DEPARTMENT OF TRANSPORTATION

2023

MINNESOTA ELECTRIC VEHICLE INFRASTRUCTURE PLAN

July 2023

In order to receive National Electric Vehicle Infrastructure (NEVI) Formula Program funds, each state must develop a Federal Highway Administration (FHWA)-approved Electric Vehicle (EV) infrastructure deployment plan (EV Plan). The plan describes how the state intends to use the funds according to NEVI Formula Program Guidance. Refer to Section III.B of the Program Guidance for additional details on each section within the EV Plan.

This report was prepared by the Minnesota Department of Transportation (MnDOT) Office of Sustainability and Public Health (OSPH), with special thanks to the many partners who shared their time and thoughts to help guide the development of this plan.

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ACRONYMS

AADT	Average Annual Daily Trips
ADA	Americans with Disabilities Act
ADM	Department of Administration
AFC	Alternative Fuel Corridor
BA	Buy America
BEV	Battery Electric Vehicle
BIL Law	Bipartisan Infrastructure
BIPOC	Black, Indigenous and People of Color
BNSF Fe	Burlington Northern Santa
CN	Canadian National
CCS	Combined Charging System
CHAdeMO	CHArge de Move
COMM	Minnesota Department of Commerce
CP	Canadian Pacific
CRW	Climate and Resilience Workgroup
CVSS	Common Vulnerability Scoring System
DBE	Disadvantaged Business Enterprise
DCFC	Direct Current Fast Charger
DEED	Minnesota Department of Employment and Economic Development
DiD	Defense-In-Depth
DLI	Department of Labor and Industry
DMV	Minnesota Department of Motor Vehicles
DOE	U.S. Department of Energy
DOT	U.S. Department of Transportation
EJ	Environmental Justice
EO	Executive Order
EV	Electric Vehicle
EVITP	Electric Vehicle Infrastructure Training Program
EVSE	Electric Vehicle Supply Equipment
F	Fahrenheit
FHWA	Federal Highway Administration
FY	Fiscal Year
GHG	Greenhouse Gas
GPS	Global Positioning System

IDS	Intrusion Detection System
IIJA	Infrastructure Investment and Jobs Act
IPS	Intrusion Prevention System
ISCM	Information Security Continuous Monitoring
KPI	Key Performance Indicator
kW	Kilowatt(S)
kWh	Kilowatt Hour(S)
LMI	Low to Moderate Income
MFAC	Minnesota Freight Advisory Council
MnDOT	Minnesota Department of Transportation
MPCA	Minnesota Pollution Control Agency
MPO	Metropolitan Planning Organization
MSP	Minneapolis-St. Paul International Airport
NEPA	National Environmental Policy Act
NEVI	National Electric Vehicle Infrastructure
NIST	National Institute of Standards and Technology
NPRM	Notice of Proposed Rulemaking
O&M	Operations and Maintenance
OEM	Original Equipment Manufacturer
P3	Public-Private Partnership
PCI	Payment Card Industry
PHEV	Plug-In Hybrid Vehicle
RFP	Request for Proposal
ROW	Right of Way
SBD	Security by Design
SIEM	Security Information and Event Management
SMTP	Statewide Multimodal Transportation Plan
SOC	Security Operations Center
SP	Special Publication
STAC	Sustainable Transportation Advisory Council
SUV	Sport Utility Vehicle
TBI	Travel Behavior Inventory
UP	Union Pacific
U.S.	United States
VW	Volkswagen

SUMMARY

The federal Bipartisan Infrastructure Law (BIL) passed in November 2021 created the National Electric Vehicle Infrastructure (NEVI) Formula Program. The new program provides funds for states to install fast chargers for electric vehicles along designated corridors. Minnesota will receive $68 million in federal funds from the NEVI Formula Program over five years.

The Minnesota Electric Vehicle Infrastructure Plan (EV Plan) describes how Minnesota will spend the NEVI Formula Program funds. The Minnesota Department of Transportation (MnDOT) developed the EV Plan in coordination with the public and partners throughout the state. The EV Plan builds on past efforts to advance electric vehicles (EV) and EV infrastructure in Minnesota. The Minnesota EV Plan will be updated annually to reflect progress towards implementation and provide more opportunities for public input.

The EV Plan includes vision and goals for a statewide fast charger network that provides convenient, reliable and accessible EV charging across Minnesota.

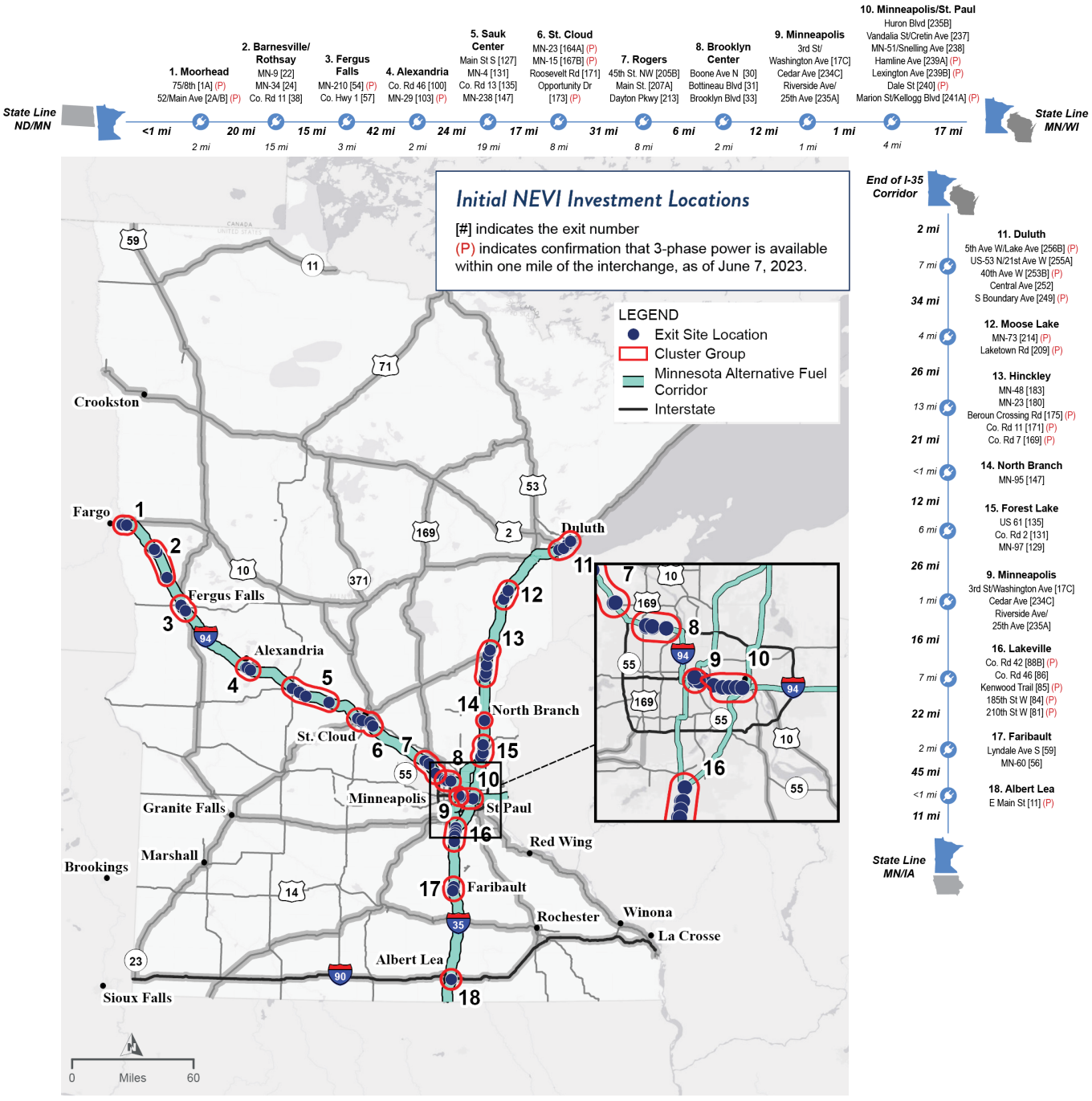
The EV Plan identifies potential locations along Minnesota's two existing Alternatives Fuel Corridors (AFCs) – Interstate 35 (I-35) and Interstate 94 (I-94), where the agency will initially work with third parties to install fast chargers (see Figure 1).

