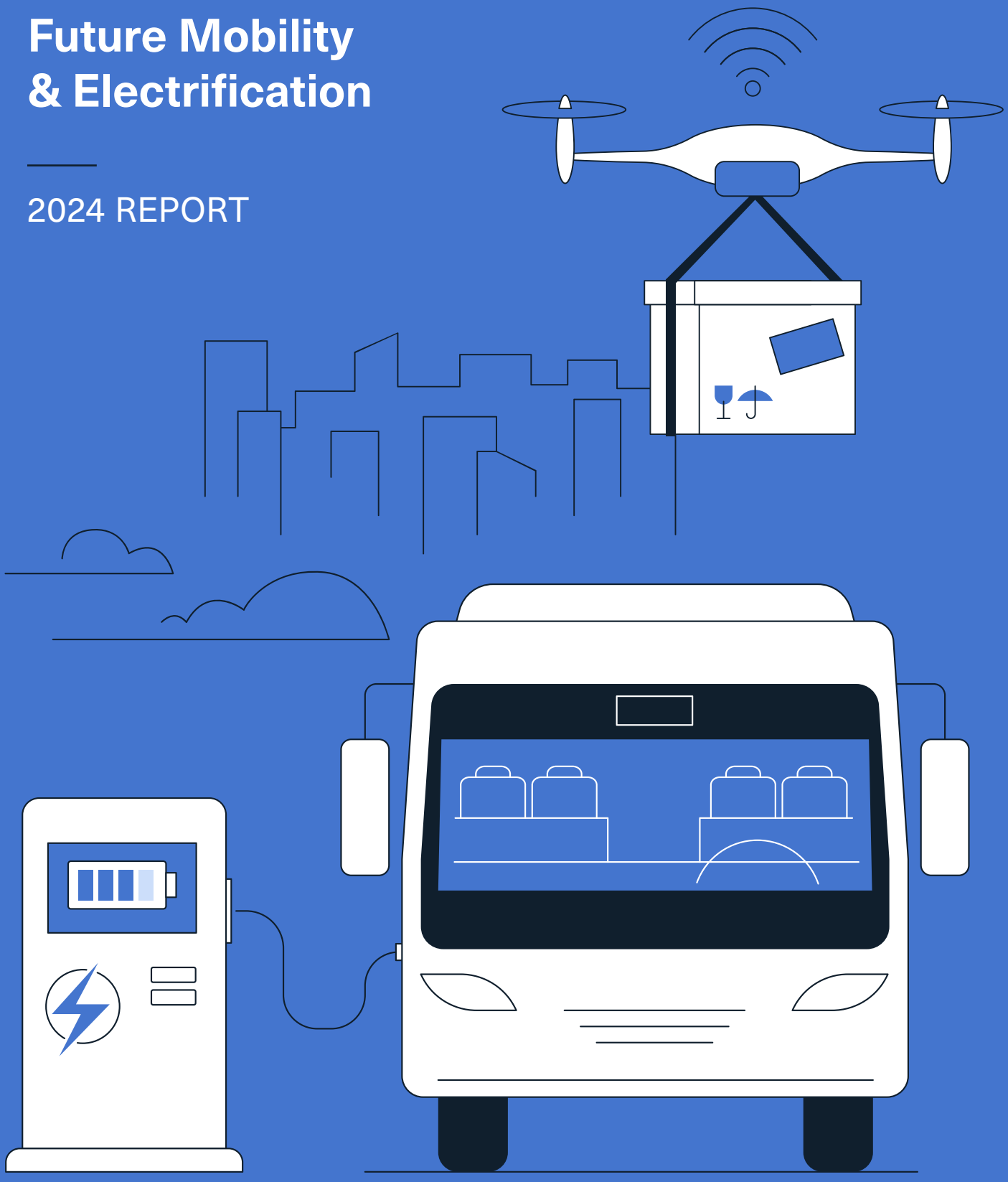
Council on Future Mobility & Electrification

2024 REPORT



Executive Summary

The Michigan Council on Future Mobility and Electrification (CFME) is an advisory council, established by the Governor of the State of Michigan, to develop and recommend policies and actions to ensure Michigan continues to be an epicenter of future solutions around mobility and electrification. The CFME serves as a collaborative platform that brings together government, industry stakeholders, and research institutions to catalyze innovation, foster economic growth and harness opportunities in the rapidly evolving mobility landscape.

This report contains CFME's 2024 accomplishments, analysis and recommendations for public policies and investments necessary to implement the **MI Future Mobility Plan**, developed by Michigan Office of Future Mobility and Electrification (OFME) in November 2022 and the mobility components of the **MI Healthy Climate Plan**, developed by the Michigan Department of Environment, Great Lakes and Energy (EGLE) in April 2022.

In 2024, the CFME put forward four sets of recommendations. All recommendations with background, current issues and relevant details are attached in the appendix, on page 18.

1 Prototype Readiness

The CFME has identified three key measures to boost prototype readiness of the startup ecosystem in Michigan. These recommendations emphasize the need for support in product development, validation testing and manufacturing readiness, which are essential for startups to bridge the gap between proof of concept and manufacturing viability and making them attractive to established companies and investors.

2 Geologic Hydrogen Feasibility

This recommendation identifies the significant potential of geologic, or naturally occurring, hydrogen in Michigan and recommends that the state sponsor a feasibility study to fully understand the availability, processing, storage and transportation related opportunities and challenges to access geologic hydrogen supply in Michigan.

3 Funding for Mobility Initiatives

The CFME endorsed a set of important infrastructure, clean economy and mobility related programs for the Fiscal Year 2025 state budget appropriations process. Notable funded initiatives include $30 million for clean fuel and charging infrastructure, $22.3 million for hydrogen fueling stations for heavy duty vehicles, approximately $24 million for new technology and mobility, approximately $11 million for Community & Worker Economic Transition Office and $1 million for State Fleet Electric Vehicle Transition.

