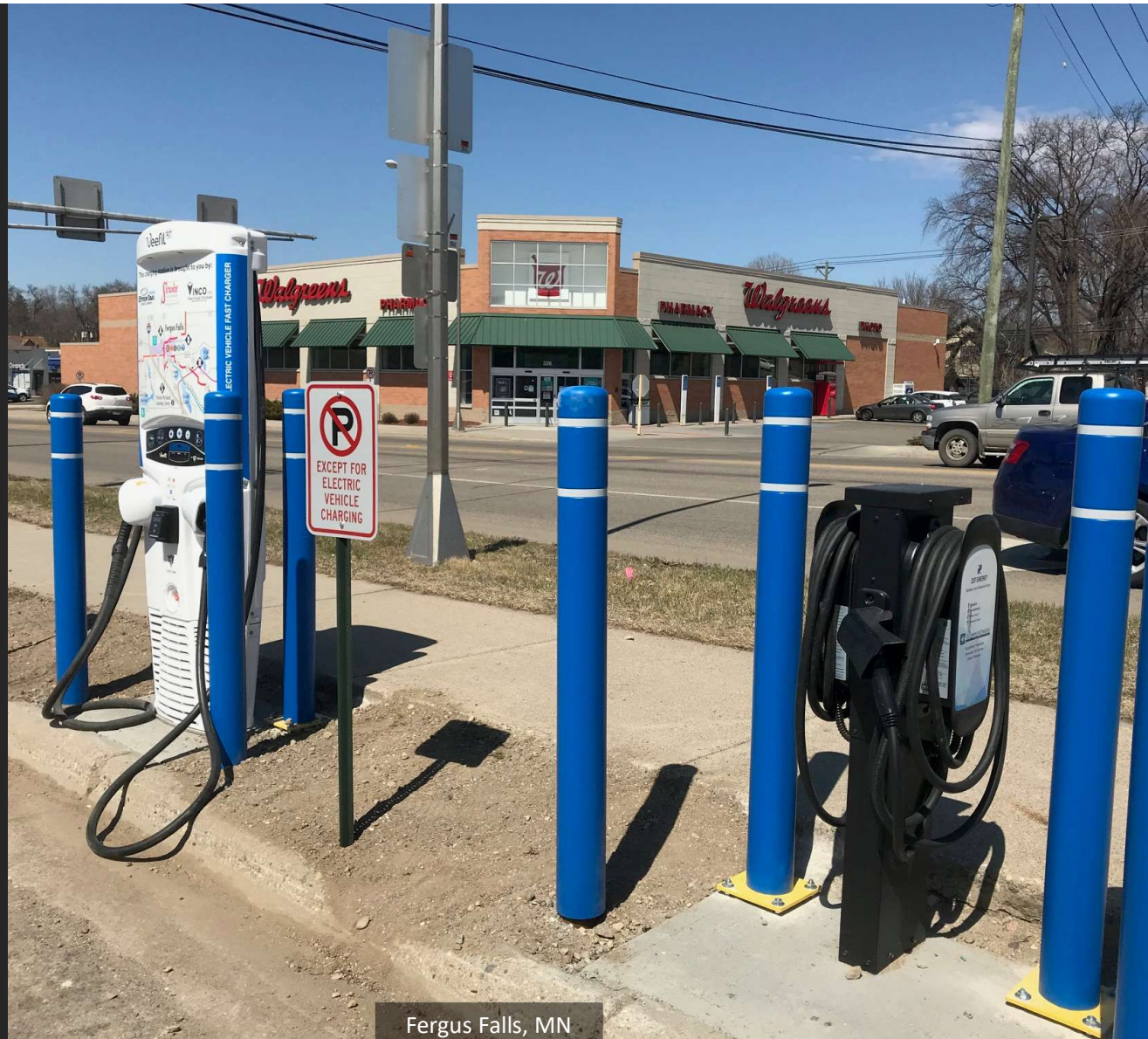


North Dakota Public
Service Commission
EV Charging
Infrastructure
Work Session

August 5, 2020

Jason Grenier
Manager Market Planning
Otter Tail Power Company



Fergus Falls, MN

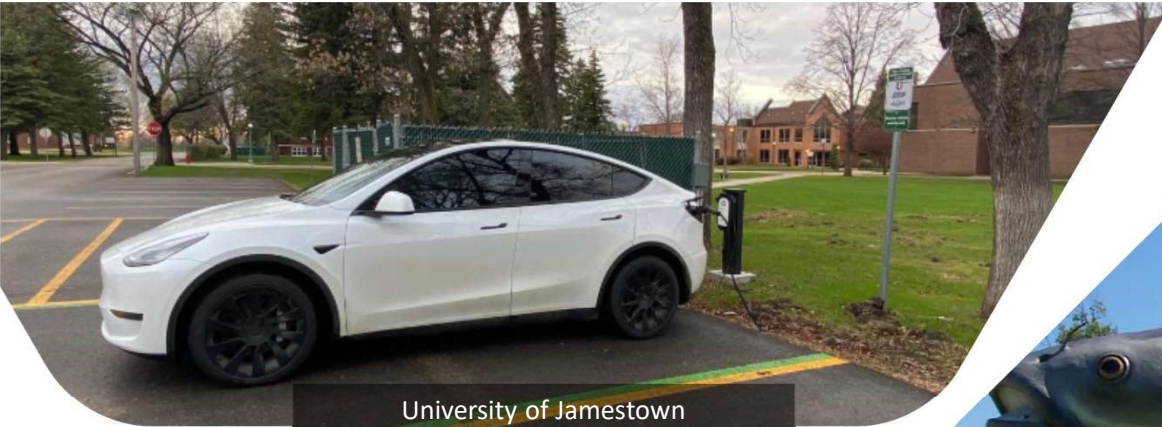
Agenda Items

1. The status of EV charging stations within the PSC's regulation.
2. Utility roles in owning and serving charging stations and intentions regarding ownership.
3. Possible impacts that the charging stations may have on ratepayers.
4. The PSC's role in charging station development and other issues to consider.

1. The status of EV charging stations within the PSC's regulation.

- Otter Tail has donated several Level 2 chargers to communities to build customer awareness on electric vehicles and charging.
- Tesla has developed 8 DCFCs in Jamestown, served by Otter Tail on commercial General Service rates.

