

MATT BAUMGARTNER

Electric Vehicle Owners



The **POWER** of MINNESOTA



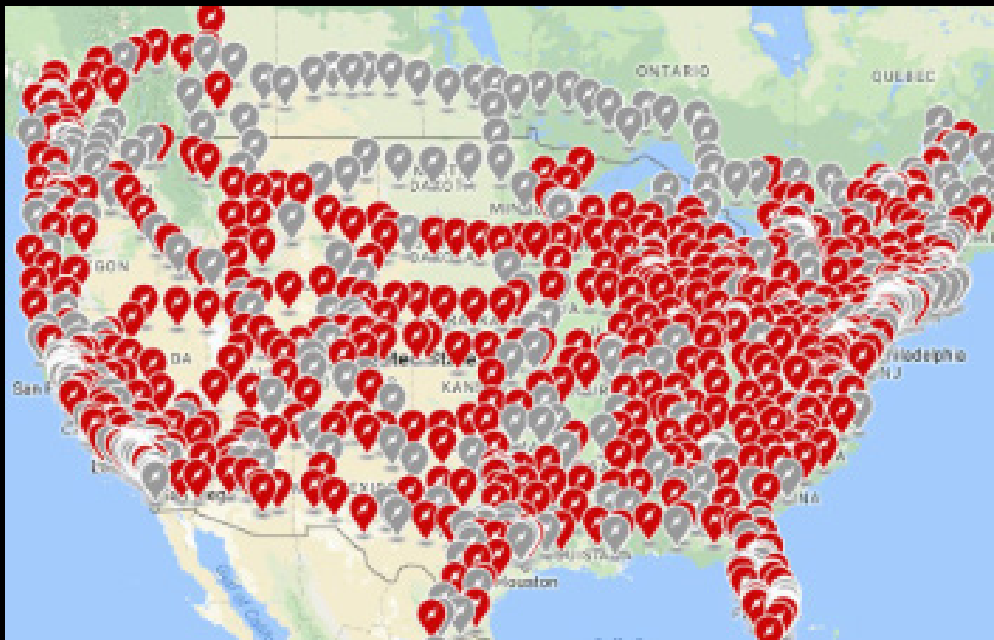
EV TRANSPORTATION

There are many things about the future to be concerned about, EVs are not one of them