The EV Plan also describes implementation considerations related to operations and maintenance, civil rights, equity, labor and workforce and cybersecurity. The EV Plan concludes with information about how MnDOT will evaluate the NEVI Formula Program implementation in Minnesota.

2023 EV PLAN UPDATE

This is the second iteration of Minnesota's EV Plan and includes updates that have happened since the EV Plan was approved on September 14, 2022. Updates provide information required by the Federal Highway Administration (FHWA) in the template published June 2, 2023.

Figure 1: Initial NEVI Investment Locations, MnDOT, July 2023

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1. INTRODUCTION

The federal NEVI Formula Program provides funds for states to strategically deploy fast chargers for EVs along designated AFCs. The NEVI Formula Program aims to provide reliable, long-distance EV travel, while also recognizing the unique needs of different regions and communities. Initially, states must spend NEVI Formula Program funds to build out federally designated AFCs. Full build out includes installing fast chargers every 50 miles within 1-mile of the AFC and providing at least four 150kW direct current fast chargers (DCFCs) that are capable of simultaneously charging 4 EVs. Once FHWA has approved that the state's AFCs are fully built out, funding may be used on any public road or in other publicly accessible locations.

Minnesota expects to invest about $68 million in federal funding from this program over five years, along with a 20% non-federal match of $17M. MnDOT will update and submit the EV Plan annually by August 1, to maintain eligibility for federal NEVI Formula Program funding.

The Minnesota EV Plan is the first step toward planning, prioritizing and implementing a statewide network of DCFC stations along state highways. The EV Plan's vision is a network that provides all Minnesotans the choice to drive or ride in EVs, with a goal of developing a convenient, reliable, affordable and equitable charging experience.

Minnesota will start by building out the two existing AFCs – I-35 and I-94. These are two of the highest traffic volume corridors in the state and provide important regional and national connections. Building out these two AFCs will help Minnesota establish an efficient and effective procurement process before expanding to additional corridors.

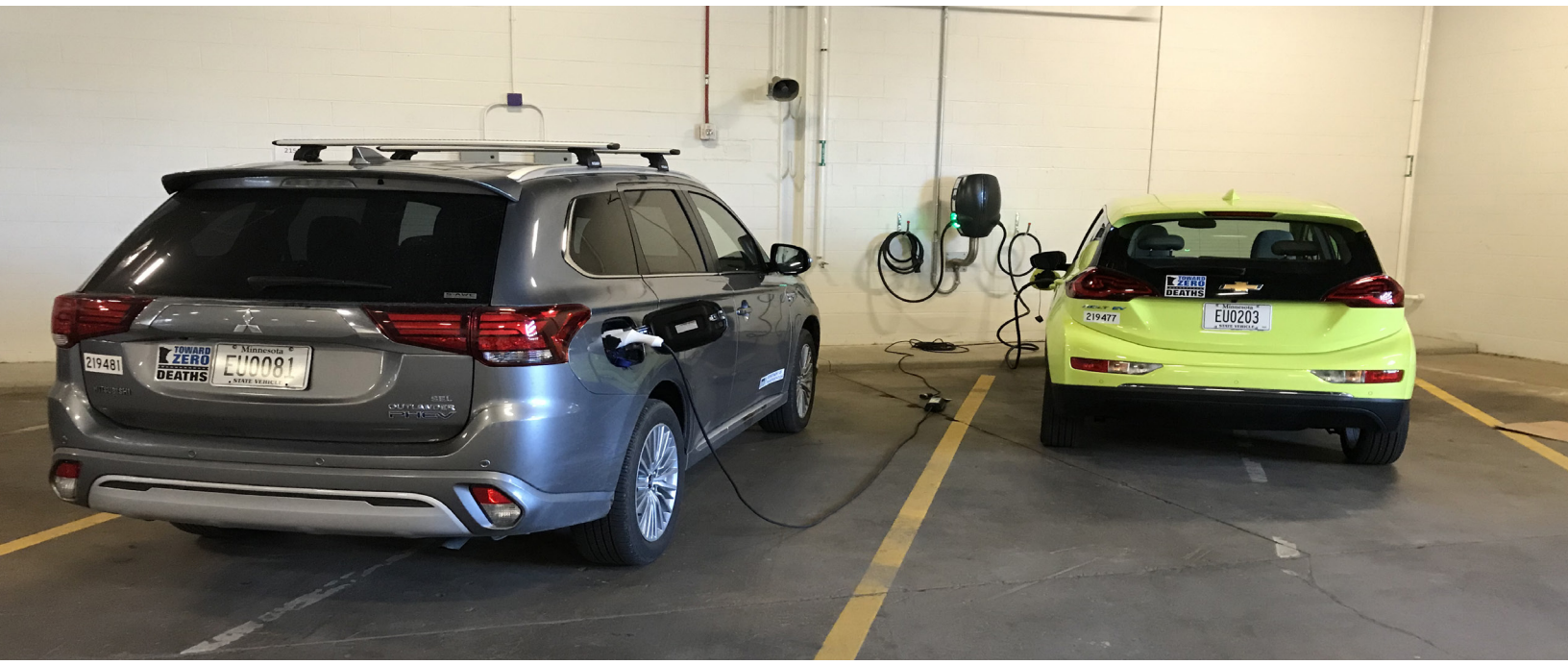
The EV Plan builds off past efforts to advance EVs in Minnesota and complements other government and private investments in EV infrastructure. Between 2020 and 2022, the Minnesota Pollution Control Agency (MPCA) distributed Volkswagen (VW) Settlement grants to fund 104 Level 2 charging ports and 38 DCFC stations. Each station had a single 50kW port with 1 Combined Charging System (CCS) connector and 1 CHArge de Move (CHAdeMO) connector. Minnesota utilities are exploring opportunities to pilot EV infrastructure and support EV charging. Currently, private companies have installed the majority of public chargers available in the state. MnDOT has and continues to coordinate with key EV industry partners to align the Minnesota EV Plan with related EV infrastructure plans and projects.

It takes time and collaboration to achieve the vision of the Minnesota EV Plan. The first round of investment from the NEVI Formula Program will serve as a catalyst for future EV charging station deployment. Minnesota updates the EV Plan annually and continues to review and identify additional corridors for investment based on technical analysis, public input and partner input.

2023 EV PLAN SUMMARY OF UPDATES

In the 2023 Minnesota EV Plan update, MnDOT updated the following sections of the EV Plan.

- State Agency Coordination includes an updated description of ongoing efforts to partner with state agencies.
- Public and Partner Engagement includes a Community Engagement Outcomes report and updates on work with partners, communities, Tribal Nations and utilities.
- Contracting includes a summary of actions taken during the 2023 Minnesota legislative session that impact program implementation and MnDOT's planned procurement mechanism.
- Existing and Future Conditions Analysis provides an update on existing charging stations in Minnesota that are funded through other mechanisms.
- EV Charging Infrastructure Deployment includes an update on MnDOT authority to deploy charging stations and to potential charging station locations.
- Implementation describes changes to Operation & Maintenance, Data Collection & Sharing, Labor, Safety, Training and Installation standards.
- Equity Considerations includes updates to outreach to disadvantaged communities, benefits and metrics.
- Labor and Workforce Considerations includes an update on Minnesota's approach to the trained workforce requirement.
- Cybersecurity includes an update on cybersecurity and the additional use of guidance from the Joint Office of Energy and Transportation (created through the BIL to facilitate collaboration between the U.S. DOE and the U.S. DOT).
- Program Evaluation includes a status update.



DATES OF STATE PLAN FOR ELECTRIC VEHICLE INFRASTRUCTURE DEPLOYMENT AND ADOPTION

Minnesota prepared the initial EV Plan in the spring of 2022, following the initial NEVI Formula Program Guidance from FHWA. Before August 1, 2022, MnDOT submitted the Minnesota EV Plan to FHWA. On Sept. 14, 2022, FHWA approved the Minnesota EV Plan.

