September 30, 2015

Dear Friends:

It gives me great pleasure to welcome you to “Pure” Michigan—a vibrant and diverse state, home to world-leading automotive manufacturers, suppliers, and the global epicenter for research and development defining 21st century mobility.

Michigan has an unparalleled automotive legacy and can lay claim to being the premier setting of innovation and proven know-how. And now, we are leading the world in the pursuit of smart mobility development and integration.

The foundation of our leadership lies in the knowledge, experience and commitment that supports more than 70 percent of North America’s automotive research and development (R&D), 60 percent of the largest auto suppliers and 25 percent of all U.S. assembly plants that call Michigan home.

The conversion of high-tech R&D into self-driving cars, connected vehicles, important fuel efficiency technologies and other innovations is occurring right here in Michigan.

The recent opening of the University of Michigan’s Mcity facility in Ann Arbor, the first autonomous vehicle test site of its kind, underscores how our state is collaborating with industry, providing world-class resources to research, develop and test cutting-edge products.

In August, we launched the “We Run on Brainpower” campaign to attract the next generation of talent to the automobile industry, ensuring its growth and success for years to come.

This year, the Michigan Economic Development Corporation partnered with MICHauto and other statewide stakeholders to create the Michigan Mobility Initiative. This initiative will strengthen, protect and promote the state’s global leadership in next-generation mobility development.

Throughout this report, you will find many reasons why Michigan is the preeminent leader of the automotive industry, including its deep commitment to facilitate collaboration and help foster the growth of automotive companies of all sizes and expertise.

Again, welcome to Michigan, where the automotive industry is not simply a business; it is our way of life.

Sincerely,

Rick Snyder
Governor
American Axle & Manufacturing is experiencing significant year-over-year sales growth, much of which occurs right here in Michigan. Seven of our 34 global facilities are located here, and we recently invested over $130 million to launch our new disconnecting AWD system in Three Rivers. The technical facilities, human talent, and assistance from governmental agencies and economic development organizations greatly enhance our ability to achieve this type of success.

David Dauch, Chairman, President & CEO, American Axle & Manufacturing
Michigan remains the preeminent place for auto-related research and development, where key industry players from around the world have facilities to remain at the forefront of innovation.

- Michigan is home to 375 automotive R&D centers, 120 of which are foreign-owned.
- Michigan accounted for $8.9 billion, or 76 percent, of business funded automotive R&D - leading the nation in automotive-related R&D.
- Over the past 50 years, Michigan has accounted for over 20,000 automotive patents, three times more than the next ranked state and it leads the country in navigation and smart mobility patents.

As a global automotive supplier that values close proximity to industry leaders and decision makers, it is a necessity to have a strong presence in Michigan. We are proud to call Michigan home to our global headquarters, Powertrain Technical Center, as well as a few manufacturing facilities. Living and working in the same communities as our customers, peers and suppliers has served us extremely well.

James Verrier, President and CEO, BorgWarner
Highly Skilled, Competitive Workforce

Home to more than 89,835 engineers, Michigan ranks first in the nation for its concentration of engineering and architecture talent. It has the highest concentration of industrial and mechanical engineers in the United States, and as of May 2014, Michigan employed more industrial engineers (22,390) and mechanical engineers (38,700) than any other state in the country.

Michigan Ranks:

No. 1 in mechanical engineers
No. 1 in industrial engineers
No. 1 in mechanical engineering technicians
No. 2 in industrial engineering technicians
No. 3 in electrical engineers
No. 4 in mechanical drafters
No. 5 in materials engineers

Nationally Ranked Engineering Programs

Michigan has 15 universities and colleges with nationally ranked undergraduate engineering programs, four of which also have nationally ranked graduate programs, according to the 2016 U.S. News & World Report.

Undergraduate

Calvin College
Central Michigan University
Ferris State University
Grand Valley State University
Hope College
Kettering University
Lake Superior State University
Lawrence Technological University
Michigan State University
Michigan Technological University
Saginaw Valley State University
University of Detroit Mercy
University of Michigan-Dearborn
University of Michigan
Wayne State University

Graduate

Michigan State University
Michigan Technological University
University of Michigan
Wayne State University
In addition to top tier engineering talent, Michigan employs a highly skilled manufacturing labor force at nationally competitive wages. As a result, Michigan has led the nation in manufacturing jobs created between 2009 and 2014, adding nearly 105,000 jobs. Since 2009, Michigan has created 45,000 jobs specific to automotive manufacturing, which equates to more than 20 jobs created every day for 6 years.

