>$21,140</td>
</tr>
<tr>
<td>220</td>
<td>DTE Energy</td>
<td>$14,212</td>
</tr>
<tr>
<td>301</td>
<td>BorgWarner</td>
<td>$18,529</td>
</tr>
<tr>
<td>303</td>
<td>Ally Financial</td>
<td>$10,466</td>
</tr>
<tr>
<td>321</td>
<td>Autoliv</td>
<td>$8,001</td>
</tr>
<tr>
<td>366</td>
<td>Masco</td>
<td>$8,359</td>
</tr>
<tr>
<td>418</td>
<td>American Axle &amp; Manufacturing Inc. (AAM)</td>
<td>$7,270</td>
</tr>
</tbody>
</table>

Source: Fortune magazine

2019 LARGEST PRIVATE COMPANIES

<table>
<thead>
<tr>
<th>RANK</th>
<th>COMPANY</th>
<th>2017 REVENUES (MILLIONS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Penske Corp.</td>
<td>$31,800</td>
</tr>
<tr>
<td>2</td>
<td>Rock Ventures</td>
<td>$6,560</td>
</tr>
<tr>
<td>3</td>
<td>MeridianHealth, A WellCare Company</td>
<td>$3,811</td>
</tr>
<tr>
<td>4</td>
<td>Ilitch Companies</td>
<td>$3,600</td>
</tr>
<tr>
<td>5</td>
<td>Plastipak Holdings Inc.</td>
<td>$2,762</td>
</tr>
<tr>
<td>6</td>
<td>Barton Malow Co.</td>
<td>$2,500</td>
</tr>
<tr>
<td>7</td>
<td>Inteva Products LLC</td>
<td>$2,500</td>
</tr>
<tr>
<td>8</td>
<td>Moroun Family Holdings</td>
<td>$2,404</td>
</tr>
<tr>
<td>9</td>
<td>The Suburban Collection</td>
<td>$2,294</td>
</tr>
<tr>
<td>10</td>
<td>International Automotive Components (IAC)</td>
<td>$2,200</td>
</tr>
</tbody>
</table>

Source: Crain’s Detroit Business
A healthy community is imperative for growth and economic sustainability. Over the past year, the Detroit region has shown growth in population, home values, household income, and community well-being. However, rankings among peers land the region in the middle of the pack. Poverty rates in the city of Detroit continue to surpass peer regions, despite regional progress, and remains a critical focus area.

After several years of declining population, the Detroit region continued to experience modest growth over the past year. The five-year reported growth was 0.3%, ranking the region sixth among peers. In 2018, the region’s population ranked as the 14th largest metro area in the nation, down from 12th largest in 2010.
MILLENNIAL POPULATION GROWTH 2014-2018

The Detroit region’s 25- to 34-year-old population rose over the past five years by 10.9% to 581,477 people. This is second-highest growth among peers and outpaced the national average by 6.2 percentage points.

MEDIAN HOME VALUE GROWTH 2014-2018

Median home values for the Detroit region continue to rise. Since 2014, the region’s median home value has grown by 32.2%, ranking fourth among peers.

In 2018, the median home value in the Detroit MSA was $180,300, ranking the region third for most affordable housing among peer regions.
Median household income in the Detroit region rose to $60,513, with a growth of 3.6% over the past year. The region lags behind peer regions including Minneapolis at $79,578 and Atlanta at $69,464. However, the Detroit region has experienced rising household income over the past five years, ranking fifth among peers in growth at 15.3%.

Despite declining over the past five years from 39% to 33%, the city of Detroit had the highest poverty rate among peer cities in 2018. At the regional level, Detroit, along with Cleveland, has the largest share of its population living below the poverty level.
**COMMUNITY WELL-BEING INDEX 2018**

In 2018, the Detroit region classified in the third quartile of the Community Well-Being Index and increased its ranking to 117 out of 156 communities. Despite improvements, the region remains second to last among peer regions. Ann Arbor continues to rank highest at fifth, up from 12th the previous year, and Flint ranked at 130.