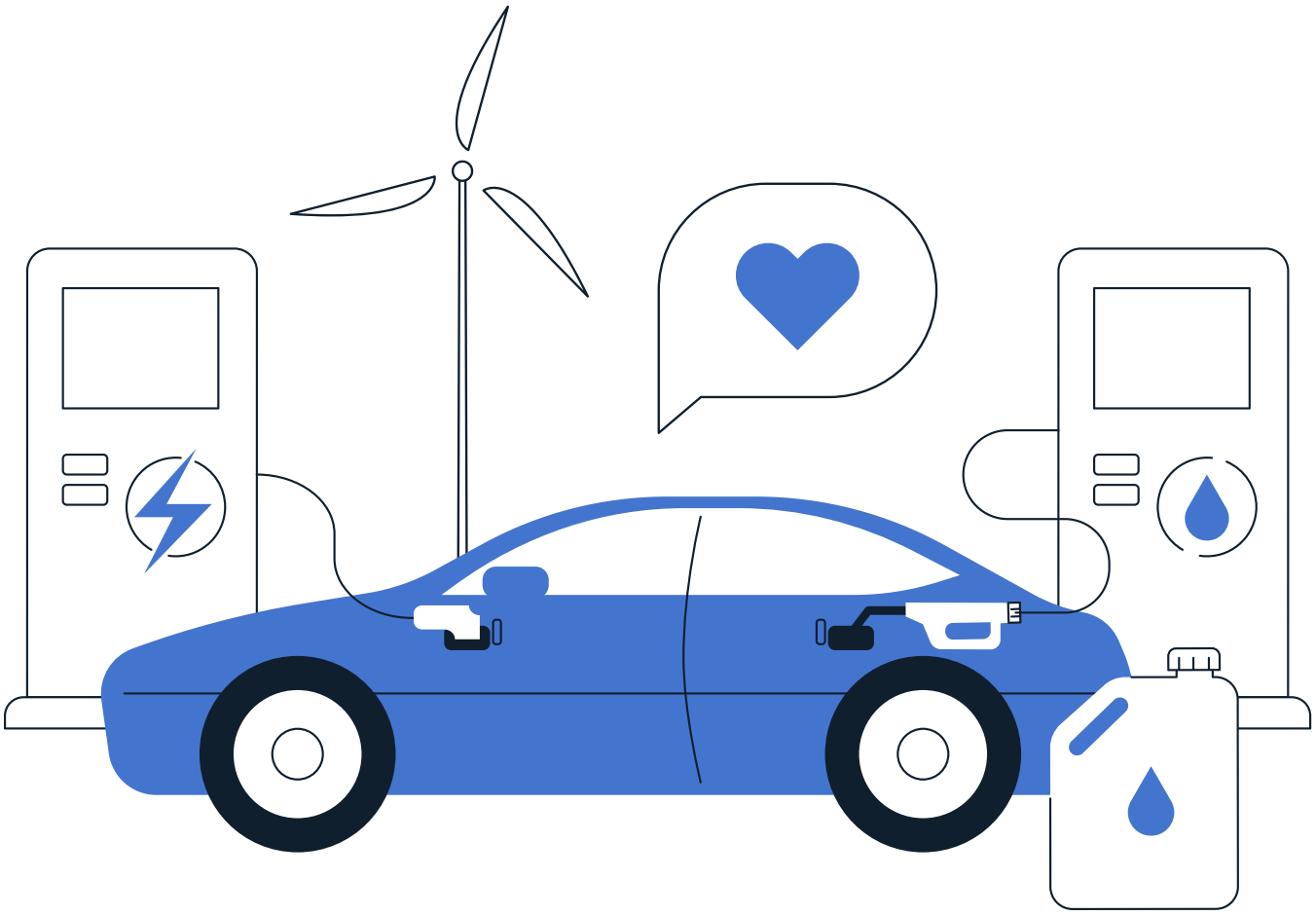
4 Electric Vehicle (EV) Charging for Multifamily Residents

This recommendation is the result of extensive research and benchmarking conducted by the EV Charging Action Team of the council that calls for four specific policy/program measures to support multifamily residents' access to chargers in Michigan.

The CFME also organized extensive panel discussions and expert presentations on six key mobility topics during its bi-monthly meetings:

- Hydrogen economy in Michigan.
- Fleet transition to EV.
- Workforce ecosystem in Michigan.
- Road infrastructure funding gap in Michigan.
- Grid capacity and readiness for EV.
- Aviation, Maritime and Outdoor Recreation mobility in Michigan.

The recommendations, panel discussions, analyses and research initiatives from the CFME are crafted by its "Action Teams." These teams, co-led by council members and senior advisors, include participation from industry experts, state agencies and policymakers. Each team focuses on a specific policy area to gain in-depth understanding of the issues and offer actionable recommendations for the CFME to adopt. Through these collaborative efforts, the CFME has built a robust knowledge base on key mobility issues, which serves as a valuable resource for policymakers as they work to keep Michigan at the leading edge of the evolving mobility sectors.



Message from the Chairwoman

As we continue propelling Michigan forward as a global leader in the next generation of mobility and transportation technologies, the Michigan Council on Future Mobility and Electrification is providing annual recommendations to address some of Michigan's most critical mobility challenges and advance the state's mobility ecosystem through improving infrastructure and supporting our workforce.

Susan R. Corbin

Director, Michigan Department of Labor and Economic Opportunity;

Chairwoman, Michigan Council on Future Mobility and Electrification

The council's success is a result of working with 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 EV charging and hydrogen infrastructure advancement, fleet transition support, public safety improvements, public transit expansion, enabling startups and supporting our workforce.

This year, the council continued their innovative approach to the work, providing a set of visionary recommendations to bolster Michigan's position as a hub for mobility and technological advancements. Seven action teams comprised of advisors and technical experts focused on areas within each pillar of **Michigan's Future Mobility Plan**. Out of these teams came four impactful resolutions that aim to support the infrastructure and transition to electric vehicles while creating safer, more equitable and environmentally conscious transportation options for Michiganders.

The council remains committed to providing innovative transportation solutions, addressing challenges through collaboration and making Michigan a place where residents and businesses can thrive.

