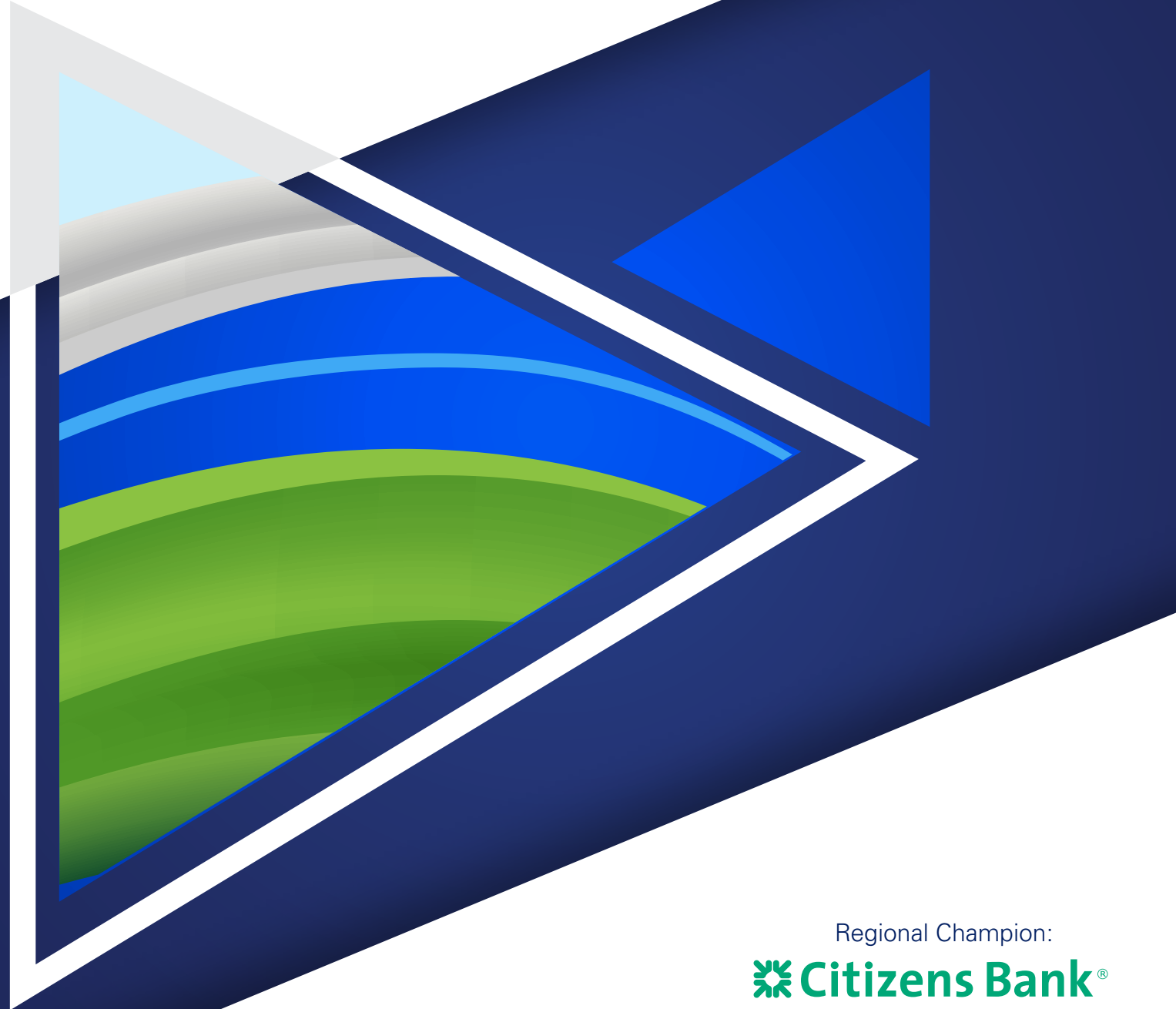


State Region

OF THE

2017-2018



Regional Champion:

 **Citizens Bank**[®]



Now in its fourth year, the Detroit Regional Chamber is proud to release the annual State of the Region report, which provides an economic overview of our 11-county region and benchmarks against national peers.

This past year was a year of tremendous growth. The renaissance of Detroit – and the region – is private sector led, technology focused and sustainable.

For the fourth straight year, the Detroit region has outpaced the national average in private sector job growth. For the first time since before the recession, the region's unemployment rate matched the nation's unemployment rate. The region leads its peer regions in median home value growth between 2011-2016. Last year, the average median home value was up 6.4 percent and an impressive 36 percent from 2011.

Not only does this report highlight how the region is moving in the right direction, it also shows the areas where improvement is still needed. The region continues to lag behind its peers in education attainment and remains 0.5% below the national average. Last year, third-grade reading scores dropped to 42% from 44%. Improving these scores must be a priority in order to strengthen the region's talent pipeline. The Chamber, through its Forward Detroit initiatives, is committed to strengthening our competitive advantages and making meaningful progress to address our challenges.

Our future has never looked brighter. Through regional collaboration and continued support from civic, business and public leadership, the city, region and state will be positioned to compete and win in the 21st century global economy.

Sandy K. Baruah
President & Chief Executive Officer
Detroit Regional Chamber



The Detroit region continues its resurgence. Its regional unemployment rate matches the national rate for the first time in a decade, and it currently outpaces the nation in creating private sector jobs. Many of these new jobs come in STEM fields, and that, along with a high patent growth rate, speaks to the region's increasing emphasis on innovation.

Citizens remains invested in the continued success of this region. We maintain our promise to listen to the Detroit community – from its major businesses down to its individuals and families – so that we can provide tailored solutions and thoughtful advice, always with a personal touch. In doing so, we hope to aid Detroit in reaching its potential.

As part of our commitment to seeing communities prosper, Citizens continues to support programs that help to fight hunger, teach money management strategies, and contribute to economic development. To that end, we partner with local organizations such as Gleaners Community Food Bank, Eastern Market Corporation, Southwest Solutions and The Greening of Detroit.

By investing in this region and its people, we aim to help a city already on its path to long-term success, and look forward to working with Detroit to ensure it gets there.

Richard C. Hampson
State President, Michigan
Citizens Bank



People



Community



Talent



Global Connectivity



Next-Generation Mobility



Forward Detroit is the Detroit Regional Chamber's economic development strategy to sustain Southeast Michigan as one of the fastest growing regions in the United States and serves as a regional roadmap for economic growth. Throughout this report, the goals of the Forward Detroit pillars align with the data to show how Forward Detroit will positively impact the region's strengths, in order for Detroit to remain competitive in the 21st century economy.

It is important to note that the Forward Detroit metrics are measured by the progress of the Chamber's 11-county Detroit region, while benchmarked graphs in this report compare the Detroit MSA only for appropriate analysis.

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Defining the Detroit Region

The Detroit region is a united 11-county area that encompasses more than 300 municipalities with rich geographic, human and business assets. Home to more than 300,000 businesses, including 11 Fortune 500 companies, 5.4 million people, and numerous educational institutions, the Detroit 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 a robust international logistics infrastructure, the region offers unrivaled opportunities to compete in the global economy.

Population Overview, 2016

Area	Population 2010	Population 2016	2010-2016 % Change	Number of Households	Median Home Value	Household Income	Land Area Square Miles
Detroit Region	5,389,730	5,387,207	(0.0)	2,121,750	\$162,391	\$57,750	7,061.0
Genesee	425,790	408,615	(4.0)	167,171	\$106,900	\$43,955	637.0
Lapeer	88,316	88,340	(0.0)	33,178	\$165,100	\$54,309	643.0
Lenawee	99,892	98,504	(1.4)	37,781	\$136,300	\$51,918	749.6
Livingston	180,967	188,624	4.2	70,787	\$227,900	\$78,038	565.3
Macomb	840,987	867,730	3.2	342,255	\$157,700	\$60,143	479.2
Monroe	152,021	149,208	(1.9)	58,789	\$158,800	\$60,799	549.4
Oakland	1,202,362	1,243,970	3.5	500,750	\$224,400	\$71,920	867.7
St. Clair	163,040	159,587	(2.1)	65,681	\$145,100	\$51,864	721.2
Shiawassee	70,648	68,554	(3.0)	28,071	\$114,100	\$53,244	530.7
Washtenaw	345,066	364,709	5.7	140,079	\$244,700	\$65,601	706.0
Wayne	1,820,641	1,749,366	(3.9)	677,208	\$105,300	\$43,464	612.1
Detroit	713,777	672,795	(5.8)	259,295	\$43,500	\$28,099	138.8
Michigan	9,884,133	9,928,300	0.4	3,884,153	\$147,100	\$52,492	56,538.9

SOURCE: U.S. Bureau of the Census



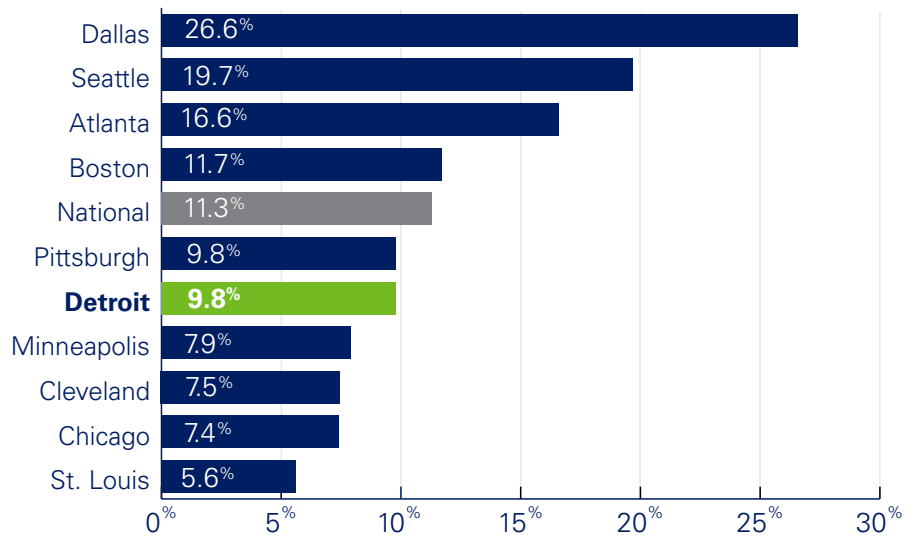
PHOTO: City of Southfield

Real Gross Domestic Product

Among peer regions for five-year growth, **Detroit ranks fifth** for real GDP, along with Pittsburgh, and falls below the national growth rate.

In 2016, the Detroit MSA reported real GDP of **\$223.8 billion**, ranking 14th among the top 50 metros.

Real Gross Domestic Product (GDP) Growth, 2011-2016



SOURCE: U.S. Bureau of Economic Analysis

YEAR OVER YEAR



Detroit: +2.1%
National: +1.5%

#4

Among peers

Private Sector Job Growth

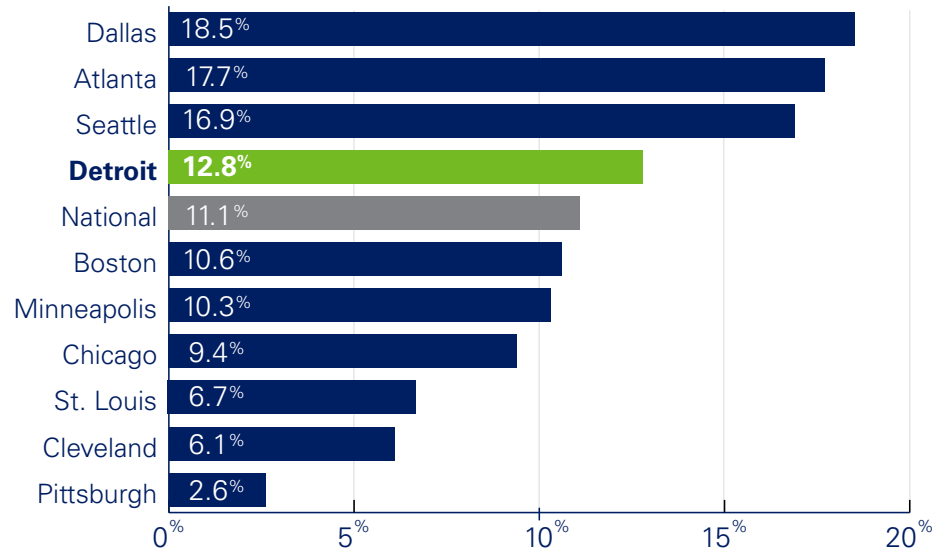
Ranking fourth among peer regions, the Detroit MSA **gained more than 200,000 private sector jobs** since 2011, slightly outpacing the national growth rate. During the past 10 years, the Detroit region gained 1.1% in private sector jobs, ranking ninth among peer regions.