**REGIONAL TRANSPORTATION**

In 2018, more than 42.6 million trips occurred across the Detroit region’s four transit systems, a 0.6% increase over the previous year. The region was one of the few large metropolitan areas that experienced growth in bus ridership, up 240,000 riders from 2017 to 2018 according to the National Transit Database.

In 2019, the City of Detroit implemented Dart, a single payment system to ride DDOT, SMART, and the QLINE streetcar. The service eliminates transfers and additional fees, along with providing unlimited rides within a time limit on the pass. Dart’s mobile app also creates user-ease by providing cashless payment.

In 2018, the 1-mill rate SMART millage was renewed by voters in Macomb, Oakland, and Wayne counties, of which SMART transportation serves. The millage ensures the 9 million rides SMART provides annually will continue.

**MICHIGAN STATEWIDE VOTER POLL**

In July 2019, the Detroit Regional Chamber commissioned a statewide policy poll to find out which issues matter most to Michigan voters in advance of the 2020 presidential election.

When Michigan voters were asked if people of color in our nation were provided equal quality of health care, equal quality of education, and equal access to mortgages and loans, African American voters widely believe people of color are treated unfairly on every marker, while white voters are relatively split in every category.

<table>
<thead>
<tr>
<th>Category</th>
<th>African American Treated Fairly</th>
<th>African American Treated Unfairly</th>
<th>White Treated Fairly</th>
<th>White Treated Unfairly</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Care</td>
<td>17.2%</td>
<td>73.6%</td>
<td>43.4%</td>
<td>32.8%</td>
</tr>
<tr>
<td>Education</td>
<td>10.3%</td>
<td>88.5%</td>
<td>47.6%</td>
<td>43.2%</td>
</tr>
<tr>
<td>Mortgage/Loans</td>
<td>10.3%</td>
<td>86.2%</td>
<td>44.3%</td>
<td>32.6%</td>
</tr>
</tbody>
</table>

Source: Gelngariff Group Poll, Commissioned by Detroit Regional Chamber. Live operator telephone survey of likely 2020 Michigan voters, conducted July 17-20, 2019. Margin of error of +/-4.0% with a 95% level of confidence.
The Detroit region’s economy and prosperity depends on generating a strong talent pool and preparing a diverse pipeline of graduates entering the workforce. Educational attainment in the region continues to lag peer regions, despite growth over the past year. Graduating and retaining the 256,000 students enrolled in the region’s educational institutions will be vital to providing Detroit and Michigan businesses with a robust workforce moving into the next decade.

Between 2014 and 2018, the region’s population with an associate degree or higher grew by 2.4 percentage points to 40.7%. Last year, the region’s population with an associate degree or higher grew by 23,440 people. Individuals with a bachelor’s degree reported the highest growth with an increase of 3.9%, along with graduate degree or higher increasing by 1.6%.

Source: U.S. Census Bureau, 2018 American Community Survey One-Year Estimates
Note: Includes percentage of population 25 years and over with an associate degree or higher.
Between 2014 and 2018, the 11-county region gained more than 155,000 jobs, which was dominated by transportation and material moving occupations’ growth of 14%. The largest net gain in jobs was also led by transportation and material moving occupations, with an increase of more than 23,000 jobs since 2014.

Employment in the Detroit region exceeded 2.56 million in 2018. Occupations projected to have the highest job growth by 2023 include management, and transportation and material moving. Together, they are projected to add more than 28,000 jobs. Health practitioners and technical occupations are also projected to continue to experience strong growth, adding more than 10,000 jobs.

The Detroit region is home to several ranked public and private universities and colleges, featuring a diverse range of undergraduate and graduate programs.

In 2018, Michigan’s educational institutions awarded more than 117,000 degrees, ranking ninth among all states for degrees conferred.