Since the approval, MnDOT has carried out the following actions:

- Continued to share information with partners about project status.
- Amended 2023-2026 State Transportation Improvement Plan (STIP).
- NEVI planning work received FHWA Preliminary Engineering Authorization.
- Contracted with a consultant to assist MnDOT on site feasibility and site application Request for Proposal (RFP) development.
- Reviewed procurement pathway options available.
- Developed a legislative proposal and received approval for statutory authorization for Electric Vehicle Infrastructure Program.
- Worked with the legislature to allocate state funds to be used toward the non-federal match.

MnDOT's anticipated timeline for implementation for the next year:

- October to December 2023: Finalize Site Application RFP.
- January 2024: Release RFP and receive applications.
- February to March 2024: Review applications and select locations.
- March to June 2024: National Environmental Policy Act (NEPA) review of locations.
- July to September 2024: Construction Authorization from FHWA and Contract Agreements.
- Beginning October 2024: Final site designs and construction begins pending supply availability.

2. STATE AGENCY COORDINATION

MnDOT does not have a formal MOU with other state agencies regarding the NEVI program.

NEVI FORMULA PROGRAM GUIDANCE RESPONSE AND PLAN SCOPING

MnDOT staff coordinated with MPCA, the state's environmental agency, and Minnesota Department of Commerce (COMM), the state's energy agency, to review NEVI Formula Program guidance; submit comments on behalf of state agencies; and develop the scope of work for the EV Plan. Minnesota COMM provided insights on how to best engage with utilities, and MPCA shared lessons learned from administering the VW Settlement program. The state agencies worked together to review program guidance and collaborated on EV planning and implementation considerations. This early coordination leveraged each agency's expertise to develop the EV Plan.

PLAN DEVELOPMENT

Through the development of the EV Plan MPCA, COMM and the Minnesota Department of Employment and Economic Development (DEED) representatives actively engaged in decision-making through formal workgroup meetings (see the Public and Partner Engagement section). State agencies also provided targeted input to MnDOT through ad-hoc small group meetings. MnDOT met with MPCA staff to provide updates and seek input on whether to nominate additional AFCs and potential DCFC locations beyond the current AFC designations of I-35 and I-94. Further, MnDOT met with the Minnesota Department of Natural Resources (DNR) and Explore Minnesota to gather input on the initial EV Plan. This engagement and coordination continued with the EV Plan update in 2023.

2023 EV PLAN UPDATE

Over the past year staff from DEED, MPCA and COMM have participated in MnDOT's Electric Vehicle Subgroup and various partner meetings. MPCA staff who worked on the VW Settlement Mitigation Trust funded charging stations have provided grant requirements and lessons learned. MnDOT has also involved the DEED and the Department of Labor and Industry (DLI) in conversations around workforce development.

MAXIMIZING OPPORTUNITIES TO USE U.S.-MADE EQUIPMENT

Submitting comments in response to the Buy America Request for information helped Minnesota agencies better understand opportunities to use U.S.-made electric vehicle supply equipment (EVSE).[1] MnDOT, MPCA, COMM and the Minnesota Department of Administration (ADM) strongly support the intent of Buy America requirements.

In December 2021, the ADM and MnDOT sent an informal inquiry about Buy America compliance to the ten vendors on the Minnesota EVSE state contract. Six vendors responded. Of the six vendors, only ChargePoint and FreeWire indicated they could meet FHWA's Buy America requirements but they did not share the percentage of U.S.-manufactured components in their Buy America- compliant models. The EV Charging Infrastructure Deployment section provides additional information about potential challenges and risks associated with Buy America requirements. MnDOT will include details about Buy America requirements in its RFP for EV chargers funded through the NEVI Formula Program.

[1] Docket No. FHWA 2021-0015

3. PUBLIC AND PARTNER ENGAGEMENT

MnDOT's Strategic Plan echoes the agency's commitment to strengthening relationships with community members through open decision-making that includes opportunities for the public to influence process. The following principles guided the 2022 EV Plan and 2023 EV Plan update engagement.

- Identify clearly when partners and the public can influence transportation decisions.
- Implement a timeline and process for the public and partners to engage based on capacity and time available.
- Use a variety of methods and platforms.
- Inform the public and partners of policies, strategies and investment direction (as applicable).
- Use easy to understand language, graphics and culturally responsive practices.
- Comply with federal and state requirements.

The content and format of engagement varied by audience. It also ranged from obtaining feedback on topics or decisions to collaborating with groups on final decisions with MnDOT's partners.

The intent of engagement was to allow the public to actively participate in the planning process and inform the outcome of the EV Plan.

As required in 23 CFR 680.112, a Community Engagement Outcomes Report can be found in Appendix A. Portions of the report are found in the Public Engagement section.

PARTNER ENGAGEMENT

Partner engagement is key to the development and update of the Minnesota EV Plan.

- The EV Subgroup meets regularly to support decisions surrounding EV implementation and infrastructure in Minnesota.
- Partner workshops are held to engage specific partners. These are held virtually to allow for as much inclusion as possible.
- Additional meetings and presentations are provided in person and virtually to educate, inform, collect feedback and listen to people throughout Minnesota.

EV SUBGROUP

MnDOT created the Climate and Resilience Workgroup (CRW) in response to the three new transformative federal climate and resilience programs established in the IIJA (e.g., NEVI Formula Program, Carbon Reduction Program (CRP), Promoting Resilient Operations for Transformative, Efficient and Cost-saving Transportation (PROTECT)). The CRW provides recommendations to MnDOT's Transportation Programming and Investment Committee (TP&IC) for consideration. TP&IC then recommends to the MnDOT Commissioner approval of the investment and programming direction. The EV Subgroup guides the EV Plan development process. This includes identifying and prioritizing locations for NEVI Formula Program funded DCFCs.

EV Subgroup members include representatives from MnDOT, Minnesota state agencies, FHWA, tribal governments, cities and counties, metropolitan planning organizations (MPOs), regional development organizations (RDOs), EV advocacy organizations, environmental organizations, gas stations and convenience stores, labor and utilities. The EV Subgroup holds regular meetings to discuss EV Plan development and updates.

2023 EV PLAN UPDATE

The EV Subgroup continues to meet at least quarterly to receive updates and provide feedback on EV implementation actions, consideration of roads for to be nominated as AFCs, EV Plan updates and the next round of NEVI Formula Program investments.

VIRTUAL PARTNER WORKSHOPS

MnDOT held three virtual partner workshops tailored to different partner groups.

- Local governments on May 23, 2022.
- Utilities on May 24, 2022.
- EVSE installers on May 26, 2022.
- Presentation with Advocacy Council for Tribal Transportation in Nov. 2022.

Workshop participants listened to a program overview, then responded to questions specific to their areas of expertise.

2023 EV PLAN UPDATE

Since August of 2022, MnDOT has hosted two virtual workshops for any parties interested in the EV charging stations. The first workshop was in October 2022 to share information about implementation plans after FHWA approved the 2022 EV Plan. The second workshop was in May 2023 and provided a status update on implementation, and gathered input on types of charging stations, locations and travel needs around Minnesota. The second workshop informed MnDOT where there is demand for charging infrastructure, which may be in the form of future nominations of roads as AFCs.

ADDITIONAL MEETINGS AND PRESENTATIONS

In 2022, MnDOT staff also presented at approximately 60 meetings and to over 1,500 individuals, representing nearly 1,000 organizations. Meetings ranged from providing general information about the EV Plan to soliciting targeted feedback from specific partners. Organizations included:

- MPOs and RDOs
- Counties
- Cities
- State agencies
- Tribal governments
- Electric utilities
- Freight industry groups
- Environmental justice, equity and other community organizations
- Private sector EV charging station network operators
- Gas station owners and operators

2023 EV PLAN UPDATE

Since August 1, 2022, MnDOT hosted or participated in 38 meetings and presentations to local governments MPOs and other interested partner groups. These were at statewide conferences, webinars, online meetings and focus groups. Over 1,000 people participated in these opportunities. These events were online and in-person and engaged a wide range of participants across Minnesota with the intent of:

- Sharing information about the 2022 EV Plan and implementation.
- Soliciting input on EV charger needs and potential roadways to nominate as AFCs.
- Discussing workforce development.
- Understanding the benefits and barriers to EV charging in communities throughout Minnesota.

