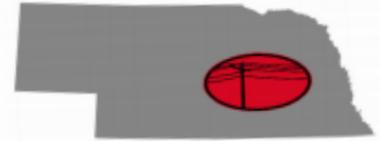


POLK COUNTY RURAL PUBLIC POWER DISTRICT

‘The Livewire’

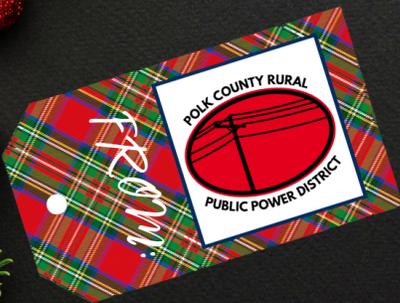


“Committed to enhancing the lives of our customers by providing safe, reliable and economical energy through excellence in customer service and innovation”

December 2021



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From the (303) to the (402)

By Wade Rahn

Back in 2020, when we purchased our Tesla Model 3, the goal was to learn and educate ourselves about how electric vehicles operate and to be local experts and a source of trustworthy information for customers. One question I have been asked a lot from our customers, when talking about electric vehicles on test drives, is how electric vehicles perform on long trips and how much charging you will have to do along the way to get to your destination. In the past year, we have been able to drive the Tesla many miles on short trips and some longer trips upwards of 300 miles, but nothing in the realm of traveling a long way to a major city much as a family would do if they were going on vacation.

In October, an opportunity presented itself in a conference that I was attending out in Denver. Before I left, I decided that on the journey from Stromsburg to Denver, I would do some experimenting, testing, and run a few scenarios along the way. For the trip home, though, I planned to let the car, navigation, and software in the car decide when, where, and how long I needed to charge, much like what a

typical electric car owner would do. I decided this would be the perfect test to answer that question by taking the Tesla on the trip. The Model 3 constantly monitors how much battery charge is left and what efficiency you are getting as you move down the road. Like a combustion engine counterpart, depending on how you drive, the speed, and weather conditions such as wind and temperature play a role in the efficiency you get. Our Tesla takes that information and constantly calculates how much range is left and where the charging stations are along your route. All these calculations provide data to show where you need to stop to charge and how long you need to be at the charger.

The day the conference ended I knew that I would start with a fully charged battery for the trek home as there was a level two charger in the parking lot. The trip was going to consist of 459 miles to make it back to the Power District. I punched the information in the navigation. It took approximately 10 seconds to analyze the trip's route and where the chargers were along the way. On the screen, the Model 3 showed I needed to stop and charge

twice, in Ogallala and Gothenburg. Additionally, it displayed that when I reached Ogallala, I would have 19% charge left in the battery and suggested to stop there for 15 minutes worth of charging. As for the second stop in Gothenburg, it indicated that upon arrival, I would have 52% and suggested that I charge for 25 minutes.

I hit the road and drove just like I would in my personal vehicle. Once on the interstate, I set the cruise at 80 MPH and the heating to 73 degrees. Traveling northeast on I-76, I ran into a slight headwind as the wind was directly out of the north at 10-15mph. With this headwind, the car noticed it was consuming slightly more energy than calculated initially and slowly reduced the amount of expected charge left when I arrived at Ogallala from 19% to 15%. This variance wasn't enough for the car to recalculate and add another stop to charge along the way.

When I arrived at the charging station in Ogallala, I had 16% charge left. I plugged into the Supercharger for 17 minutes, and a message popped up saying I had enough charge to continue the trip, so back on the road,

Continued on Page 3



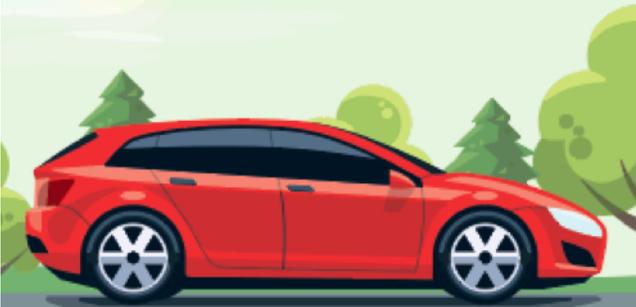
Photo Credit: Gary Pelster



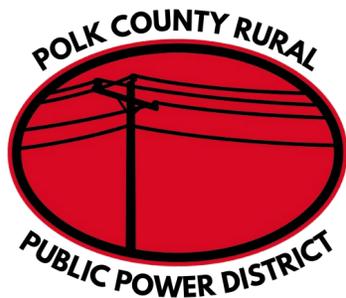
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(303) to (402) (Continued from Page 2)

I went for the 86 mile trip to Gothenburg. Once on I-80, the car calculated that I should arrive with 34%, which ended up being dead on.

Before charging, I hit a drive-through and grabbed a meal to eat while at the Supercharger for the 25 minute stop. After 28 minutes of charging, the car once again indicated I had enough charge to continue the trip, with no other stops along the way. When I arrived back at the Power District, I had 12% left in the battery and plugged it into the charger installed by its parking stop.

For the trip back, I spent a total of 45 minutes charging, with the fees for charging of \$3.74 in Ogallala and \$6.00 in Gothenburg. Additionally, I calculated \$4.73 to recharge the car once

back at the office. All these charges include all taxes and fees associated with charging. Altogether, the grand total for the trip was \$14.47 bringing the cost per mile to 3.1 cents.

Looking back on the trip, it didn't feel like the time spent charging was a burden as I could get out and stretch my legs and take a quick break. While it took a little longer than if I was in my personal vehicle, it wasn't that much longer as I would have had to stop to refuel somewhere along the way. I genuinely believe that with an EV, you can make it anywhere in the US from here if you are traveling along the interstate and major highways, as that is where the chargers are located at this point. As time passes and more chargers are installed, this will only improve. Currently, NPPD, in conjunction with wholesale power customers like us, are looking to install some fast chargers in outstate Nebraska to facilitate the EV travelers in our great state.

The bottom line is that while EVs aren't preferred option for everyone, they are definitely a viable option, even for long trips. If you'd like more information or would like to schedule a test drive of our Model 3, give me a call at (402) 764-4381.



HOLIDAY LIGHTING

Always look up and check that you and any equipment, such as ladders, are at least 10 feet away from overhead power lines.

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