YEAR OVER YEAR

Detroit: +2.0%
National: +1.9%

#4 Among peers

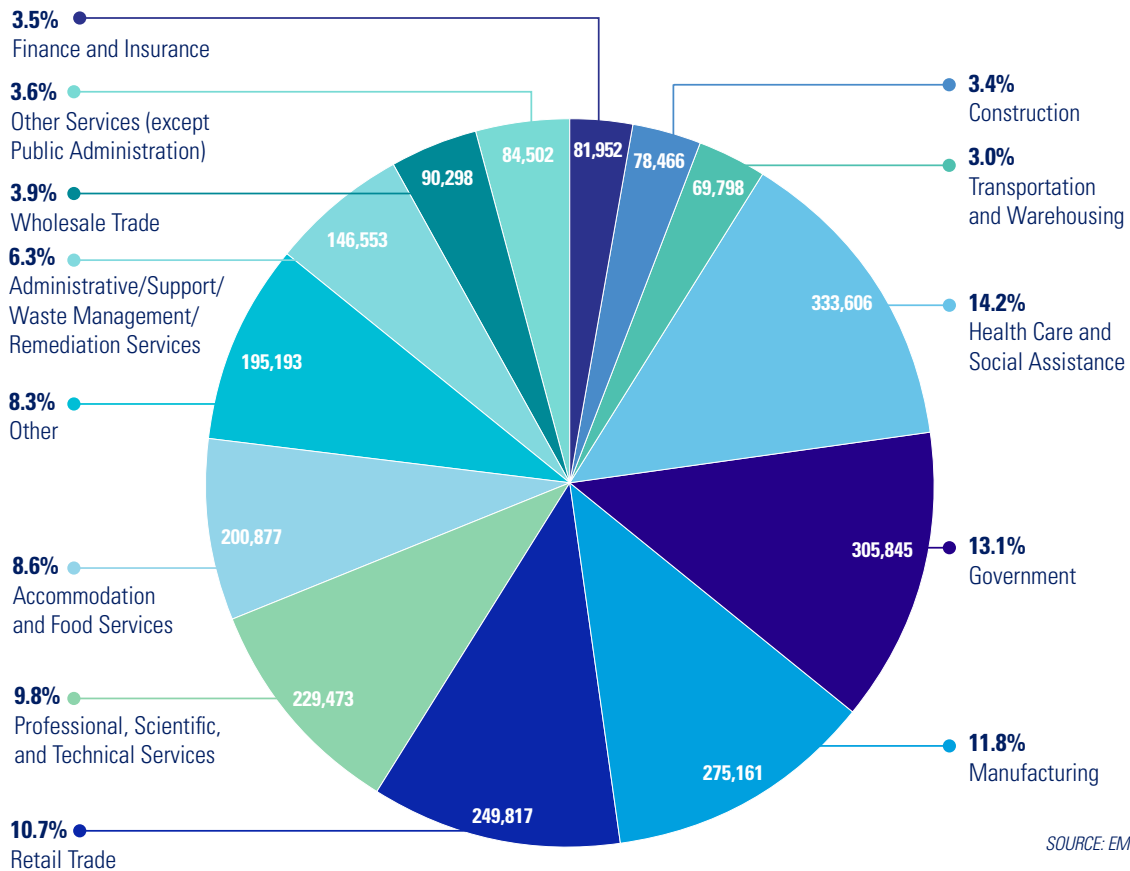
Private Sector Job Growth, 2011-2016



Source: U.S. Bureau of Labor Statistics

Employment by Industry

Health care and social assistance is the largest industry, accounting for 14% of the region's employment. The top three industries, excluding the government sector – health care and social assistance, manufacturing, and retail trade – employ more than 850,000 people.



SOURCE: EMSI



Business

The Detroit region is home to **11 of the 17 Fortune 500 companies** with headquarters located in the state of Michigan. The region's dynamic business base is anchored by the health care, government and manufacturing sectors. As the epicenter of the global automotive industry, the region continues to welcome international businesses while attracting increased foreign direct investment.

Penske Corp. and Rock Ventures lead as the Detroit region's largest private companies that together generate more than \$35 billion in revenue. Additionally, FCA US LLC, located in Auburn Hills, employs more than 32,500 people in Southeast Michigan, with \$76.5 billion in revenue in 2015.

Largest Private Companies

Company	2015 Revenue (billions)	Full-Time Employees in Detroit Area (January 2016)
Penske Corp.	\$29.2	N/A
Rock Ventures	\$6.1	14,237
International Automotive Components (IAC)	\$5.9	909
Guardian Industries Corp.	\$5.6	N/A
TI Automotive Ltd.	\$3.4	430
Meridian Health Plan	\$3.4	1,305
Ilitch Companies	\$3.3	7,437
Plastipak Holdings Inc.	\$2.9	610
Inteva Products LLC	\$2.6	330
Moroun Family Holdings	\$2.3	N/A

SOURCE: Crain's Detroit Business

2017 Fortune 500 Companies

Rank	Company	Headquarters Location	2016 Revenue (millions)
8	General Motors Co.	Detroit	\$166,380
10	Ford Motor Co.	Dearborn	\$151,800
142	Penske Automotive Group	Bloomfield Hills	\$20,143
151	Lear	Southfield	\$18,558
272	DTE Energy	Detroit	\$10,630
283	Autoliv	Auburn Hills	\$10,074
286	Ally Financial	Detroit	\$9,835
305	BorgWarner	Auburn Hills	\$9,071
372	Masco	Taylor	\$7,357
419	CMS Energy	Jackson	\$6,399
490	Kelly Services	Troy	\$5,277

SOURCE: Fortune magazine

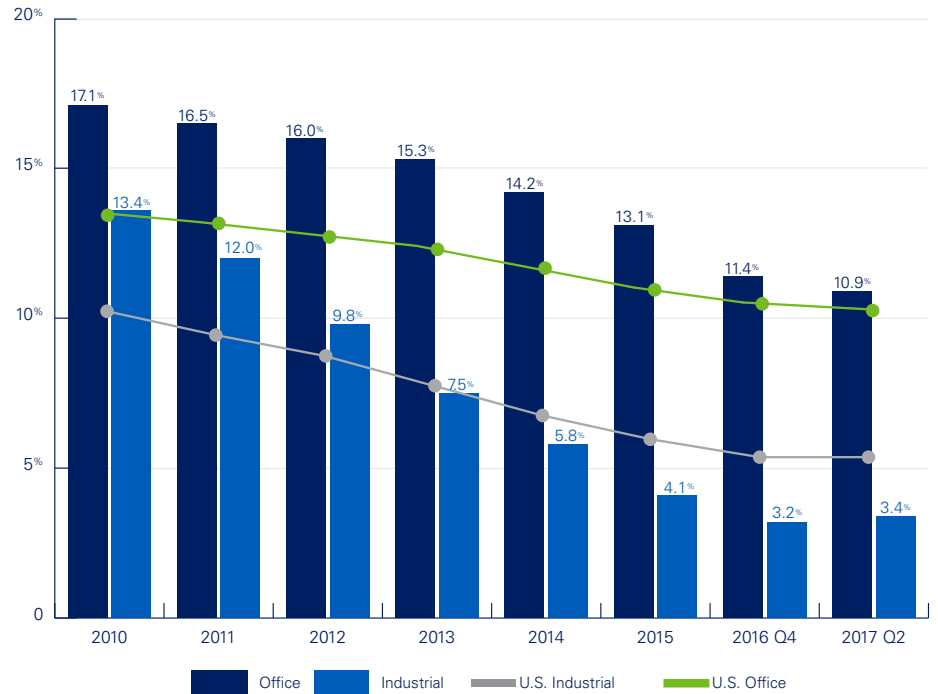
Office and Industrial Real Estate

The office and industrial vacancy rates have declined every year since 2010, when they peaked at 17.1% for office and 13.4% for industrial. Today, the industrial vacancy rate remains **below the national rate for the fourth straight year** at 3.4%. The region's office vacancy rate remains only 0.5% above the national rate.

For the first quarter of 2017, the region's office vacancy rate dropped by 0.5% to 10.9% and the city of Detroit's Central Business District saw a vacancy rate of 9%, down from 11.9% for the fourth quarter in 2016.

Compared to peer regions, Detroit has the second lowest industrial vacancy rate, trailing only Seattle, and the fifth lowest rental rates.

Office and Industrial Vacancy Rates, Detroit Region vs. National



SOURCE: CoStar

Residential Construction Permits

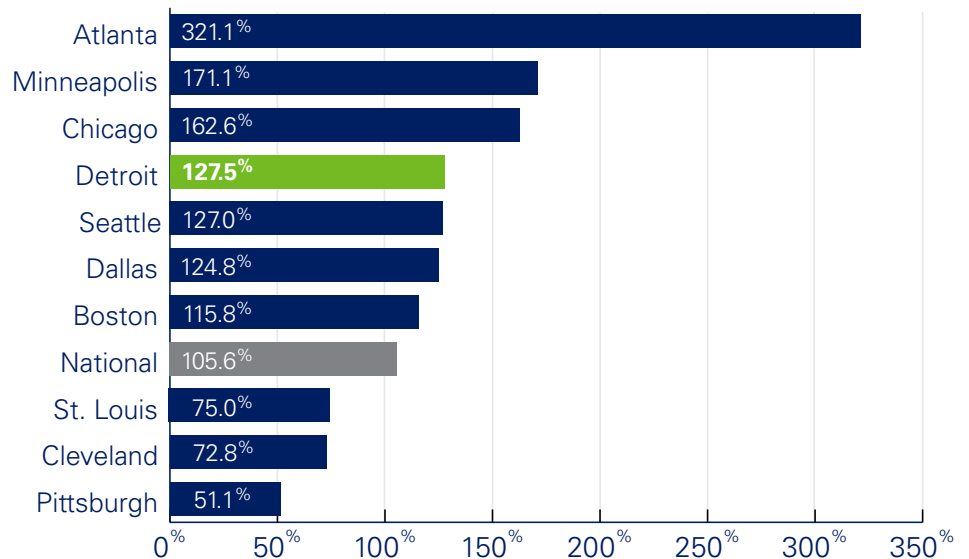
Between 2011 and 2016, Detroit's residential construction permits totaled just over 35,500 with more than **7,600 permits issued in 2016 alone**. Detroit's residential construction growth rate since 2011 is fourth for residential construction permit growth among peer regions.

YEAR OVER YEAR

Detroit: +4.9%
National: +1.9%

#4 Among peers

Residential Construction Permits Growth, 2011-2016



SOURCE: U.S. Bureau of the Census



PHOTO: Quicken Loans Family of Companies

Income Growth

In 2016, the Detroit region's per capita income **rose to \$31,574**, continuing recent growth. Detroit's growth rate since 2011 reached 20.6%, ranking second among peers. The national rate for the same period was 16.5%.

