



**Council on
Future Mobility
& Electrification**

2023 REPORT

Executive Summary

The Michigan Council on Future Mobility and Electrification (CFME) is an advisory council, established by the governor to develop and recommend policies and actions to ensure Michigan continues to be an epicenter of future solutions around mobility and electrification. Founded against the backdrop of the global transition towards sustainable transportation, CFME serves as a collaborative platform that brings together government, industry stakeholders and research institutions to catalyze innovation, foster economic growth and address the challenges associated with the rapidly evolving mobility landscape.

The work of CFME is supported by the Office of Future Mobility and Electrification (OFME), which authored the **MI Future Mobility Plan** to guide the state's actions through three core pillars:

- 1 Transition and grow our mobility industry and workforce
- 2 Provide safer, greener and more accessible transportation infrastructure
- 3 Lead the world in mobility and electrification policy and innovation

In 2023, the council put forth recommendations on topics ranging from electric vehicle charging infrastructure, to incentives for low- and zero-emission vehicles, hydrogen fuel incentives, roadway and intersection safety, intelligent transportation systems (ITS) asset and communication networking mapping and the establishment of a state investment fund for mobility related startups.



These proposals were developed under an innovative approach, using action teams co-led by senior advisors and council members, to focus on a few key areas of Michigan's mobility and electrification sector.



The **Electric Vehicle (EV) Charging Action Team** is concentrated on supporting the federal National Electric Vehicle Infrastructure (NEVI) program and consumer awareness and protection.



The **Hydrogen Action Team** is focused on supporting hydrogen deployment in Michigan.



The **Intelligent Transportation System (ITS) Action Team** is focused on transitioning to advanced Cellular Vehicle to Everything (CV2X) systems and comparing Michigan's efforts with other leading smart city initiatives.



The **Jobs and Talent Action Team** undertook a survey of available mobility career resources and is examining career and technical education curriculums for K-12 education.



The **Startup Friendly Ecosystem Action Team** emphasized three key enablers in the mobility ecosystem: capital, talent and customers.



The **Public Safety Action Team** is focused on reducing driving errors including wrong way driving and intersection accidents.



A **Transit Action Team** is being formed to address equitable mobility and micro-mobility solutions.

CFME adopted six specific resolutions from the action teams' recommendations.

CFME works to include all stakeholders, emphasizing not just technological progression, but equitable and inclusive mobility. The annual report underscores CFME's achievements and their vision for a sustainable, inclusive future. They extend gratitude to all contributors in this endeavor.

The council is paving a path towards a future dominated by sustainable, innovative and clean mobility solutions that enable people, goods and information to move more freely in land, water and air. Their collaborative efforts underline Michigan's commitment to remain at the forefront of these evolving sectors.



Message from the Chairwoman

As we push to secure Michigan's position as a world-renowned leader in the next generation of mobility and transportation technologies, in 2023 the Michigan Council on Future Mobility and Electrification (CFME) was tasked with developing a new set of policy recommendations to address some of Michigan's most critical mobility challenges and further enhance the state's mobility ecosystem.

Susan R. Corbin

Director, Michigan Department of Labor and Economic Opportunity;

Chairwoman, Michigan Council on Future Mobility and Electrification

Since its inception, CFME has been wholeheartedly committed to working across government bodies, industry stakeholders, academic institutions and local communities to fulfill the vision for economic prosperity and mobility for all. In the past year, council recommendations have led to monumental investments in mobility business development and attraction, EV training and talent development, and improvements in safety and health for Michigan communities.

This year, the council took on an even more innovative approach to the work, developing seven action teams, each tasked with focusing on a specific area of the Michigan Future Mobility Plan. Out of these teams came six impactful resolutions that aim to support the startup and scale up of emerging technologies and businesses while creating safer, more equitable and environmentally conscious transportation options for Michiganders.

CFME is excited to present those resolutions in this report and we believe that by acting on them, we can help make our state a place where mobility companies find long-term success and where any person can make it in Michigan.

Introducing the **NEW** Chief Mobility Officer

In August 2023, I embarked on a journey, leaving the year-round sunny skies of Southern California for the vibrant and innovative environment growing in Michigan. This decision was not just a change of location; it was a conscious bet on Michigan's rich legacy in shaping the future of transportation and my fervor for mobility innovation.

I believe that the future of mobility isn't solely about technological advancements -- it's about enriching lives, creating equitable opportunities and connecting communities to a brighter future.

