Executive Summary

Purpose of the Study

The Electric Vehicle (EV) Readiness Study (Study), led by the Fargo-Moorhead Metropolitan Council of Governments (Metro COG), provides actionable recommendations for developing an effective EV planning process. This approach can be used to actively engage city and regional leaders, utilities, business partners, and the public to adapt to evolving transportation trends, offering an important first step in supporting the Fargo-Moorhead region's exploration of EVs.

Forecasting an anticipated increase in transportation electrification in the Fargo-Moorhead area, the Study offers a series of strategies and next steps that Metro COG can work toward implementing to align the region's goals for reduced emissions with growing interest in EVs. Support and management from entities outside of Metro COG, including those in the private sector, will be needed to complete the work to support future electrification efforts in the area's transportation system.

Key Focus Areas:

Industry Trends

Community Goals

Technical Understanding

Strategic Policy Application

Recognizing the relationship between EVs and sustainability, the Study included collaboration among stakeholders to address the potential role of EVs in the area. The transition to electrified mobility is intended to complement existing efforts that support alternative modes of transportation such as public transit and bicycling. While the adoption of EVs over internal combustion engine (ICE) vehicles is not the sole solution, it is a significant component in the broader strategy to reduce greenhouse gas (GHG) emissions within the region.

The Fargo-Moorhead region, served by Metro COG, encompasses seven member jurisdictions and seven associate jurisdictions. Metro COG is an important partner in transportation projects for the Fargo-Moorhead region and is leading the Study to assess existing conditions in the area, engage local stakeholders and partners, and begin tapping into identification of resources for EV projects.

Current EV Industry Trends

As of June 2024, the Fargo-Moorhead area has around 900 registered EVs (registered in Cass and Clay County), reflecting a growing trend in EV adoption. This increase aligns with national trends, where EV sales continue to rise significantly because of advancements in technology and growing consumer awareness of the benefits of electric mobility.

An EV adoption forecast was conducted as part of this study and found that by 2035, the number of registered EVs in Cass and Clay counties could reach between 11,000 and 18,000, accounting for approximately 4% to 7% of all vehicles in the area. To accommodate this growth, it is projected that the region will require between 1,600 and 1,900 publicly accessible charging ports. While most charging will likely occur at home, the publicly accessible chargers will serve workplaces, community centers, retail locations, and residents who do not have access to at-home charging.

900
REGISTERED EVS
IN 2024

~11-18K
REGISTERED EVS
IN 2035
(PROJECTED)

Why Get Ready?

SUSTAINABILITY PRACTICES
Elevate eco-friendly initiatives.

REGIONAL CONNECTIVITY
Enhance transportation links.

GRID READINESS
Prepare the power grid for increased demand.

EQUITABLE ACCESS
Ensure everyone has access to charging stations.

Stakeholder Engagement

Stakeholder engagement is a crucial component of the EV Readiness Study, as it allows Metro COG to gather input from diverse perspectives and build support for EV initiatives with Fargo-Moorhead's communities. By actively engaging stakeholders throughout the Study process, Metro COG establishes that the final recommendations and strategies reflect the needs and priorities of the entire Fargo-Moorhead community. Metro COG's stakeholder engagement efforts include:

SURVEYS
Assess current EV usage and awareness.

MEETINGS
Conduct in-person and online meetings with utilities, government, and businesses.

COMMUNITY EVENTS
Participate in events like the annual EV Car Show for education and feedback.

WORKING GROUP COLLABORATION
Engage with local agencies, utilities, and industry stakeholders.

In April 2024, a comprehensive public engagement initiative was launched to gather feedback on EV awareness in the Fargo-Moorhead area. This included an online survey that explored travel patterns, familiarity with EVs, and perceptions of EV technology. An in-person open house provided community members with insights into the EV Readiness Study, covering topics such as NEVI initiatives, EV charging infrastructure, and the benefits of EV adoption.

Between September and October 2024, an online meeting facilitated public review of Metro COG's draft EV readiness strategies. Participants engaged with detailed content on EV types, charging infrastructure, and future needs. **Through interactive activities, respondents identified preferred locations for new charging stations and prioritized strategies for regional EV development.**

The top priorities identified included:

Enhancing charging accessibility

Developing municipal fleet transition strategies

Enforcing regulations for EV parking spaces

Industry Best Practices

Achieving EV readiness in the Fargo-Moorhead region involves forecasting potential EV growth and developing strategies to meet this demand. Stakeholder engagement identified three key areas to guide research into best industry practices for EV readiness: Public Charging Network Development, Zoning and Building Code Guidance, and EV Education and Outreach.

