



Ready for Electric Vehicles? Modifying Local Land Use Policies

This fact sheet is intended for local government officials to provide an introduction to electric vehicles (EVs), EV charging stations, and how to support EVs by including EV charging provisions in zoning ordinances.

Increase in Electric Vehicles and Charging Stations

The number of EVs is increasing rapidly in the U.S. and worldwide. In the U.S., EVs have increased from 4,000 in 2010 to over 1.1 million in 2020, with no sign of slowing down. By the year 2030, there may be

EV Charging, Door County, WI

243,000 EVs on the road in Wisconsin. With this projected growth, it is important for municipalities to plan for EV charging infrastructure as soon as possible.

Public EV charging outlets in the Midwest quadrupled from 1,400 in 2012 to 6,000 in 2020.¹ EV charging outlets are not all the same. Table 1 describes the basic differences between three levels.

U.S. Automakers Pledge Huge Increase in EVs

In 2021, Ford, GM, and Stellantis, also known as the Detroit Big Three, announced a joint goal for electric vehicles to achieve 40% to 50% of their sales in the U.S. by 2030.²

Table: Types of EV Charging Outlets

	Level 1	Level 2	DC Fast Charging Outlet
Volts	120	240 or 208	480+
Miles of Range per Charging Period	2-5 miles per hour	10-20 miles per hour	60-80 miles per 20 minutes
Primary location	Home	Home, Workplace, Public	Public, Highway Corridors, High Tourism Areas

Where to Locate EV Charging Stations?

EV drivers in the U.S. do over 80% of their charging at home and typically use a Level 1 (regular 120-volt outlet) or Level 2 charging outlet. While a homeowner can add an EV charging outlet in their garage or near their parking spot, one-third of households in Wisconsin (nearly 900,000 households) rent their home. Currently, many people who rent their homes cannot charge at home or at work.

EV drivers who do not have access to a charging outlet at their home or work rely on public charging outlets at convenient locations like workplaces, shopping areas, parks and libraries.

Tourism is a big business in Wisconsin with direct tourism spending of \$13.7 billion, overall economic impact of \$22.2 billion, and over 113 million visitors. To appeal to EV-driving visitors, visitor bureaus encourage EV charging station installation and provide listings of EV charging locations and EV signage.

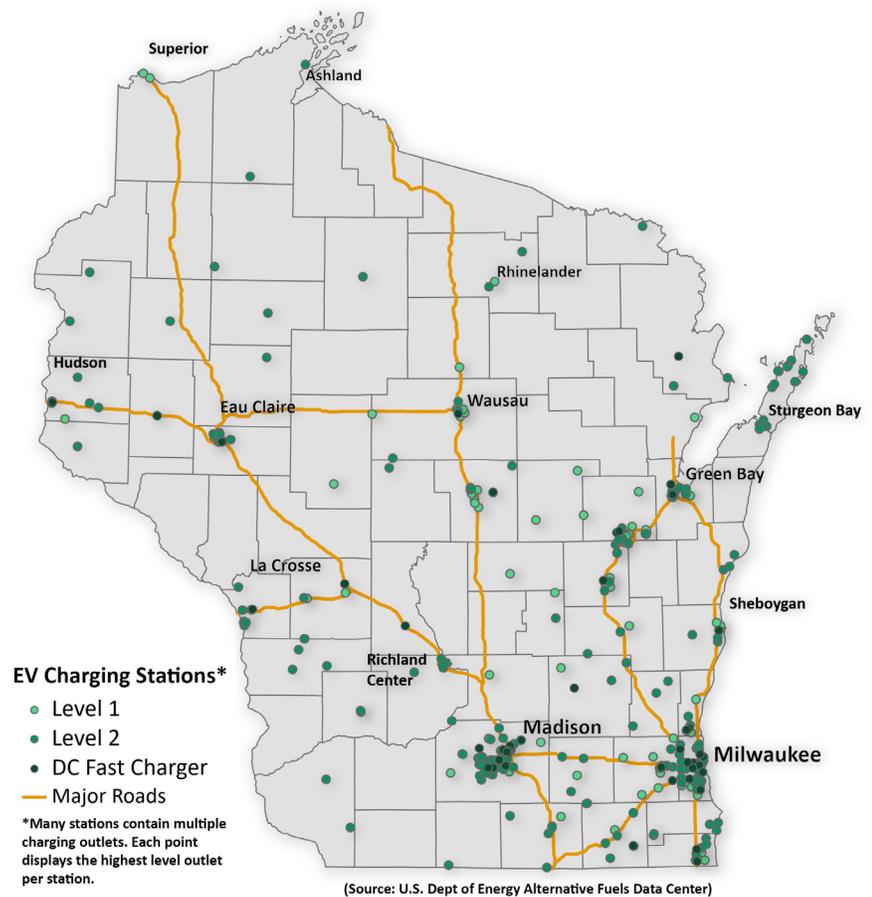


Photo: Level Two and DC Fast Charging Station, Beaver Dam, WI

The map on the right shows EV charging stations in Wisconsin in September 2021. Not surprisingly, there are more stations in the more population dense part of the state.

Include EV Charging Stations in Zoning Ordinances

For local governments in Wisconsin, incorporating EV charging standards in zoning ordinances is one of the easiest and most affordable strategies to support vehicle electrification. Ordinance provisions include EV charging definitions, where charging stations are permitted uses, and where they are required as a part of new construction. The installation of EV charging infrastructure is four to six times less expensive when included during new construction versus a building retrofit. Once mandatory EV requirements are set in a local zoning ordinance, the charging infrastructure automatically spreads throughout the community as new buildings and parking areas are built, bringing down the cost of charging station installations and allowing public and private investments to stretch further.



Map: Public EV Charging Stations in Wisconsin (September 2021)

Conclusions

- The number of EVs and EV charging stations are increasing rapidly.
- While current EV drivers in the U.S. charge 80% of the time at home, one-third of Wisconsin households rent their home and do not get to decide if EV charging is available where they park.
- EV charging stations will aid one of Wisconsin's most important industries – tourism.
- Local governments can amend their zoning ordinances to include EV charging provisions tailored to the community.

Learn more about EV charging stations and zoning ordinances in the full publication, https://bit.ly/Ready_for_EVs

1 WI data on page 52 at afdc.energy.gov/files/u/publication/electric_vehicle_infrastructure_trends_first_quarter_2020.pdf

2 <https://electrek.co/2021/08/05/ford-gm-stellantis-joint-40-50-ev-sale-goal-2030/>

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The Center for Land Use Education is a joint venture of the College of Natural Resources at the University of Wisconsin-Stevens Point and the University of Wisconsin-Madison Division of Extension.

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