

Hydrogen Roadmap for the U.S. Midwest Region



- Prepared for: **Stark Area Regional Transit Authority**
- In support of the **Renewable Hydrogen Fuel Cell Collaborative**
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The Ohio Department of Transportation (ODOT), in partnership with the Michigan Department of Transportation (MDOT), seeks funding to develop the Midwest States Zero-Emission Transit Corridor Action Plan. When complete, this plan will guide the two states in the creation of a series of zero-emission transit corridors capable of supporting local, regional, and interregional travel by electric vehicles (EV) and fuel cell electric vehicles (FCEV).



Figure 1: Midwest priority regions for the deployment of FCEVs and EVs.

Importantly, by addressing one of the most significant barriers to the widespread use of zero-emissions vehicles—range anxiety—the proposed corridor will also help accelerate the adoption of these vehicles. Greater adoption will, in turn, support the region’s growth into a dominant player in the zero-emissions industry, adding an estimated 65,000 high-paying jobs to the region over the next 15 years.

To develop the Action Plan, ODOT and MDOT have assembled a powerful team composed of a variety of regional organizations, including the Renewable Hydrogen Fuel Cell Collaborative, the Michigan Economic Development Council (MEDC), the Midwest Hydrogen Center of Excellence, the Ohio State University Center for Automotive Research, Smart Columbus, Stark Area Regional Transit Authority (SARTA), DriveOhio, and CALSTART.



The 241-mile Ohio Turnpike is long, straight and flat, making it an ideal open road site for testing autonomous and connected vehicles. The turnpike is outfitted – end to end – with fiber-optic cable, and it already has been a testing site for self-driving trucks. Roadside units will be installed in a 60-mile stretch of the turnpike and onboard units will be installed and operational in fleet vehicles during the first quarter of 2018, giving the Ohio Turnpike Commission the ability to produce traffic and weather alerts for digitally connected vehicles and to use vehicle and road condition data to make better decisions about treating roads and managing incidents.

Vehicle and Station Deployment Roadmap

- Strategy: Early deployment of technology ready commercial vehicles enable the hydrogen refueling infrastructure for the long term deployment of public light duty cars



Table 2: Rollout of FCEV in Ohio

Ohio Total	2017	2018	2019	2020	2021	2022	...2032
HD	3	14	19	29	52	73	2106
MD	0	5	17	51	61	92	2647
LD	0	0	0	0	0	0	40500
Total FCEV Count	3	19	36	80	113	164	45252

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Ohio 1 at the first Ohio Legislative Day in Columbus. Member of ODOT, FTA, and Ohio Transit agencies drinking the water produced by the fuel cell.