

# ELECTRIC VEHICLE CHARGING INFRASTRUCTURE FEASIBILITY STUDY

## RESILIENT COMMUNITIES PROJECT – RCP 43

### About the Partner

The City of Buffalo, population 16,670, is the county seat for Wright County and located outside the Twin Cities metropolitan area, just 42 miles from Minneapolis and 36 miles from St. Cloud. Buffalo boasts a vibrant downtown with local businesses, large retail, and many natural amenities to draw visitors.



City of Buffalo Municipal Utilities is in a unique position as primary electrical supplier of municipal and residential power for Buffalo. The utilities department is also responsible for fiber internet communications, street lighting, water, and water reclamation.

### Project Description

The electric vehicle (EV) landscape has changed significantly in the last several years, with more automakers making large commitments to eliminate gasoline vehicles in the future and put more EVs on the market. However, the infrastructure to support large-scale EV adoption does not exist in many communities, including small cities like Buffalo. As EVs become more affordable and prevalent, it is critical that the charging infrastructure be planned and implemented to meet local, regional, and global emissions goals. Municipal-owned charging stations also have the potential to benefit the local economy by drawing consumers to local businesses while they wait for their vehicle to recharge.

The federal Bipartisan Infrastructure Law supports the release of EV Infrastructure Grants to local governments for the installation of electric vehicle chargers in publicly accessible locations. To prepare for this funding opportunity, the City of Buffalo has requested support conducting a feasibility study that both evaluates community demand for electric vehicle charging facilities and determines where existing infrastructure could support EV charging stations. The City also seeks to understand what impact increased electric demand resulting from charging stations will have on the existing power grid and what the best practices are for ownership of these charging stations.



Resilient Communities Project

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## Key Issues, Questions, and Ideas for Students to Explore

1. A site assessment for potential EV station locations to ensure the stations will be fully used and that existing electric infrastructure can support the added energy demand. This could include opportunities for partnering with other public entities, such as the local school district and Wright County.
2. A cost analysis that provides an approximate return on investment (ROI) and projected costs to cover deployment, operation, and maintenance.
3. Recommendations for equipment that can withstand extreme weather by conducting case studies of what EV charging station models other Minnesota and upper Midwest cities use.
4. A community demand survey assessing the need for and interest in residential use of electric vehicles to inform the quantity and type of chargers installed.
5. A policy planning component that evaluates potential zoning requirements, recommended ordinances, and parking regulations.
6. Consideration of issues of economic inclusion and equity related to the location and cost of using of EV chargers.

## How Student Work Will Build Community Resilience

City-owned EV chargers have the potential to make Buffalo a more desirable community for existing and future residents, while advancing the City's energy-efficiency and sustainability initiatives.

### Potential Partners or Stakeholders

- Buffalo residents
- Buffalo City Council
- Local businesses, auto dealerships
- Wright County
- Minnesota Municipal Power Agency
- Local school district

### Existing Plans and Reports

- [Accelerating Electric Vehicle Adoption: A Vision for MN](#) (MnDOT 2019)
- [Overcoming Barriers to Expanding Fast Charging Infrastructure in the Midcontinent Region](#) (GPI, 2019)
- [Electric Vehicle Planning Study](#) (Metropolitan Council, 2022)

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