### RANKED INSTITUTIONS 2018

<table>
<thead>
<tr>
<th>Institution</th>
<th>Location</th>
<th>Enrollment</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>National Universities</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>University of Michigan</td>
<td>Ann Arbor</td>
<td>46,716</td>
<td>25</td>
</tr>
<tr>
<td>Michigan State University*</td>
<td>Lansing</td>
<td>50,351</td>
<td>84</td>
</tr>
<tr>
<td>University of Detroit Mercy</td>
<td>Detroit</td>
<td>5,111</td>
<td>179</td>
</tr>
<tr>
<td>Central Michigan University*</td>
<td>Mount Pleasant</td>
<td>21,706</td>
<td>240</td>
</tr>
<tr>
<td>Wayne State University</td>
<td>Detroit</td>
<td>27,025</td>
<td>246</td>
</tr>
<tr>
<td>Western Michigan University*</td>
<td>Kalamazoo</td>
<td>22,562</td>
<td>246</td>
</tr>
<tr>
<td><strong>Regional Universities Midwest</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kettering University</td>
<td>Flint</td>
<td>2,315</td>
<td>13</td>
</tr>
<tr>
<td>University of Michigan-Dearborn</td>
<td>Dearborn</td>
<td>9,468</td>
<td>33</td>
</tr>
<tr>
<td>Lawrence Technological University</td>
<td>Southfield</td>
<td>2,915</td>
<td>43</td>
</tr>
<tr>
<td>Madonna University</td>
<td>Livonia</td>
<td>3,044</td>
<td>46</td>
</tr>
<tr>
<td>Siena Heights University</td>
<td>Adrian</td>
<td>2,425</td>
<td>111</td>
</tr>
<tr>
<td><strong>Regional Colleges Midwest</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adrian College</td>
<td>Adrian</td>
<td>1,856</td>
<td>18</td>
</tr>
</tbody>
</table>

Source: U.S. News and World Report
*Regional pipeline institution though not in Detroit region geography

### TOP 10 FASTEST-GROWING OCCUPATIONS 2014-2018

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Transportation and Material Moving</td>
<td>161,411</td>
<td>184,579</td>
<td>23,168</td>
<td>14%</td>
</tr>
<tr>
<td>Architecture and Engineering</td>
<td>92,095</td>
<td>105,274</td>
<td>13,179</td>
<td>14%</td>
</tr>
<tr>
<td>Computer and Mathematical</td>
<td>76,479</td>
<td>87,332</td>
<td>10,853</td>
<td>14%</td>
</tr>
<tr>
<td>Business and Financial Operations</td>
<td>166,016</td>
<td>186,972</td>
<td>20,956</td>
<td>13%</td>
</tr>
<tr>
<td>Construction and Extraction</td>
<td>106,117</td>
<td>118,462</td>
<td>12,345</td>
<td>12%</td>
</tr>
<tr>
<td>Management</td>
<td>178,594</td>
<td>198,812</td>
<td>20,218</td>
<td>11%</td>
</tr>
<tr>
<td>Farming, Fishing, and Forestry</td>
<td>5,339</td>
<td>5,917</td>
<td>578</td>
<td>11%</td>
</tr>
<tr>
<td>Health Care Practitioners and Technical</td>
<td>166,082</td>
<td>179,645</td>
<td>13,563</td>
<td>8%</td>
</tr>
<tr>
<td>Arts, Design, Entertainment, Sports, and Media</td>
<td>83,523</td>
<td>89,537</td>
<td>6,014</td>
<td>7%</td>
</tr>
<tr>
<td>Community and Social Service</td>
<td>39,107</td>
<td>41,547</td>
<td>2,440</td>
<td>6%</td>
</tr>
</tbody>
</table>

Source: EMSI
Detroit’s STEM occupations five-year growth ranks fifth among peers. Since 2014, the region has gained more than 31,000 workers, employing more than 320,000 total in STEM-related positions. STEM jobs that have experienced the most growth include applications software developers, industrial engineers, and mechanical engineers.

In 2018, the Detroit region had more than 580,000 skilled trades-related occupation workers, a 7.2% increase and adding more than 39,000 workers since 2014.