Justine Johnson

Chief Mobility Officer,
Michigan Council on Future
Mobility and Electrification

Message from the Chief Mobility Officer

2024 will always be remembered as a year of mobility milestones for the state of Michigan. From launching the Advanced Aerial Mobility Activation Fund, establishing a new Prototype Grant Program for makers, unveiling the new Connect AV Shuttle Service, launching the Michigan Mobility Fellows Program to attract and retain talent in the State, convening the inaugural MI Mobility Conference, to having Detroit selected as one of three global cities to participate in Toyota's Sustainable Cities Challenge, there is plenty for the state to be proud of over the past year.

The Council of Future Mobility and Electrification exemplifies our collaborative approach. The council remains dedicated to identifying comprehensive mobility and clean technologies strategies, addressing challenges with innovative thinking, and providing a shared commitment to sustainable progress Through our collaboration across government, industry, and academia, we are 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.

As we stand at the threshold of a new mobility era, our mission is clear: to leverage Michigan's rich industrial heritage and cutting-edge innovation to create meaningful, transformative change. I invite you to explore the 2024 Annual Council Report, illuminating our path toward a future where mobility is a powerful catalyst for community and economic advancement.

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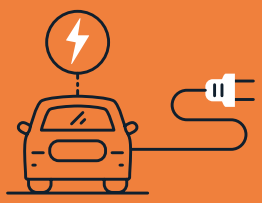
Michigan's Goals for Mobility and Electrification

In 2022, Gov. Gretchen Whitmer announced the MI Future Mobility Plan, which is a statewide strategy on the future of mobility and electrification. Developed by the Office of Future Mobility and Electrification (OFME) in consultation with the 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 industries.

MI Future Mobility Plan is divided into three main pillars.

PILLAR 01



Transition and Grow Our Mobility Industry and Workforce

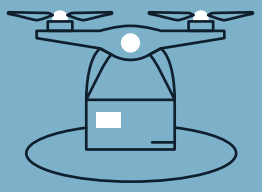
- Achieve strong employment growth in mobility and automotive-focused sectors by creating 20K new jobs by 2026 while increasing the median wage of mobility sector jobs.
- Add 7K workers with mobility credentials by 2030 — while increasing diversity in the sector's workforce.
- Ensure Michigan maintains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

PILLAR 02

Provide Safer, Greener and More Accessible Transportation Infrastructure

- By 2030, deploy 100K EV chargers to support 2M 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

Gov. Whitmer created (Executive Order 2020-2) the Michigan Council on Future Mobility and Electrification (CFME) under the Department of Labor and Economic Opportunity (LEO) in 2022. The council serves in an advisory capacity to LEO, OFME, other state agencies, the Governor and the Legislature, providing recommendations on mobility policy. To ensure Michigan continues to be a world leader in future mobility and electrification, the council acts as a key enabler of the MI Future Mobility Plan and resource for state policy makers by bringing together government, public, academic and private stakeholders into a common network.

Accomplishments

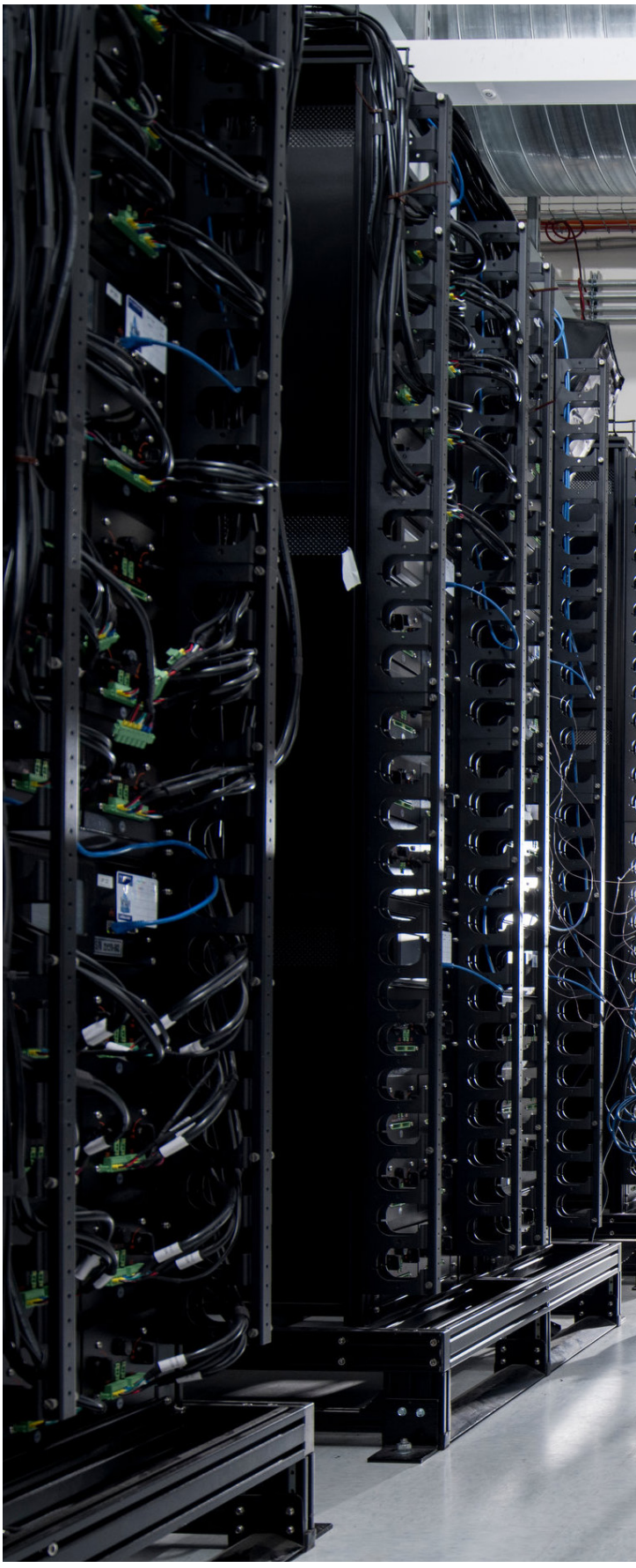
The council has put forth four sets of recommendations regarding the prototype readiness for the startup ecosystem, the feasibility of naturally occurring hydrogen in Michigan, the 2025 state budget appropriations and the policy measures needed to facilitate the transition of multifamily residents to EVs.

