U.S. House Science, Technology, and Space Committee
Subcommittee on Research and Technology
U.S. House of Representatives

Michigan Field Hearing:
Building a Workforce to Navigate the Electric Vehicle Future

Written Testimony:
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Chairwoman Stevens, Ranking Member Feenstra, and distinguished members of the subcommittee, thank you for the opportunity to testify at this important hearing to explore the workforce needs for the mobility and electrification industry.

My name is Marcia Black-Watson and I serve as Industry Engagement Director for the Michigan Department of Labor and Economic Opportunity, Office of Employment and Training (LEO-E&T). Our agency develops customized workforce solutions for businesses and individuals, including those with disabilities. LEO-E&T supports employers and businesses by:

- Partnering to recruit, upskill and retain valued employees;
- Providing incentives to increase the bottom line while building an inclusive and diverse workplace; and
- Helping connect employers with job seekers to meet their needs.

We accomplish this through a myriad of programs hand-in-hand with a number of partners at the federal, state, and local level.

Michigan remains the center of high-tech electric vehicle production in the U.S.

Since 2020, the industry has seen a rise in electric vehicles (EV), and it has been projected by Bloomberg New Energy Finance that EV sales will quintuple between 2018 and 2025. Michigan's auto manufacturers have already identified strategies to lead in this growth. Recognizing the importance of the future of mobility, Governor Whitmer signed Executive Order 2020-2 creating the Council on Future Mobility & Electrification (CFME) to develop public policy recommendations that will maintain Michigan's leadership in advanced mobility and electrification. Simultaneously, the new Michigan Office on Future Mobility and Electrification (OFME) and position of Chief Mobility Officer were created within LEO.

According to a 2020 report from the CFME, Michigan's Automotive Mobility and Vehicle Electrification industry is expected to need 12,000 new workers by 2030.[1] More than 15,000 mobility and automotive manufacturing jobs have been created since 2019 - many supporting increased electric vehicle manufacturing here in Michigan.

Recently:
- GM has made its largest investment in company history in its home state of Michigan, announcing plans to spend nearly $7 billion to convert a factory to make electric pickup trucks and to build a new battery cell plant, which will create up to 4,000 jobs in Lansing and keep another 1,000 already employed at an underutilized assembly plant north of Detroit. GM located its first fully dedicated electric vehicle assembly plant in Hamtramck, with a commitment of 2,200 jobs
- Stellantis is building JEEP plug-in hybrid models at the first new assembly plant in Detroit in three decades as part of an investment creating 6,433 jobs in Michigan, including more than 4,100 for Detroit residents.
- Ford announced a new $250 million investment and 450 direct jobs across three southeast Michigan facilities – Rouge Electric Vehicle Center, Rawsonville Components Plant, and Van Dyke Electric Powertrain Center – to support F-150 Lightning production capacity increase. Ford is also establishing a new global battery center of excellence – called Ford Ion Park – in southeast Michigan, which will be home to a cross-functional team to drive high-volume battery cell delivery, better range and lower costs for customers as well as Michigan Central, a $750 million investment for a 1.2 million square foot campus in Detroit providing a dynamic urban ecosystem to co-create mobility solution.
- Manufacturers, suppliers and R&D facilities are also choosing Michigan with:
  - XL Fleet opening its new Fleet Electrification Technology Center in Wixom
  - Magna International building a state-of-the-art facility in St. Clair to support GM's new GMC Hummer EV.

As automotive mobility and electrification continues to grow and develop, investments in manufacturing, technology and testing are leading to significant growth, expanding opportunities for companies, investors and workers. Michigan has positioned itself to be at the center of that growth by proactively preparing the talent needed for automotive mobility and electrification current, emerging, and future jobs and career pathways.

Michigan, being the heart of the automotive industry, is in prime position to effectively drive state-wide solutions that address the evolving skills and competencies needed for automotive mobility and electrification workforce development.