In 2019, there were an average 39,516 monthly postings for skilled trades-related occupations. Heavy and tractor-trailer truck drivers remain one of the highest in-demand skilled trades occupations with an average of nearly 17,000 active job postings each month. Light truck or delivery drivers and maintenance and repair workers follow with an average of 2,500 monthly job postings.
Over the past five years, the number of patents granted in Michigan continued to grow. The state ranked first among peer states with 30.6% growth since 2014. In 2018, Michigan inventors were awarded 7,634 patents, a record number which ranked the state third among peers.

**PRIVATE INVESTMENT**

**VENTURE CAPITAL**

- Venture capital firms in the state manage $3.7 billion in funds according to the Michigan Venture Capital Association
- Over the past five years, venture-backed startup companies operating in Michigan have increased by 37%
- Life science/health care (50%) and information technology (32%) sectors lead in venture funds invested

**PRIVately FUNDED R&D**

- Funds spent for private sector R&D in Michigan paid for by businesses
- State in the nation, after California and Washington for private sector investment

Source: National Science Foundation, 2017
The Detroit region is one of the most globally connected regions in the nation. In addition to sharing an international border with Canada, the region is home to more than 1,300 foreign firms, the sixth largest export market, and the highest-ranked international airport in passenger satisfaction according to the J.D. Power 2019 North American Airport Satisfaction StudySM.

**The Detroit Metropolitan Wayne County Airport (DTW)**

- 1,100 daily flights
- 35.2 million+ passengers served in 2018 - an increase of 1.5%
- #1 in customer satisfaction for mega airports

**Delta Hub**

- 121 destinations
- 460 peak-day departures
- 24 million+ customers in 2018

**Foreign Direct Investment, Michigan 2014-2018**

Investment from foreign-held companies continues to be significant to Michigan’s economy. Since 2014, foreign-held companies have committed to 300 projects, investing more than $9.6 billion and creating more than 37,500 jobs in Michigan.

In 2018, Michigan received investment from 50 announced projects totaling more than $1 billion that are expected to add more than 4,800 jobs to the state’s economy. This is the lowest investment in the past five years.

Over the past 10 years, Michigan ranks first in average number of jobs per project and ninth among all states in total number of projects.
In 2018, the Detroit region was home to more than 446,550 foreign-born residents. With an increase of 11.1% over the past five years, the region outpaced the national growth rate of 5.5%. The region’s one-year growth rate of 0.8% ranked it seventh in foreign-born population growth among peer regions, on par with the national growth rate of 0.5%.

Since 2012, Wayne County has seen its immigrant population increase by 24.1%, while the overall population has decreased by 2.2%.

Ranking third among peers, area companies in the Detroit region exported more than $44 billion in goods across the globe. Despite a 3.1% decline in exports, the region ranks sixth among all MSAs in export value. In 2018, Michigan companies exported more than $32 billion in goods to Canada and Mexico, ranking the state as the largest exporter of goods to Canada and the third largest to Mexico.

Source: International Trade Administration

Source: U.S. Bureau of the Census
Today, Michigan is the most progressive state for R&D, testing, and deployment of next-generation mobility technology. This can be attributed to the foundation of industry assets, progressive policy, and a robust testing and development infrastructure. Statewide automotive cluster associations such as MICHauto and initiatives such as PlanetM have formed a connected next-generation mobility ecosystem within the state.

**Michigan’s Growing Automobility Ecosystem**

**Overview**

Today, Michigan is the most progressive state for R&D, testing, and deployment of next-generation mobility technology. This can be attributed to the foundation of industry assets, progressive policy, and a robust testing and development infrastructure. Statewide automotive cluster associations such as MICHauto and initiatives such as PlanetM have formed a connected next-generation mobility ecosystem within the state.

**Testing and Validation Centers**

- **American Center for Mobility**
  - 500 acres
  - $135 million investment
  - 59 industry partners
  - $26.5 million in research, development, and deployment projects

- **MCity**
  - 59 industry partners
  - $26.5 million in research, development, and deployment projects

**Next-Generation Mobility**

- Bollinger Motors • Ford Smart Mobility
- Maven • Rivian • SERES
- Toyota Research Institute • Waymo

Amazon announced a $700 million round of funding in Rivian, a Michigan-based electric vehicle startup. Rivian plans to launch an electric pickup and electric SUV in the U.S. in 2020.