This perspective drives my commitment to fostering people-centric mobility solutions, bringing the EV and battery supply chain closer to home and preparing our workforce for the jobs of tomorrow. As we stand at the cusp of a new era in mobility, my mission is to build upon these foundations and magnify our impact within the state.

While our work is ongoing, collaboration is paramount to our success. The Council of Future Mobility and Electrification is a testament to this collaborative spirit. The Council is committed to working together to identify opportunities for a holistic approach to mobility and clean technologies in Michigan. Its commitment to addressing challenges with an open mind and finding resolutions drives Michigan toward a cleaner, more sustainable, and economically vibrant future.

Our journey has just begun, and I invite you to read the 2023 Annual Council Report, which is paving the way forward for all Michiganders to see their present and future where mobility and innovation serve as a tool that transforms lives and helps communities thrive.



Justine Johnson

Chief Mobility Officer,
Michigan Council on Future
Mobility and Electrification

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Michigan's Goals for Mobility and Electrification

Michigan's Biggest Mobility Challenges this Decade:

Fierce competition for new mobility jobs.

Fierce competition for new R&D and risk capital investment.

Transitioning Michigan's workforce from traditional Internal Combustion Engines (ICE) skillsets to emerging AV (Automated Vehicles) and EV skillsets.

Transitioning Michigan's infrastructure and grid from primarily serving ICE vehicles to also serving EVs and AVs.

Ensuring state regulatory environments keep pace with domestic and global markets.

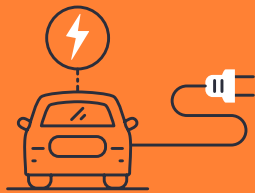
As the leading source of emissions pollution, decarbonizing the transportation sector is key to fighting climate change.



Last year, Gov. Gretchen Whitmer announced the MI Future Mobility Plan, a statewide strategy on the future of mobility and electrification. Developed by OFME in consultation with CFME and other state departments, the plan is an actionable road map to address the opportunities and challenges that Michigan faces in maintaining its role as a global leader in the mobility and electrification revolution.

MI Future Mobility Plan is divided into three main pillars.

PILLAR 01



Transition and Grow Our Mobility Industry and Workforce

- Achieve strong employment growth in mobility and automotive-focused sectors by creating 20,000 new jobs by 2026, while increasing the median wage of mobility sector jobs.
- Add 7,000 workers with mobility credentials by 2030, while increasing diversity in the sector's workforce.
- Ensure Michigan maintains a resilient automotive and parts manufacturing sector that supports at least 170,000 jobs through 2030.

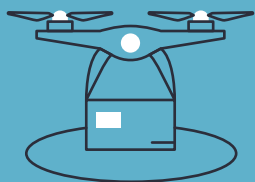
PILLAR 02



Provide Safer, Greener and More Accessible Transportation Infrastructure

- By 2030, deploy 100,000 EV chargers to support 2 million EVs and improve access to H2 infrastructure.
- Maintain at least 80% of EV charging off-peak to minimize impacts to the grid.
- Reduce congestion and traffic crash rates statewide by 2026.
- Provide residents with consistent access to mobility-as-a-service options across Michigan's 77 transit agencies by 2025.

PILLAR 03



Lead the World in Mobility and Electrification Policy and Innovation

- Maintain #1 state ranking for mobility and electrification R&D spend.
- Become a top 10 state for growth in venture capital funding by 2026.
- Become a top 10 state for federal investments related to mobility and vehicle electrification.
- Lead the nation in electric and automated vehicle friendliness through responsive policies.



Overview of the Council on Future Mobility and Electrification

On Feb. 25, 2020, Gov. Whitmer signed Executive Order 2020-2, creating the CFME, housed within the Michigan Department of Labor and Economic Opportunity (LEO). The council serves in an advisory capacity to LEO, OFME, the governor and the legislature, providing annual recommendations on changes to state policy. To ensure Michigan continues to be a world leader in future mobility and electrification, the council brings together government, public and private stakeholders, and research institutions to address the challenges associated with the rapidly evolving mobility landscape.

- > The crucial tenet of CFME is **Innovation Leadership.**
- > Economic prosperity is a major focus of CFME's vision.
- > CFME champions the cause of **Infrastructure Enhancement.**
- > Research & Development occupies an important space in CFME's mission.
- > CFME emphasizes Workforce Development as the demand for career shifting and upskilling evolves with the mobility sector.

Accomplishments

Since 2021, the council presented a set of visionary recommendations aimed at bolstering the state's position as a hub for mobility and technological advancements.