According to the Economic Policy Institute, the shift to all-electric vehicles could create more than 150,000 U.S. jobs by 2030[2]. These are jobs across a variety of interrelated industries and sectors due to the continued transition from internal combustion engine (ICE) equipped vehicles to full battery electric vehicles. And in Michigan, where nearly

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[1] Council on Future Mobility & Electrification, 2020 Report
[2] EPI.org, September 22, 2021 article: "The Shift to All-Electric Vehicles"

1-in-5 workers is either directly or indirectly employed by the mobility industry[3], the impact is significant. It is imperative to be proactive with talent pipeline development to support the economic stimulation, which will occur throughout this technological evolution.

MiREV: An investment in Michigan's current and future workforce supporting long-term growth for our state's employers in the automotive mobility and electrification industry.

The Michigan Revolution for the Electrification of Vehicles (MiREV) is the State of Michigan's initial $5 million, five-year effort supporting an employer-led collaborative (ELC) approach designed to respond to specific knowledge and skill demands of the automotive mobility and electrification industry. The Michigan Department of Labor and Economic Opportunity, Office of Employment and Training competitively awarded grant funds to Southeast Michigan Community Alliance's Workforce Intelligence Agency (SEMCA/WIN) to sustain and expand MiREV employer-led collaboratives.

SEMCA is the local workforce development board area or Michigan Works! Agency for Wayne County (excluding the city of Detroit) and Monroe County, administering various human services programs. Since 1996, SEMCA has been a leader in talent development programs and partners with various community organizations and contractors to serve residents. WIN is a partnership of seven local workforce boards (referred to as Michigan Works! Agencies) and 10 community colleges in southeast Michigan and is a division of SEMCA. WIN specializes in fostering collaboration among talent partners, including workforce development, community colleges, four-year post-secondary institutions, K-12 schools, economic development organizations, government, community-based organizations, employers and others.

The SEMCA/WIN partnership with LEO-E&T leverages the Michigan Alliance for Greater Mobility Advancement (MAGMA), an existing collaborative established in 2009 to address skills gaps among professional workers, such as technicians and engineers needing training to design and build electric and hybrid vehicles. MAGMA's governing board consists of five original equipment manufacturers (OEMs), five suppliers, and six educational institutions. MiREV leans on MAGMA's established structure, leadership and employer champions for the development of the MiREV ELC.

ELCs are a proven talent development approach in which multiple employers collaboratively address their most critical workforce needs while learners get better employment outcomes, including upward mobility opportunities, through the development and alignment of education and training programs. By joining forces, via

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[3] MichAuto.org, March 26, 2021 article: "Report: Michigan's Mobility Industry"

ELCs employers are able to meet workforce needs faster and more effectively than individual employers could do on their own.[4]

In addition to MAGMA, Michigan has a long history of success using the ELC model as a workforce development strategy to address the unique talent needs of various industries. LEO-E&T has initiated and/or supported ELCs in the Manufacturing, IT, Healthcare, Energy and Mobility industries. For example:

- The Michigan Advanced Technician Training Program (MAT2), established in 2013, has 22 network companies and serves approximately 104 apprentices across two occupations, including Mechatronics Technician and CNC Machining Technician with an 85 percent employment retention rate.

- The Michigan Energy Workforce Development Consortium (MEWDC), established in 2009 to address workforce issues that are crucial to building and sustaining Michigan's energy industry, has more than 20 employers with more than 400 apprentices trained across 18 occupations, including Overhead and Underground Electric Line-Worker, Substation Operations, and Gas Utility Specialist.

- The West Michigan Health Career Council (WMHCC), established in 2017, has several employers including four large health systems. The council has trained more than 400 apprentices across four occupations including Medical Assistant, Sterile Processing Technician, Surgical Technologist and EEG Technician and are working on launching two additional programs.

Employer-Led Collaborative	Employers	Apprentices/ Trainees	Occupations
MAT^2	22	104	2
MEWDC	20	400	18
WMHCC	5	400	4

The MiREV ELC will initiate the MiREV Academy focused on alignment of closing skill gaps through attracting, upskilling and reskilling an automotive mobility and electrification workforce across the state, serving historically underserved populations while creating a robust talent pipeline.

The vital contributions made by MiREV stakeholder partners help connect job seekers with good paying career pathway opportunities while helping employers address their critical workforce needs.