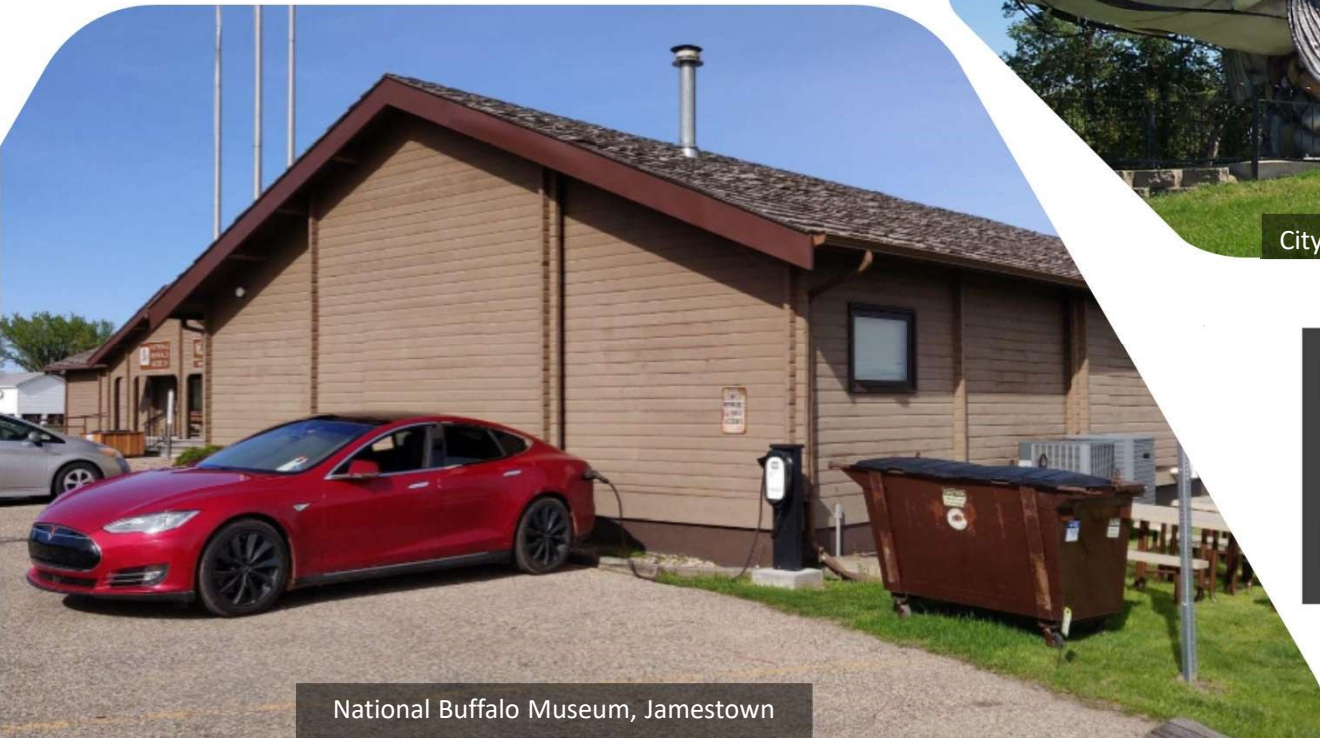




University of Jamestown



City of Wahpeton coming soon....