The council organized in-depth panel discussions featuring experts on various mobility topics at its bi-monthly meetings:

- Hydrogen economy in Michigan.
- Fleet transition to EV.
- Workforce ecosystem in Michigan.
- Road infrastructure funding gap in Michigan.
- Grid capacity and readiness for EV.
- Aviation, Maritime and Outdoor Recreation mobility in Michigan.

Based on the council's recommendation, the Legislature passed, and the Governor signed **Public Act 245 of 2023** to allow an entity that provides EV charging services to own, construct or operate an EV charging station without being considered a public utility and to charge a customer for those services on a volumetric basis -- removing a key barrier to deploying charging infrastructure in the state.

Based on Public Safety Action Team's investigation and initiatives, Toyota's Risk-ATTEND tool for Teen Drivers was added to the Michigan State Police (MSP) website.



The council endorsed a set of funding items related to infrastructure, clean economy and mobility initiatives for FY2025 state budget appropriations. Out of these, the state appropriated $30 million for clean fuel and charging infrastructure, $22.3 million for hydrogen fueling stations for heavy duty vehicles, approximately $24 million for new technology and mobility, approximately $11 million for Community & Worker Economic Transition Office, and $1 million for state fleet EV transition.

The council's EV Charging Action Team actively participated with the OFME in defining the scope of the "EV Infrastructure need assessment study," being conducted by Michigan State University (MSU)'s College of Engineering.

Based on council recommendations, the OFME provided funding for the creation of the prototype grant program which provides funding for startups to bridge the gap between proof of concept and manufacturing readiness.

Through direct engagement from the "Startup Friendly Ecosystem" Action Team, OFME and Michigan Economic Development Corporation (MEDC), and Gov. Whitmer announced the new **"Changing Lanes"** program to support existing auto workers to launch or join startups.

The council's action teams analyzed multiple drafts of mobility related legislation and provided comments for consideration by the Legislature and the Governor.

Action Teams

In 2024, the council had seven action teams. In each action team, council members collaborate with a group of Senior Advisors and technical experts to focus on specific areas within each pillar of Michigan's Future Mobility Plan. The action team members met bi-weekly, invited subject matter experts to present and conducted interviews, benchmarking and research to propose impactful recommendations for the council's approval. Here is brief description of action teams:

EV Charging

The EV charging team focuses on advancing EV charger deployment and enhancing the EV charging experience for consumers. This team conducted extensive research and benchmarking analysis to gain insights on the progress and challenges of Michigan's EV charging infrastructure deployment and provided key recommendations to support the transition of multifamily residents to a more electrified transportation system.

The EV Charging action team includes members from the following organizations:

Clean Fuels Michigan, General Motors Company, Ford Motor Company, Stellantis, Rivian Automotive, University of Michigan, Michigan State University, Michigan Department of Transportation (MDOT), Michigan Public Service Commission (MPSC), EGLE, LEO, MEDC, OFME, Michigan Department of Insurance and Financial Services (DIFS), Consumers Energy, DTE Energy, ITC Holdings, Michigan Energy Innovation Business Council (MIEIBC), Electrification Coalition, Ecology Center, FLO, ABB Group, Southeast Michigan Council of Governments (SEMCOG), City of Detroit, City of Grand Rapids, Connected Vehicle Trade Association and Peracchio & Company.

Hydrogen Infrastructure

The Hydrogen Infrastructure Team focuses on supporting the business model for hydrogen as a transportation fuel in Michigan. This includes analyzing the opportunities across hydrogen production, fueling and transportation infrastructure, as well as fuel cell electric vehicle deployment. The team provided important recommendations on the need for a feasibility study examining naturally occurring geologic hydrogen in Michigan. The team also conducted thorough interviews, comprehensive analyses, and benchmarking studies to evaluate the economic models of hydrogen as a viable fuel source and how to position Michigan as the frontrunner in the hydrogen economy.

The Hydrogen Infrastructure Team includes members from the following organizations:

Clean Fuels Michigan, Stellantis, Toyota Motor North America, Michigan Infrastructure Office (MIO), EGLE, LEO, MEDC, OFME, United Auto Workers (UAW), American Center for Mobility (ACM), University of Michigan, Michigan State University, CALSTART, Cummins, Oakland County, Ecology Center, Next Energy, HNTB and Peracchio & Company.

Fleet Transition

This action team focuses on supporting light, medium and heavy-duty fleets to transition to Zero-Emission Vehicles (ZEV). In 2024, the action team investigated barriers to the transition of the state fleet to EV, in alignment with the **Governor's Executive Directive (2023-5)**. Additionally, the team explored the readiness of US-based manufacturers to build customized heavy-duty electric or hydrogen powered vehicles, ensuring they can withstand extended and continuous usage in winter conditions.

The Fleet Transition Team includes members from the following organizations:

MDOT, Michigan Department of Technology, Management & Budget (DTMB), Michigan State Police (MSP), LEO, OFME, Rivian Automotive, Michigan State University, BizFleets, MichAuto, Middle Third and Clean Fuels Michigan.

Public Safety

The Public Safety Action Team focuses on policy and initiatives aimed at improving all aspects of public safety in mobility that includes roadways, parking structures, passenger safety and pedestrian protection. This year, the team focused on several key initiatives aimed at enhancing roadway and public safety.

- Based on the Council's 2023 recommendations, MDOT secured resources to engage with vehicle manufacturers to leverage vehicle data for intersection crash analysis, pinpointing intersections that experience near misses. These locations can act as prime candidates for advanced data collection by MDOT's data acquisition units.
- Conducted review of technology demonstrations and analyses related to Wrong-Way Driving study by MDOT.
- Showcased external tools designed to enhance driving skills for teens and seniors.