PUBLIC ENGAGEMENT

Public outreach must be paired with partner engagement in order to accurately develop and update the Minnesota EV Plan.

- The plan website provides a portal of information surrounding EV implementation in Minnesota.
- The statewide survey provides people an opportunity to provide input on EV infrastructure.
- Community events meet people where they are, to provide opportunities to engage and learn about EV infrastructure and provide their opinions for MnDOT to learn from them.

PLAN WEBSITE

In 2022, MnDOT developed a website to provide updates about the planning process and a forum for submitting public input. The website received 24,649 visits and MnDOT received 93 comments between April 4 and June 24, 2022. Appendix A of the 2022 EV Plan provides a summary of these comments and describes how they will inform fast charger planning and implementation.

2023 EV PLAN UPDATE

MnDOT continued to host the Electric Vehicle Infrastructure Plan website website through the public engagement platform, Let's Talk Transportation that was created during the initial development of the 2022 EV Plan. Interested parties can subscribe for updates through this page and it is the primary mechanism that MnDOT is using to notify the public and partners of updates and information, provide links to documents and recordings and host virtual meetings. From Aug. 1, 2022 – May 31, 2023, the website received over 10,000 visits (Figure 2).

STATEWIDE SURVEY

From April 11 to May 3, 2022, MnDOT administered a statewide public online survey, promoted via partner emails and targeted social media ads. During this timeframe, 5,681 people completed the survey. Responses included over 13,000 open-ended comments. MnDOT specifically promoted the survey to rural, underserved and disadvantaged communities. Generally, survey-respondent demographics aligned with statewide demographics, although white men between the ages of 35 and 54 were slightly overrepresented. Appendix B of the 2022 EV Plan provides a complete summary of the survey results.

Figure 2: Visitor summary of Electric Vehicle Infrastructure Plan website, MnDOT, May 31, 2023

The 2022 survey results indicate the following insights:

- 40% of respondents plan to, or would like to, own an EV in the future.
- Respondents identified high EV prices and a lack of public chargers as the top two obstacles preventing them from purchasing an EV.
- Respondents ranked interstates, transportation access, rural/Greater MN needs and long-distance travel as the top criteria MnDOT should use to prioritize DCFC locations.
- Respondents listed more convenient travel as the main benefit of adding DCFCs in Minnesota.
- Respondents listed cost as the top concern for building, charging and maintaining DCFCs.

2023 EV PLAN UPDATE

From April 2023 to May 2023, MnDOT hosted a statewide public online survey. The purpose of the survey was to provide an opportunity for the public and partners provide input on roads of interest for EV chargers, preferences about the charging experience and benefits or barriers to EV stations in their communities. A total of 1,023 people completed the survey. Appendix B provides a summary of the survey data.

The 2023 survey results indicate the following insights:

- There is a preference for additional road networks to build out their EV infrastructure after the two AFC corridors of I-35 an I-94 are complete.
- Specific amenities and charging experiences are preferred.
- There are benefits and barriers that MnDOT should track.

COMMUNITY EVENTS

In June 2022, MnDOT hosted four in-person community events throughout the state with the goal of gathering feedback from the public, including underserved and disadvantaged communities that might not otherwise engage in the planning process. All four events were located in communities along the AFCs, I-35 or I-94, at the following locations on the listed date.

- On June 1, 2022, in Minneapolis at the Midtown Global Market.
- On June 2, 2022, in Duluth at Bayfront Playfront Park.
- On June 9, 2022, in Albert Lea at Thursdays on Fountain.
- On June 11, 2022, in Fergus Falls at Summerfest.

Display boards at each event explained the NEVI Formula Program and initial focus on I-35 and I-94, a potential future statewide EV DCFC network and the public engagement process. Participants placed sticker dots where they would like to see DCFCs (Figure 3) and voted on charger location types (Figure 4) and site amenities (Figure 5). This content was considered during the development of the initial EV charging plan cluster locations.

2023 EV PLAN UPDATE

In addition to the 38 meetings and presentations noted previously, MnDOT participated in the following community events, specifically for the 2023 EV Plan update.

- Community Workshop
- EV Showcases
- In-person Regional Conversations
- Focus Groups

Figure 3: Locations in Minnesota where the public would like to see EV fast charging stations, MnDOT, 2022