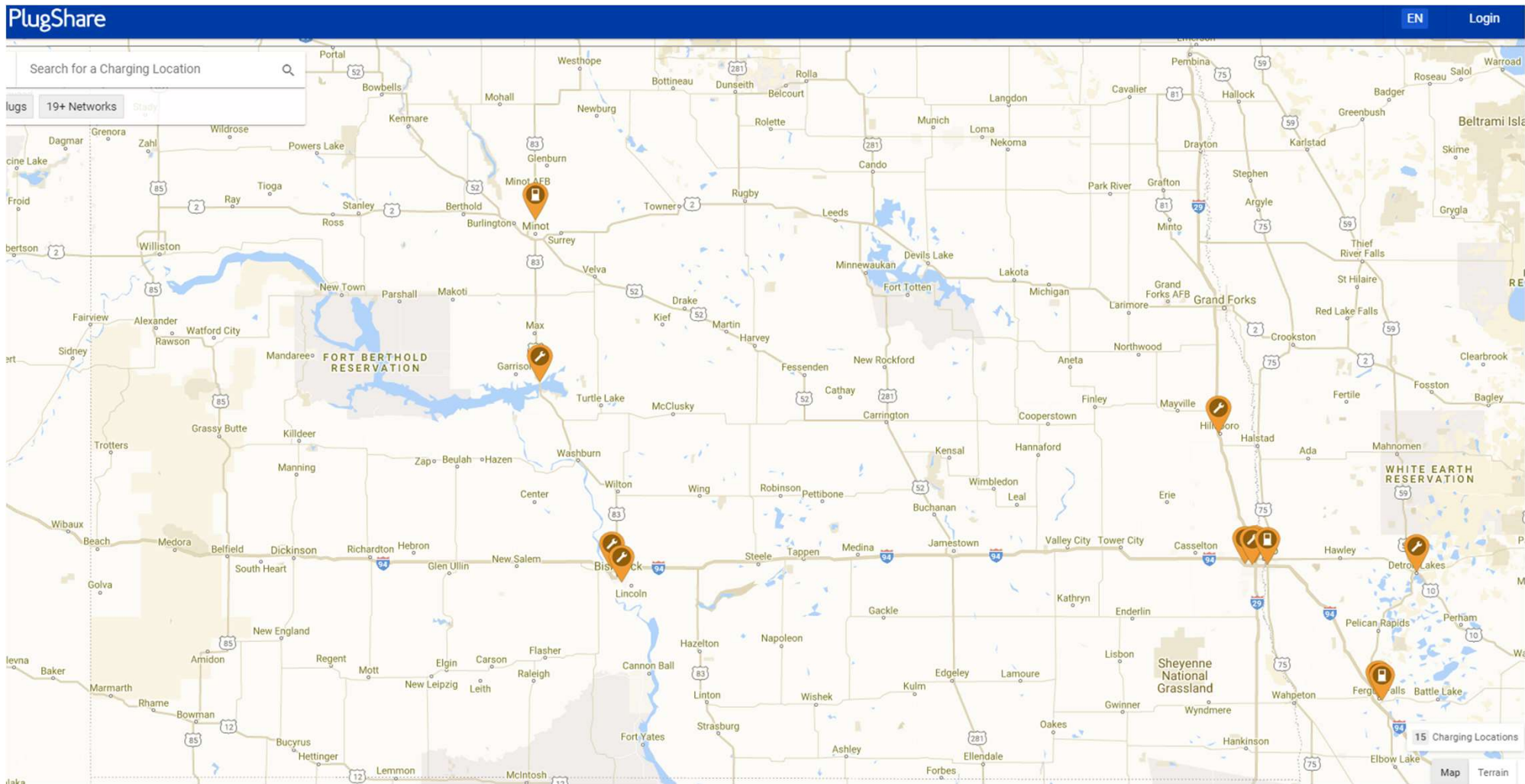
National Buffalo Museum, Jamestown

ND Level 2 Chargers
(7-10kW),
Donated by Otter Tail