YEAR OVER YEAR

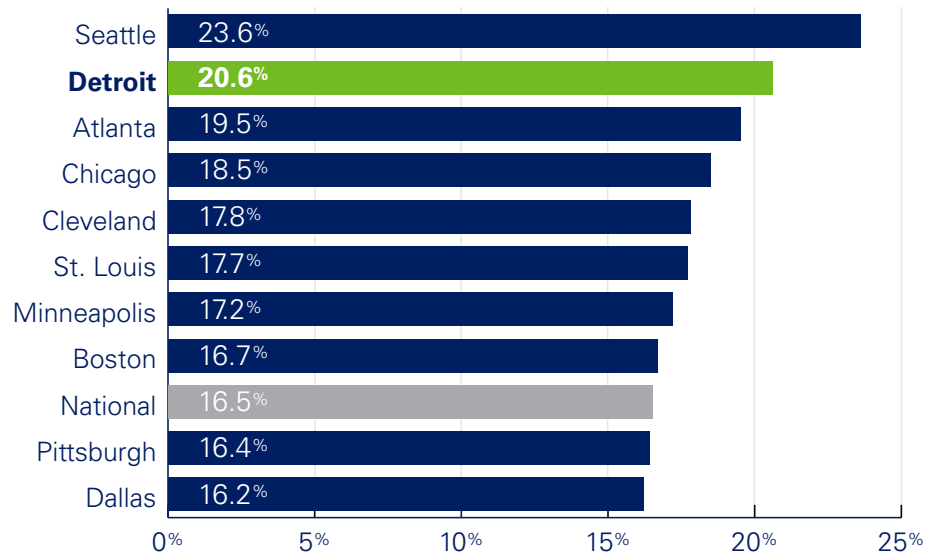


Detroit: +6.2%
National: +3.8%

#2

Among peers

Per Capita Income Growth, 2011-2016

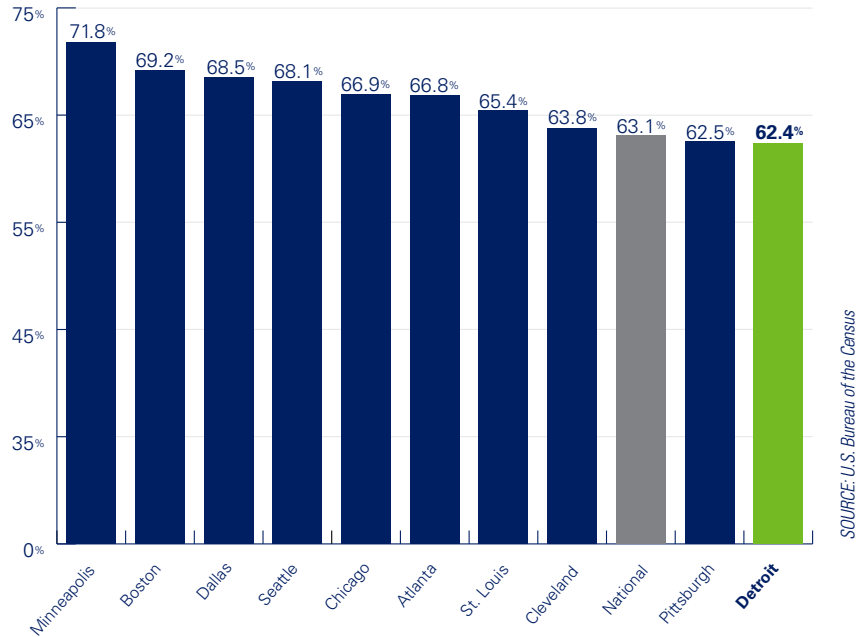


SOURCE: U.S. Bureau of the Census

Labor Force

With a civilian labor force of 2.51 million, Detroit has a highly skilled and large workforce. However, with the region's low unemployment rate and labor force participation rate at 62.4%, ranking the region last among peer regions and below the national average, there is room for growth across the region.

Labor Force Participation Rate, 2016

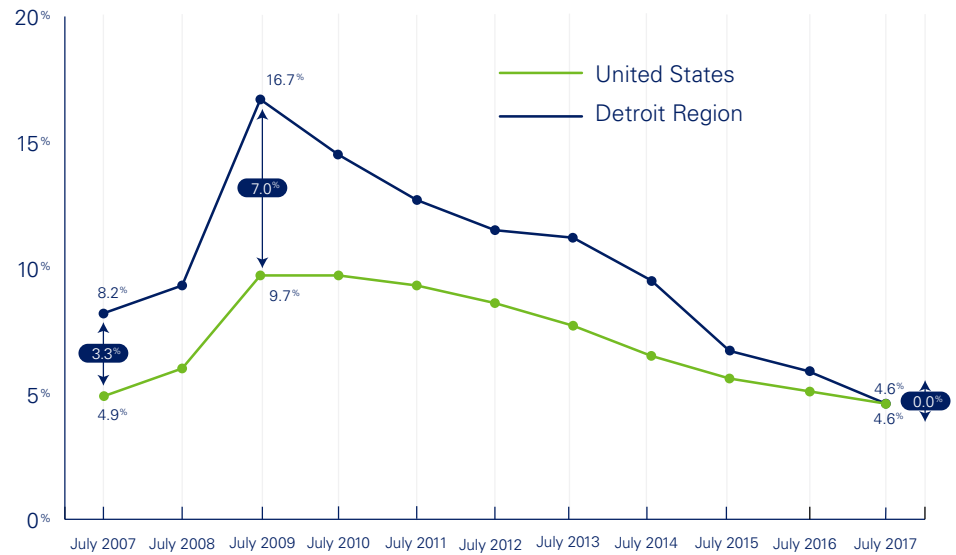


Employment

Since 2010, the region has gained more than 218,000 jobs. However, the region has not fully recovered all jobs lost in the recession.

In the Detroit region, which includes Ann Arbor, Detroit, Flint and Monroe, the unemployment rate has decreased from 16.7% in 2009 to 4.6% in 2017. The difference between the region's unemployment and the national average was 7% in July 2009, while in July 2017 **the region's unemployment rate matched the national average.**

Detroit Region vs. National Unemployment Rate, 2007-2017



People

Forward
DETROIT

The People pillar goal is to increase both regional jobs and per capita income, and to decrease unemployment.

REGIONAL JOBS

Goal: 1.5% above the national average

Current: 2.0% (Detroit) 1.5% (National)

UNEMPLOYMENT

Goal: 4.5%

Current: 4.6%

PER CAPITA INCOME

Goal: \$37,577

Current: \$31,574



PHOTO: Downtown Detroit Partnership

Median Home Values

Median home values in 2016 for the Detroit MSA surpassed 2009 levels by 1.7%. Over the past five years, median home values have **grown by 36%**, leading peer regions and nearly double the national growth rate.

The 2016 median home value was \$160,000 compared to \$118,200 in 2011.

YEAR OVER YEAR

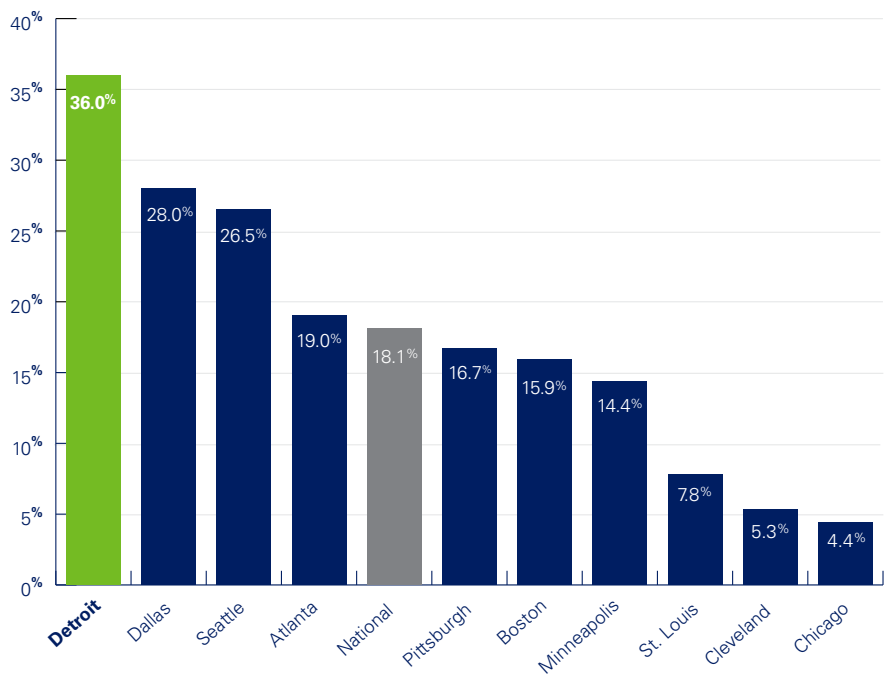


Detroit: +6.4%
National: +5.4%

#3

Among peers

Median Home Value Growth, 2011-2016

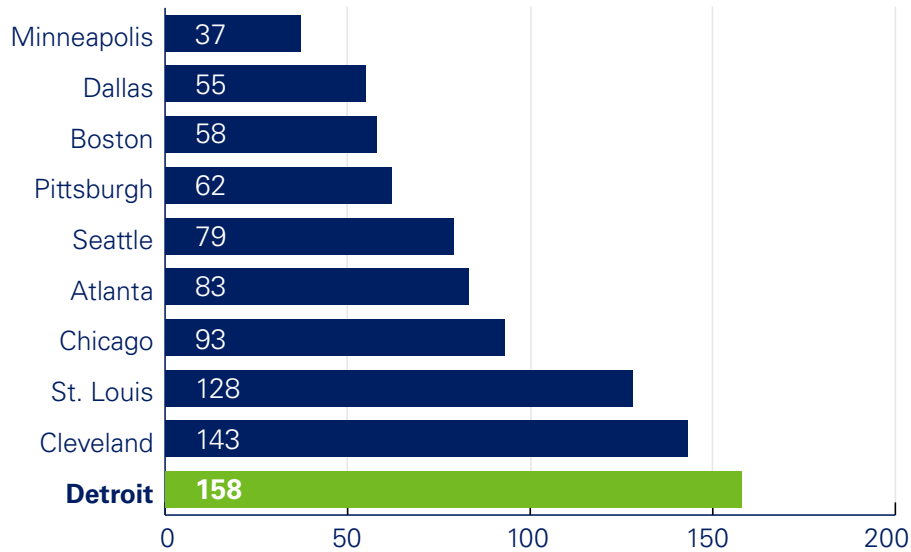


SOURCE: U.S. Bureau of the Census

Community Well-Being Index

In 2016, the Detroit MSA ranked in the bottom quintile with a rank of 158 out of 189 communities. However, this is up from a rank of 174 in 2015. Ann Arbor ranked the highest at 27 in 2016, down from 18 in 2015, and Flint ranked 184 in 2016. Detroit's Community Well-Being ranking currently lags significantly behind peer regions.

Community Well-Being Index Ranking, 2016



SOURCE: Gallup-Healthways Well-Being Index



Regional Transportation

Nearly **45 million** trips occurred across the region's four public transit systems in 2016, representing an increase of **5.1%** from 2015. The Chamber continues to support coordinated regional transit, including plans for rapid transit.

In May 2017, the QLine debuted, linking downtown Detroit to New Center. Since opening, the **\$140-million** street car system reported more than **half a million** riders during its four-month free ride promotion, with an average daily ridership of nearly **5,000**. Ridership is expected to reach **1.8 million** during the first year of revenue operations (September 2017 – September 2018).



Community

Forward
DETROIT

The Community pillar goal is to increase public transit, population growth, and Detroit's community well-being index.

