

***Accelerating Vehicle Electrification in
Michigan C2ES Regional Roundtable – February
2-3, 2022
Key Takeaways***

Overarching Themes

- As the electric vehicle share of the American light-duty fleet grows rapidly in the coming decades, publicly accessible charging infrastructure that meets the varying needs of all drivers is necessary and will require coordination between state and local government, utilities, charging providers, and private business owners.
- As the rate of deployment of new electric vehicles accelerates, the potential impact on the power system associated with additional demand for power will be an important consideration for policymakers, utilities, automakers, and fleet managers
- Electrification is not a “silver bullet” for on road transportation. Policies to support electric vehicles and associated infrastructure should not disadvantage alternative charging/fueling technologies for zero-emission vehicles. Fuels like hydrogen and alternative charging solutions like battery swapping should be considered, particularly for applications where they may be the most cost-effective or efficient solution.
- A holistic approach to transportation must be taken to meet all people’s mobility needs. Public transit, car sharing, micromobility, and other alternative mobility options must be utilized alongside passenger vehicles to expand access to transportation to all residents regardless of income or ability to own and drive a vehicle. The availability of alternative mobility options can also reduce pressure on the transportation system from personal passenger vehicles.
- The ongoing, accelerating shift to zero-emission vehicles will disrupt the existing automobile manufacturing paradigm, but there will be opportunities for those who lead that transition across manufacturing and related industries, as final assembly and production of batteries, service equipment, and other component parts grows to keep pace with demand. Public-private collaboration in Michigan has built a strong foundation for the state auto industry’s long-term competitiveness.
- As the electric vehicle and charging industries grow, new skills to manage emerging technologies will be essential for both workers already in the workforce and new or future workers to succeed in the field.

Session 1: Accelerating the Deployment of Charging Infrastructure

- New infrastructure should be designed to anticipate future technological needs, including faster charging times and higher capacity batteries; bidirectional charging capabilities; interoperability; onsite storage; etc.
- At the local level, utilities, policymakers, and charging providers need to share best practices in station design, maintenance, and siting to optimize utilization and reduce costs of new charging infrastructure.
- Charging and refueling infrastructure should reflect the various needs and use cases of the customers it is intended to serve. Many areas – especially in high-density residential areas – would benefit more from deployment of lower-cost Level 2 charging infrastructure than high-cost DC fast charging infrastructure. Following this holistic approach to type and location of chargers can reduce demands on the grid overall.
- There are a variety of policy instruments that can help enable growth in EV charging deployment and EV adoption. A low carbon fuel standard; purchase incentives; building codes requiring make-ready upgrades; point-of-sale rebates for both vehicles and chargers; and technical standardization were all raised during this discussion as options.

- Many investor-owned utilities can take advantage of tax incentives to support investment into charging and related infrastructure, but public utilities cannot, and should be offered non-tax incentives.
- Access to mobility, whether personal car ownership, public transit ridership or other transportation modes, is essential to modern life and incentives should be developed in ways that support affordability.
- Interoperability between charging providers and vehicles will be critical to lowering system costs, enhancing efficiency, expanding access, and bolstering consumer confidence in public charging networks.
- Deployment of charging infrastructure should maximize air quality benefits, and siting of public charging infrastructure – especially when expected to be utilized in medium- and heavy-duty applications – should prioritize reducing air pollution in disproportionately affected or overburdened communities, even when local EV ownership rates are low.
- In addition to greenhouse gas emissions, harmful tailpipe pollution emissions are often concentrated in historically marginalized communities and low- and middle-income communities, and may be more attributable to through-traffic than local drivers. Policy interventions to mitigate transportation emissions should also target improvements in air quality, and should prioritize significant reductions in these disproportionately affected areas.
- To guarantee long-term sustainability, public investments to support acquisition and installation of charging stations must be complemented by profitable business models that can absorb longer-term operation and maintenance costs.

Session 2: Building the Future of Manufacturing, Installation, and the Zero-Emission Vehicle Workforce

- As technology development accelerates, workers will need to adapt to new technologies and processes on-the-job, while also growing skills in communication, problem solving, creativity, and other “soft” skills.
- Many skills for the future workforce can be developed as early as primary education, and funding, development, and other support for post-secondary trade and career programs is essential to prepare workers for good jobs in the industry.
- Schools, future employers, parents, and other key influencers should present careers in trades as an equal alternative to careers requiring four-year degree programs without propagating stigma against workers who do not attend college.
- Successful education and training for workers requires collaboration between many actors, including government, schools, universities, community colleges, and future employers. It is not the sole responsibility of the worker nor the employer to define the training or skills required to succeed in the industry.
- Many workers are changing jobs or industries in search of better pay and working conditions. Employers hoping to attract and retain the skilled workforce they need to compete must adapt to this reality and focus on creating a work environment that can maximize retention..
- Employers can better attract and support new workers by designing roles for entry-level workers to build upon foundational skills gained in training and certificate programs to help them develop specialized skills needed to succeed in the industry.
- The shifting demographics of the United States indicate an impending shortage of highly experienced workers across many industries, including the manufacturing industry; policymakers and companies should provide incentives and support workforce development to grow the skills of the American workforce while encouraging immigration to attract new workers from the global workforce.