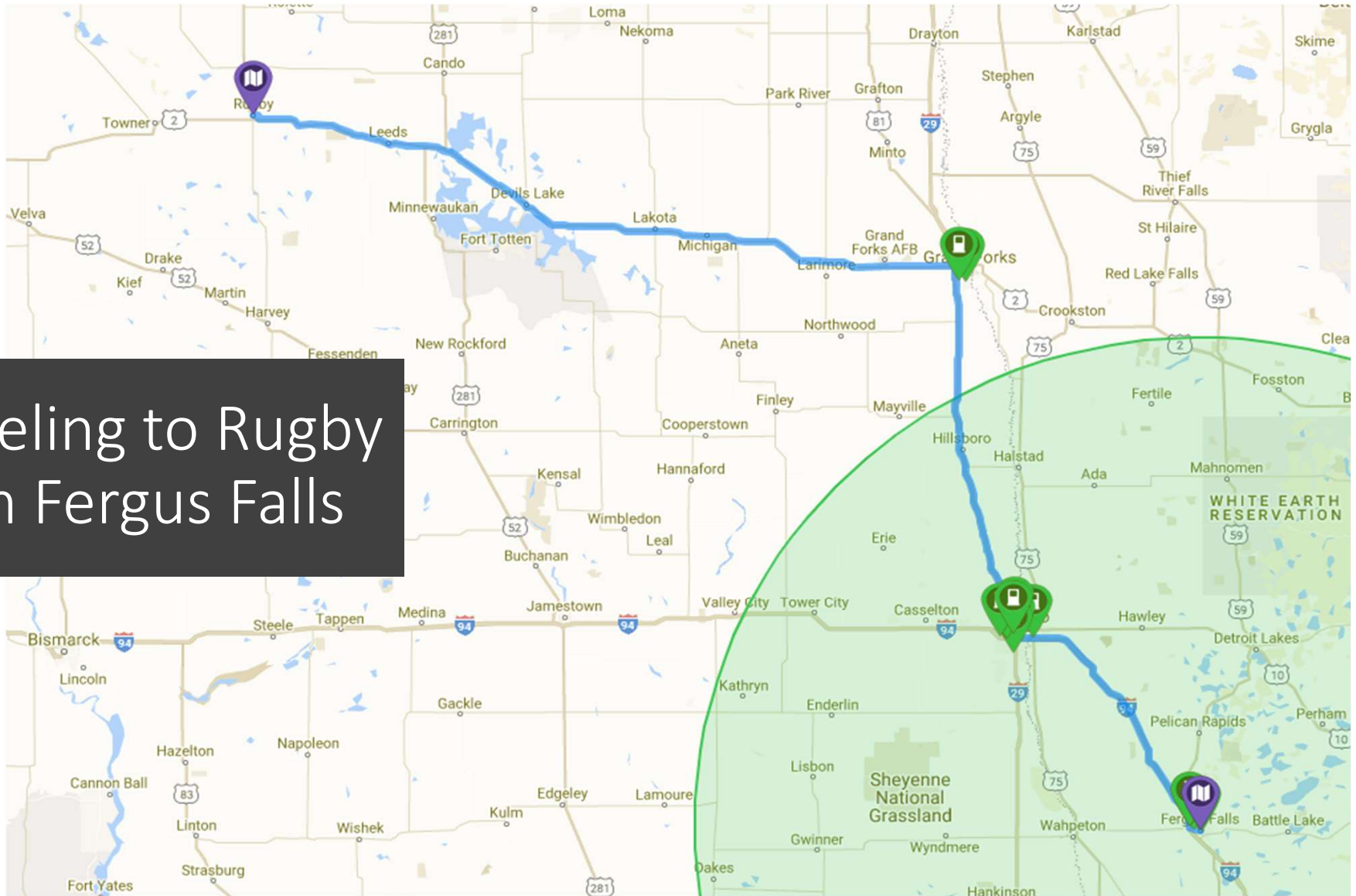
2. Utility roles in owning and serving charging stations and intentions regarding ownership.