PUBLIC TRANSIT

Goal: **55,000,000** ridership
Current: 44,905,299 ridership

POPULATION GROWTH

Goal: **1.0%** annual growth
Current: 0.0% annual growth

DETROIT'S COMMUNITY WELL-BEING INDEX

Goal: **Above 50th percentile**
Current: 158 out of 189



PHOTO: Eastern Michigan University

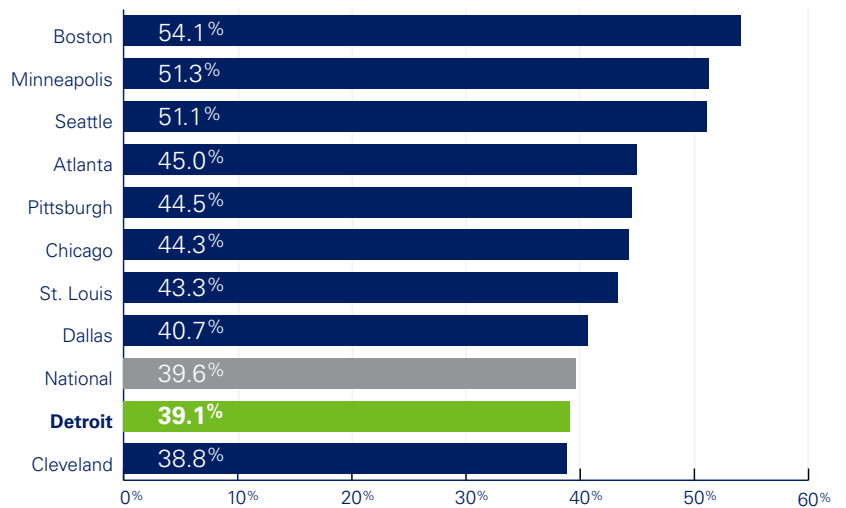
Education

The Detroit region's universities and colleges feature nationally ranked undergraduate and graduate programs. In 2015, Michigan's educational institutions awarded more than 119,000 degrees, **ranking ninth among all states for degrees conferred.**

More than 39% of the Detroit region's population has earned an associate degree or higher. Increasing in 2016 by just under 1%, the Detroit region is on par with the national average.

Educational Attainment, 2016

Percentage of Population (25 Years and Over) with Associate Degree or Higher



Source: U.S. Bureau of the Census

YEAR OVER YEAR



Detroit: +2.2%
National: +3.0%

#10

Among peers

Research Universities

According to U.S. News and World Report:



Michigan State University ranked No. 1 in undergraduate supply chain management/logistics.



University of Michigan ranked as the 28th best university nationally and fourth best public university in the nation.



Wayne State University ranked 73rd among the top medical schools for research.

Community College Network

In 2015, more than 112,000 students enrolled in the Detroit region's nine community colleges:

- Henry Ford College
- Macomb Community College
- Monroe Community College
- Mott Community College
- Oakland Community College
- St. Clair Community College
- Schoolcraft College
- Washtenaw Community College
- Wayne County Community College District

Macomb Community College's University Center enables students to earn a four-year degree in more than 75 programs through partnerships with 12 colleges and universities. The Center became home to an expansion site for Michigan State University's College of Osteopathic Medicine, providing the first two years of an osteopathic physician's education.

Talent

Detroit regional employment exceeded 2.5 million in 2016, including one of the region's primary assets – highly skilled workers. During the past five years, **skilled workers also increased by 60,000**, led by team assemblers and truck drivers.

The fastest growing occupations during the past five years continue to be architecture and engineering occupations, with 33% growth. Production occupations led with the largest net gain in jobs, with an increase of nearly 25,000 since 2011.

Occupations projected to have the highest job growth during the next five years include health care practitioners and technical occupations, in addition to health care support occupations. Together they are projected to add more than 14,000 jobs to the region. Architecture and engineering occupations are also projected to continue to lead in job growth, adding more than 6,000 jobs.

Top 10 Fastest Growing Occupations, Detroit Region

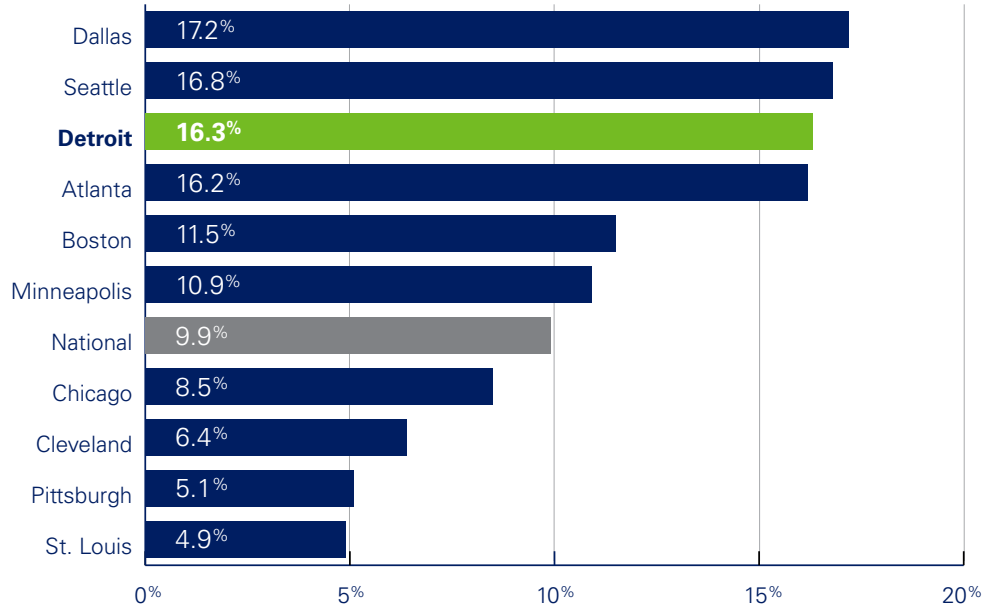
Occupations	2011 Jobs	2016 Jobs	2011-2016 Change	2011-2016 % Change	2016 Location Quotient
Architecture and Engineering	70,869	94,008	23,139	33%	2.37
Construction and Extraction	55,314	65,388	10,074	18%	0.74
Computer and Mathematical	61,352	71,802	10,450	17%	1.07
Production	184,998	209,618	24,620	13%	1.47
Life, Physical and Social Science	17,204	19,463	2,259	13%	1.05
Installation, Maintenance and Repair	77,418	87,184	9,766	13%	0.99
Arts, Design, Entertainment, Sports and Media	29,707	33,382	3,675	12%	1.04
Transportation and Materials Movement	120,002	134,291	14,289	12%	0.87
Management	98,119	109,720	11,601	12%	0.96
Food Preparation and Service-Related Occupations	179,639	200,102	20,463	11%	0.98

SOURCE: EMSI

STEM Growth

Detroit's STEM occupations job growth has slowed during the past five years, yet it still ranks third among peers. The region employs nearly 300,000 workers in STEM-related occupations, gaining more than 41,000 since 2011. Occupations that have experienced the most growth include mechanical engineers, industrial engineers and applications software developers.

STEM Occupations Job Growth, 2011-2016



SOURCE: EMSI

YEAR OVER YEAR



Detroit: + 2.7%
National: +2.0%

#4

Among peers

Skilled Workers

More than **540,000 people worked in skilled trades-related occupations** throughout the Detroit region in 2016, adding 60,500 skilled trades jobs since 2011, representing an increase of 13%.

For 2016, the average monthly unique job postings for skilled trades-related occupations was 31,237. The highest demand was for heavy and tractor-trailer truck drivers, with average monthly job postings reaching 21,000.

Largest Skilled Trade Occupations, 2016

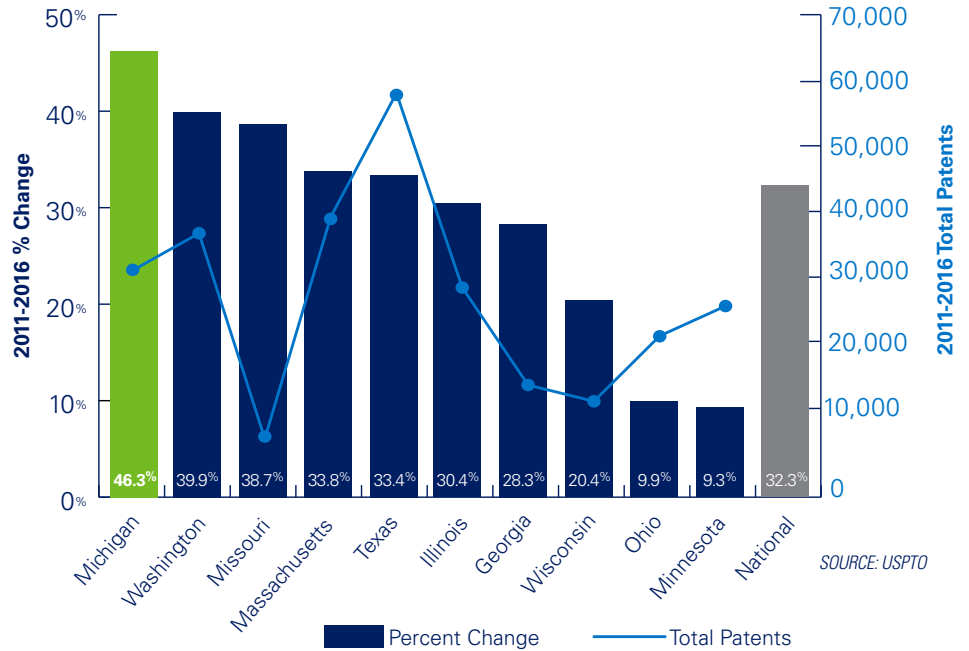
Occupations	Jobs
Team Assemblers	52,200
Laborers and Freight, Stock and Material Movers	34,727
Heavy and Tractor-Trailer Truck Drivers	28,223
Maintenance and Repair Workers, General	22,396
Construction Laborers	17,405
Light Truck or Delivery Services Drivers	14,813
Inspectors, Testers, Sorters, Samplers, and Weighers	14,718
Machinists	13,779
First-Line Supervisors of Production and Operating Workers	13,775
Carpenters	13,537

SOURCE: EMSI

Utility Patents

Michigan is known for being a Top 10 state for utility patents, and 2016 was no exception. Michigan companies were **awarded a record number of patents with 5,800** patents granted, ranking Michigan sixth among all states. Patent growth for 2011–2016 was 46.3%, ranking Michigan first amongst peer states.

Utility Patents Granted, 2011-2016



YEAR OVER YEAR



Detroit: +4.3%
National: +2.0%

#4

Among peers

Venture Capital in Michigan



According to the Michigan Venture Capital Association:

141 venture-backed companies, an increase of **48%** in the last five years

343 venture capital firms outside of Michigan have invested in startups

33 venture capital firms managing **\$4.02 billion** in funds

Life sciences (**48%**) and information technology (**36%**) sectors lead in venture funds invested in 2016



Talent

Forward DETROIT

The Talent pillar goal is to increase third-grade reading scores, adults with postsecondary degrees, and patent growth.

THIRD-GRADE READING SCORES

Goal: **58.0%**
Current: 42.6% (2015-2016)

ADULTS WITH POSTSECONDARY DEGREES

Goal: **60.0%***
Current: 39.1%**

PATENT GROWTH

Goal: **Grow faster than U.S. average**
Current: 4.3% (Michigan)
2.0% (United States)

*Professional certificates and above by 2025

**Associate degree and above



PHOTO: Ford Motor Co.

Foreign Direct Investment in Michigan

Investment from foreign-held companies continues to be important to Michigan. The state saw significant foreign direct investment in 2016 with **76 projects announced totaling more than \$2 billion**. This is by far the largest number of projects announced in a single year in the last decade. These projects are expected to add 7,658 jobs to the state. Transportation equipment manufacturers accounted for 39 of the 76 projects announced in 2016.

Since 2011, foreign-held companies have committed to 304 projects, investing nearly \$9.5 billion and creating more than 59,500 jobs in Michigan.