**Automatic Center**

- 21 OEM headquarters or technology centers
- 1.8 million vehicles assembled at plants

**Entrepreneurs**

- 35 investment organizations active in the mobility space, an additional 72 organizations provide entrepreneurial support.

- 39 mobility technology startups
- 16 corporate partners from traditional automotive industry

**Derq**, a Dubai-based AI and V2X technology company with a presence in the PlanetM Landing Zone, partnered with MDOT to successfully pilot sensor technology at a major Detroit intersection.
TALENT ADVANTAGE

115,000 engineers in Michigan, ranking third in the nation

#1 IN THE NATION:

19% of U.S. automotive manufacturing jobs are in Michigan

44,000 mechanical engineers
31,000 industrial engineers
5,000 commercial and industrial designers

LEGISLATION

Michigan Connected and Autonomous Vehicle (CAV) legislation leads the nation, allowing driverless cars and vehicle platoon testing on public roads.

In 2019, Michigan State Sen. Mallory McMorrow (D-MI 13) introduced a package of bills with bipartisan sponsorship that would support the growth of electric vehicles in Michigan, and enable a statewide charging network.

DEPLOYMENTS AND PILOT PROJECTS

#1 for U.S. DOT-funded operational connected vehicle deployments

$7.5 MILLION U.S. DOT federal grant for R&D and testing of self-driving technologies awarded to State of Michigan, City of Detroit, University of Michigan, American Center for Mobility

1st international border crossing by U.S. Army/TARDEC and MDOT truck platooning test

ANN ARBOR CONNECTED VEHICLE TEST ENVIRONMENT

27 square-miles

5,000 test vehicles

LARGEST real-world deployment of CAV infrastructure

300 Roadside Units (RSUs) installed on roadways in Macomb County, with plans for 740 by 2021.

EDUCATION PIPELINE

#1 in the nation for high school and early elementary FIRST robotics teams

8,000 engineering degrees conferred annually

16 nationally ranked undergraduate engineering programs

COMMUNITY COLLEGE MOBILITY CAREER PROGRAMS

Macomb Community College Center for Advanced Automotive Technology
Washtenaw Community College Advanced Transportation Center

INDUSTRY 4.0

12 sites and hubs operated by Michigan Cyber Range

1st high school in the nation with a dedicated cybersecurity program – Pinckney Community High School

ROBOTICS

28,000 industrial robots, more than any other state

University of Michigan Ford Robotics Facility
- 140,000 sq. ft.
- Opens in 2020
OVERVIEW
As the global leader in automotive, Michigan’s industry accounts for $225 billion to the state economy. With 83% being automotive manufacturing, this demonstrates a healthy industry that is positioned for growth and transformation.

FOOTPRINT

96 of the Top 100 suppliers to North America have a presence or headquarters in Michigan

21 Original Equipment Manufacturers (OEM)

24 OEM components/materials plants

16 universities and colleges with nationally ranked undergraduate engineering programs, four of which also have nationally ranked graduate programs

537 automotive OEMs or components manufacturers employ more than 123,000 workers within Southeast Michigan

$225 billion contribution to Michigan’s economy

712,000 jobs in Michigan

AUTOMOTIVE GROSS DOMESTIC PRODUCT 2017

Michigan accounts for 25.4% of the nation’s automotive real GDP, an increase of 2% over the past year. In 2017, Michigan reported an automotive real GDP of $32.7 billion, ranking first among peers and larger than the next two states – Indiana and Texas – combined.
CASE STUDY

How Stoneridge’s MirrorEye® Technology is Transforming the Trucking Industry

Automotive supplier Stoneridge, headquartered in Novi, Mich., is revolutionizing safety technology in the trucking industry with its MirrorEye® Camera Monitor System (CMS). Though “mirror” is in its name, this technology eliminates the need for conventional rear-view mirrors on semi-trucks, improving driver vision and minimizing blind spots. In fact, it is the only Federal Motor Carrier Safety Administration (FMCSA)-exempted driver vision system for replacing a truck’s mirrors.

