



Electricity is our business. There is no denying that. Therefore, we are intrigued and have been paying attention to EVs for the past few years. We want to be in the know as the EV market changes, expands, and improves. We've shared exciting articles about the EV horizon, where we are now, and where we are going.

ACEC just passed the one-year mark of electric vehicle ownership and have put 7,200 miles on our Tesla. The co-op purchased the EV with the intent to learn, educate and spread awareness. So, we thought we would provide our members with "A Year in Review". Although many of the Co-op staff have had the chance to drive the Tesla, the Co-op's member services manager, Ryan Wagner, has been heavily involved from day 1. So, we asked him to share about his Tesla experience over the past year.

Driving Range

Battery electric vehicles are very efficient, and most newer models have enough range to satisfy the needs of a typical driver for multiple days without fully recharging. For example, the range of our standard battery in our Tesla Model 3 is 265 miles with a 100% battery charge and the maximum range suggested for a "trip".

Drivability

Driving this vehicle is much like driving any other. The main difference is getting used to the screen and all the available settings and navigating around the software. In addition, ACEC's EV has the auto-steer capability, which will hold you between the yellow and white line while traveling with an alert every 15 seconds to move the wheel ever so slightly to keep this engaged.

Driving in the summer compared to the winter

Winter - The effects of winter driving under 10 degrees F° have been noticeable. The car's driving range is affected by as much as 25%. This reduction is directly related to using the cabin heat and seat heaters. A way to help with this is to reduce seat heat and preheat the car while tied to a charger. This rear-wheel car handled surprisingly well in the snow.

Summer - Summer driving and air conditioning use have had a much smaller effect in our experience.

Range Anxiety

This is the biggest fear we hear, and we had it too. Charge daily, and plan ahead when traveling far distances. Chargers are being added across the nation and the battery technology is improving, so we believe things will only get easier for EV charging in the future. 4027-7

When to Charge

Tesla recommends keeping the car always plugged in when not in use, and they recommend daily charging.

Charging Duration

The charging time depends on the size of the charger and the duration. The general guideline for each kW of charger rating is to multiply that by 3 to 3.5 miles for each hour you charge. So, for

ONE YEAR
7,200 MILES
1,771 kWh
\$217 TO CHARGE

example, if you are charging with a 10kW charger for 1 hour, you can expect to drive 30 to 35 miles for each hour charged.

Where to charge

When at home, charge - Homes with EVs will want to have a level two charger installed by a qualified electrician. Level 2 provides a full charge overnight, even on an empty charge. When traveling, access the PlugShare app, the ChargePoint app, or use the Tesla screen or software in the vehicle.

Cost to charge

Our charging costs for the 50-kWh battery with 265 miles of range for this model is \$6.15 at our current residential rate of 12.3 cents per kWh. The Co-op has put 7,200 miles on the Tesla in just

over a year with a total charge cost of \$217.

Maintenance

We haven't needed any maintenance on the Tesla. The only "fixing" was to replace a trim

piece next to the driver's door that was bumped loose. We ordered the replacement piece using a cell phone app and the "find my part number" via an online diagram available on a Tesla site. A Tesla technician might be able to travel to your home for repairs. However, if that is not an option, you will need to visit your nearest repair shop in Des Moines, Iowa; Council Bluffs, Iowa; Madison, Wisc., Milwaukee, Wisc., or Minneapolis/St Paul, Minn.

What surprised us

1. How recognizable the Tesla is to the younger generations. Kids astonishingly flock to this car.
2. How well it handles and the responsiveness of the EV.

3. Not having light from an instrument cluster in front of you during night driving for me has been an adjustment.
4. The lack of the need to use the brakes takes time to get used to. Due to the regenerative braking feature, the car will stop if you can anticipate your stop.

What's Next?

The Cooperative will continue to learn and educate. The Cooperative is also considering purchasing an EV truck.

The Co-op's intent with our EV purchase is to learn and educate community members. So, we are learning, and others are too. Our Tesla is available by appointment if you want to check it out and go for a test drive.



ACEC picked up our Tesla in Minneapolis, MN on April 30, 2021



On display for members during ACEC's Annual Drive-Through - September 2021, September 2022



Students explore Tesla during Cooperative Career Day -- November 2021



On display for members during Member Appreciation Picnic June 27, 2022



On display at Big Four Fair, Allamakee, Clayton, and Fayette County fairs - July and August 2021



By appointment, check it out and take a drive - National Drive Electric Week - Sept. 25 - Oct. 3, 2021



Fire Departments - Safety overview with local Fire Departments to educate in the event of an auto accident resulting in the need of a rescue



NICC Auto Tech students Explore Tesla at NICC - April 5, 2022



On display publicly at Big Four Fair, Allamakee, Clayton, and Fayette County fairs - July and August 2022