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# Case Study: The Red Wing, MN DC Fast Charger

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## CITY

Red Wing, MN

## TIMELINE

Open for use November 17, 2018

## WHO WAS INVOLVED

Red Wing Chamber of Commerce

City of Red Wing Sustainability Commission

## PROJECT COST

Total cost to install: \$22,094

## GREENSTEP CITY PRACTICE RELATED TO THE PROJECT

23.5 – Install, assist with and promote one or more public fueling stations for plug-in hybrid and full electric vehicles

## TECHNICAL SPECIFICATIONS/EQUIPMENT USED

Delta DC Fast Charger Dual Wallbox 25 kW

## Project Description

The purpose of the project was to build support for installing a Direct Current Fast Charger (DCFC) charger in Red Wing, MN and secure funding to support the project.

## Project Highlights

- The Red Wing Sustainability Commission and Red Wing Area Chamber of Commerce forged a unique collaboration between city and private partners to fund and install a DCFC in downtown Red Wing.
- The charger was the first municipally-installed DCFC in Minnesota.
- The DCFC is free for users.
- A grant from Clean Energy Resource Teams (CERTs) gave the project credibility in the eyes of decision-makers, which helped the project get off the ground.



## Background

In 2018, the City of Red Wing received \$1,200 from a CERTs seed grant to install a Level 2 public electric vehicle (EV) charging station as a demonstration project. When a similar Level 2 charging station was installed at a local hotel, some enthusiastic city residents partnered with the Red Wing Sustainability Commission to change plans and encourage the city to install a Level 3 Direct Current Fast Charger (DCFC) instead.

The city council agreed to supplement funding from the grant to complete the installation, but the council did not provide funding to pay for the electricity required to operate the DCFC. As a demonstration project, the Sustainability Commission wanted the station to be free for users but had to address who would pay for the power.

Through the Red Wing Area Chamber of Commerce, the Sustainability Commission approached the businesses in downtown Red Wing with an opportunity to sponsor the charger. Twelve out of 14 businesses agreed to pay \$200 a year to subsidize the DCFC; in turn, they received a logo on the station.

## Lessons Learned

It was valuable to have both local support and the seed grant investment to get the project started. For example, the president of the Red Wing Area Chamber of Commerce is an EV owner and was essential to the success of the project. Also, receiving a grant showed the city council that the project could bring investment in their community and that a DCFC was worth pursuing.

The contributions of the business community made the project possible. With businesses providing cost share for the charging station, it could remain free for users. Additionally, displaying business logos near the charging

station let EV drivers know where to bring their business while they are charging.

From a technical perspective, it was helpful to select a charger model that can be powered from a standard household service drop (i.e., a home's main electrical line connecting the transmission to the house), which allows for 200-amp, 240-volt single phase, or other variations, including three-phase if convenient.

Finally, in places like the downtown Red Wing business district, it is important to note that very little parking is owned by the businesses. Therefore, the responsibility falls on the city to install or allow permitting for businesses to place charging stations in municipal parking lots.

*“At the end of the day, I am humbled by the generosity and commitment shown by the many people in Red Wing that I have met in this project. I feel lucky to call such a place home.”*

*-Bill Gehn, City of Red Wing*

## Challenges

The biggest challenge faced by the Red Wing DCFC project was that the city council did not feel comfortable providing free power to users because they did not believe they should be responsible for providing fuel to residents' vehicles. The Sustainability Commission needed to find a way to show the city council that there was community support for installing a DCFC. This was achieved by the businesses stepping up to pay for the power, and the CERTs grant being awarded.

## Surprises Along the Way

Because Red Wing opted not to charge users for the station, they did not purchase a telecommunications plan for their DCFC. As a result, the station could not track usage statistics from users. The solution was to use a text message system already in use by a bike-sharing program in Red Wing. To access the lockbox where the DCFC activation card is kept, a user needs to text their zip code to the phone number provided on the station. This creative solution allowed the city to verify non-resident usage and effective user draw without the need to pay for a telecommunications/monitoring service. This solution only costs the city \$5/month total.

## Advice for Other Cities

First, it can help increase a project's success to find an EV champion in your city and support their work. A dedicated community

member/city employee can achieve a lot of change when given support and resources. It is also important to communicate the entire portfolio of benefits of having EV chargers available, including:

- Adding EV visibility in the community, which helps residents feel more comfortable going electric.
- Incentivizing EV drivers to visit the community and encouraging them to patronize local establishments while they charge.
- Cleaner air due to fewer combustion engines in a community.

The downtown businesses saw that a charging station in the area would bring in business and benefit the whole community. In places where it is impractical for businesses to install DCFC, like municipal business districts, the city plays an important role in supporting the community and providing ways to bring charging into the area.

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## RESOURCES FOR ADDITIONAL INFORMATION

Clean Energy Resource Teams, [www.cleanenergyresourceteams.org](http://www.cleanenergyresourceteams.org)

Drive Electric Minnesota, [www.driveelectricmn.org](http://www.driveelectricmn.org)

Great Plains Institute, [www.betterenergy.org](http://www.betterenergy.org)

## CONTACT INFORMATION

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