State-of-the-art external cameras and digital monitors inside of the truck cab work together to not only offer an expanded field of view, but also cut fuel costs with improved aerodynamics and reduce insurance rates with enhanced driver and vehicle safety. The ergonomic design also provides greater comfort for drivers.

“At Stoneridge, we’re working to anticipate our customers’ needs and challenges, and develop and deliver systems-based solutions that customers may not have expected,” said Jon DeGaynor, president and CEO of Stoneridge.

Stoneridge is playing an important role in the advancement of vehicle intelligence and safety technology in the commercial vehicle space. MirrorEye® is currently available commercially for fleets and collaborations are underway with OEMs.

GREATEST CONCENTRATION OF GLOBAL OEMs

HEADQUARTERS IN MICHIGAN

U.S. MARKET SHARE SALES 2018

<table>
<thead>
<tr>
<th>Product</th>
<th>Share 18</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. Cars</td>
<td>23.5%</td>
</tr>
<tr>
<td>Light Trucks</td>
<td>53.2%</td>
</tr>
<tr>
<td>Total Vehicles</td>
<td>44.0%</td>
</tr>
</tbody>
</table>

AMERICAN HEADQUARTERS OR R&D FACILITY IN MICHIGAN
AUTOMOTIVE MANUFACTURING JOB GROWTH AND FORECAST 2014-2023

The Detroit region accounts for 13.2% of the nation’s automotive manufacturing workforce. The top three occupations are assemblers and fabricators, industrial engineers, and mechanical engineers, which collectively makes up 41% of the automotive manufacturing workforce.


Source: EMSI

2018 EMPLOYMENT GROWTH

↑ 2.1% growth, with 7,000 jobs gained year-over-year. The outlook for the next five years remains stable with a slight increase.

2018 AVERAGE WAGE FOR AUTOMOTIVE MANUFACTURING

$80,330 vs. $63,884

Detroit Region National Average

AUTOMOTIVE MANUFACTURING EMPLOYMENT BY INDUSTRY SEGMENT 2018

Source: EMSI

Motor Vehicle Parts Manufacturing 86,290
Motor Vehicle Body and Trailer Manufacturing 3,771
Motor Vehicle Manufacturing 33,278

3% 3% 27%
In 2018, Michigan’s automotive production totaled 1.8 million units, a decrease of 20% over the past five years. Although, Michigan continues to lead among all states in light vehicle production, producing 480,000 more vehicles than the next highest state – Indiana. The share of U.S. production occurring in the state totals nearly 17%, while the share of North American production decreased from 15% to 11% over the past five years.
FOOTPRINT

Michigan’s commitment to the defense industry is demonstrated in the seven military locations across the state and more than 4,100 businesses that support it. In the heart of it is Macomb County, home to the Defense Corridor, which includes the Detroit Arsenal and more than 600 defense-contracting businesses. The Detroit region’s commitment and expertise in providing vehicles, equipment, and services to the nation’s armed forces is led by Selfridge Air National Guard Base and the United States Army Ground Vehicle Systems Center at the Detroit Arsenal.

- 100,686 employees
- $84,880 average annual wage
- 3,074 establishments
- $3.64 billion in defense contracts

Ranked fourth for aerospace attractiveness driven by strong areas of gross domestic product, foreign direct investment, and market size by PwC.

Home to more than 18 educational institutions with aerospace and aviation-related degrees and curriculum, pipeline of skilled workers.
Modernizing in the Motor City: The Army’s New Cross Functional Team is Building America’s Next Fleet of Combat Vehicles

In 2018, the Army Futures Command moved its Next Generation Combat Vehicle Cross Functional Team (NGCV CFT) to Detroit in order to capitalize on Southeast Michigan’s assets. NGCV CFT drives combat vehicle modernization by developing requirements and bringing the Army’s science, technology, and acquisition professionals together with soldiers to meet their future needs.

