
Detroit, Michigan
November 18, 2030
MPH
40
cavnue
Downtown:
15 mins

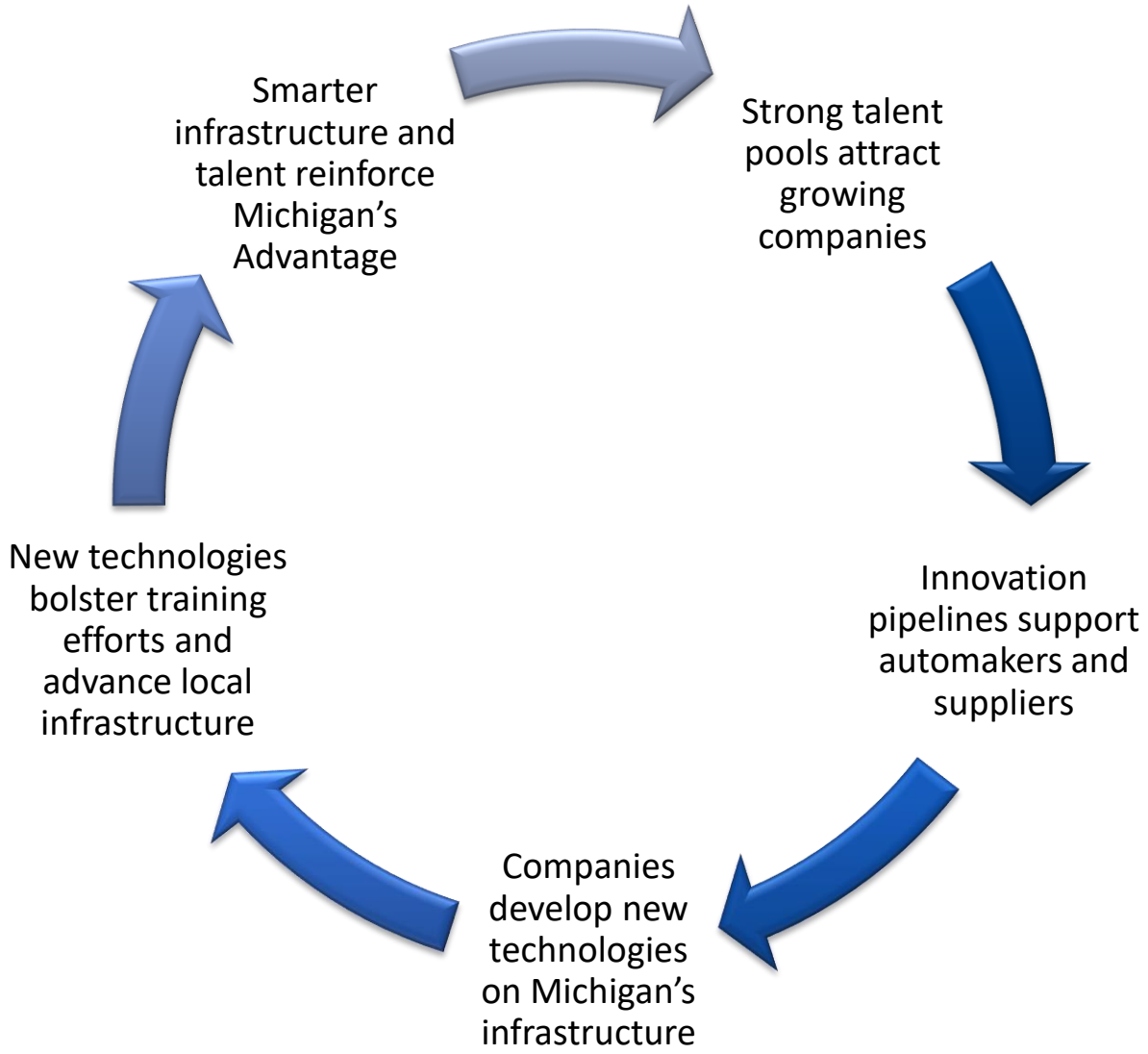
Michigan's Vision for Mobility and Electrification: A stronger state economy through safer, more equitable and environmentally-conscious transportation for all Michigan residents.