Foreign Direct Investment Trends, Michigan



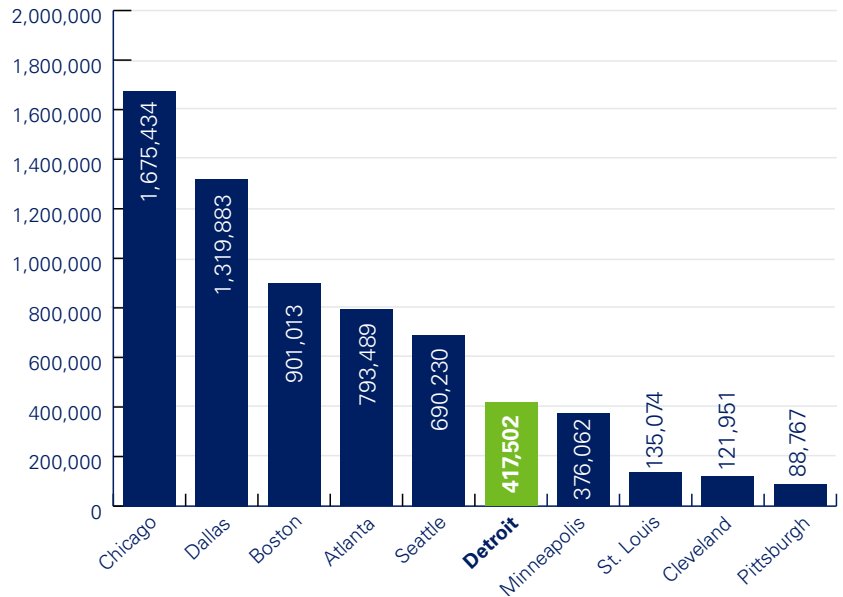
SOURCE: Financial Times FDI Market.com

Immigration

In 2016, the Detroit MSA was home to more than 417,000 foreign-born residents. Up 12% during the past five years, the Detroit MSA outpaced the national growth rate of 8%.

Michigan is home to more than 662,000 individuals who were born in another country. Educational attainment of Michigan's foreign-born population with graduate or professional degrees in 2015 was 21%, the second highest among peer states.

Foreign-Born Population, 2016



SOURCE: U.S. Bureau of the Census



DETROIT METRO • WILLOW RUN
WAYNE COUNTY AIRPORT AUTHORITY

34.4 million passengers in 2016, an increase of **2.9%** over 2015

453 million pounds of cargo in 2016, growing **6.3%** over 2015

Delta Air Lines Hub: **455** peak-day departures, **127** destinations, including **21** international destinations, **13** airlines and **131** gates

Nearly 140 nonstop destinations

1,100 daily flights to destinations on four continents

Ranked **second** highest in satisfaction among mega airports in J.D. Power 2017 North America Airport Satisfaction StudySM



Detroit Exports

In 2016...

\$42.1 billion in goods exported

6th largest export market in the United States

Canada at **\$15.5 billion** and Mexico at **\$15.3 billion** are Detroit's top export markets



Global
Connectivity

Forward DETROIT

The Global Connectivity pillar goal is to increase foreign direct investment, the number of international firms, and the foreign-born population with a degree.

FOREIGN DIRECT INVESTMENT

Goal: **\$12.1 billion**
Current: \$7.6 billion

INTERNATIONAL FIRMS

Goal: **125 new foreign facilities**
Current: 117 new foreign facilities

FOREIGN-BORN POPULATION WITH A DEGREE

Goal: **Top five ranking among peer regions**
Current: Ranked fourth



Michigan's Mobility Assets

Michigan ranks **No. 1** in the nation in connected and automated vehicle projects (49)

1st in mobility-related patents (data processing- vehicles, navigation, relative location), with **2,583** patents awarded during the past five years in Michigan, followed by California with **1,468** patents issued

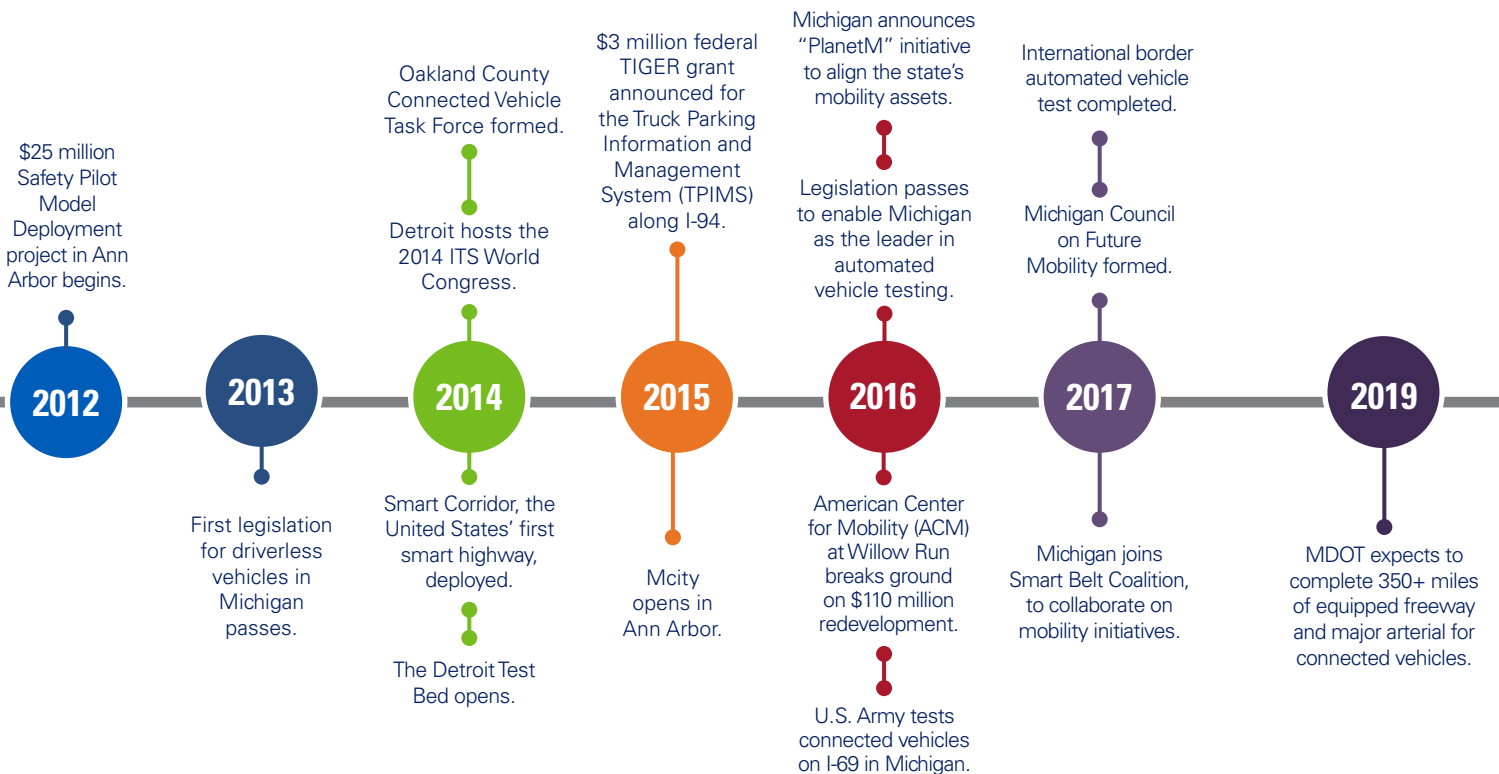
5,000 connected and automated vehicles on the road by 2018 in Ann Arbor's Connected Vehicle Test Environment



PHOTO: University of Michigan

Public Sector Commitments

For over a decade, Michigan has led connected and automated vehicle research and projects in both the private and public sector. With the opening of federal test beds and the passage of progressive laws legalizing driverless vehicles on public roads, Michigan is the leader in next-generation mobility.



Auto Meets Tech in Michigan

Michigan automakers and suppliers are actively engaged in partnering with technology companies in research and development of mobility innovations.



FCA US LLC partnered with Google to produce self-driving Chrysler Pacifica hybrid minivans.



Toyota Research Institute opened an R&D enterprise in Ann Arbor, investing in artificial intelligence, machine learning and robotics.



Ford Motor Co. announced the creation of Ford Smart Mobility LLC, to design, build, grow and invest in emerging mobility services.



Uber announced plans to open a new technology facility in metro Detroit.



Google's Waymo announced the opening of an R&D center in Novi.



General Motors Co. invested \$500 million in Lyft for a self-driving partnership and introduced car-sharing brand, Maven.



Google partnered with Roush to build driverless vehicles in Livonia.



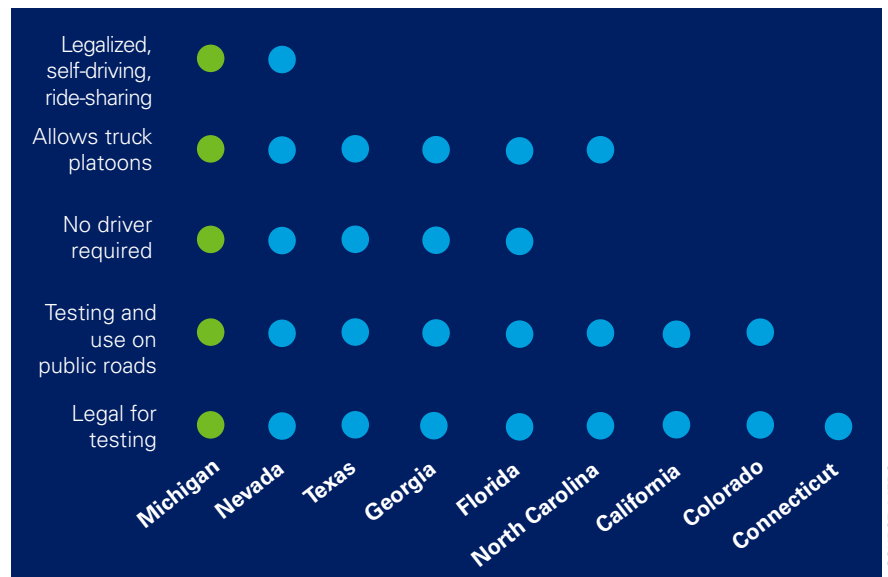
Siemens named Ann Arbor the company's first Center of Excellence for Intelligent Traffic Technology.



Techstars Mobility opened in Detroit as the first North American startup accelerator program to focus on mobility technologies and startups. Investments in 22 startups have raised \$19 million and are valued at more than \$100 million.

Michigan Is a Leader in CAV Legislation

States have a variety of approaches to enact laws in the mobility realm. As a leader in this space, Michigan laws related to automated driving remain strong. However, competition is increasing, with bills pending in 33 state legislatures as of 2017.



Forward DETROIT

The Next-Generation Mobility pillar goal is to increase both mobility testing facilities and projects, and connected and automated vehicle policies.

MOBILITY TESTING FACILITIES/PROJECTS

Goal: No. 1 in the world

Current: Tied for No. 1 in the world with Germany and Japan

INCREASE CONNECTED AND AUTOMATED VEHICLE POLICIES

Goal: No. 1 in CAV policies implemented

Current: Tied for No. 1 in CAV policies implemented with Nevada

Next-Generation
Mobility



PHOTO: General Motors Co.

Michigan Automotive Footprint



92 of top 100 suppliers to North America have a Michigan presence

16 automakers

11 assembly plants

24 models built

2.4 million vehicles assembled

19.4% U.S. automotive production

74% of business-funded R&D

\$19.9 billion in automotive investment since 2011

With its dense cluster of manufacturers, high-tech engineering, world-class research and design, international business presence and proximity to a premier global supply chain, Michigan is positioned to remain the world's leader in automotive manufacturing and automotive technology.