Located at the Detroit Arsenal, the team has leveraged the technology, automotive and mobility industries, in addition to being located with its partners in the Program Executive Office for Ground Combat Systems and the Ground Vehicle Systems Center. Being in the heart of these industries and with its partners has allowed the NGCV CFT to gain real momentum as it pursues the Army’s number two modernization priority—developing the next generation of ground combat vehicles.

The team’s portfolio currently consists of multiple next-generation vehicle projects representing more than $10 billion in investments across the FY 20 Future Year Defense Program. Working with both traditional and non-traditional industry partners is vital to these projects. This has led to an initiative called Modernization in the Motor City (MMC). Conducted monthly, MMC allows companies to present technologies applicable to NGCV efforts to a team of experts for further consideration. Learn more at @NGCVCFT on Twitter.

INDUSTRY SPOTLIGHT: AEROSPACE AND DEFENSE

DEPARTMENT OF DEFENSE CONTRACTS — AMOUNT OBLIGATED FY 2014-2019

The Detroit region’s defense footprint has significantly increased over the past five fiscal years, with 360% growth in defense contracts. The number of awarded contracts has increased from $782 million in 2014 to more than $3.6 billion in 2019.

Over the past five years, the region’s aerospace and defense industry has grown by more than 4%, despite a decrease in employment in 2018. The region is expected to gain another 2,500 jobs by the end of 2023. The region’s average industry earnings for aerospace and defense jobs is $98,952, slightly lower than the national average of $100,885.

AEROSPACE AND DEFENSE JOB GROWTH AND FORECAST 2014-2023

The Detroit region is home to more than 3,000 companies working in aerospace and defense-related industry sectors. Employing more than 100,000 people combined, these companies are driving a strong technical and research-driven industry with close ties to the automotive industry’s vehicle and technology development.

In 2018, Michigan’s defense industry had an economic impact of more than $13.1 billion, a 35% increase since 2016.

ECONOMIC IMPACT 2018

In 2018, Michigan’s defense industry had an economic impact of more than $13.1 billion, a 35% increase since 2016.
ECONOMIC DIVERSIFICATION AND MOBILITY

In times of economic decline, suppliers in the Detroit region have worked to diversify their business portfolio to meet the needs of various industries, allowing them to easily shift back and forth as the economy changes.

Technology boom ended, and suppliers moved to automotive, a secure industry.

During the recession, suppliers moved away from automotive and to the defense industry.

Post-recession, many suppliers returned to the automotive and worked cross-industry.


As the Detroit region has grown its defense assets over the past few decades, the automotive and mobility industry have expanded R&D of technologies that have created opportunities for synergy and innovation across industries. The region’s companies that have provided engineering and technology solutions to the country’s defense industry are positioned to help propel the signature automotive industry into the global leader in next-generation mobility. Below are a few highlights of companies that have taken advantage of these shifts.

Since the 1950’s, Humanetics and the companies it has originated from have had a long history of developing test dummies for testing air and space craft ejection seats. Over the following decades, the organization and crash test dummy technology have grown with the increased focus of safety on roadways and in passenger vehicles.

The organization’s 100,000 sq.ft. headquarters in Farmington Hills is home to the core of the organization’s R&D talent. The sensors and software platforms develop technologies throughout the military and defense fields, including specialty fibers in fiber optic gyroscopes, unmanned aerial vehicles, and sensors in flight controls.

Formed in 1999, the mobile robotics and simulation technology company Quantum Signal has adapted to changing regional industry needs. Initially working with automotive companies, the organization shifted to defense contracts in the early 2000’s in the areas of biometrics and security.

The organization has thrived as an engineering services firm providing intelligent sensing, data analysis, and simulation. Over the past two decades, as the traditional automotive industry has shifted to next-generation mobility, the organization grew its mobile robotics and simulation technology. Ford Autonomous Vehicles LLC recently acquired the organization and its technology.

Future Additive Manufacturing Aerospace (FAMAero) is an additive manufacturing company that has created a revolutionary platform for efficient innovation in the manufacturing market. Using industry-leading Electron Beam Additive Manufacturing (EBAM), acquired from Sciaky, Inc in 2018, the organization is home to the world’s largest production metal 3D printer, able to produce metal parts over 12 ft. in length.