Here are some key examples:



Based on the council's recommendation for a large site development fund to acquire and create "ready" site properties for mobility business development and attraction, **the Michigan Legislature passed the bipartisan \$1.5 billion Strategic Outreach Attraction Reserve (SOAR) fund** in Dec. 2021 to ensure we can lead the future of mobility and electrification and bring supply chains of chips and batteries home to Michigan.



The council recommended **the establishment of a high-tech talent attraction and retention fund**, which influenced the creation of LEO's **EV Jobs Academy** and MEDC's **EV Scholars Program** to implement nation's most extensive campaign to promote careers in the surging mobility sector, as well as MichAuto's High-Tech Talent Initiative Perception Study.



The council also recommended **policies supporting the world's first deployment of a Connected and Autonomous Vehicle (CAV) corridor** on Interstate 94. The project is designed to improve safety, reduce congestion, improve mobility and support advanced vehicle technology.



The council recommended and **supported the allocation of \$130 million in 2022 for the establishment of the Global Center of Excellence** for electric vehicle teaching, training and development center at the University of Michigan. The council also **influenced the allocation of \$125 million for the Clean School Bus program** to help school districts across the state bring the benefits of zero-tailpipe-emissions electric school buses to their communities.



Action Teams

In 2023, the council created six action teams, where members collaborate with a small group of senior advisors and technical experts to focus on specific areas of Michigan’s Future Mobility Plan.

The council members partnered with the senior advisors to identify key themes within each pillar of the MI Future Mobility Plan to form an action team and brought in relevant subject matter experts to propose impactful recommendations and resolutions.

Here is brief description of the work accomplished by each action team in 2023.



EV Charging

The EV Charging and Consumer Protection Action Team primarily focused on supporting the federal National Electric Vehicle Infrastructure (NEVI) program in the state of Michigan in addition to ensuring adequate consumer access and protection with respect to EV charging infrastructure.

The action team pursued three key themes:

- 1 Education campaign on NEVI program for grant applicants
- 2 Challenges to the EV charging infrastructure related to electric grid access and capacity
- 3 State regulations and compliance required for consumer protection.



Hydrogen

The Hydrogen Action Team is focused on supporting clean hydrogen production, fueling infrastructure and fuel cell electric vehicle deployment in Michigan and developing overarching principles for the hydrogen fuel

business model. The team established four core themes:

- 1 Benchmarking policies in other states
- 2 Principles for best practice hydrogen policies in Michigan
- 3 Leveraging existing opportunities for deployment in heavy truck industry
- 4 Hydrogen powered vehicle vs. fuel-based opportunities and incentives.

The action team submitted a resolution for the state to consider incentives for hydrogen and other low- and no-emission fueled vehicles to encourage fleet adoption.



Intelligent Transportation Systems (ITS) Implementation

The Intelligent Transportation Systems (ITS) Implementation Action Team focused on critical aspects of the technology for mobility and smart infrastructure needed for accurate and timely road, weather and traffic information, as well effective management of the infrastructure. They also evaluated programs for both Cellular Vehicle to Everything (CV2X) communications and smart infrastructure that could be deployed across the state.

The action team presented a resolution to create a list of ITS capabilities and 5G cellular coverage in the state, and then perform a gap analysis of both capabilities and communications for future needs.



Public Safety

The Public Safety Action Team focused on addressing roadway safety issues related to wrong way driving and crashes at intersections. Both topics have existing efforts within Michigan Department of Transportation (MDOT). The action team is exploring the possibility of supplementing those efforts using industry and academic data and resources.

For wrong-way driving, MDOT and Michigan State Police (MSP) initiated efforts to inventory technological and operational solutions and identified complementary activities at the National Academy of Sciences (NAS). For crashes at intersections, the action team drafted a resolution to engage automotive Original Equipment Manufacturers (OEMs) and leverage connected data that is indicative of near-miss incidents which can supplement data from crash reports in identifying conflict-prone intersections in Michigan.



Startup Friendly Ecosystem

The Startup Friendly Ecosystem Action Team focused on three key enablers for startups in the mobility ecosystem: capital, talent and customers. They worked on identifying ways CFME can support access to early-stage capital, reskilling for startups and help create a stronger customer pipeline for startups.

The action team organized a panel discussion on “Innovation and Entrepreneurship in Michigan” at the council meeting on Nov. 3, 2023, and presented a resolution to establish a state investment fund for startups.



Jobs and Talent

CFME's Jobs and Talent Action Team has engaged stakeholders to understand the existing talent ecosystem with the goal of advancing strategies to better align education with industry needs. The action team is collaborating with LEO's Workforce Development team and the Michigan Economic Development Corporation (MEDC) to highlight the career pathways available in the mobility ecosystem.