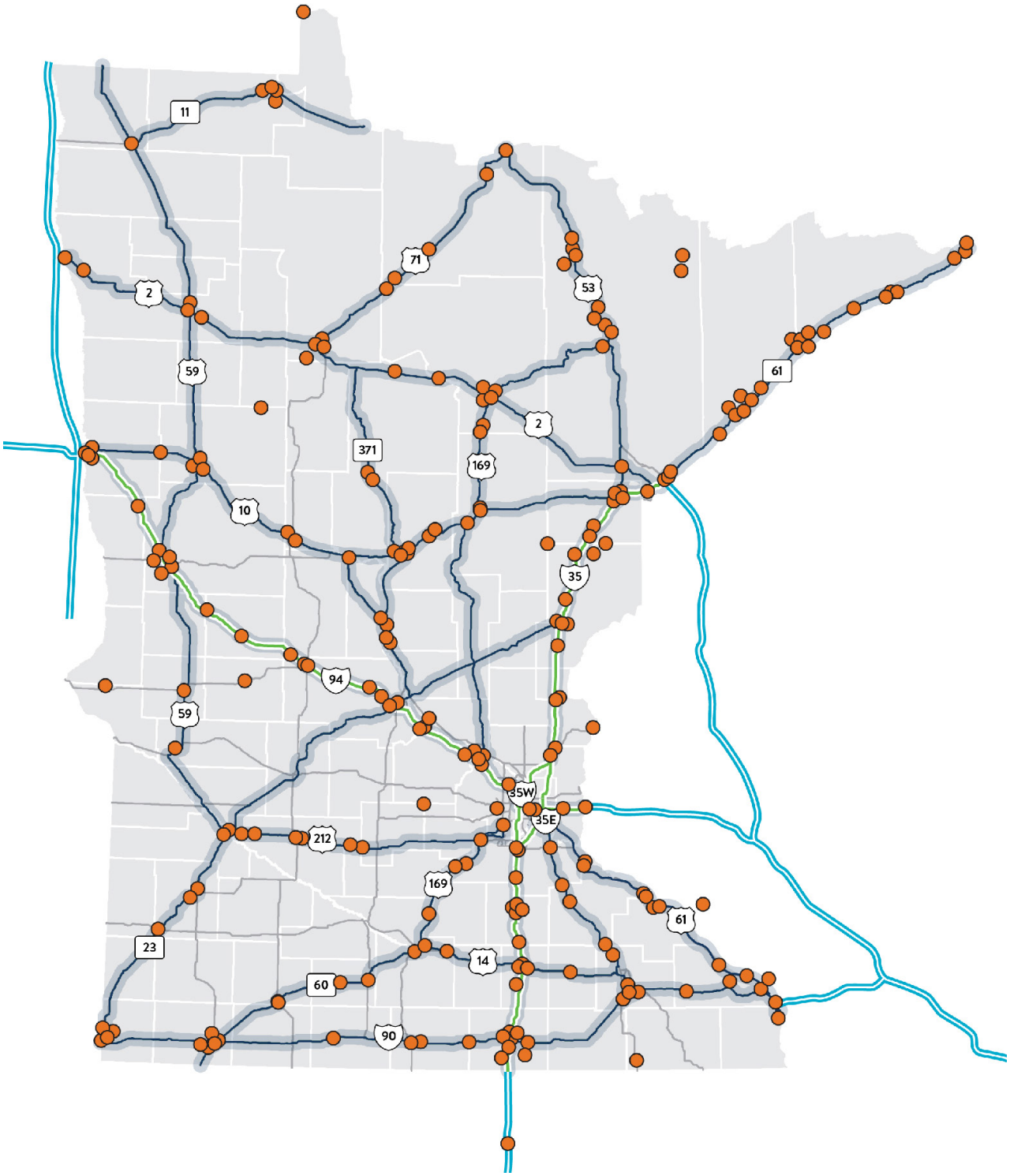


Figure 4: Location types for EV fast charging stations, MnDOT, 2022

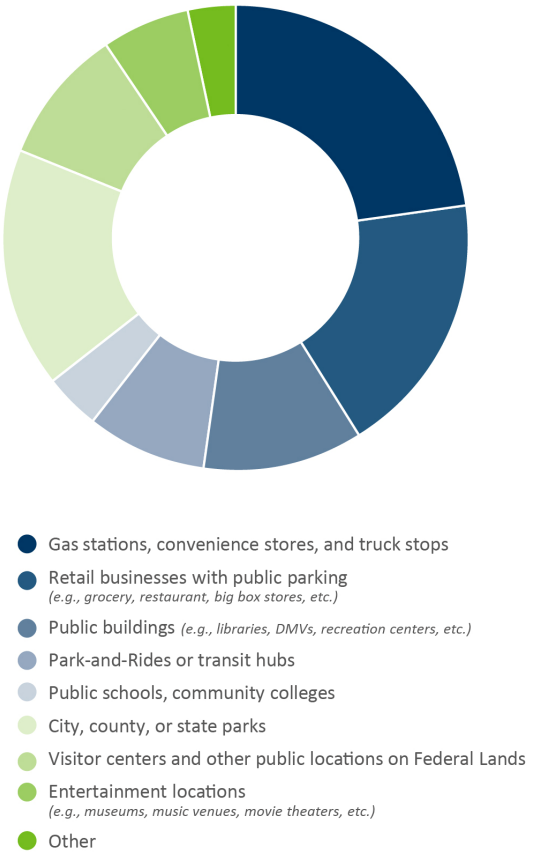
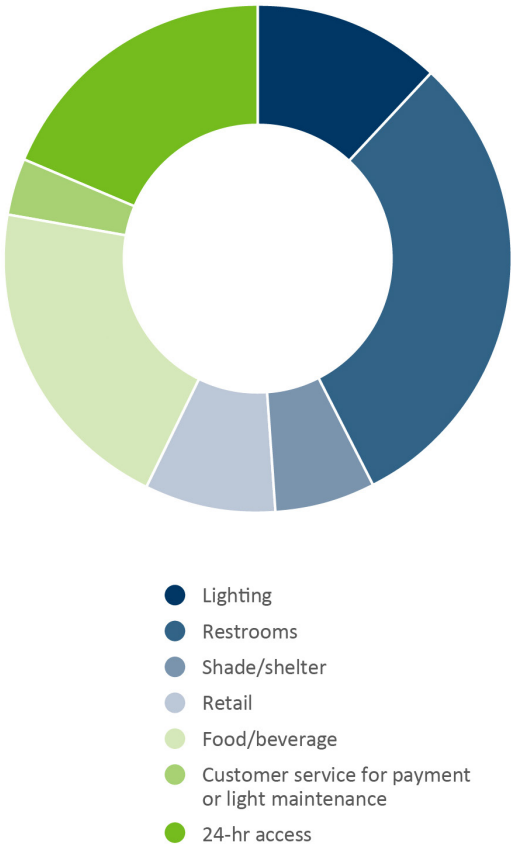


Figure 5: Locations amenities for EV fast charging stations, MnDOT, 2022



COMMUNITY WORKSHOP

In March 2023, MnDOT staff participated in a two-day workshop held in Brooklyn Park, Minnesota that was hosted by a partnership of the US Environmental Protection Agency (EPA), Minnesota Clean Cities Coalition, the City of Brooklyn Park, US Department of Energy and the Joint Office of Energy and Transportation (Joint Office), which was created through the BIL to facilitate collaboration between the U.S. DOE and the U.S. DOT. The purpose of the community meeting and workshop session was to learn about the economic, health and mobility benefits of various types of EVs and share transportation challenges.

Brooklyn Park is one of the potential locations for a NEVI Formula Program funded charging station and is a Justice40 community. This event provided an opportunity for MnDOT staff to share about the NEVI Formula Program, as well as learn from local businesses and city staff about their interest in EVs and EV charging. There was also a workforce focus to a portion of the meeting that served to inform MnDOT's consideration of how to support workforce development.

EV SHOWCASES

MnDOT participated in two EV Showcases (October 2022 and May 2023) hosted by the nonprofit Recharge Minnesota. These events provide an opportunity for the public to test drive EVs, talk to EV owners, share input on types of locations for charging stations and amenities. Plus, the events were an opportunity to learn about ways that workforce is being developed to support EV infrastructure.

The Minnesota ADM and other state agencies hosted an EV Showcase on the Capitol Mall in St. Paul, MN in May 2023 for state employees and area residents to come and learn more about EVs and the work state agencies are doing.

Two of these events were in Justice40 communities were MnDOT plans to locate NEVI Formula Program funded stations.

IN-PERSON REGIONAL CONVERSATIONS

Engagement was limited as MnDOT developed the EV Plan in 2022. This was due to the short timeline to complete the initial EV Plan, as well as the lingering COVID-19 pandemic concerns around in-person engagement activities. In 2023, MnDOT decided to offer a few in-person engagement opportunities.

Between April and May 2023, MnDOT hosted five conversations throughout Minnesota in the cities of Rochester, Windom, Duluth, Baxter and Bemidji. These provided opportunities for engagement in rural, as well as urban areas, in or near Justice40 communities, Tribal Nations, in northern Minnesota and southern Minnesota.

An overview of the EV Plan and the current procurement process approach was shared during each of the regional conversations. Discussions took place around charging station needs, charging experience desired, important roadways, existence of potential site hosts and utility capacity. Attendees also discussed the desire for specific roadways to be nominated as AFCs in the future.

At the five regional conversations there were a total of 49 participants. These people represented MnDOT, RDOs, MPOs, Tribal Nations, nonprofits, Economic Development Authorities, utilities, city and county governments and the public.

A virtual version of this meeting was held on May 22, 2023, with 100 attendees from around the state with similar representation.

FOCUS GROUPS

In June 2023, MnDOT hosted two in-person focus groups in the cities of St. Cloud and Faribault, Minnesota with a total of 21 participants. Both are Justice40 communities and will be locations for NEVI Formula Program funded EV charging stations.

MnDOT partnered with the City of Faribault and the Greater St. Cloud Development Corporation to co-host the focus groups and assist in inviting participants. Invited attendees represented the manufacturing sector, vocational technical college educators, high school technical program educators, Economic Development Authority and community development staff, chamber of commerce staff, electricians, construction contractors, nonprofits working with BIPOC individuals and community organizations, people of low income, students in technical programs, utilities and potential businesses that might be a site host for EV charging stations.

Focus group questions were about EVs in the community now and in the future, use of chargers, workforce interest and needs, benefits or barriers to chargers from an economic development focus. The input from these conversations help inform how MnDOT proceeds with involvement in workforce development, site applications for the first round of NEVI Formula Program funded stations and future sites.

TRIBAL ENGAGEMENT

Consultation and collaboration with Tribal Nations is not only a requirement but a key aspect of engagement at MnDOT. Between August 2022 through July 2023, MnDOT staff have engaged with Tribal Nations in the following ways for the NEVI Formula Program.

EV SUBGROUP MEMBERSHIP

Staff from two Tribal Nations serve as members on the EV Subgroup. See the Partner Engagement section for more information about the EV Subgroup.

PRESENTATION TO THE ADVOCACY COUNCIL FOR TRIBAL TRANSPORTATION

This Council is made up of representatives from the 11 Tribal Nations in Minnesota and MnDOT staff. In November 2022, MnDOT provided a presentation on the NEVI Formula Program and implementation plans for the next year. Tribal representatives were asked to consider how they or their staff would like to be engaged in the work going forward.