- Electric utilities likely have a major role in developing DCFC networks in rural areas, where private investment has not and likely will not make these necessary investments.
- Long-term, Otter Tail does not plan to own and operate EV charging stations but believes it is necessary to provide this service until private investment provides coverage for all rural areas.

Existing North Dakota non-Tesla DC Fast Charging Options, 8/4/20



Traveling to Rugby from Fergus Falls



Continued Agenda items

3. Possible impacts that the charging stations may have on ratepayers.

- Introduces new technologies to customers. Allows them same level of service as urban areas. (unlike broadband deployment which focused on urban areas)
- Removes obstacle for travelers wanting to visit ND communities
- Fast charging options are an extension of the Residential Class's services.
 - Public charging stations unlock EV ownership. It is estimated 80+ percent of charging is done in the home. However without a reliable DCFC network EV ownership likely will not occur.

4. The PSC's role in charging station development and other issues to consider.

- Otter Tail appreciates the NDPSC interest in EVs and seeks guidance on the building and the cost-recovery of basic EV infrastructure.

Fergus Falls – DC Fast Charger and Level 2 Chargers



Potential Otter Tail DC Fast Charging Minimal Network

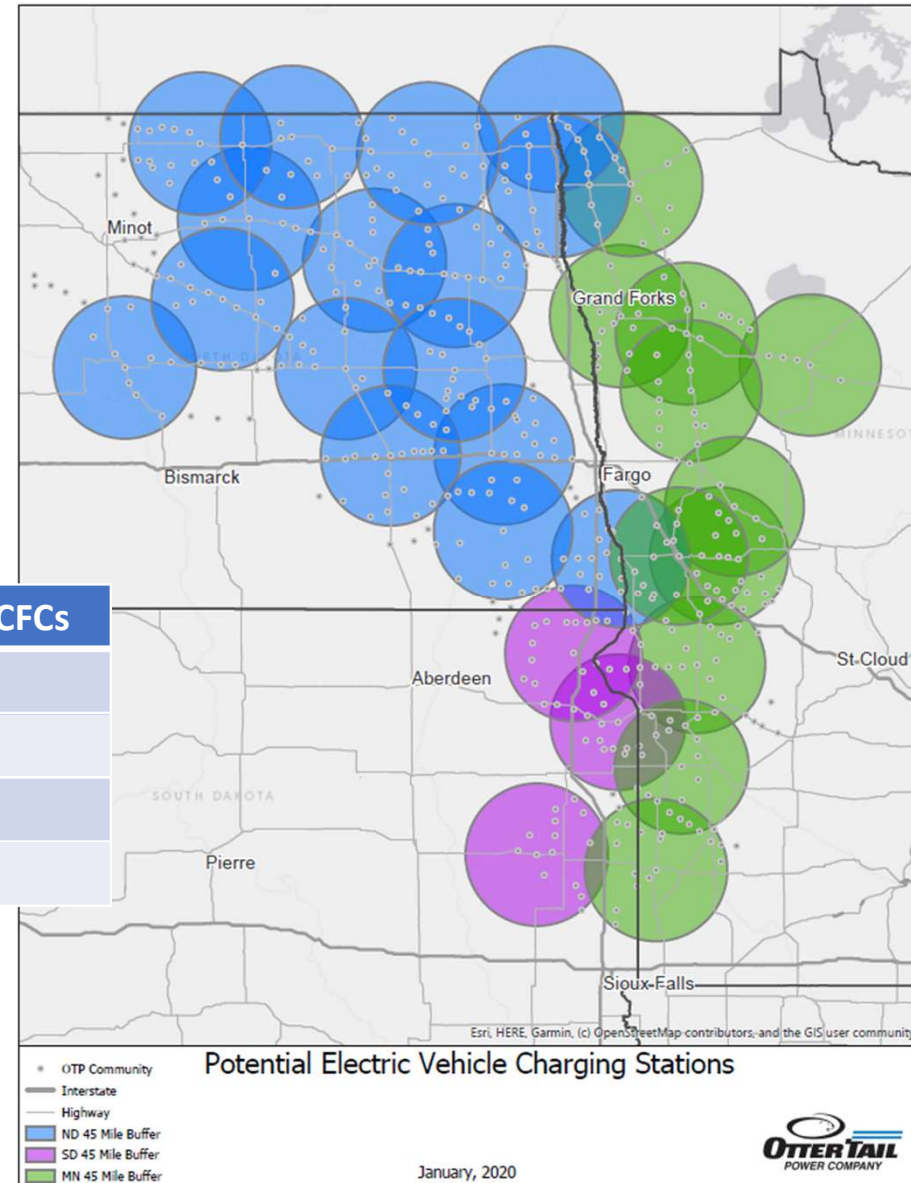
Customer Proximity to DCFCs

65% within 15 miles

97% within 30 miles

99% within 45 miles

100% within 60 miles



OTP's 2020 EV Filing in Minnesota, 4-year Pilot

1. Modification to existing Interruptible rates
 - Allow off-peak EV charging on current off-peak meters
 - **This modification was done in last ND rate case**
2. Otter Tail to own 11 DCFCs, (\$1.6M capital & \$600k O&M)
3. New Minnesota Rate Schedule for DC Fast Charging
 - Time differentiated rates for OTP owned charging
 - Includes wind REC pricing
 - Time differentiated rates for 3rd Party owned charging
4. Level 2 Charger donation to site hosts (10)

Otter Tail's EV Pilot Goals

1. Provide a public DCFC service where the private market has failed to provide. Allowing rural customers to participate in transportation electrification similar to urban customers.
2. Build technology awareness and technology adoption among customers.
3. Mitigate driver range anxiety by providing a safe reliable DCFC network for a seamless charging experience.
4. Gain an understanding of public EV charging technologies and driver charging habits. Do Time of Day rates work?
5. Educate customer car dealerships and partner with them to promote EVs and grow their business.