The action team identified a need for experiential learning programs in schools to cultivate interest in mobility and EV careers for K-12 students and to increase the student-to-counselor ratio.

2023 Adopted Council Resolutions

1 EV Charging Station

This resolution recommends clarification in state law and regulatory rulings that EV charging station owners and operators are exempt from being classified as public utilities and that the sale of electricity at these stations is not considered a “resale of electricity,” even if it is sold on a per kilowatt-hour (kWh) basis. This will provide certainty and will encourage the rapid development of a more transparent and competitive market for EV charging infrastructure.

2 Hydrogen

This resolution recommends the state government to offer incentives for low- and zero-emission hydrogen and electric vehicles for medium and heavy-duty fleets to accelerate the state’s progress towards its 2050 carbon neutrality goal.

3 Enhancing Roadway Safety

This resolution recommends a collaboration between Michigan state agencies and automotive original equipment manufacturers (OEMs) in an intersection data analysis to uncover intersections and junctions prone to high frequency of near-misses of crashes in Michigan. By combining aggregated connected vehicle data from OEMs with Michigan crash reports or insurance industry data, Michigan roadways would become safer and more efficient for all roadway users.

4 Intelligent Transportation Systems Assets

This resolution recommends the state to compile a comprehensive list of intelligent transportation systems assets, map communication networks and identify gaps to position the state as a leader in future autonomous capable vehicles and electrification.

5 American Center for Mobility (ACM) EV Charging Testing

This resolution recommends that the state should endorse and support the American Center for Mobility’s new Electric Vehicle Charging Point Testing capability as a significant contribution to the advancement of electric vehicle technology and the sustainable development of Michigan’s mobility ecosystem.

6 Investment Capital Fund for Startups

This resolution recommends the state should explore partnerships with venture capital firms to establish funds specifically dedicated to supporting startups in future mobility and electrification sectors and proposes the establishment of a state investment fund to co-invest with private investors in startups that align with the state’s economic development goals.

Looking Towards the Future

The mobility industry in Michigan is undergoing significant transformation. With rapid strides in electrification, software advancements, automation and innovative non-automotive transport modalities, the changing mobility landscape has profound implications for individuals, businesses and communities throughout Michigan.



This vision is about ensuring mobility for all. As we transition into this new era, CFME is wholeheartedly committed to ensuring Michigan's rich mobility communities, businesses and professionals have the tools and resources needed to adapt and thrive.

This annual report underscores the endeavors and milestones achieved over the past year. It encapsulates the collective efforts of governmental bodies, industry stakeholders, academic institutions and local communities, all of whom have played an integral role in realizing CFME's vision.

Moving forward, the challenges are many, but the possibilities are limitless. With continued dedication, constructive collaboration and an unwavering commitment to innovation, CFME is set to steer Michigan towards a future where mobility is more sustainable, inclusive and revolutionary than ever before.

We owe a profound debt of gratitude to every individual, partner and community that has been an integral part of CFME's journey. Your unwavering support and commitment are the bedrock upon which Michigan's promising mobility future is being built.

Together, we are paving the way for a brighter, more sustainable and connected tomorrow.

Appendix: Council Members and Senior Advisors

State Entities

Susan Corbin
*Michigan Department of Labor
and Economic Opportunity*

Brad Wieferich
*Michigan Department of
Transportation*

Anita Fox
*Michigan Department of
Insurance and Financial Services*

Col. James Grady
Michigan State Police

Rachael Eubanks
Michigan Department of Treasury

Philip Roos
*Michigan Department of
Environment, Great Lakes and
Energy*

Dan Scripps
*Michigan Public Service
Commission*

Non-State Entities

Mr. Matt Rudnick
General Motors Company

Mr. Gary Oshnock, *Stellantis*

Ms. Emily Frascaroli
Ford Motor Company

Mr. Derek Caveney
Toyota Motor Corporation

Mr. Patrick Cadariu, *Waymo*

Mr. Chris Nevers
Rivian Automotive

Ms. Jane McCurry
Clean Fuels Michigan

Mr. Jeff Dokho
United Auto Workers

Dr. Eric Micheilssen
University of Michigan

Dr. Satish Udpa
Michigan State University

Senior Advisors

John Peracchio
*Chair Emeritus, Council
on Future Mobility and
Electrification*

Alisyn Malek

Carla Bailo

Reuben Sarkar

Scott J. McCormick

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