Advantages V. ICE vehicles

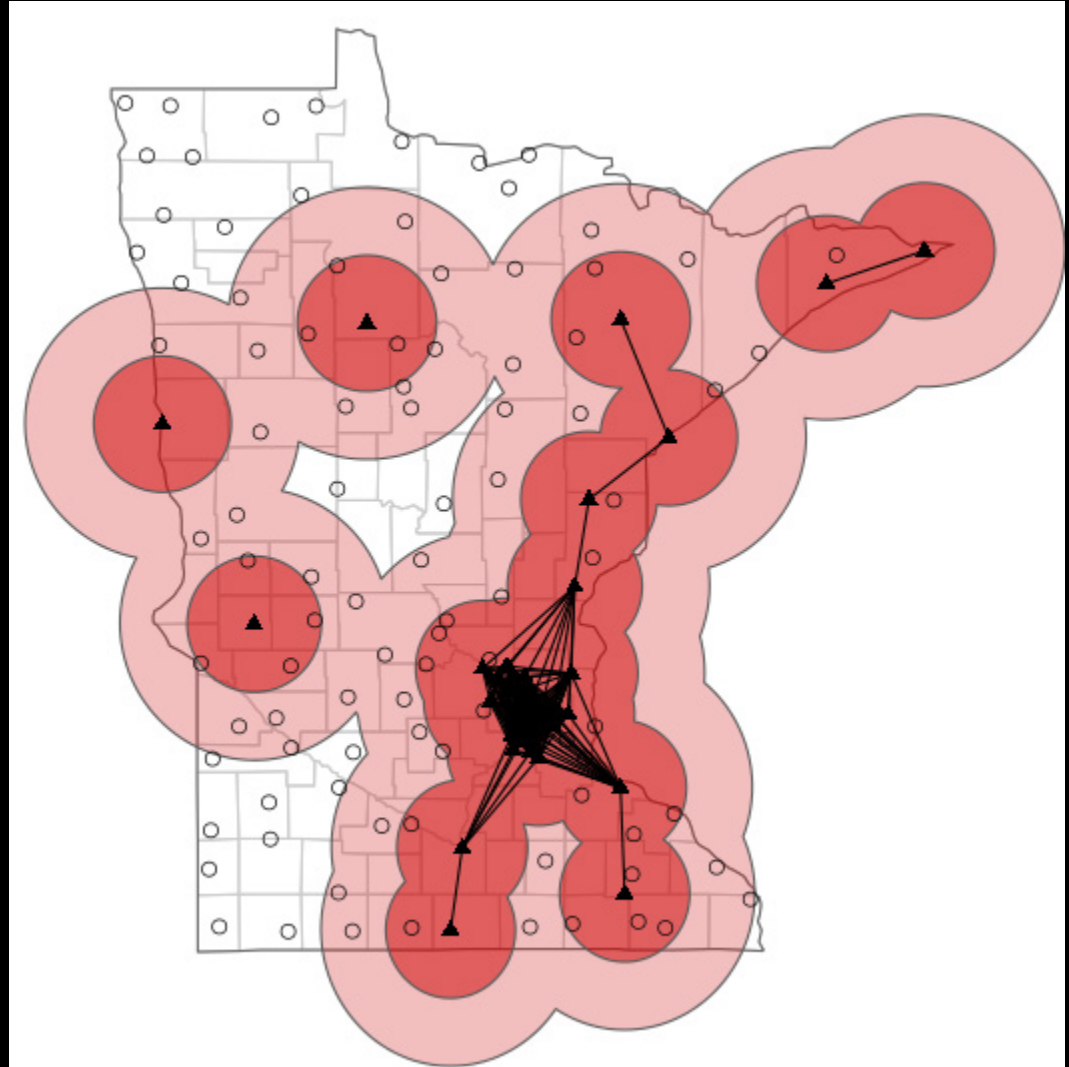
- Acceleration and torque
- Superior handling, weight distribution, and a low center of gravity
 - battery is below your feet
- Low maintenance, low cost of ownership
- Safety
 - Crumple zones, and EV battery pack can help make EVs safer in a side impact crash
- OTA updates (Tesla)
 - your car keeps getting better
- Adjustable driving options
- Excellent resale (projected)
 - Falling resale for ICE cars (prediction)