- Examined the real-world performance of Lane-Keeping Assist Systems (LKAS), focusing on data sharing and related crash scenarios.
- Investigated EV-related building codes and fire suppression concerns within parking structures.

The Public Safety Team includes members from the following organizations:

Toyota Motor North America, FORD Motor Company, MDOT, MSP, LEO, OFME, Center for Automotive Research (CAR), American Center for Mobility (ACM), MichAuto, Michigan State University and Connected Vehicle Trade Association.

Public Transit

The Public Transit Action Team focuses on improving equity and access to public transportation and micro-mobility across the state. This year, the team prioritized conducting interviews and surveys alongside hosting expert presentations to gain a comprehensive understanding of the available state and federal funding for mobility services, as well as the deployment criteria set by various state agencies, insurance companies and private partners.

Through this in-depth investigation, the team identified significant mobility gaps and inefficiencies among different service providers and state programs, within both rural and disadvantaged urban communities in Michigan. Currently, the team is focused on formulating a series of critical recommendations aimed at improving public transportation access for all Michiganders.

This Public Transit Action Team includes members from the following state agencies and private organizations:

MDOT, LEO, OFME, Michigan Department of Health & Human Services (DHHS), Michigan Department of Military and Veterans Affairs (DMVA), Oakland County, City of Ionia, Michigan State University, Ecology Center, Feonix Mobility Rising, Peracchio & Company and COMTO Michigan.

Startup Friendly Ecosystem

The Startup Friendly Ecosystem Action Team focuses on three key enablers for startups in the mobility ecosystem: capital, talent and customers. They worked on identifying ways the CFME can support access to early-stage capital and reskilling for startups, and how to create a stronger customer pipeline for startups. This year, the team provided a key recommendation to support prototype readiness programs through the launch of the **Prototype Grant Program** by the OFME for “hardtech” innovators in the state. Additionally, the team developed the original concept of the new **“Changing Lanes”** program, announced by Gov. Whitmer in October 2024, to support existing auto workers to launch or join startups.

The Startup Friendly Ecosystem team includes members from the following organizations:

LEO, OFME, Middle Third, Rivian Automotive, Waymo, Michigan State University and MichAuto.

Jobs and Talent

The CFME's Jobs and Talent Action Team has engaged stakeholders to support skill assessment and programs to better align education with industry needs. The team is collaborating with LEO's Workforce Development team and the MEDC to highlight the career pathways available in the mobility ecosystem. The team identified a need for experiential learning programs in schools to cultivate interest in mobility and EV careers for K-12 students and to improve the student-to-counselor ratio. With the collaboration and active engagement of this team, the OFME has successfully launched the MI Mobility Fellows program, designed for recent college graduates. This initiative assigns fellows to work alongside mobility innovators, founders, transit agencies and economic development organizations throughout the state. Additionally, based on insights from this team and the OFME, Gov. Whitmer has announced the expansion of the Michiganders Scholars program to include internship opportunities at mobility startups, further developing Michigan's talent pipeline and fostering innovation.

The Jobs and Talent Team includes members from the following organizations:

LEO, OFME, MichAuto, United Auto Workers (UAW), Michigan State University, University of Michigan and Clean Fuels Michigan.

Recommendations

The CFME provided four recommendations in 2024. All recommendations with background, current issues and relevant details are attached in the appendix, on page 18.

1 Prototype Readiness

This recommendation identifies three key measures to boost prototype readiness of the startup ecosystem in Michigan. These recommendations emphasize the need for support in product development, validation testing and manufacturing readiness, which are essential for startups to bridge the gap between proof of concept and manufacturing viability and making them attractive to established companies and investors.

2 Geologic Hydrogen Feasibility

This recommendation identifies the significant potential of geologic, or naturally occurring, hydrogen in Michigan and recommends that the state sponsor a feasibility study to fully understand the availability, processing, storage and transportation related opportunities and challenges to access geologic hydrogen supply in Michigan.

3 Funding for Mobility Initiatives

This recommendation endorses important infrastructure, clean economy and mobility-related programs in the FY2025 state budget appropriations process.

4 EV Charging for Multifamily Residents

This recommendation calls for four specific policy and program actions to support multifamily residents' access to chargers in Michigan.

Looking Towards the Future

This report arrives at a pivotal moment in our journey toward the future of mobility and electrification.

Despite upcoming changes in the composition of the state and federal governments, as well as potential shifts in public funding and programs, Michigan has an opportunity to leverage its position as the leader in next-generation mobility to set new global standards for economic development, workforce advancement, energy efficiency and infrastructure enhancement. The MI Future Mobility Plan serves as a guiding framework, enabling the CFME to articulate these new standards and promote deeper collaboration among government entities at all levels, industry leaders, academic institutions and the communities they serve.

This annual report serves to underscore the substantial efforts, insights, and achievements realized over the past year. We wish to express our sincere appreciation to every individual, partner, community member and organization that contributed to all CFME initiatives and recommendations in 2024.

This report is presented with great respect to Gov. Whitmer, the Michigan House of Representatives, the Michigan Senate, all state agencies and regulators, and, above all, the residents of our state, as a valuable resource for informed policymaking and a thriving future.