Six Core Objectives:

1. Grow Mobility Industry in Michigan
2. Engage More Mobility Startups
3. Expand Michigan's Smart Infrastructure
4. Accelerate EV Adoption in Michigan
5. Enable Michigan's Mobility Workforce
6. Bolster Michigan's Mobility Manufacturing Core

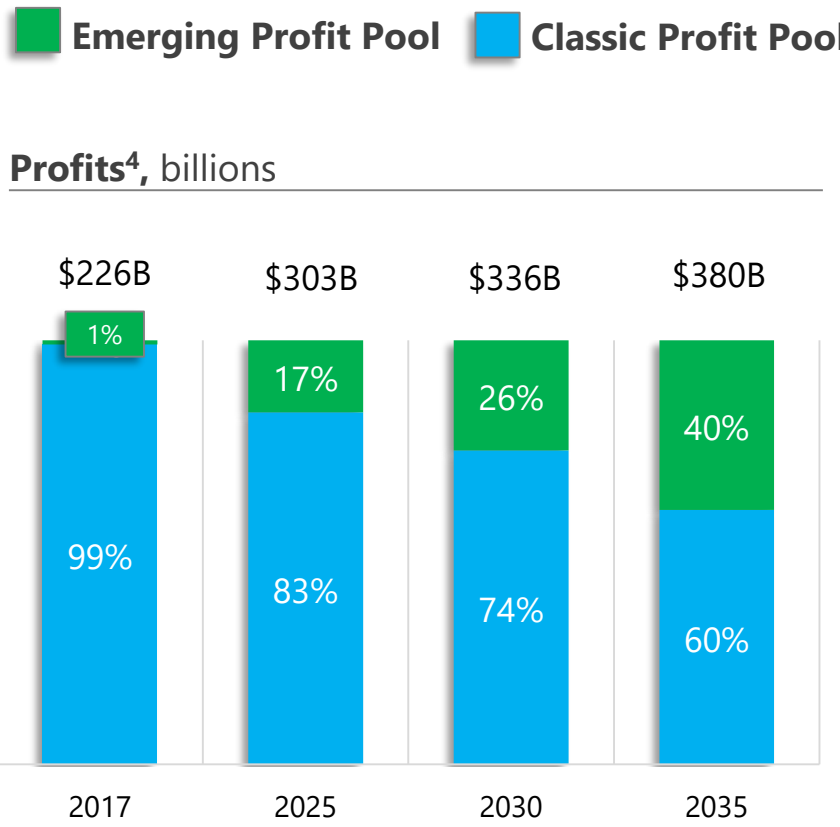
Michigan takes an integrated approach to drive sustained industry development.

Levers To Pull:
Dynamic Programming
Responsive Policy



The Industry and Michigan

The last decade has seen 4 foundational technologies (electric, autonomous, shared and electric) disrupt the mobility and electrification supply chain. This disruption is shifting profit pools and creating new winners and losers.



Supply Chain Impact[1]

Traditional OEMs: Automakers are producing parts in-house again (e.g. e-axles) to claim greater share of value.

New OEMs: Vehicle startups are challenging traditional OEMs.

Tier-1s: Suppliers to OEMs are moving backwards in the supply chain to sell batteries and other electronics.

Tier-2s: Suppliers for components like batteries are now skipping over tier-1 customers and working directly with OEMs.

Non-Auto Players: Companies traditionally focused on non-automotive technologies are entering the market.