Recent Investment Announcements:

Fortune 500 company Adient will invest **\$50 million** on renovations to the Marquette building to relocate its global headquarters to downtown Detroit.

Located in the I-94 industrial park, automotive supplier Flex-N-Gate broke ground on a **\$95 million** facility, creating up to **750 jobs**.

SF Motors, a manufacturer of electric vehicles, announced plans to build a **\$10.7 million** engineering and R&D center in Ann Arbor, creating **150 new jobs**.

CASE STUDY:

Toyota Research Institute Bridging the Gap Between Fundamental Research and Product Development

In 2016, Ann Arbor became home to a third Toyota Research Institute (TRI) office in the United States, joining other locations in Massachusetts and Silicon Valley.

Ann Arbor was selected because of the strength of the university, the utility of Mcity, the Mobility Transformation Center that Toyota sponsors, the American Center for Mobility at Willow Run, which Toyota is a Founder-level sponsor, and the close proximity to Toyota's R&D centers in the area.

TRI, established in 2015 with initial funding of \$1 billion, has four initial mandates: strive to enhance the safety of automobiles, work to increase access to cars for those who otherwise cannot drive, translate Toyota's expertise in creating products for outdoor mobility into products for indoor mobility, and accelerate scientific discovery by applying techniques from artificial intelligence and machine learning, particularly in the area of materials science.



PHOTO: Toyota Research Institute

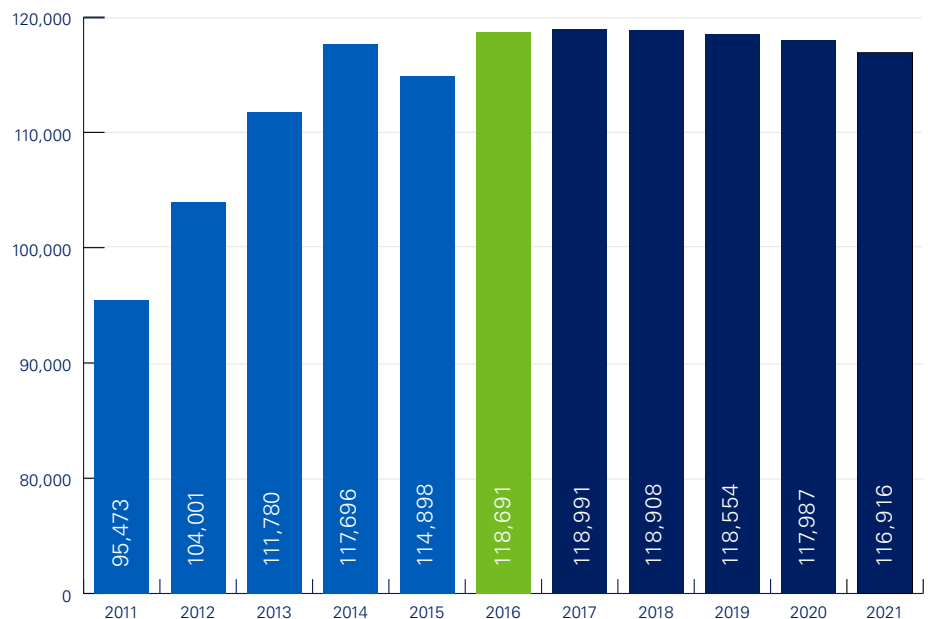
Talent

With more than **10% of the nation's automotive manufacturing workforce**, the Detroit region's location quotient of 6.61 reflects the region's strength and leadership in the industry. The nearly 119,000 workers in the Detroit region assembled more than 2.4 million passenger cars and light trucks in 2016.

Employment growth has slowed through the first half of 2017 after experiencing a 3.3% growth rate between 2015 and 2016.

For 2016, the average wage for the automotive manufacturing industry across the Detroit region was \$79,788, higher than the national average of \$62,103.

Automotive Manufacturing Job Growth and Forecast, 2011-2021



SOURCE: EMSI



PHOTO: TARDEC



Aerospace and Defense Footprint

104,592 employees

\$81,705 average annual wages

3,224 establishments

The Detroit region has a proud history of providing vehicles, equipment and services to the nation's armed forces. The region is home to several military installations such as Selfridge Air National Guard Base, the U.S. Army's Tank Automotive Command (TACOM) and the Tank Automotive Research, Development and Engineering Center (TARDEC). These military installations collaborate with private sector aerospace and defense companies such as BAE Systems, General Dynamics, Raytheon, Northrop Grumman Space and Williams International Co.

In addition, the region is home to two of the nation's innovation institutes – the Lightweight Innovations for Tomorrow (LIFT) and the Institute for Advanced Composite Manufacturing Innovation (IACMI). Leaders in materials and composites R&D, the centers allow partners to test innovation and are providing solutions for U.S. military ground transportation. In 2017, PwC ranked Michigan second for aerospace manufacturing attractiveness behind Georgia.



Recent Investment Announcement:

Williams International Co., a small gas turbine engine manufacturer and supplier to the aviation industry and the U.S. military, will invest **\$344 million** to move its corporate headquarters, R&D and repair operations to Pontiac, creating **400** new jobs by 2022.

CASE STUDY:

Selfridge Air National Guard Base A Century of Flight and Service

Established in 1917, Selfridge Air National Guard Base is one of the oldest and most complex military air fields in the nation. To celebrate its centennial, summerlong events were planned this year, culminating in an open house and airshow in August that featured the U.S. Air Force Thunderbirds. The celebration also showcased historical aircrafts that once flew out of the base throughout the decades and the Air Force's newest fifth-generation fighter, the F-35 Lightning II.

The 127th Wing division of the Michigan Air National Guard is the host unit at the base and flies both A-10 and KC-135 aircraft. The base hosts more than 40 tenants, including the U.S. Air Force, Army, Marines, Coast Guard and the Department of Homeland Security. Nearly 3,000 full-time civilian and military personnel workers are employed and contribute greatly to the region's economy, with an estimated annual impact of more than \$850 million.

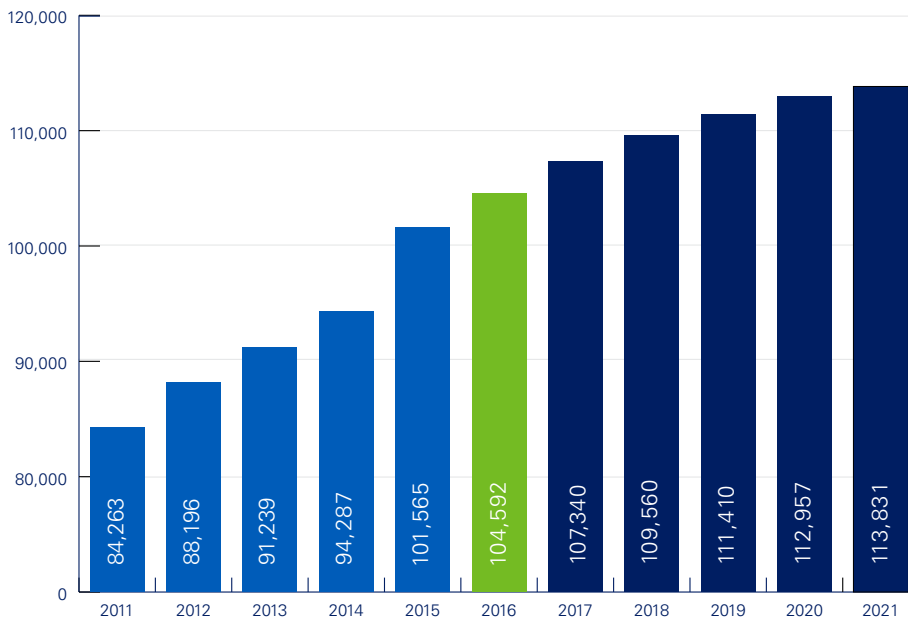
Selfridge airmen have served throughout the century in every war and battle, with deployments across the world. Known as "The Home of Generals," the base has been a springboard for more than 150 officers who made the rank of general, three of whom served as chief of staff of the Air Force. Selfridge's lineage also includes the famed Tuskegee Airmen and Capt. Eddie Rickenbacker, an American fighter ace in World War I and Medal of Honor recipient.

The base is Michigan's only active base and one of three in the nation to have been in operation for this long.



PHOTO: Macomb County Department of Planning & Economic Development

Aerospace and Defense Job Growth and Forecast, 2011-2021



SOURCE: EMSI

Employment

The region enjoys a higher concentration of aerospace and defense employment than the national average. More than 3,200 companies work in the aerospace and defense-related industry sectors.

The region experienced tremendous aerospace and defense job growth between 2011 and 2016 (more than 20,000 jobs) reporting a **growth rate of 24.1%, nearly double that of the nation's growth of 13.7%**. The region is expected to gain another 9,200 jobs by the end of 2021.

The average aerospace and defense industry wages of \$81,705 are just slightly higher than the national aerospace and defense average wages of \$79,323.



PHOTO: McLaren



Health Care Footprint

332,098 employees

\$51,626 average annual wages

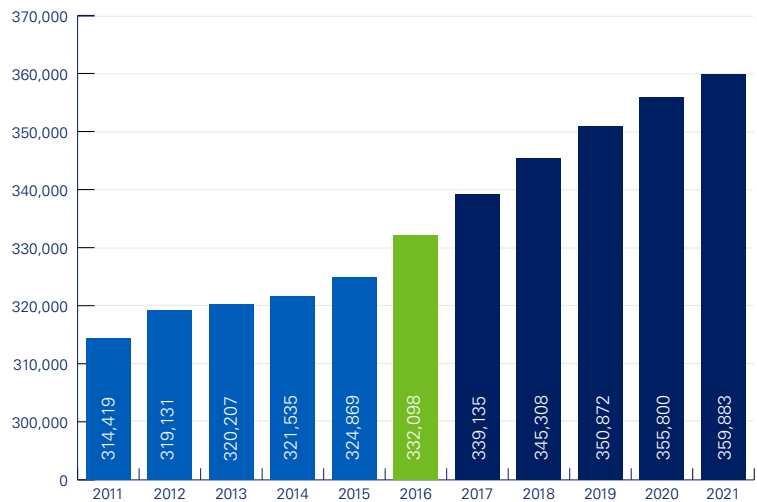
10,718 establishments

Job Growth and Forecast

The region's health care industry has consistently shown year-over-year job growth for at least the last 15 years. In 2016, more than **332,000 individuals worked in the health care industry**. Health care has added more than 17,600 jobs in the region since 2011 and is forecasted to add another 27,700 jobs by 2021. These job gains can be attributed to an aging population and longer life expectancies. The average health care wage in the region is \$51,626, which is slightly under the national average of \$53,296.

To support the health care industry needs, the region boasts a vibrant talent pipeline, graduating nearly 27,000 students in 2015 with some type of health care-related certificate or degree.

Health Care Job Growth and Forecast, 2011-2021



Source: EMSI

CASE STUDY:

Beaumont's Proton Therapy Center Cancer Killers: High-Speed Protons Considered Most Advanced Form of Radiation Therapy

Beaumont's Proton Therapy Center is the first in Michigan to treat cancer patients with this powerful and precise form of treatment that deposits energy directly in a tumor, sparing nearby healthy organs and tissue from harm.

It is one of 25 proton therapy centers in the United States.

"Cancer patients from other states and countries will travel to Michigan for proton therapy, making Beaumont even more of a cancer care destination. With this technology, we have the ability to potentially cure patients that have failed conventional treatment at other centers," said Dr. Craig Stevens, chairman of radiation oncology at Beaumont Health. "And it's the most advanced proton technology at one-quarter the cost of some centers."

Proton therapy is a high-tech alternative to X-ray radiation. A scanning beam of proton radiation with online image guidance offers greater precision to destroy cancerous cells with fewer side effects.