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

Matt Rudnick
General Motors Company

Gary Oshnock, *Stellantis*

Emily Frascaroli
Ford Motor Company

Derek Caveney
Toyota Motor North America

Patrick Cadariu, *Waymo*

Chris Nevers
Rivian Automotive

Jane McCurry
Clean Fuels Michigan

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Dr. Eric Micheilssen
University of Michigan

Dr. Satish Udpa
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Legislators

Sen. Rosemary Bayer
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Senior Advisors

John Peracchio
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Scott J. McCormick

APPENDIX 01 2024-01 RECOMMENDATION / PROTOTYPE READINESS

Background

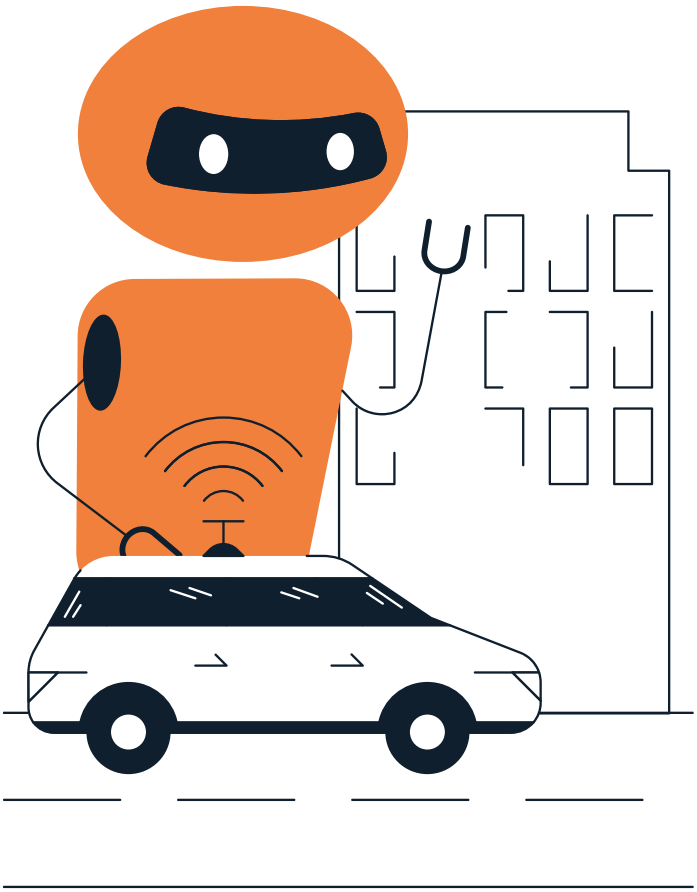
The State of Michigan recognizes the support needed to ensure startup success, via increasing access to early-stage capital, reskilling talent for startups and creating a stronger pipeline for customers. The CFME's "Start-up Ecosystem" Action Team conducted an innovation roundtable discussion with the state's large corporations that work in mobility products and engage with startups, highlighting the success and efficiency in engaging with startup early on; and identifying a distinct gap in actual investment and implementation, specifically around concerns on scaling a technology or moving from proof-of-concept (POC) to actual production arise.

Current Issues

Startups typically focus on creating a Minimum Viable Product (MVP) or POC to provide proof of value as they start the company. This focus necessarily deprioritizes additional elements of concern for established companies, such as scalability of manufacturing and robustness. For example, the company may not have team members focused on mass production viability such as product design and validation testing standards, supply chain planning and risk assessments. This is a critical step to enable the innovations spurred by startups to become viable solutions for larger companies and helping to bridge the gap is important.

Recommendation

This recommendation calls for support of prototype readiness programs focused on product development, validation testing and manufacturing readiness (such as the Centrepolis Mobility and Electrification Prototyping Program) to help startups bridge the gap between proof of concept and manufacturing readiness. These programs will provide an avenue to solve the challenge of getting startups closer to manufacturing readiness and thus ready to work with established companies in the state.



The Council of Future Mobility and Electrification (CFME) recommends the following measures:

1. The State of Michigan supports and provides funding for programs focused on prototype readiness (such as the Mobility and Electrification Prototyping Program by Centrepolis or other similar programs) to help startups bridge the gap between proof of concept and manufacturing readiness.

2. The OFME provides financial support and funding to enable prototype readiness programs (such as the Mobility and Electrification Prototyping Program by Centrepolis or other similar programs) to operate.

3. The industry and corporations consider providing financial support via matching funds to enable prototype readiness programs (such as the Mobility and Electrification Prototyping Program by Centrepolis or other similar programs) operate while also gaining the ability to guide which types of technologies are supported.

To maximize success, all three measures above should be executed to ensure prototype readiness support to the startup ecosystem in the state of Michigan.

Background

The State of Michigan is committed to developing the hydrogen infrastructure critical to achieving zero-emissions transportation (e.g., fleet, land, air sea, rail, etc.) and meaningfully reducing greenhouse gas (GHG) emissions while maintaining our automotive leadership. The Hydrogen Action Team has been tasked with assessing and improving the business case for hydrogen used in Michigan's transportation economy.

Current commonly used sources of hydrogen are derived as a byproduct of other industrial processes, which may not necessarily be environmentally neutral, and remain economically challenging due to high costs associated with production, storage and transportation. For example, hydrogen produced from electrolysis using renewable electricity or nuclear resources can result in virtually zero GHG and criteria pollutant emissions, however, the production costs need to be decreased significantly to be cost competitive with other fuel options.

Geologic, or naturally occurring hydrogen, (often referred to as "white" hydrogen) has recently emerged as another potential natural resource for hydrogen fuel. In addition to Michigan's significant above-ground natural resources, the state sits atop geological formations that are a potentially vast and untapped resource for naturally occurring hydrogen. As reference of potential, the US Department of Energy has invested $20 million in research projects just in one round of ARPA-E (Advanced Research Projects Agency–Energy) funding to better understand geologic hydrogen production and extraction.

Clean hydrogen, including naturally occurring subsurface hydrogen, allows sustainable reductions in harmful emissions from some of the most energy-intensive sectors of the economy, such as heavy-duty transportation. Understanding Michigan's potential for geologic hydrogen production poses a "leapfrog" opportunity which, given our automotive prowess and strong industry position, could offer significant economic development opportunities in the ~15B+ hydrogen production market.