Automotive Manufacturing Footprint
Michigan’s renowned manufacturing expertise and unrivaled footprint lead automotive production levels in the nation and continent.

- Michigan leads the nation in motor vehicle and motor vehicle parts manufacturer establishments with 1,733. Nearly 26 percent of these (419) are foreign-owned.
- There are over 1,400 tool and die establishments in Michigan, more than any other state.
- Michigan leads the nation in original equipment manufacturer (OEM) assembly plants with 13.
- There are 35 OEM components/materials plants in Michigan, more than any other state.

“Michigan is the capital of the global automotive industry, and General Motors has been proud to call it our home since 1908. The state’s business and manufacturing environment and expertise are unequaled, which is why we base so much of our research and development, design, engineering, and manufacturing workforce here, and so does our broad supplier base. GM’s long history and strong relationship with Michigan has resulted in a successful public and private partnership, one that will continue and flourish for years to come.”

Mark Reuss, Executive Vice President, Global Product Development, Purchasing and Supply Chain, General Motors Co.
Michigan Vehicle Production by the Numbers

Michigan’s vehicle production of **2.34 million** in 2014 exceeded the next closest state’s production by nearly 800,000 vehicles, or 52% more.

![Yearly Vehicle Production Chart]

Source: Automotive News

*Production numbers impacted by retooling of Ford Motor Co.’s Dearborn Truck Plant to prepare for the all-new aluminum body Ford F-150 production.

Competitive Hourly Wages

A highly skilled workforce at nationally competitive wages makes Michigan a valuable option for accessing world-class manufacturing talent to compete in the 21st century global economy.

**2015 Hourly Wages (in Dollars)**

<table>
<thead>
<tr>
<th>Total Average Wages</th>
<th>Michigan</th>
<th>National</th>
</tr>
</thead>
<tbody>
<tr>
<td>$22.05</td>
<td></td>
<td></td>
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<tr>
<td>$22.69</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Total Unionized Wages</th>
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</thead>
<tbody>
<tr>
<td>$24.80</td>
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<tr>
<td>$26.47</td>
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</table>

Source: Bureau of National Affairs
From Michigan’s supplier network or the logistical infrastructure to moving freight anywhere in the world, the assets in the Motor State make it a magnet for automotive investment. According to the Center for Automotive Research, between 2010 and June 2015, automakers and suppliers announced investments of $20 billion in Michigan, over $5.7 billion of which came from 93 foreign automotive firms from 18 different countries.

In 2014, 22 Michigan counties received more than $3 billion in automotive investment, creating more than 11,000 jobs, 54 percent attributed to foreign firms.

Automotive Trade: Imports and Exports
Imports and exports of transportation equipment to and from Michigan companies grew significantly between 2009 and 2014.

Michigan companies exported more than $26 billion in transportation equipment to 165 countries in 2014, an increase of nearly 83 percent from 2009. In 2014, automotive exports to Canada totaled nearly $14.1 billion – 54 percent of Michigan’s transportation equipment export total.

Michigan companies imported more than $76 billion in transportation equipment in 2014, an increase of more than 129 percent from 2009. In 2014, automotive imports from Mexico and Canada totaled nearly $70 billion – 89 percent of Michigan’s transportation equipment import total.
Logistics and Infrastructure

Michigan is only 500 miles, or a day’s drive, from half of the population of the United States and provides the infrastructure needed to transport products and people there and across the world. Michigan has an extensive network of logistical assets that make moving automotive components a breeze.

ROAD

Michigan is among the top 10 in the nation for road infrastructure (public road length) with 1,244 miles of interstate highway and 8,480 miles of U.S. and state highways.

Michigan is one of only two Great Lakes states with toll-free highways.

RAIL

Michigan is served by 27 freight railroads (seventh in the country) covering 3,542 miles of rail (12th in the country).

In 2012, Michigan railroads led the nation in originated motor vehicle traffic, moving more than 4.4 million tons of motor vehicles and parts on 262,800 carloads.

AIR

Michigan has 18 commercial airports, including the 17th busiest airport in the world, Detroit Metropolitan Wayne County Airport (DTW). DTW offers 230 international flights weekly and ranks in the top 27 for cargo movement in North America.

Willow Run Airport handles more than 200 million pounds of cargo annually including high-value automotive and electronic components.

11 airlines provide more than 600 flights per day from DTW to destinations on four continents.

WATER

Michigan has 40 commercial ports, 38 of which are deep water ports.