Proton therapy is effective in treating many solid and localized tumors. It is especially beneficial for children with brain tumors; adults with brain, head and neck tumors; spine tumors; lung tumors; and left-side breast cancer.



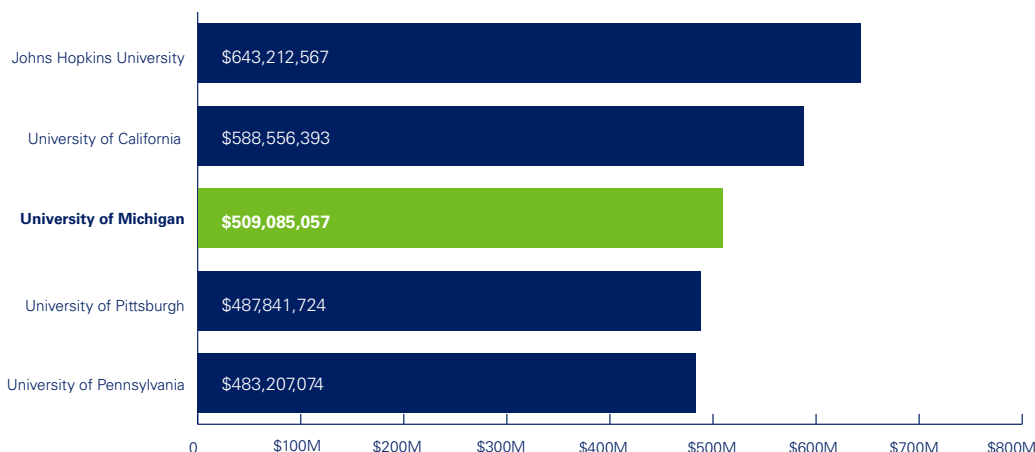
PHOTO: Beaumont Health

National Institutes of Health

The University of Michigan ranks third in the nation for National Institutes of Health funding, having received more than \$500 million in funding across more than 1,100 awards.

The Detroit region's colleges and universities have been granted nearly **\$570 million in funding across more than 1,300 R&D projects.**

National Institutes of Health Funding, FY 2017



SOURCE: National Institutes of Health

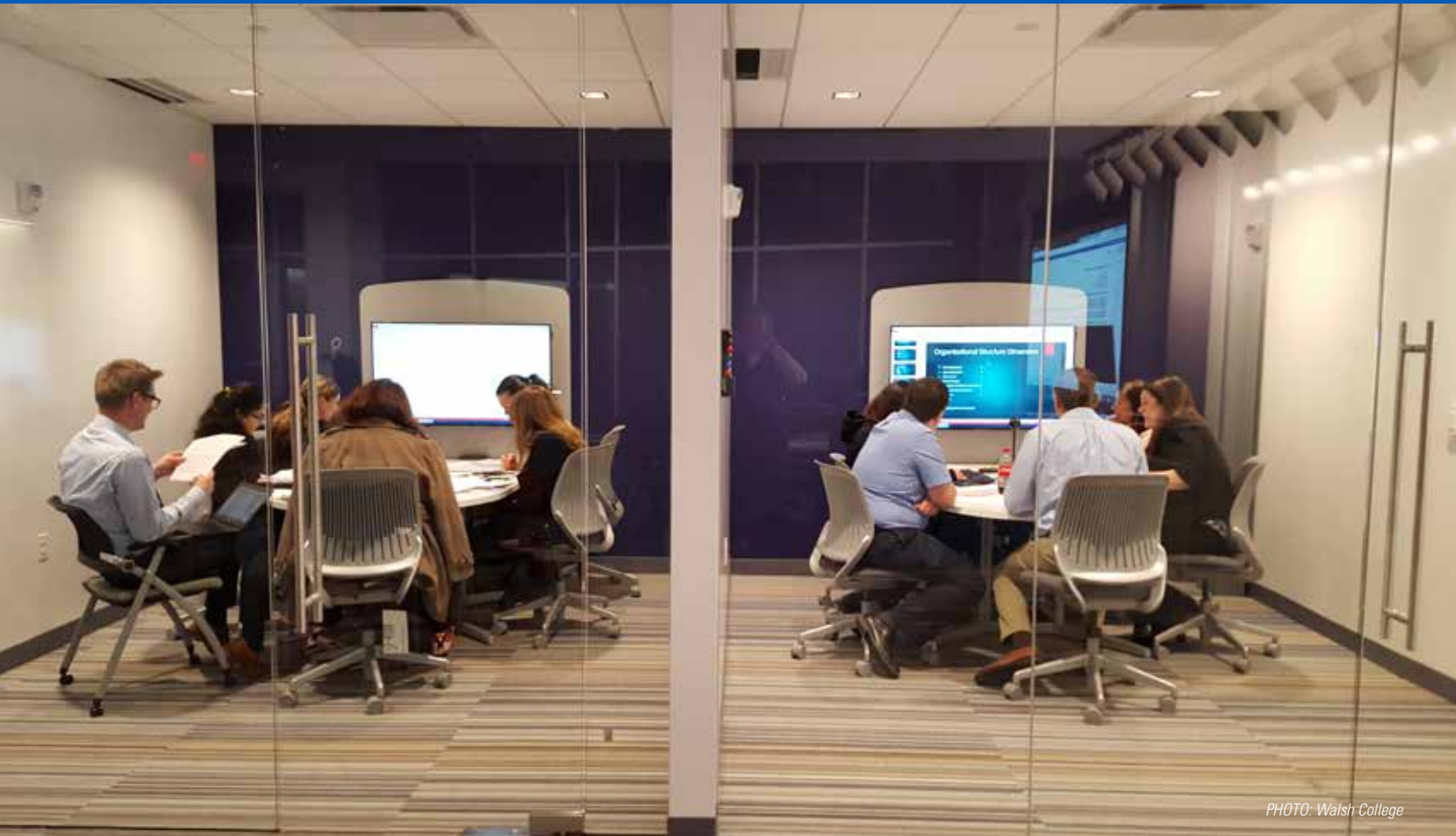


PHOTO: Walsh College

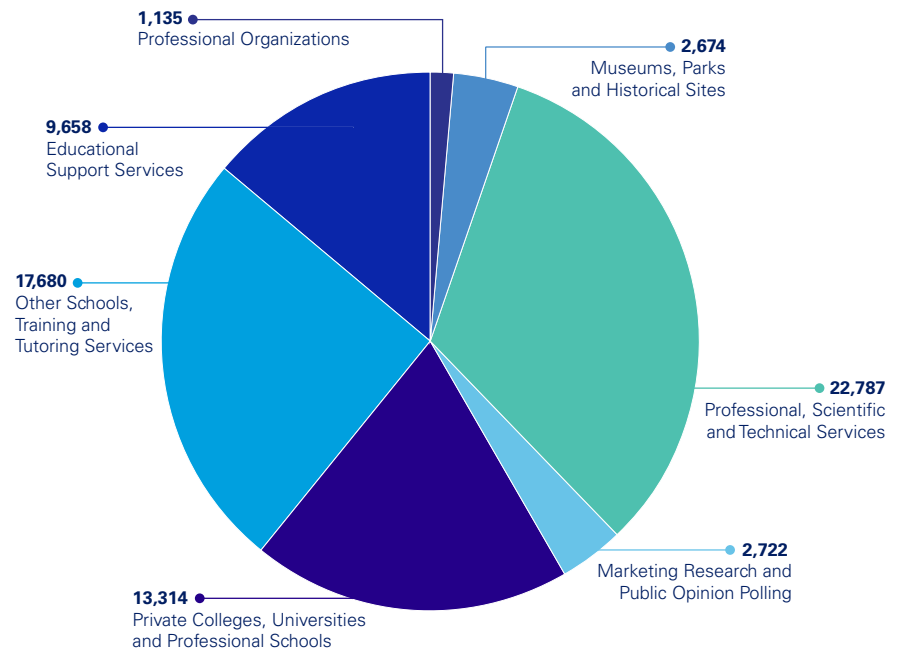
Education and Knowledge Creation

With a wealth of education and knowledge creation resources, the **private sector employed nearly 70,000 workers in 2016 and another 171,200 employees work in government-funded institutions.** With a location quotient of 1.01, the region's concentration of employment is on par with the nation. Professional, scientific and technical services account for nearly one-third of the employment in the cluster.

Wages and Salaries

The industry cluster average wages of \$48,851 are slightly above the region's overall average wages of \$48,000. However, a wide disparity exists between the highest- and lowest-earning sectors, ranging from \$17,000 for educational support services to \$116,500 in the professional, scientific and technical services sectors.

Education and Knowledge Creation Private Sector Employment, 2016



SOURCE: EMSI

CASE STUDY:

Grand Circus Launching New Careers in the Technology Industry

Grand Circus is a technology training institute designed to make a career in technology accessible to everyone. Built to help address the gap between the size of Michigan's workforce and the demand for talent, Grand Circus has created a supportive training environment to help individuals transition into a career as a software developer.

Grand Circus trains students with the technical and soft skills necessary to establish a new career in technology through coding bootcamps. These intensive learning environments reflect the responsibilities and conditions of daily life in the technology industry, and prepare students to be effective day one on the job. Through its campuses in Detroit and Grand Rapids, Grand Circus has trained more than 650 software developers. Graduates of the company's coding bootcamps work at more than 140 companies throughout the state and country.

Additionally, Grand Circus works to support and grow the technology and entrepreneurial spirit throughout Michigan with its workshops and events. Partnerships with Google, the city of Detroit, Facebook, Code2040, and some of Michigan's leading tech innovators, allow Grand Circus to provide new learning and investment opportunities for the community.



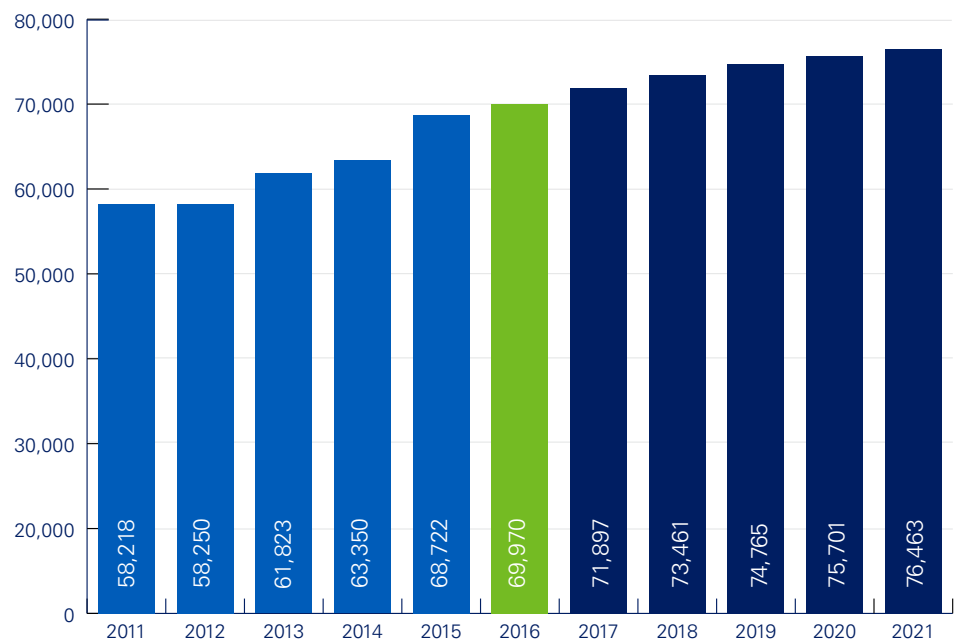
PHOTO: Grand Circus Detroit

Job Growth and Forecast

Private sector jobs in education and knowledge creation account for 2.3% of the region's total jobs. When public sector jobs are added, the cluster accounts for 7.9% of the region's employment.