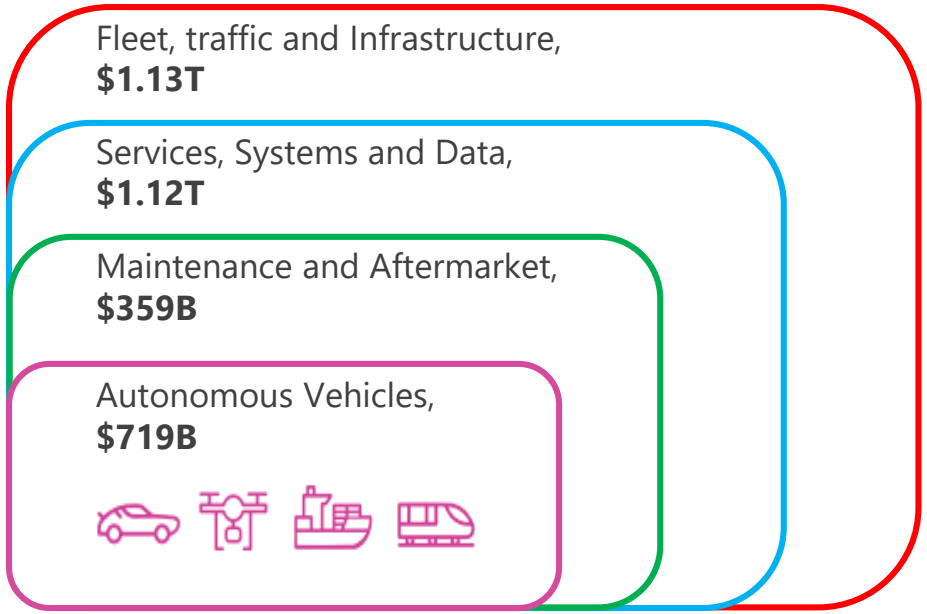
Boston Consulting Group Analysis, "Who Will Drive Electric Cars to the Tipping Point?" 2020
McKinsey Consulting Group, Mobility 2.0 Taskforce, Michigan Department of Labor & Economic Opportunity. 2019
Detroit Regional Partnership Research, 2019
Boston Consulting Group Analysis, "Where to Profit as Tech Transforms Mobility". 2018

The Industry and Michigan

And, due to heavy reliance on the same foundational autonomous, connected, shared and electric technologies, many modes of transportation are converging. Future mobility will impact more than auto.

Autonomous Tech will Grow to $3.3T USD by 2030

But self-driving cars are only a portion of the market



Extending Global Impact:

Michigan is leveraging its automotive advantage to drive other transportation modes forward, like shipping and last-mile delivery

- Autonomous technology should reduce logistics costs by **47% by 2030**.
- Commercial ground and aerial drones could represent up to **80% of consumer goods deliveries** by 2026.
- A single global shipment can involve **30 organizations and over 200 interactions** across various infrastructure assets.

Oliver Wyman, Mobility Compendium 2019, https://www.oliverwyman.com/content/dam/oliver-wyman/v2/publications/2018/november/2018_Oliver_Wyman_Mobility_Compendium.pdf
PWC, "Digitisation and autonomous driving to halve costs by 2030, finds PwC Truck Study", 2018, https://www.pwc.com/gx/en/news-room/press-releases/2018/digitisation-and-autonomous-driving-to-halve-costs-by-2030-finds-pwc-truck-study.html
Morgan Stanley, "Internet, Auto and Transport Report" 2020
McKinsey Consulting Group, Commercial Drones 2020, https://www.mckinsey.com/industries/capital-projects-and-infrastructure/our-insights/commercial-drones-are-here-the-future-of-unmanned-aerial-systems
Deloitte, 'How are global shippers evolving to meet tomorrow's demand?' 2019, https://www2.deloitte.com/us/en/insights/focus/future-of-mobility/future-of-freight-connected-data-intelligent-automation.html

The Industry and Michigan

Over the last decade, Michigan has experienced a **consistent drumbeat of new investment** from companies that need customer proximity and reliable manufacturing expertise as the industry changes. **$41.5B** in new OEM and supplier investment and **90,000 new jobs** from 2010 to 2019**.**

21 OEMs & EV TECHNOLOGY CENTERS

Ford, GM, FCA (Fiat Chrysler Automobiles), Volkswagen, Toyota, Nissan, Subaru, Rivian, Mazda, Honda, Suzuki, Changan, Daimler, Mahindra, GAC Motor, Mitsubishi, Kia Motors, Isuzu, SAIC, Hyundai, Seres