MEETINGS AND CONVERSATIONS

MnDOT staff had four meetings with Community Development and Environmental staff from two Tribal Nations about the NEVI Formula Program funds and the Discretionary Charging and Fueling Infrastructure (DCFI) grants.

ON-GOING CONVERSATIONS WITH NATIVE SUN COMMUNITY POWER DEVELOPMENT

Native Sun Community Power Development, a nonprofit, has received a grant from U.S. Department of Energy (DOE) for $6,666,667 for the Upper Midwest Inter-Tribal EV Charging Community Network, which includes the Red Lake Band of Chippewa and Standing Rock Sioux Tribe in South Dakota and North Dakota. MnDOT staff have and continue to have conversations with Native Sun Community Power Development about their network of EV charging stations funded through this grant. Native Sun Community Power Development staff also have provided input to MnDOT on workforce development and future charging station locations.

IN-PERSON AND VIRTUAL MEETINGS

Tribal Nation staff were invited to, and several participated in, in-person and virtual meetings regarding future charging station needs and AFC nominations.

ON-GOING COORDINATION

MnDOT Tribal Affairs Office staff are working with a consultant to assist Tribes in applying for IIJA funded grants. This includes the NEVI DCFI grant.

UTILITY ENGAGEMENT

Utilities are another critical partner in the implementation of EV charging stations. Between August 2022 and July 2023, MnDOT has engaged with utility partners in the following ways for the NEVI Formula Program.

SUSTAINABLE TRANSPORTATION ADVISORY COUNCIL (STAC) MEMBERSHIP

Representatives from utility partners are members of the STAC. The STAC provides recommendations to MnDOT on the direction the agency should take towards more sustainable transportation. The Fueling and Powering Transportation Workgroup, a subgroup to the STAC, made recommendations to MnDOT that MnDOT should work with utility partners and support efficient investment of NEVI Formula Program funds.

MNDOT AND XCEL ENERGY COORDINATION

MnDOT staff attended a two-day workshop hosted by Xcel Energy (an investor-owned utility) in September 2022 to give input on Xcel's proposal for charging stations Xcel Energy might own and operate.

UTILITY LISTENING SESSION

MnDOT staff held a listening session in February 2023 for utility representatives from around Minnesota as part of MnDOT's work on Next Generation Highways. The focus of this meeting was to share information about implementation of the NEVI Formula Program and receive feedback regarding challenges utility partners saw and suggestions for improving the plans.

REGIONAL CONVERSATIONS

Utility partners were invited to and attended, the regional conversations held in April and May 2023 to discuss charging station needs around Minnesota and potential nomination of roads as AFCs.

UTILITY PARTNER MEETING

In May 2023, MnDOT staff met with utility partners (see Appendix A for list of utility partners that attended) that will be providing electrical service to the first round of NEVI Formula Program funded charging stations along I-94 and I-35. The purpose of this meeting was to review survey questions MnDOT would be asking the utility partners prior to the utility partners responding to the survey. The intent was that this allowed utility partners to get clarification on the questions to be able to provide the most helpful responses that would inform the site application process.

Upon completion of the meeting all utility partners were asked to complete the utility partner survey.

ENGAGEMENT OUTCOMES

In 2022, people explored barriers to deployment, opportunities for successful EV implementation and areas where additional coordination or efforts were still needed. Key themes emerged across all engagement activities, which supported the 2022 EV Plan and continue to inform NEVI Formula Program implementation. Below is a summary of the 2022 EV Plan engagement outcomes.

- Participants generally support expanding the statewide network in the future to the corridors shared during public engagement.
- Criteria for chargers funded through the NEVI Formula Program should consider power availability, travel data, population data, EV registrations and local community input.
- Participants expressed interest in siting DCFCs at gas stations, retail businesses, parks and tourist destinations.
- Maintenance and reliability are top concerns; assessing EV charger installer experience and requiring 24/7 monitoring can help.
- Participants want DCFCs to be easily accessible and be near amenities, such as restrooms and food and beverage options and to have 24-hour access.

- It will be necessary to clarify the role of rest areas in siting and future engagement efforts.
- Utility partners, EV charger installers and local governments are key partners; continued coordination and regular communication is important.
- Participants expressed excitement and curiosity about how discretionary funds will be allocated; continued outreach on this topic will be helpful.

2023 EV PLAN UPDATE

From August 2022 and July 2023, engagement continued and outcomes from this period are listed below.

- There is a wide range of knowledge, interest and perceptions regarding EVs in Minnesota.
- There is a strong desire for the EV charging experience to mimic the experience of 'pumping gas' at a gas station.
- All regional conversations suggested a mix of DCFC and Level 2 chargers are desired. This depended upon location and type of travel intended to serve (e.g., tourism, recreation, daily trips, long distance travel) with preference for DCFCs of some capacity at each location.
- Stations are desired in the larger cities along most highways.
- There are seasonal and regional variations related to tourism; this may include a need to plan for periods of high demand in rural areas during peak seasons of tourism.
- In much of the state there is limited local adoption of EVs and questions about usage. Concerns were raised around reliability of stations and protection or shelter from the elements when trying to fuel in extreme weather conditions (e.g., snow, extreme heat).
- Casinos were noted to be good host locations, especially in rural areas due to the availability of 3-phase power, they are open 24/7 and have amenities.

INFORMING THE EV PLAN

Public and partner engagement played a key role in EV Plan development. Throughout the process, MnDOT used public and partner input to validate technical analysis results. While engagement informed many aspects of the EV Plan development and update, the following bullets describe key areas where engagement was and continues to be critical to informing the EV Plan's direction.

CREATING AND VALIDATING THE MINNESOTA EV FAST CHARGING NETWORK VISION.

Partners and the public helped identify criteria and provide input on the draft network vision. MnDOT added additional corridors (TH 169, TH 52 and TH 14) to the vision based on the input.

UNDERSTANDING SITING CONSIDERATIONS AND AMENITIES.

MnDOT used feedback on preferred site hosts and amenities to help identify locations for the first year of NEVI Formula Program investment. The clusters of exits at each location will increase opportunities to select sites with the preferred amenities.

VALIDATING THE IMPORTANCE OF SERVING RURAL, TRIBAL AND JUSTICE40 COMMUNITIES.

This feedback was consistent throughout the engagement process, and the need to expand the fast-charging network vision geographically to serve all of greater Minnesota was a key result. Many of the corridors identified in the network are adjacent to or within close proximity of rural, tribal or Justice40 community and the criteria used to identify the clusters were also informed by this consideration.

4. PLAN VISION AND GOALS

EV FAST CHARGING NETWORK VISION

While initial investment focuses on I-35 and I-94, Minnesota will use NEVI Formula Program funds to invest throughout Minnesota in the coming years. During the EV Plan development process, MnDOT gathered input on potential future locations for DCFC, with the goal to provide convenient, reliable and accessible EV charging across Minnesota.

The EV fast charging network includes corridors for potential future investment with NEVI Formula Program funds after I-35 and I-94 are built out, or when MnDOT nominates additional corridors for AFC designation by FHWA. Public input informed the criteria below which are being used to develop the network that will be the foundation for engagement on future NEVI Formula Program investment.

CONNECTIVITY

The ability to support interstate travel and connect to AFCs in neighboring states and in Canada.

DISADVANTAGED COMMUNITIES

The network prioritizes communities most affected by poverty and pollution and Tribal lands (see Figure 6) and supports the Justice40 initiative to allocate 40% of overall benefits from federal programs to disadvantaged, underserved communities.[2]

CONNECT TO EXISTING INFRASTRUCTURE

Corridors with existing EV DCFCs can leverage past investments in EV chargers.

SERVE LONG-DISTANCE TRAVEL

MnDOT identified roadways (principle arterial and above, see Figure 7) with the highest traffic volumes as potential corridors to support long-distance travel by EV combined with future corridors that fulfill the criteria above.

The current and proposed network (Figure 8) makes interstate connections to six AFCs in neighboring states and seven border crossings between Minnesota and Canada, including International Falls, Baudette, Warroad and Grand Portage.