Since 2011, education and knowledge creation **jobs have grown steadily, adding nearly 12,000 jobs**. The industry is expected to add another 6,500 jobs by 2021.

Education and Knowledge Creation Job Growth and Forecast, 2011-2021



SOURCE: EMSI



PHOTO: PwC

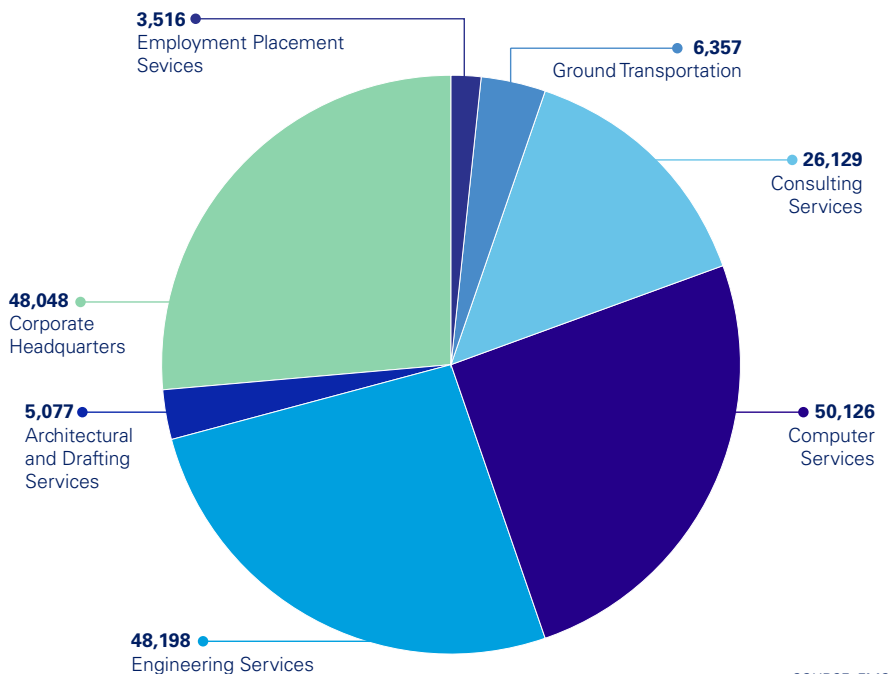
Business Services

The business services industry cluster is comprised of companies that primarily serve to support other aspects of business. It includes corporate headquarters and professional services such as consulting, legal, facilities support, computer, engineering and architectural, and placement services firms, as well as for-hire passenger ground transportation services.

Wages and Salaries

The average business services wages are \$77,359 for the region, slightly higher than the national average and significantly higher than the average wages of \$48,000 for all industries in the region.

Business Services Employment by Subsector, 2016



SOURCE: EMSI

CASE STUDY:

WeWork Detroit

Connecting Creators to the City

Detroit is known for its Fortune 500 enterprises. However, the city's success has also depended on the innovation, ideas and collaboration of people across multiple industries. That's where WeWork comes in.

WeWork is a platform for creators, providing more than 150,000 members across more than 160 physical locations in 52 cities and 16 countries with space, community and services through both physical and digital offerings. Its members are companies of all sizes, in all industries and are creators who run the gamut from entrepreneurs, freelancers and startups, to artists, small businesses and divisions of large corporations.

WeWork's Detroit office space is home to a business community that is fueling the engine of rejuvenation straight from the heart. WeWork has two Detroit communities. The Campus Martius Park location is at 1001 Woodward Ave. and Merchant's Row at 1449 Woodward Ave.

WeWork recently launched in partnership with the Detroit Regional Chamber and the Michigan Economic Development Corp. the PlanetM Landing Zone. This first-of-its-kind space is designed to serve as a hub and connection point for the world's best, high-growth mobility startups to engage with Detroit's established automotive industry.

Both Detroit locations are at the heart of downtown's renaissance and feature a community for creators. WeWork's mission is to empower and connect the new wave of entrepreneurs in Detroit and sustain growth for the long haul. Whether clients need a single desk or an entire floor, WeWork is the place businesses can feel at home.



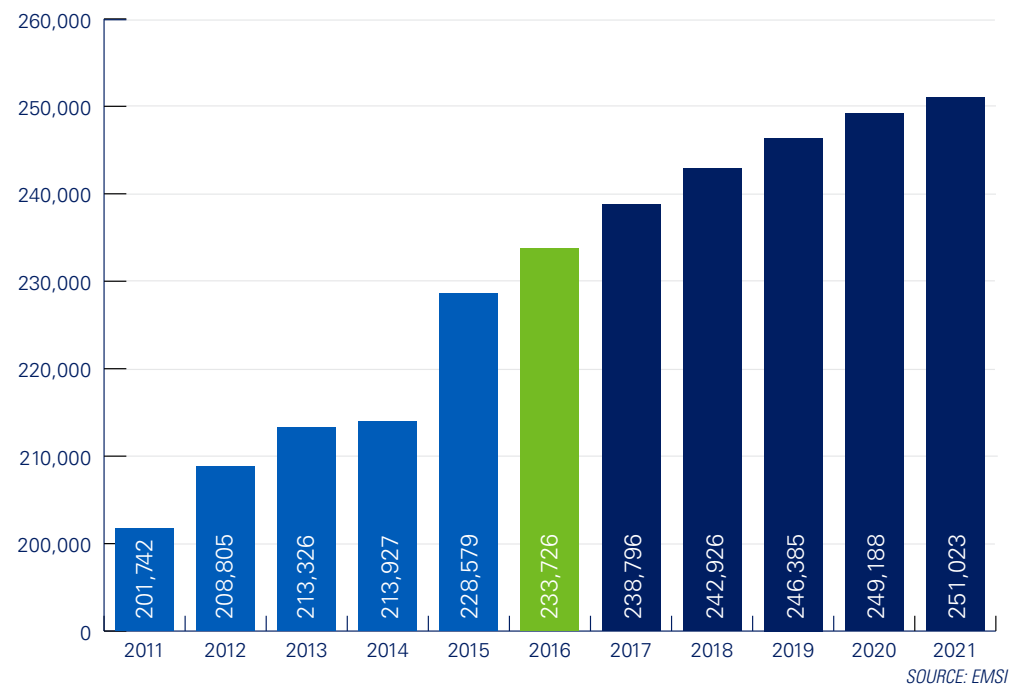
PHOTO: WeWork Detroit

Job Growth and Forecast

In 2016, business services-related jobs accounted for nearly 8% of the jobs in the region, **employing more than 233,700 people**. Together, computer services, engineering services and corporate headquarters companies make up 62.6% of the jobs within the cluster.

Since 2011, business services-related jobs **have grown significantly adding nearly 32,000 jobs**. The industry is expected to add another 17,000 jobs by 2021.

Business Services Job Growth and Forecast, 2011-2021



SOURCE: EMSI

Regional Partners

The Chamber works collaboratively with economic development agencies across the region. Highlighted below are several key programs and activities conducted by these partner organizations.



Ann Arbor SPARK

The Ann Arbor region's technology business scene continues to attract the attention of companies, job seekers and investors. Proof positive is the interest in Ann Arbor SPARK's annual Tech Trek, which attracted 4,200 registrants and 70 companies located in downtown Ann Arbor. This year's event expanded to include Tech Talk – inspiring presentations delivered by the region's leading innovators. Another economic highlight is the continued growth of the mobility sector. In addition, American Center for Mobility will officially open in December 2017, and France-based autonomous vehicle manufacturer Navya chose to invest \$1 million in a manufacturing facility in Saline. More than \$159 million in investment commitments have been made in the Ann Arbor region, nearly 1,100 jobs were announced, and more than 2,100 jobs were retained.



City of Detroit – Detroit Economic Growth Corp.

Built in Detroit is focused on growing international or export opportunities for local companies as well as promoting Detroit's story of resurgence to the global business community. Through its network of public and private partners, Built in Detroit strengthens the regional trade ecosystem to expand the number of exporters and value of exports from Detroit, advocates for the importance of exporters and export-led growth as a critical cornerstone of the regional economy, and connects foreign corporate prospects to Detroit's global business network in order to showcase industry assets and opportunities. In January 2018, the Detroit ExporTech Program will work with a select group of local manufacturers and support them in the development of an export strategy for the global marketplace.



Macomb County

Macomb County is inspiring the next generation of Michigan's workforce. The Department of Planning & Economic Development is partnering with Romeo Public Schools to launch the state's first designated Ford Next-Generation Learning community. Beginning in 2019, the program will offer learning academies that emphasize career exploration, experiential learning and college readiness. In addition, the county hosts one of the nation's largest celebrations of national Manufacturing Day. Since 2014, more than 7,000 students have seen the industry in action. Also in Macomb, the Careers in STEAM Expo, held at Macomb Community College, introduces students of all ages to career possibilities and the educational pathways that lead to meaningful work. A grant from the Michigan Defense Center will solidify agreements with K-12 school districts, Macomb Community College and Wayne State University to offer curriculum in cybersecurity that will lead to employment.



Monroe County

The Monroe County Business Development Corp., in a public/private partnership, has recently completed a study of the I-75 corridor within its borders. The study reviewed current market conditions and opportunities with the opening of the Gordie Howe International Bridge crossing and the widening of the Panama Canal – two projects that will have a major impact on the current transportation network in North America. The plan, branded Monroe County Link, identified six pillars and more than 30 action steps to achieve to move forward as a logistic gateway. Priority sites along Michigan's Main Street, Interstate 75, were also established.



Oakland County

For two decades, Oakland County stands apart by being home to the only countywide Main Street Coordinating Program in the United States – making the county a national leader in downtown development that nurtures vibrant communities for businesses, visitors and residents of all ages. This program has many services to assist civic leaders, businesses, local governments and citizens working to manage and develop their historic commercial districts, hamlets and traditional downtown centers. Since the programs launch in 2001, the economic impact has been significant in participating communities: Nearly \$750 million in total new public and private investment; 7,400 net new jobs created; 1,020 net new businesses established; and \$10 million in cash sponsorships.



Shiawassee Economic Development Corp.

Auto/Diesel Institute of Michigan (ADI) was conceived and built to elevate technical training to a college experience above and beyond anything previously available in the Midwest. The facility boasts classrooms as well as 43,000 square feet of real-world automotive and diesel labs. Situated minutes from the Baker College of Owosso campus, ADI provides students with cutting-edge resources—from state-of-the-art tools and technology to master technicians who serve as instructors. ADI is creating programs for the next 20 years and training the mechanics of the future.



St. Clair County

The Undergruond Business Incubator and Service Center serves a population of approximately 160,000 residents and entrepreneurs. As part of a designated Pure Michigan SmartZone network, collaborating with regional partners and nearby universities, the incubator seeks to stimulate the growth of technology-based companies and jobs. The incubator also helps new companies develop; assists in speeding up the growth and success of a variety of young businesses; and prepares companies for growth by providing entrepreneurial resources, training, guidance and mentorship. Entrepreneurial funding, co-working, private offices, international soft landing, training programs, virtual tenancy and incubation programs are available to aspiring entrepreneurs and young companies. This institution is an equal opportunity provider and supported with U.S. Department of Agriculture and Michigan Economic Development Corp. grant funding.



Wayne County

The Detroit Region Aerotropolis Development Corp. is a seven-community, two-county, public-private partnership with the Wayne County Airport Authority driving corporate expansion and new investment around Detroit Metropolitan and Willow Run airports. With 6,000 acres of land, five rail lines, three interstates, and two-world class airports, the Aerotropolis region is the premier site for greenfield expansion in Southeast Michigan. In 2017, the Aerotropolis received significant commitments from two of the most recognizable companies in the world – Amazon Inc. and Penske Corp. Together, these two projects will invest nearly \$240 million and create more than 2,000 jobs. Also in Wayne County is the American Center for Mobility (ACM), a 335-acre testing and product development facility for connected and automated vehicles.



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