1,800 GLOBAL EV & AV SUPPLIERS

Continental (The Future in Motion), Magna, Lear Corporation, Bosch, Aptiv, Denso, Samsung, BorgWarner, ZF, Aisin, LG, Harman, FEV, Delphi, Hella, Autoliv, Valeo, Ricardo, Panasonic Automotive Systems, GKN Automotive, nexteer automotive (a leader in intuitive motion control), faurecia, Hyundai Mobis, Kostal, Visteon, Eberspächer, Siemens, Yazaki, BASF, Adient, Mahle, flex

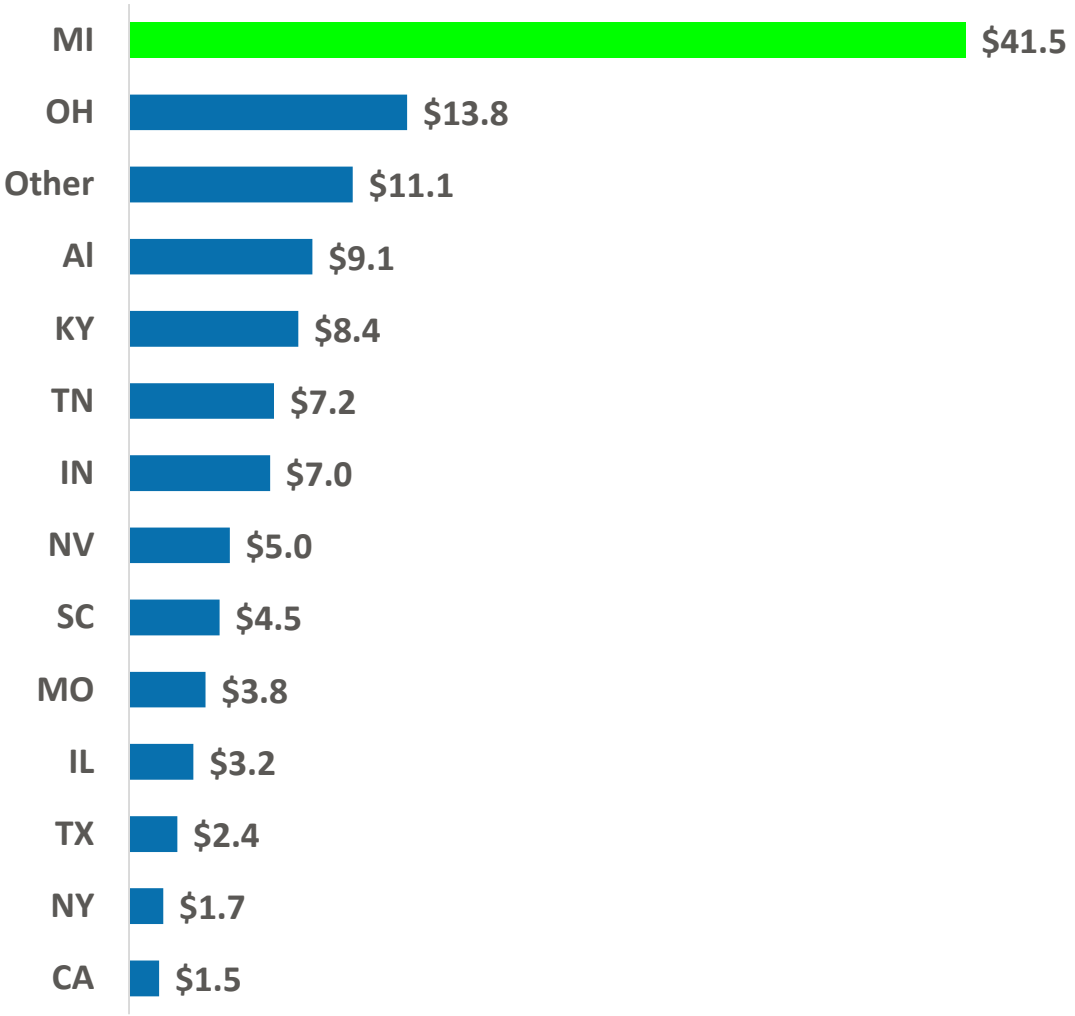
NEW MOBILITY COMPANIES

Waymo, Karamba Security, Qumulo, Bollinger Motors, Mighty AI, :DriveSmart, GUARD KNOX, may mobility, nauto, airspacelink, Zenuity (Make it real.), DERQ, Refraction AI, Haas Alert, Applied Intuition, Lightning Media, ASX (Airspace Experience Technologies), AT&T, Microsoft, Powerlink Systems, Autotalks, verizon, Airbiquity, Cohda Wireless, ARADA Systems, LUXOFT