The MiREV ELC approach is the innovative, yet comprehensive, workforce development strategy required to meet the needs of a variety of interrelated industries

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[4] Workforce.com, July 22, 2011 article: "O Captain! My Captain! I Know Not How to Build an App for That"

and sectors comprising automotive mobility and electrification. Currently in its initial phase, the MiREV collaborative is comprised of more than 100 stakeholder partners and seven sub-collaboratives working together to strengthen and upskill Michigan's automotive mobility and electrification workforce.

Through these strategic partnerships of employers, educators, workforce development, economic development and other stakeholders, an accessible platform that accelerates the capacity to develop and align education and training curriculum with the industry's rapidly growing talent needs is being created. This talent pipeline development strategy collaboratively builds supply chain-based high-performing industry, education and workforce partnerships who deliver a measurable return on investment for the end customers – both employers and learners. Specifically, initial MiREV stakeholder partners include:

- Fifteen employer partners with 410 immediate job openings and 1,300 projected job openings over the next three years, including large employers, small employers and labor unions.
- Fourteen Institutions of Higher Education offering at least 42 customizable and scalable automotive mobility and electrification earning opportunities, including short courses, certifications and degree programs.
- Eight local workforce development boards (Michigan Works! Agencies) supporting job seekers with automotive mobility and electrification career awareness, exploration and recruitment.
- Multiple cross-sector stakeholder groups, such as Center for Automotive Research (CAR), National Advanced Mobility Consortium (NAMC), MICHAuto, Michigan Occupational Deans Administrative Council (MODAC), Southeast Michigan Council of Governments (SEMCOG), and many others.

Industry leaders working together, in partnership with state government and other stakeholders, are paving the way for economic development – providing career pathways to expand customized talent solutions and strategies to address skill gaps, career advancement, turnover, and retention.

The MiREV collaborative and sub-collaboratives will ensure a comprehensive end-to-end talent pipeline is created by using a supply chain approach to workforce development, including:

1. Demand planning; identification of projected job openings
2. Identification of competencies, credentials and other hiring requirements
3. Reskilling and upskilling incumbent workers
4. Training opportunities for job seekers interested in automotive mobility and electrification industry
5. Development and identification of career pathways that provide advancement opportunities within and outside of ELC companies

6. Career awareness, exploration and promotion of automotive mobility and electrification industry occupations to Michigan's future workforce

Using supply chain management principles, employers play an expanded leadership role as "end-customers" of education and workforce partnerships. Based on the U.S. Chamber Foundation's, Talent Pipeline Management® (TPM) initiative, the framework above is composed of six strategies that, when implemented in a particular sequence, make for a talent supply chain approach. Each strategy is designed to build off one another and support employers in developing a more data-driven and performance-driven approach to improving education and workforce partnerships.

MiREV: Delivers a measurable return on investment for both employers and learners.

Initial Academy outcome metrics include enrolling approximately 700 learners into training, with close to 500 completing training, and nearly 50 percent of those trained obtaining new employment – building a talent pool of technicians and engineers required to develop, maintain, and repair electrified vehicles. A recent demand data survey from the MiREV employers identified the top in-demand occupations:

- Maintenance and Repair Workers
- Assemblers and Fabricators
- First-Line Supervisors of Mechanics, Installers and Repairers
- First-Line Supervisors of Production and Operating Workers
- Industrial Machinery Mechanics
- Electrical and Electronic Engineering Technologists and Technicians

MiREV participants who complete training will earn credentials including certificates and degrees for high-demand, high-skill, and high-wage occupations in direct alignment with Governor Whitmer's Sixty by 30 goal to increase the number of Michiganders with a post-secondary credential (a high-quality industry certificate, associate degree or higher) to 60 percent by 2030.