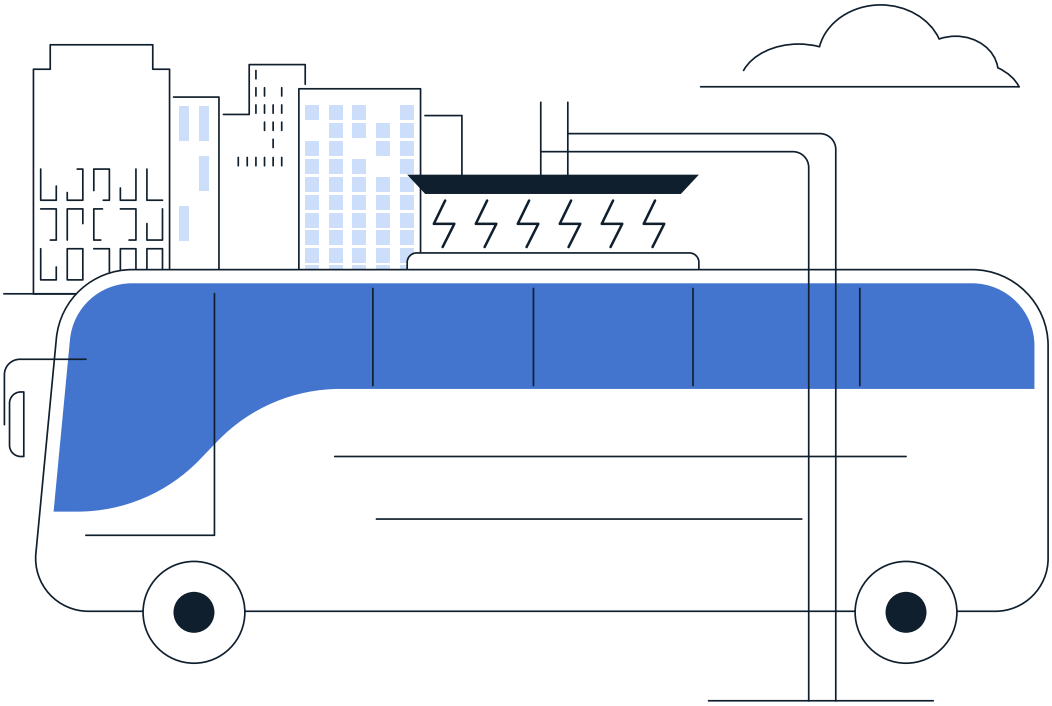
Current Issues

Initial research has indicated that Michigan has potential of being host to deposits of natural hydrogen. However, additional research is needed to fully understand the feasibility of developing a geologic hydrogen supply in the state of Michigan. The following research and technology development is required to fully understand Michigan's geologic hydrogen potential:

- **Availability:** Evaluating existing geological data sets, testing at wells and other potential sites to understand where in Michigan hydrogen may be naturally occurring, and developing the sensing technology required to understand the concentration of hydrogen (and other potentially useful substances) present.
- **Processing:** Finding or establishing trusted technologies to process and purify extracted hydrogen efficiently.
- **Storage and transportation:** Evaluating the landscape of processing and consumption sites and planning efficient and safe methods of storing and transporting the geologic hydrogen.

Recommendation

The CFME recommends that the State of Michigan conduct a geologic hydrogen feasibility study to fully understand the scale of potential geologic hydrogen supply in the state of Michigan. This research can be funded by providing direct state funds or combining state funds with any available federal or private grants as matching funds. Initial estimates for a study of this nature will require approximately $2 million in investment, with a study duration of approximately two years.



The MI Future Mobility Plan maps out a comprehensive strategy that addresses future mobility challenges by growing the mobility workforce, providing more accessible transportation infrastructure and developing innovative mobility policies. Developed by the OFME, the CFME and other State of Michigan partners, the plan is an actionable next step to address the opportunities and challenges that Michigan faces in remaining a leader in the mobility and electrification revolution.

The CFME fully endorses state budget appropriations into programs related to infrastructure, clean economy and mobility initiatives as listed on the next page.

The Governor's FY25 budget proposal includes critical investments in infrastructure and funding for clean economy and mobility initiatives. These investments are designed to position Michigan as a leader in the new era of transportation, which is characterized by decarbonization, electrification and innovation.

Achieving the goals outlined in the MI Future Mobility Plan will require sizeable investment over several years. We enthusiastically advocate for these investments, which align with our state's historical ties to the automotive sector and are pivotal to fostering innovation, job creation and a sustainable future for Michigan. Specifically, we advocate for the following actions based on how they will realize the Pillars outlined in the MI Future Mobility Plan:

Recommended Budget Item & Amount	Description	MI Future Mobility Plan Pillar Supported	Potential Impact
Clean Fuel and Charging Infrastructure: $25M (EGLE)	To build out Michigan's clean fuel and EV charging infrastructure with grid readiness for multi-family housing and public fast charging and to deploy clean fueling stations for commercial fleets of all sizes (light, medium and heavy duty) and transit applications.	**Pillar 02** Provide safer, greener and more accessible transportation infrastructure and services.	**Infrastructure to accommodate ZEV transition:** Based on funding, infrastructure would support fueling / charging for ZEVs, thereby advancing the Governor's goal of deploying 100K chargers to support 2M EVs on the road by 2030 and reduce transportation emissions.
Hydrogen Refueling: $22.3M (LEO - Supplemental)	Targeted toward building refueling infrastructure for heavy-duty trucking and making Michigan more competitive for the federal Hydrogen Hubs MachH2 funding.	**Pillar 02** Provide safer, greener and more accessible transportation infrastructure and services.	**Infrastructure to accommodate ZEV transition:** Based on funding, infrastructure would support fueling for ZEV and reduce transportation emissions.
Clean Fleets: $20M (EGLE)	To provide grants to municipalities, transit authorities and ports to replace medium and heavy-duty fleet vehicles with emission-free alternatives such as battery EVs and hydrogen fuel cell vehicles.	**Pillar 02** Provide safer, greener and more accessible transportation infrastructure and services.	**Fleet TCO improvement:** Reports estimate ~13% lower cost of ownership per mile for electric fleets. **Vehicles transitioned to ZEV:** Depending on vehicle type and how funds reused, this funding could support the purchase of 50-100 medium and heavy-duty ZEVs.
State Fleet Electric Vehicle Transition: $2M ongoing (DTMB)	In alignment with Executive Directive 2023-5, this $2M investment will kick-start the transition to a zero-emission state fleet.	**Pillar 02** Provide safer, greener and more accessible transportation infrastructure and services.	**ZEV transition enabler:** Critical to enabling long-term transition of estimated 14K state owned and leased vehicles.