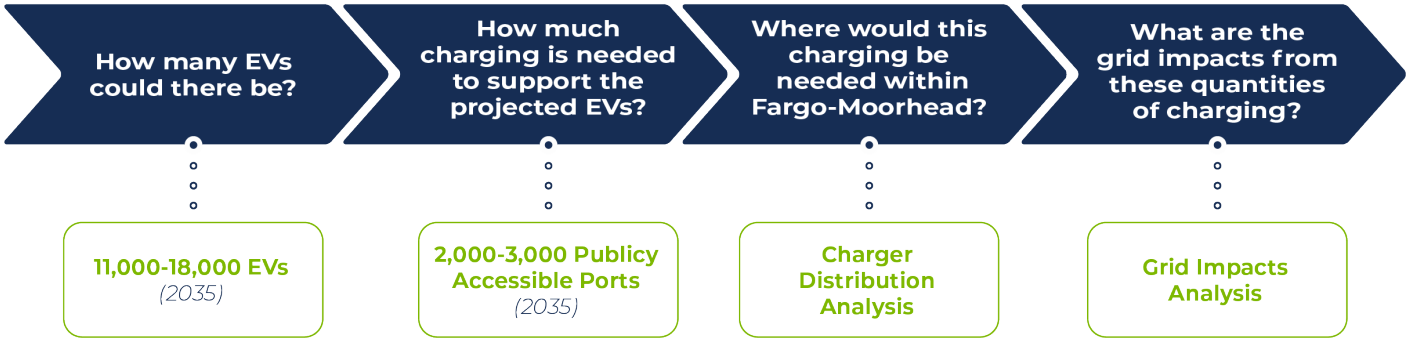
Public Charging Network Development emphasizes creating accessible charging infrastructure at community hubs, such as libraries, to boost EV adoption. Establishing EV Mobility Hubs can facilitate transfers between transport modes and reduce emissions. Additionally, strategic deployment of chargers can alleviate grid pressure by placing them in areas with excess capacity or during off-peak hours. Incorporating solar-powered chargers can also provide sustainable energy sources.

Zoning and Building Code Guidance highlights the need to revisit local regulations that may unintentionally hinder EV adoption. Defining EV charging infrastructure separately from gas stations in zoning codes is crucial for promoting installation flexibility. Additionally, classifying EV chargers as permitted accessory uses across zoning districts can streamline the installation process.

EV Education and Outreach involves engaging communities to understand current EV adoption trends and providing education on available incentives. Initiatives like converting public vehicle fleets in disadvantaged neighborhoods and encouraging dealership partnerships can foster broader EV acceptance. Collaborating with employers to provide workplace charging and maintaining open communication with utility providers are also essential for a successful transition to EV infrastructure. First responders should also receive training to effectively handle EV battery fires.

Analysis and Assessment

To support EV integration, a charger siting analysis and grid impact assessment were conducted to identify optimal locations for publicly accessible charging stations in the Fargo-Moorhead area. This analysis aims to enhance the efficiency, convenience, and accessibility of charging infrastructure while understanding the potential impacts on the power grid.



The Charger Distribution Analysis in the Fargo-Moorhead region emphasizes the need for convenient access to publicly accessible EV chargers while ensuring sufficient market demand for their distribution. Utilizing a travel modeling tool, the analysis simulated regional travel patterns, focusing on vehicle parking durations to determine charging needs: DC fast chargers (DCFC) for short stops, and Level 2 chargers for longer stays. The resulting distribution shows Level 2 chargers spread across the area, while DC fast chargers are concentrated at high-traffic locations like the West Acres Mall and downtown Fargo. This analysis, along with the EV charging station transect method, aids in planning an effective EV charging ecosystem by matching charger types to various land uses, ensuring the needs of all EV users are met.

Recommended Strategies

The strategies outlined in the Study prioritize actions that foster collaboration among Metro COG's agency partners and member jurisdictions to enhance support residents and businesses adopting EVs. These strategies fall into two categories **High Priority** and **Longer-Term Priority**.

HIGH-PRIORITY STRATEGIES

- Update Zoning Codes/Permitted Use Tables to Include EVSE
- Develop Building Code Requirements and Update Parking Minimums
- Develop EV 101 Education Materials for the Community
- Track EV Registrations and EVSE Installations
- Define Required Uptime and Reliability Standards for Charging Stations
- Develop Charging Site Standards and Share them with Charging Providers
- Create a Density Bonus to Multifamily Developers Adding Charging Stations to Parking
- Coordinate with Utilities on Ideal Charging Site Locations

LONGER-TERM STRATEGIES

- Develop Net Metering Programs and Share EV Information with Utility Customers
- Encourage Utility-Providers Charging Rate Enrollment for EV Users
- Develop Charging Accessibility Progress Measures and Define Required Uptime/Reliability Standards for Charging Standards
- Develop Municipal Fleet Transition Strategies and Develop Expedited Permitting Processes for EVSE

High-Priority: These initiatives may require prompt action and are expected to yield quick results.

Longer-Term: These initiatives focus on sustainable growth and often require more investment. To foster ongoing development, it is crucial to adopt long-term strategies for expanding EV infrastructure, prioritizing actions that support the region's electrification goals.

Next Steps

It is recommended that Metro COG collaborate with agency partners and member jurisdictions on emerging EV readiness efforts and leverage funding opportunities to integrate electrification initiatives into future planning efforts, such as the Metropolitan Transportation Plan (MTP).

To continue strengthening EV readiness in the area, Metro COG is encouraged to pursue the following studies:

Metro COG is encouraged to explore further options for enhancing EV readiness, such as collaborating with private sector partners or seeking out innovative funding sources.

The EV Readiness Study presents a framework for the Fargo-Moorhead region to promote EV adoption among residents and businesses. By emphasizing strategic investments, private partnerships, policy updates, and community engagement, it provides a roadmap for reducing emissions, expanding charging access, and establishing Fargo-Moorhead as a leader in electrified mobility.