Note: Not a Comprehensive List
*Detroit Regional Partnership, 2019

The Industry and Michigan

Automotive Investment by State, Billions, 2009-2019



Source: Center for Automotive Research

Michigan: Top 2019 Mobility and Electrification Investments

Waymo: $13.6 Million investment to build world's 1st factory 100% dedicated to autonomous vehicles.

General Motors: $3 Billion investment to retool production for electric pickups, vans, and batteries.

FCA: $2.1 Billion investment to introduce the new Durango mHEV and new Grand Cherokee.

Ford Motor Company: $700 Million to produce the new F-150 BEV and production the new Raptor.

Akasol: 400-person battery tech center. First location in North America.

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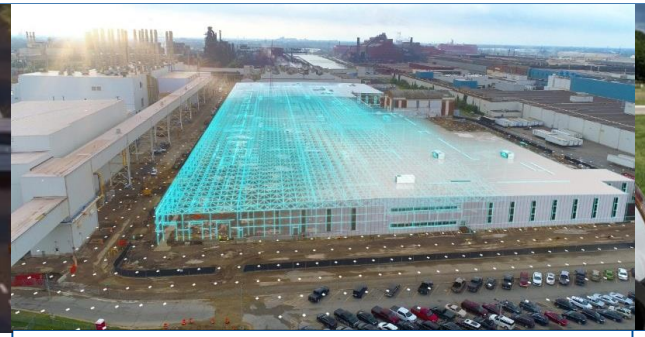
Self-Driving Vehicle Corridor

~40 Mile Dedicated Self- Driving Vehicle Lane Between Detroit and Ann Arbor.

Corridor will be equipped with advanced charging infrastructure and other smart technologies to improve regional transit. ~$4-$8M estimated investment per mile.

Ford's New Electric Vehicle Center



$700M for new Electric Vehicle Center at the historic Rouge Complex in Dearborn.

The latest step in a $12 billion program to electrify vehicle lineup.

New DCFC Chargers Statewide

The $1.7M EGLE Charge Up Michigan Program creates grants to fund 36 EV DC fast charging stations.

With a total of 76 plug-in points for automobiles and light-utility vehicles along strategic rural routes.

Midwest Charging Network Announced

The state's two largest utilities, DTE Energy and Consumers Energy, have announced they've joined 4 additional energy providers in the Midwest to create an interstate EV charging network.

It will run from Michigan to Kansas by 2022.

The Industry and Michigan

Building Digital Infrastructure in the Sky

Establishing and interpreting traffic laws for the sky in Wayne County.

Leads: State of Michigan, Airspace Link, Wayne County (Aerotropolis)

Autonomous Shuttles for Detroit Hospitals

Autonomous Shuttle strategy deployed to help seniors in Detroit move to and from doctor's appointments at the Detroit Medical Center campus.

Leads: State of Michigan, NAVYA, DTE Energy, Flagstar Bank, Wayne State, City of Detroit

COVID-19 Mobility Solutions

Virus mitigation technology for May Mobility shuttles in GR. Autonomous cleaning robots in GR Airport. New plastic dividers on Detroit buses.

Leads: State of Michigan, City of Grand Rapids, May Mobility, GHSP, Pratt Miller, Gerald Ford Airport (GRR), Penske, City of Detroit.

First Automated Parking Garage in U.S.

Ford, Bosch, State of Michigan and Bedrock announce automated valet parking demo in downtown Detroit, designed to allow drivers to exit and have the vehicle park itself.

Leads: Ford, Bosch, Bedrock, State of Michigan

Thank You