



Ready to Charge

Improved charging can unlock the promise of electric vehicles in Minnesota

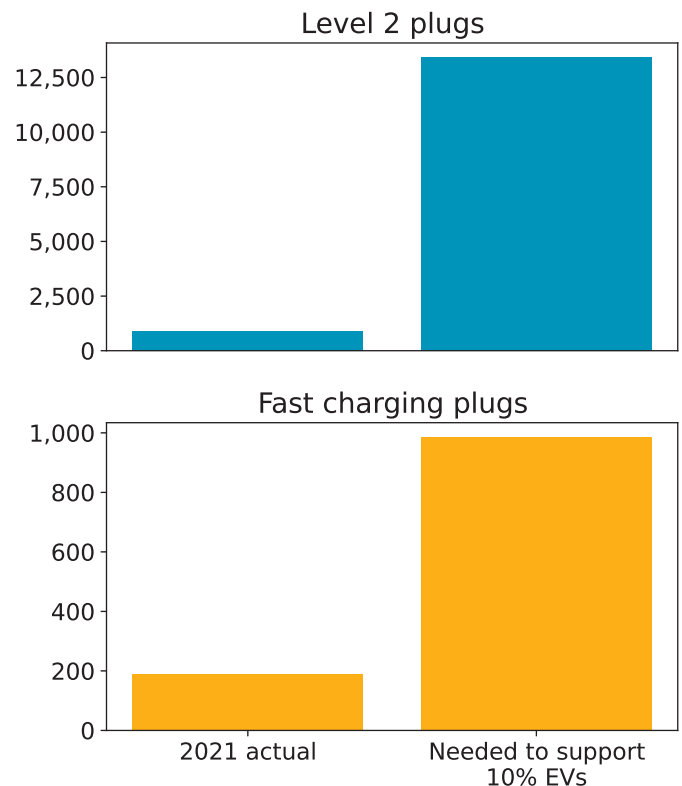
Electric vehicles (EVs) are ready to deliver a future of clean transportation. However, in order to facilitate mass adoption, Minnesota needs more public charging infrastructure. Local, state and federal policies can make EV charging accessible and easy.

Minnesota needs more charging capacity to support mass EV adoption

Electric vehicles can dramatically reduce the impact of pollution on the climate and our health. But today, charging an EV can be far less convenient than refueling a gasoline-powered car – especially when it comes to public charging infrastructure.

- Minnesota has approximately 191 public fast charging plugs and 902 Level 2 (non-fast charging) plugs as of April 2021.
- To support a future in which 10% of Minnesota's vehicles are EVs – a conservative target for 2030 – Minnesota will need more than 985 fast charging plugs and 13,409 Level 2 plugs.
- If the same ratio of chargers to cars applied to supporting 25% penetration of EVs, Minnesota would need roughly 2,463 fast chargers and 33,523 Level 2 chargers.
- Many existing chargers are not available 24 hours a day, often making EV charging less convenient to the public.

Current charging infrastructure versus infrastructure needed to support 10% EVs in 2030.



Source: U.S. Department of Energy, EVI-Pro Lite tool, available at <https://afdc.energy.gov/evi-pro-lite>. Assumes 10% plug-in vehicle penetration in each state, split 60%/40% between plug-in hybrid and full battery-electric vehicles, full support for plug-in hybrids and universal access to home charging.

Policies can help promote EV adoption

EV drivers should have the same access to affordable, easy-to-use and convenient refueling as drivers of gasoline-powered vehicles. Public policy decisions can help make that possible. To encourage mass adoption of electric vehicles, cities, states and the federal government should:

Expand public charging capacity.

- Expand federal financial incentives for EV charging infrastructure, including by renewing and extending existing tax credits.
- Establish goals for the expansion of EV charging and develop plans to harness public and private sector resources to meet them.
- Build charging plugs on public property, including at state and national parks, in national forests, at curbsides, and in the parking lots of government buildings and schools.
- Make EV charging a part of new commercial, residential and municipal development by requiring a certain percentage of parking spaces to have the infrastructure to support EV charging.
- Ensure the availability of fast charging along highways, including in rural areas.

Make EV chargers more accessible by increasing interoperability.

- Require that charging stations built with public funds are accessible to consumers with different vehicle and plug types.
- Require public chargers to be open to all users, regardless of the charging network to which they belong (if any). Chargers should also be accessible using various methods of payment, including credit and debit cards.
- Standardize fee structures and pricing metrics. Currently, some stations charge a flat fee, some charge based on the amount of electricity used, and others charge by the length of time the car was charging. The

variation and lack of clear signage can leave drivers guessing how much they will end up paying.

Increase the visibility and price transparency of public charging stations.

- Promote price transparency at charging stations – similar to dollars-per-gallon displays at gas pumps.
- Require open data from companies receiving public funding or installing stations in public spaces, enabling app developers to provide this information to the public. This can help drivers find available chargers, and provide policymakers with information about where to improve infrastructure.

Ensure EV spaces are open for EVs.

- Enact and enforce penalties for non-electric vehicles occupying charging locations.
- Set time limits on the use of EV parking spaces and charge idle fees for cars not actively utilizing a charging space's plug.

Expand access to other forms of zero-carbon mobility.

- Promote other clean modes of transportation like EV carsharing, electric buses and walking, biking and transit in order to encourage clean travel without requiring EV ownership.



More fast charging stations are needed to encourage widespread adoption of electric vehicles.