Everyday Operation

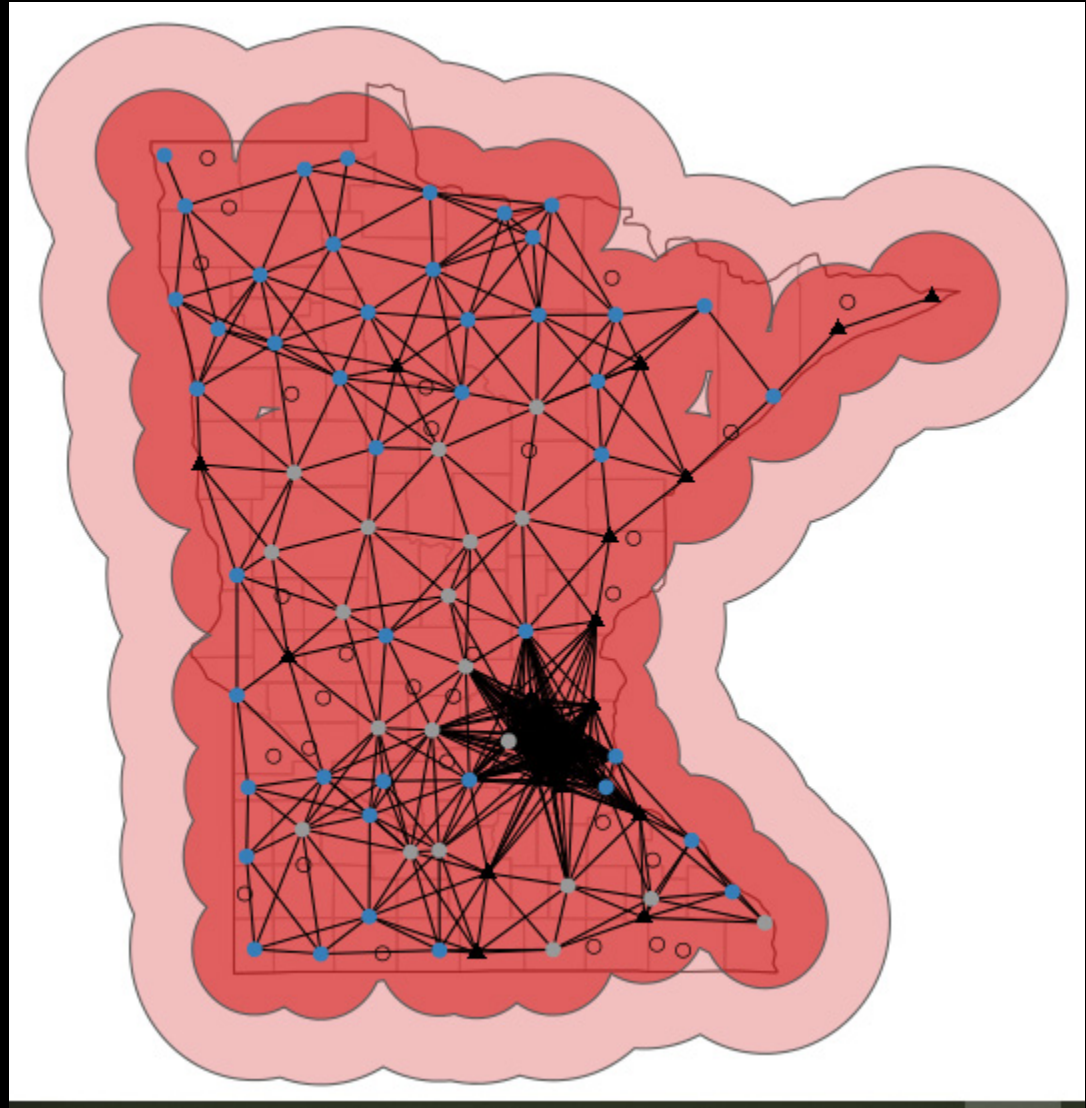


- Low cost of ownership
 - \$0.025/mile v. \$0.112/mile
- Home charging v. gas station visits—
dryer outlet
- Carbon free transportation
- Integrating home solar
- Super charging network (Tesla)
 - What came first the chicken or the egg

Current MN DC Fast Chargers (non-Tesla)