The network includes many of the highest volume corridors in Minnesota, serving high-demand travel throughout the Twin Cities metropolitan area and popular destinations in Greater MN. The corridors also support connections to a majority of Minnesota's rural and underserved areas including many of the tribal lands located in northern Minnesota.

[2] "Disadvantaged" is defined through data investigation of these communities by a combination of variables including low income (and/or high persistent poverty), racial minority composition, linguistic isolation, high transportation-cost burden, high energy-cost burden and disproportionate environmental stressors.

Figure 6: Minnesota Justice40 and Tribal communities in relation to the Minnesota fast charging network, MnDOT, 2022

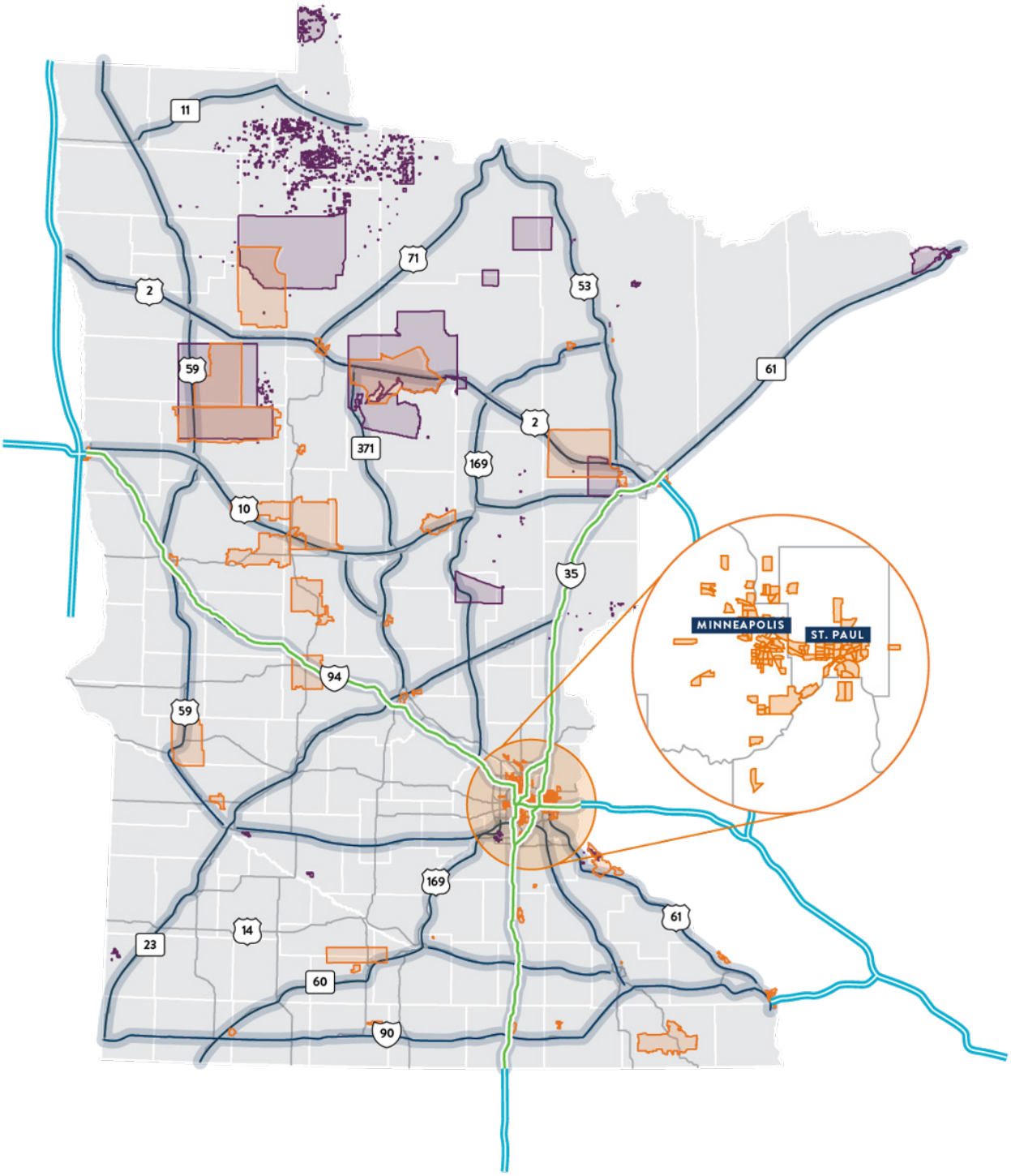


Figure 7: Principal Arterials in Minnesota, MnDOT, 2022

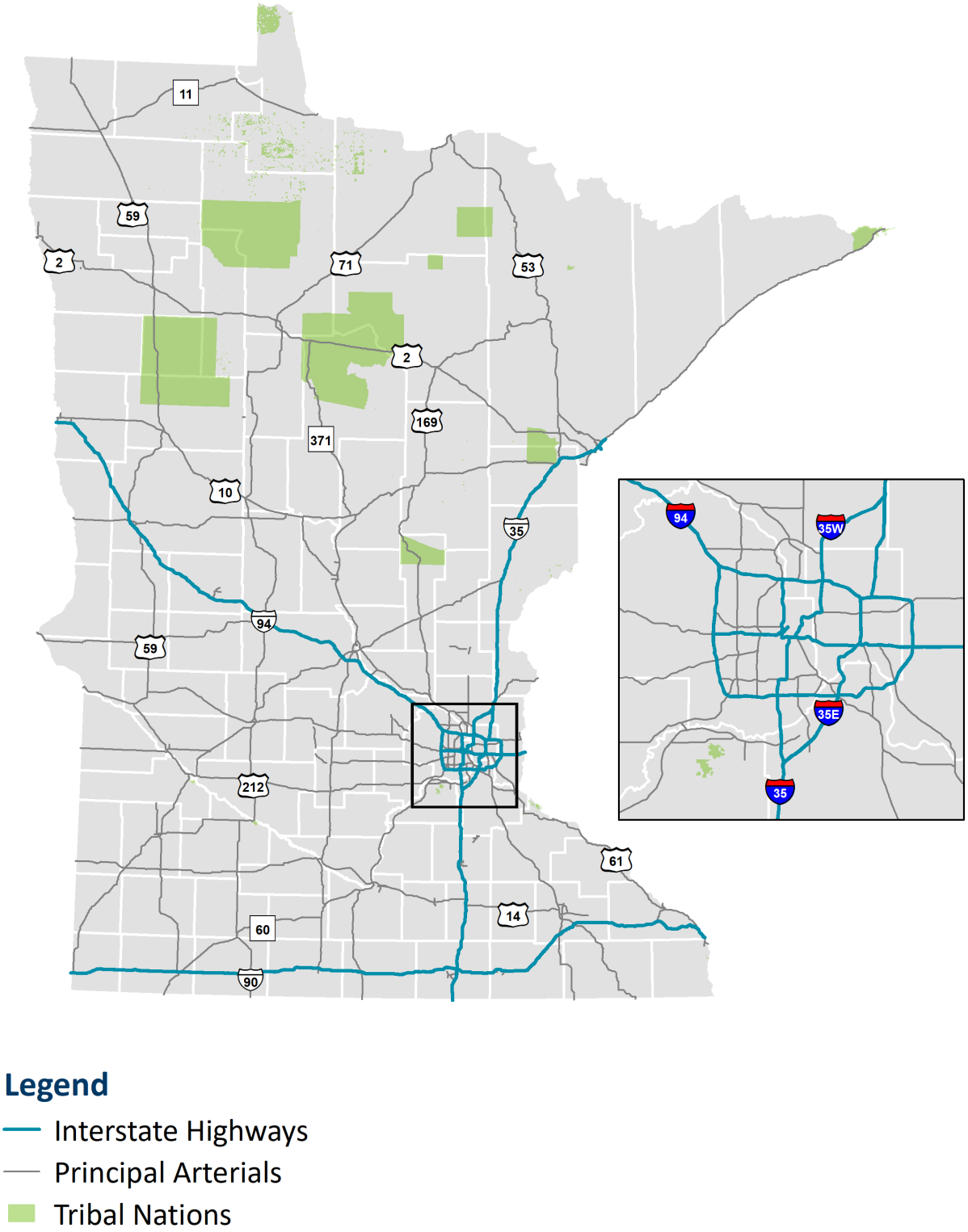
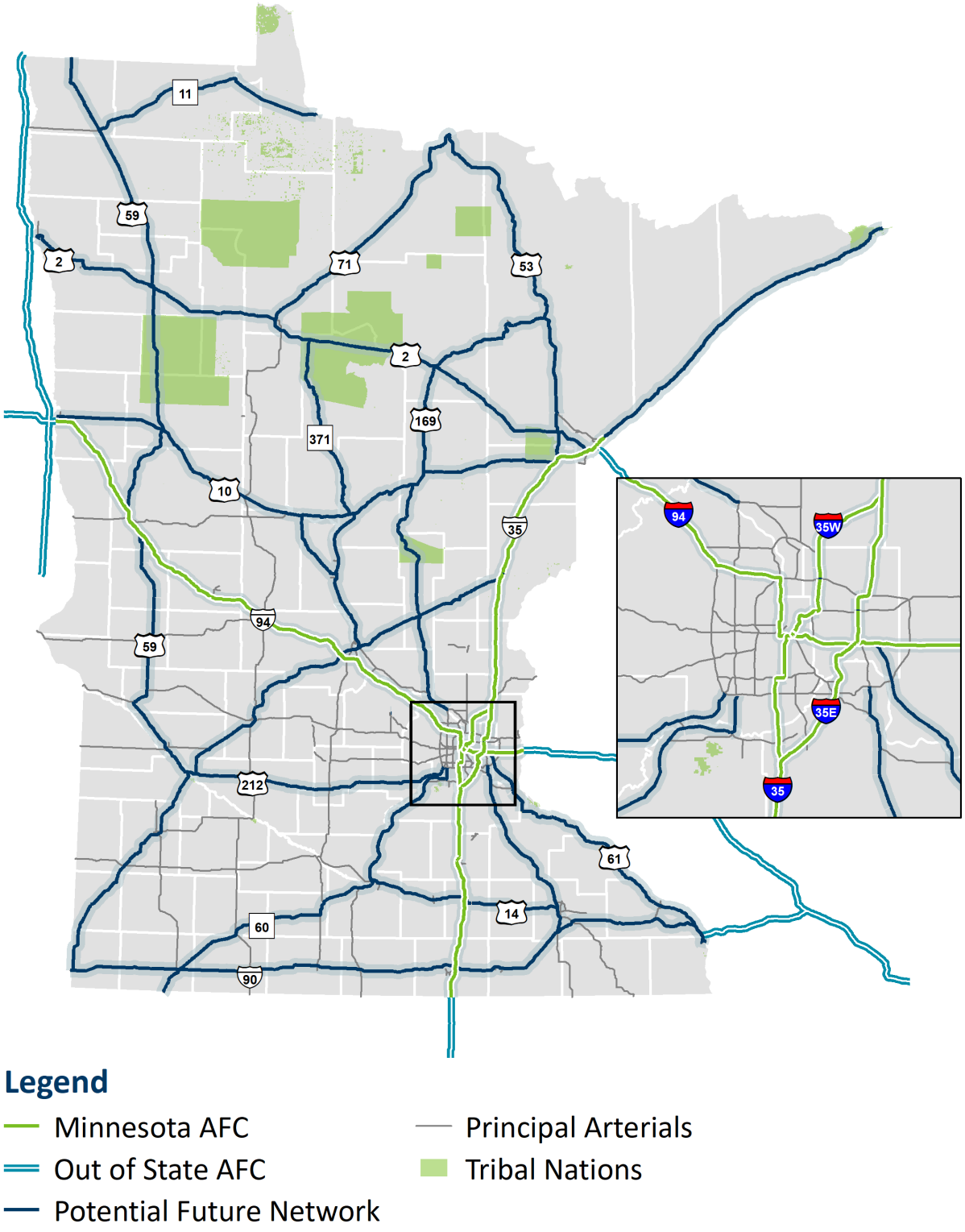


Figure 8: Minnesota EV fast charging network vision, MnDOT, 2022



CHAPTER 4

EV PLAN GOALS

MnDOT developed the EV Plan goals according to the Joint Office of Energy and Transportation NEVI Formula Program guidance to align with the (1) 2022 Minnesota Statewide Multimodal Transportation Plan (SMTP) objectives and (2) the strategies in the 2019 Accelerating Electric Vehicle Adoption: A Vision for Minnesota. Table 1 presents the Plan goals and how they align with MnDOT's current goals and objectives.

2022 SMTP OBJECTIVES

- Transportation Safety: Safeguard transportation users as well as the communities the system travels through. Apply proven strategies to reduce fatalities and serious injuries for all modes. Foster a culture of transportation safety in Minnesota.
- System Stewardship: Strategically build, maintain, operate and adapt the transportation system based on data, performance and community needs. Ensure effective and efficient use of resources.
- Climate Action: Advance a sustainable and resilient transportation system. Enhance transportation options and technology to reduce greenhouse gas emissions. Adapt Minnesota's transportation system to a changing climate.
- Critical Connections: Maintain and improve multimodal transportation connections essential for Minnesotans' prosperity and quality of life. Strategically consider new connections that help meet performance targets and maximize social, economic and environmental benefits.
- Healthy Equitable Communities: Foster healthy and vibrant places that reduce disparities and promote healthy outcomes for people, the environment and our economy.
- Open Decision Making: Make equitable transportation decisions through inclusive and collaborative processes that are supported by data and analysis.