Recommended Budget Item & Amount	Description	MI Future Mobility Plan Pillar Supported	Potential Impact
Michigan Innovation Fund: $60M (LEO)	To support high-growth, scalable startups and the innovation and entrepreneurship eco-system. Funds will be used for investments in innovative startups across the state through an evergreen structure that ensures returns support to additional startups into the future, especially for mobility and electrification related startups.	**Pillar 03** Lead the world in mobility and electrification policy and innovation.	**Community impact:** The Michigan Innovation Fund has potential to help hundreds of startups and drive continued innovation and economic growth in Michigan.
Community and Worker Economic Transition Fund: $10M (LEO - Supplemental)	Pilot in a FY2024 supplemental to support communities, businesses and workers navigating the state's economic transition from internal combustion engines to electric vehicles, the shift to renewable energy and the decarbonization of the manufacturing industry.	**Pillar 01** Transition and grow our mobility industry and workforce.	**Community impact:** Based on Minnesota ($2M FY2024 budget) and Colorado ($3M spent per year) transition offices, 1,600-2,300 workers impacted, respectively across 10 communities, including job search assistance, training and other benefits for impacted workers.

This recommendation aligns with Michigan's historical leadership in the automotive sector and its vision for the future of transportation. By investing in these critical areas, the state will not only enhance its infrastructure and economy but also improve the quality of life for its residents and contribute to global environmental efforts.

Background

Michigan policymakers have established aggressive goals to decarbonize the state's economy, electrify transportation and foster economic development to ensure Michigan remains the global leader in the future of mobility. Building upon these goals, in November 2022, the OFME, the CFME and other State of Michigan partners released the MI Future Mobility Plan. That plan established a goal of deploying 100K EV chargers by 2030 across the state (including at-home chargers, workplace chargers and public chargers) to support an anticipated two million EVs. This goal also aligns with the MI Healthy Climate Plan, developed by the Michigan Department of Environment, Great Lakes, and Energy (EGLE) in April 2022.

Despite the growth in EV adoption and EV charger deployment across Michigan, the state still has significant progress to make to ensure adequate EV charging infrastructure buildout and support for individuals who wish to electrify their vehicles. In 2022, there were 9.4 million vehicles registered in the State of Michigan, but only 33,100 were EVs, positioning Michigan as the no. 18 state in terms of total number of EV registrations and no. 29 in per-capita adoption.

Current Issues

One of the barriers to broader EV adoption is lack of charging infrastructure and the resulting range anxiety because of it. Michigan has approximately 1,600 public EV charging stations with 3,360 charging ports, which are similar numbers compared to other Midwest states but do not position Michigan as a leader in the field.

Approximately 80% of charging takes place at home. However, a market scan by the Joint Office of Energy and Transportation (JOET) indicates that only 5% of at-home charging takes place in the multifamily setting. Today, about one million homes in Michigan, or 23% of total available housing stock, are in multifamily buildings of five or more units. The lack of good charging options at multifamily housing is a significant barrier for EV adoption - particularly in disadvantaged communities.

Recommendation

Given these circumstances, Michigan must take decisive action to support the transition to a more electrified transportation system for homeowners and renters alike. To do this, the CFME recommends the following policy opportunities:

- **Pass new legislation that empowers homeowners and renters in condominiums and multi-family housing to install EV chargers without unreasonable restrictions.**

  Other states (MD , CO , IL) have passed "Right to Charge" laws that provide residents at multi-unit dwellings with the right to install a charging station for the individual's use provided that certain conditions are met (e.g., the individual assumes responsibility for all associated costs). These laws do not require homeowner associations or rental property building owners or managers to pay for charging for an individual's use or to install charging as an amenity for multiple owners, it simply allows residents to install a charger for their personal use so long as it meets the required conditions.

- **Pass new legislation updating Michigan construction code statute to require the Bureau of Construction Codes to update its energy conservation code every three years and remove the seven-year-cost-effectiveness requirement for new codes.**

  In Michigan, the energy code adoption process is authorized under the Stille-DeRossett-Hale Single State Construction Code Act (1972 PA 230; Construction Code Act). The Act requires LARA to consider benefits and costs over a seven-year period when considering changes to the energy efficiency standards in a new code. This requirement may restrict LARA in the types of updates it can make to a code and does not consider readiness provisions. Additionally, the Act could be updated to require more frequent code updates, code updates by a certain year, or consideration of state decarbonization goals. Making these changes would give LARA more flexibility under the law to make code updates that include EV infrastructure.

- **Adopt language in the state energy codes to require all new multi-family homes and buildings to be EV-Ready.**

  EV-Ready means that new buildings are built with the electrical capacity and conduit for EV charging in parking lots, "readying" the building for chargers in the future. These upgrades are significantly cheaper to include during construction and will help future-proof Michigan's new buildings. For commercial buildings and multi-family residences, EV-ready construction can save about $7,000 to $8,000 in retrofit costs according to a study conducted by the California Air Resources Board.

  Other states have adopted EV-readiness codes. For example, in its 2022 building code update, California established requirements that new residential and commercial properties must install EV chargers at the time of construction. In 2023, Colorado released a new building code that requires EV-readiness for single-family residential homes and EVSE-installed spaces in 20% or more of parking spaces for commercial and multifamily buildings.

- **The OFME should develop comprehensive and centralized tools to help all EV user types, including existing multifamily housing building owners, install EV chargers.**

  Residents, property owners and communities have questions regarding EV adoption and choosing the right EV charging solutions to meet their needs, yet each come with their own set of unique challenges to address, and they may not always know where to go for information. The OFME should develop tools that aim to address common questions and challenges felt by these stakeholders, such as checklists, model zoning ordinances and permitting processes, available funding opportunities, and more. This project could be an extension of the State of Michigan Community EV Toolkit.

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