A Goal for DC Fast Chargers in MN

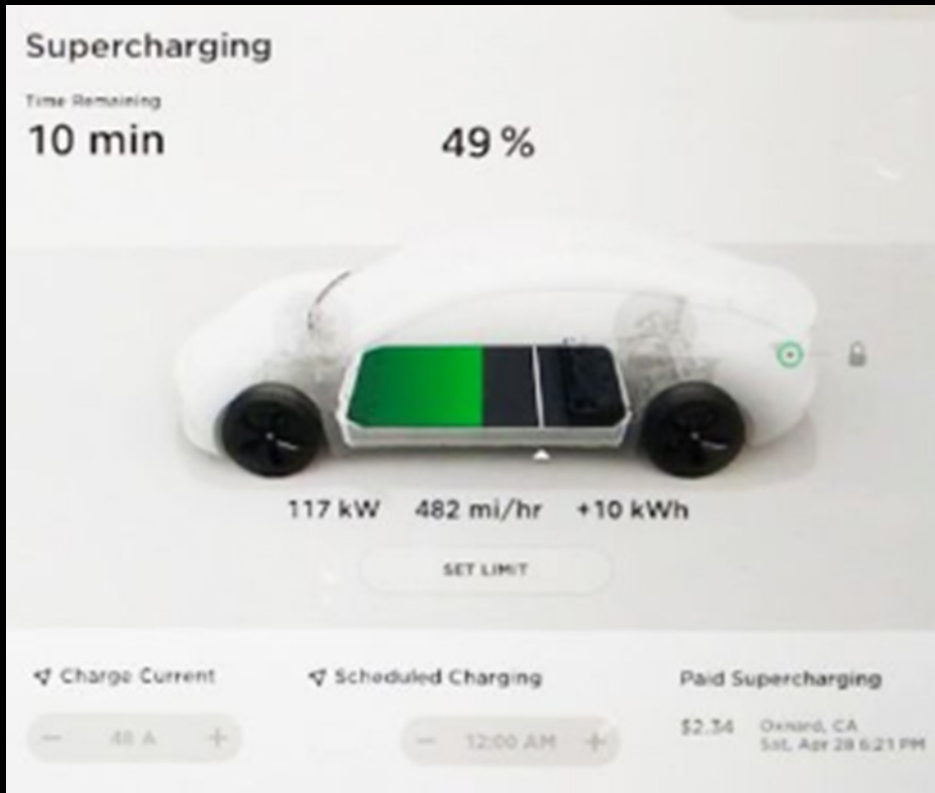


Maintenance



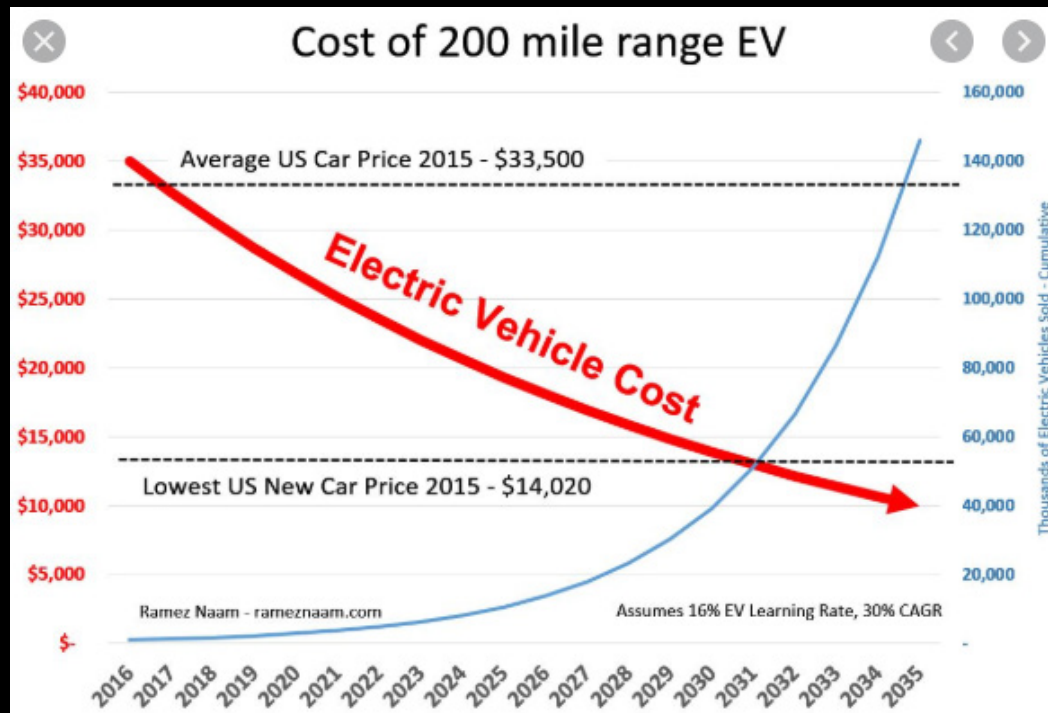
Maintenance

1. Windshield Wiper Fluid
2. Rotating Tires



- 200 v. 2000 moving parts
- Battery care: 20%-80%
- Novel technologies
- Cold weather drawbacks

Future Improvements



- Expanding the charging infrastructure
 - Reducing range anxiety
- V3 charging – 180 miles of range in 15 minutes (Model 3)
- Improving battery technology – solid state (million mile battery)
- Recycling worn out batteries
- Falling costs and increasing choices
- Eliminating range anxiety

The **POWER** *of* **MINNESOTA**

Our energy. Our communities. Our stories.

FILM SCREENING
+ COMMUNITY CONVERSATION
IN WILLMAR

Saturday, December 7, 2019 | 1:30pm
Willmar Public Library