The Port of Detroit is the third largest international gateway in the United States and connects the Great Lakes and the entire Midwest to the St. Lawrence Seaway.

“Michigan is recognized as the automotive capital of the world for many good reasons. Toyota is pleased to conduct its North American engineering and research activities where the action is. The engineering and design synergy created through the huge supplier base and engineering talent centered in Michigan is why Toyota continues to expand our R&D operations here.

Simon Nagata, Executive Vice President and Chief Administrative Officer, Toyota Motor North America Inc.”
Michigan is uniquely positioned to lead the world in the development and integration of automotive technology that will define 21st century intelligent mobility. In 2014, Michigan led the United States in connected vehicle projects (45), a growth of 50 percent over the previous year and 30 percent more than the next closest state.

- **Former Willow Run Powertrain Plant** – Proposed home for a technologically advanced connected vehicle research center, a project that could become a hub of research and development for the vehicles of tomorrow and a catalyst for jobs in innovative automotive research.

- **The Smart Corridor** – Expected to be in place by 2017, General Motors Co. is joining forces with the Michigan Department of Transportation (MDOT), the University of Michigan’s Mobility Transformation Center (MTC) and other automakers to create V2I-enabled corridors on 120 miles of Metro Detroit roadways, the largest deployment of V2I technology in the United States.

The Detroit region is a leader of connected vehicle programs with locations in **8 cities** in Southeast Michigan.

Michigan is an iconic automotive hub – from a strong technical workforce to innovative companies to effective OEM and supplier relationships – it truly is the best place for industry growth. That’s why at IAV, we’re proud to have an expanding presence in Michigan. This includes bringing our highly automated driving expertise here, to the Great Lakes State, to assist in building a robust, intelligent mobility infrastructure. Leveraging the extensive automotive resources and talent pool in the region will further illustrate the state’s key leadership position in developing state-of-the-art driving systems and its role in advancing the industry as it pursues intelligent mobility success.

*Andy Ridgway, President, IAV Automotive Engineering Inc.*
Mcity: A 32-Acre Outdoor Lab

Mcity is the world's first full-scale simulated urban environment designed expressly for testing the performance and safety of connected, automated, and autonomous vehicles under controlled and realistic road conditions. It is a 32-acre outdoor laboratory for advanced mobility systems that includes:

- Urban and suburban streets, including various lane configurations and sidewalks, pedestrian crossings, bike lanes, ADA ramps, street lights, parallel and diagonal parking, and a bus turnaround/stop.
- Instrumentation throughout, including a control network to collect data about traffic activity using wireless fiber optics, Ethernet, and a highly accurate real-time kinematic positioning system.

Other features include:

- **Straight gravel roadway with a railroad crossing.**
- **Traffic circle,** a smaller version of a roundabout that is common in Europe and some older cities in the U.S.
- **Signalized intersections in different configurations,** with mast arms, wood, and metal poles, and pedestrian crossings.
- **Trunk line road,** a rural roadway with a fully equipped railroad crossing, guard rail, and temporary and permanent pavement markings.
- **Brick paver road,** simulated with stamped concrete.
- **Underpass,** simulated by a tunnel that blocks vehicles from wireless and satellite signals.
- **Roundabout,** an increasingly common approach to intersection design intended to improve safety.

- **Open test area** that can be configured for a wide range of scenarios, including parking lots and novel intersection geometries.
- **4-way stop intersection,** with straight as well as tight and sweeping curved approaching roadways.
- **Tree canopy,** a simulated tree cover that reproduces the attenuation of signals that pass through trees.
- **Metal bridge deck,** a bridge surface that poses special challenges for radar and image processing sensors.
- **Moveable building facades** up to two stories high allow researchers to test the effects of various materials and geometries on sensor performance.
- **Meandering gravel roadway.**
- **Limited access freeway** with access ramps, highway signage, guardrails, crash attenuators, and a concrete jersey-style barrier.
- **Calibration mound** to calibrate inertial measurement sensors on vehicles.
- **Open test area** that can be configured for a wide range of scenarios, including parking lots and novel intersection geometries.
Michigan continues to streamline regulations and improve its business and tax climate as it emerges as the Comeback state. Following significant reforms to the tax structure and other pro-growth policy, Michigan has surged in several national rankings that reflect the renewed strength of its business environment.

Workers’ compensation rates are the best in the Midwest and second best in the nation.

Nearly two-thirds of Michigan businesses surveyed describe the state as having a positive business climate and would promote Michigan as a place to start a business.