Michigan recognizes people are one of the state's greatest strengths and has been a leader in expanding opportunities for all residents. Given the climate of volatile work participation rates and talent shortages, strategic recruitment and engagement of underrepresented populations is critical to MiREV success. Underrepresented populations comprise a massive untapped talent pool that must be proactively reached if MiREV is going to be successful in creating a robust talent pipeline. Minimally 35 percent, or 235, of the MiREV participants will come from underrepresented populations including youth, veterans, women, people of color, ex-offenders, and persons with disabilities. Focused outreach efforts are required to attract a higher percentage of underrepresented populations to pursue new technical training and educational programs offered through the Academy. Community colleges and Michigan Works! Agencies have workforce professionals who connect with industry, secondary and

postsecondary education partners for career awareness, exploration, outreach, and recruitment activities.

Following the launch and implementation of MiREV's first phase, it is anticipated the numbers of trained and retrained individuals will continue to grow significantly. MiREV positions Michigan for greater investment at the federal level. LEO-E&T applied to the Economic Development Administration's (EDA) American Rescue Plan Act (ARPA) Good Jobs Challenge Grant program for $25 million on February 8, 2022. EDA's American Rescue Plan Good Jobs Challenge aims to get Americans back to work by building and strengthening systems and partnerships that bring together employers who have hiring needs with key entities to train workers with in-demand skills that lead to good paying jobs. The proposed Michigan Pipeline of Opportunity through Workforce Employee Readiness (MPOWER) will create ELCs in three industries crucial for the advancement of EV and infrastructure development necessary to reach national goals of 50 percent of EV sales by 2030. Based upon EDA direction, LEO-E&T's plan builds in subrecipients from each of the industries (Mobility, Information Technology and Broadband) along with a subrecipient who is focused on and can provide consultation, training and technical assistance on diversity, equity and inclusion for all program partners. If awarded, the MiREV Academy will spearhead the MPOWER mobility efforts, providing additional investment to attract, train and retain a skilled automotive mobility and electrification workforce in Michigan.

Our collaborative approach brings all stakeholders to the table.

By working collaboratively across both the public and private sector, we can continue to encourage EV adoption, support our workforce and build our manufacturing core.

In Michigan, we are working together to build the pipeline to fill critical jobs in EV-related industries today and in the future – and at the same time, building a stronger state economy for current and future generations of Michiganders.

Thank you again for the opportunity to testify today on this important topic. I look forward to addressing any questions you might have.

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Marcia S. Black-Watson serves as the Industry Engagement Division Administrator for the Michigan Department of Labor and Economic Opportunity, Workforce Development (LEO-WD). Ms. Black-Watson leads a team that promotes demand-driven workforce development strategies to help attract, retain, and develop talent in high growth, high wage industry sectors. The LEO-WD Industry Engagement Division engages employers; the Michigan Works! System; educational entities; economic development organizations, and other local, state, and federal partners to execute programs and initiatives that produce successful recruitment, training, placement, and retention outcomes. The division administers programs such as the Community College Skilled Trades Equipment Program (CCSTEP), Carl D. Perkins Postsecondary (Perkins V), Going PRO Talent Fund, Michigan Industry Cluster Approach (MICA), Michigan Learning and Education Advancement Program (MiLEAP), Michigan Rural Enhanced Access to Careers in Healthcare (MiREACH), Michigan Revolution for Electrification of Vehicles (MiREV) , State Apprenticeship Expansion (SAE), and Talent Development Liaisons (TDLs).

Marcia has worked in the workforce development field since 1998, spearheading a number of state-level taskforces, projects, and initiatives focused on meeting the workforce demands of industry. She has a Bachelor of Arts degree in Materials and Logistics Management with a minor in Accounting from Michigan State University. She is a Certified Business Solutions Professional and has served on several boards and advisory committees, including Center for Advanced Automotive Technology (CAAT) National Visiting Committee; Baker College – College of Business Advisory Board; Flint Genesee Job Corps Industry Advisory Council; Michigan Academy for Greater Mobility Advancement Governance Board; Michigan Apprenticeship Steering Committee, Inc. (MASCI); Michigan Energy Workforce Development Consortium (MEWDC) Executive Committee, and the Michigan Talent Pipeline Management Academy Steering Committee.

In January 2021, Marcia received the State of Michigan Symbol of Excellence Award in recognition of securing $45 million in competitive federal grants, which will help launch new apprenticeship initiatives and create customized education and training solutions that result in industry-recognized credentials and accelerated career pathways.