FAMAero operates as the first private, dedicated parts bureau in North America for large-scale 3D printed metal parts, providing manufacturers new opportunities to cut time and cost on production of parts. Their parts are orbiting the earth on satellites, flying through airspace on jets, moving about earth on many different types of land vehicles, and underwater on submarines.

“Electrification, autonomy, cybersecurity, crash avoidance, occupant safety — all issues and challenges attracting billions of dollars of investment as well as the best and brightest minds.”

– Christopher J. O’Connor, President and CEO, Humanetics Innovative Solutions Inc.

DETROITCHAMBER.COM
Health care is the Detroit region’s largest industry, employing nearly 340,000 people. In 2019, University of Michigan Hospital was ranked 11th nationally by U.S. News & World Report, while 30 additional hospitals were recognized as “nationally ranked” or “high performing.” With cutting-edge R&D facilities, state-of-the-art hospitals, and unparalleled talent and manufacturing know-how, the Detroit region positions companies to develop new, sought-after products and solutions to meet medical challenges around the world.

**FOOTPRINT**

**5th largest metro** for health care professionals

**10,423** health care-related establishments

**$54,228** average annual wage (2018)

**UNIVERSITY OF MICHIGAN**

#3 in National Institute of Health funding

$552 million in funding through 1,230 awards

**HEALTH CARE JOB GROWTH AND FORECAST 2014-2023**

For nearly two decades, the Detroit region’s health care industry has consistently shown year-over-year job growth. In 2018, more than 335,000 individuals were employed in the industry.

Between 2014 and 2018, the region added more than 14,000 positions and is expected to add another 22,500 jobs through 2023. The top three occupations in the health care industry in the region include registered nurses, nursing assistants, and home health aides – totaling nearly 92,000 employed.

Source: EMSI
Between 2014 and 2018, the Detroit region’s fastest-growing occupation at 66.5% was hearing aide specialist. In the next five years, it is expected that occupational therapy aides will take the lead for the fastest growth with 26.4%. In line with national wages, the median hourly wage for health care practitioners and technicians is at $32.85 versus $32.40, and health care support occupations are at $14.10 versus $14.31 respectively.

### CASE STUDY

**Henry Ford Health System Helps Lead Worldwide Effort To Battle Glioblastoma**

In 2019, the Henry Ford Cancer Institute was the first in the world to enroll a patient in the GBM AGILE Trial, a clinical trial targeted at the treatment of glioblastoma, the most aggressive form of brain cancer. This clinical trial is a departure from the traditional, one-size-fits-all approach to clinical trials – a major step forward for precision medicine.

Traditional clinical trials take three to seven years to produce results, cannot be modified once started, and only study one treatment against the standard of care. GBM AGILE is uniquely designed as a long-standing platform with the ability to test multiple therapies concurrently against the standard of care and to be continuously updated with the latest information.

“GBM AGILE is intended to allow rapid discovery of better treatments for patients with glioblastoma,” said Dr. Tom Mikkelsen, medical director of the Henry Ford Precision Medicine Program and Clinical Trials Office. “The era of data-driven innovation has arrived, and it’s being applied to the most difficult problems in cancer therapy.”

This advancement was made possible by an international collaboration of experts in caring for patients with glioblastoma and the design of clinical trials.

### FASTEST-GROWING OCCUPATIONS BY PERCENT 2014-2023

<table>
<thead>
<tr>
<th>2014-2018</th>
<th>2018-2023</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hearing Aide Specialists</td>
<td>66.5%</td>
</tr>
<tr>
<td>Occupational Health and Safety Specialists</td>
<td>48.2%</td>
</tr>
<tr>
<td>Ophthalmic Medical Technicians</td>
<td>44.5%</td>
</tr>
<tr>
<td>Nurse Practitioners</td>
<td>42.2%</td>
</tr>
<tr>
<td>Occupational Therapy Assistants</td>
<td>37.9%</td>
</tr>
</tbody>
</table>

Source: EMSI