### Major Michigan Legislative Advances 2012-2014

<table>
<thead>
<tr>
<th>Date</th>
<th>Legislation</th>
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<tbody>
<tr>
<td>Jan. 1, 2012</td>
<td><strong>Positive Tax Reform Passed</strong>&lt;br&gt;Michigan's new corporate income tax is the lowest in the Midwest and is among the lowest in the nation.</td>
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<tr>
<td>Dec. 20, 2012</td>
<td><strong>Personal Property Tax Eliminated</strong>&lt;br&gt;Michigan eliminated its personal property tax on industrial property to be more manufacturing-friendly.</td>
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<tr>
<td>Dec. 27, 2013</td>
<td><strong>Driverless Car Legislation Signed</strong>&lt;br&gt;Gov. Snyder signed legislation allowing manufacturers to test driverless cars on Michigan roads.</td>
</tr>
<tr>
<td>July 31, 2015</td>
<td><strong>Regulations Decreased</strong>&lt;br&gt;Thus far, 1,950 obsolete, unnecessary and burdensome rules have been eliminated in Michigan.</td>
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Recent Michigan Accolades

**TAX CLIMATE**
Michigan’s corporate tax climate ranking rose to 10th from 49th in the United States.

Michigan eliminated its personal property tax – saving businesses $5 million annually.


**COMPARATIVE MEASURES**

- Second most improved economic health
- Fifth most private sector job creation
- 41st to sixth in entrepreneurial climate
- Michigan’s gross domestic product (GDP) growth outpaced the nation from 2009 through 2014, with growth of 13.9 percent compared to 10.7 percent.

**REGULATORY REINVENTION**
Michigan eliminated 1,950 outdated, unnecessary and burdensome regulations.

**WE RUN ON BRAINPOWER**
In August 2015, Gov. Snyder announced the “We Run on Brainpower” initiative, designed to showcase Michigan’s leadership in the rapidly evolving technologies driving the global automotive industry now and in the future – and the career opportunities available to Michigan’s next-generation workforce.

The initiative is a digital experience created to benefit automotive industry stakeholders by providing a platform for companies to share their stories about innovative jobs and technology advancements being made in Michigan. Videos and in-depth feature stories can be found on www.werunonbrainpower.org.

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"Michigan has been home to TI Automotive for nearly a century and we appreciate the important role that Michigan plays in the world’s automotive industry. Through our global corporate offices, two technical centers and five manufacturing locations in Michigan, we have seen firsthand the strong work ethic of the people of Michigan and the high quality of life that the state provides."

Bill Kozyra, Chairman, CEO and President, TI Automotive
MICHauto serves as the unified voice for the entire state of Michigan's automotive industry, providing a platform for various stakeholder groups to collaborate on matters related to advocacy, awareness, business attraction, mobility and talent retention. Over 100 automotive stakeholders invest in MICHauto.

**MICHauto Focus Pillars**

- **Advocacy**
  Connects and engages key policymakers with Michigan-based automotive stakeholders.

- **Awareness**
  Promotes the importance of the automotive industry to Michigan’s economy, and highlights the state’s automotive assets.

- **Business Attraction**
  Bolsters business attraction and retention efforts at the local and state levels to increase automotive investment in Michigan.

- **Mobility**
  Strengthens, protects and promotes Michigan’s global leadership in next-generation mobility development.

- **Talent Attraction**
  Improves the perception of automotive careers by partnering with key businesses, universities and associations.

**For more information on locating or expanding automotive business in Michigan, please contact:**

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313.596.0383
Whether it’s high-tech engineering, top-notch research, a highly skilled workforce or close proximity to a premier global supply chain, Michigan has it all. Nowhere else is there as dense an automotive industry cluster with manufacturers, suppliers and businesses from around the globe.

The Detroit Regional Chamber represents a united, 11-county area of Southeast Michigan home to more than 315,000 companies and 5.3 million people. The Detroit region provides a dynamic and cost-competitive environment capable of supporting today’s global businesses.

This document combines substantive data and testimonials from automotive experts to prove Michigan and the Detroit region is the global epicenter of the automotive industry. I contend there is no place more ideal to design, engineer and mass-produce automobiles or auto-related components than here. Thank you for taking a look at all the reasons why Michigan is Auto.

Sandy K. Baruah
President and Chief Executive Officer

Thank you
This report was developed in partnership with:

Michigan is auto™
can be downloaded by visiting michauto.org
For more information on locating or expanding automotive business in Michigan, please email info@michauto.org.