2019 ACCELERATING ELECTRIC VEHICLE ADOPTION: A VISION FOR MINNESOTA STRATEGIES

- Accelerate Sales and Use
  - Incentives
  - Education
  - Bulk Buy Discounts
  - Electric Buses
- Build Out Charging infrastructure
  - Workplace charging
  - Fast charger stations
- Coordinate on Regional and National Initiatives
  - Consistency in regions and states
- Prioritize Renewable Energy to Charge Electric Vehicles
  - Install fast charging stations along Interstates and highways statewide by 2030

Table 1: EV Plan Goals, MnDOT, 2023

MINNESOTA EV INFRASTRUCTURE GOALS	2022-2041 SMTP OBJECTIVES	ACCELERATING EV ADOPTION STRATEGIES*
Goal 1: Support Minnesota's greenhouse gas (GHG) emission reduction goals and minimize transportation's impact on human and environmental health	Climate Action, Healthy Equitable Communities	S4
Goal 2: Facilitate regional and statewide travel while setting the standard for EV infrastructure in the Midwest	Open Decision Making, Critcal Connections	S2, S3
Goal 3: Distribute 40% of NEVI Formula Program benefits towards disavantaged communities in Minnesota	Transportation Safety, Critical Connections, Healthy Equitable Communities	S2
Goal 4: Advance EV adoption	Climate Action	S2
FIVE YEAR TARGETS		
Five Year Target 1: Full build-out of al two-digit Interstates to full NEVI-compliance by the end of the program		
Five Year Target 2: Build-out of the EV Fast Charging Network (to potentially secondary standards) by the end of the program		

5. CONTRACTING

MnDOT intends to partner with at least one third party to design and install, manage long-term operations and maintenance and ultimately own the EV chargers funded through the NEVI Formula Program. MnDOT will use a competitive selection process (e.g., RFP) to identify partners with industry expertise who can meet all federal requirements.

CONTRACTING GOALS

MnDOT is designing the contracting approach to meet the following goals:

1. Maximize federal dollars while following federal requirements.

2. Deliver projects efficiently (e.g., execute contracts within six months after award).

3. Have a choice of proposers with proven knowledge and experience installing EV chargers.

4. Encourage bids from Minnesota-based Targeted Group, Economically Disadvantaged and Veteran-Owned small businesses.

5. Minimize MnDOT staff time spent on contracting and contract administration, design, construction, operations, maintenance and monitoring.

6. Include a process for communities to influence site selection and key project elements. This includes BIPOC and low income communities who have been traditionally marginalized.

7. Guarantee that charger operations, maintenance and ownership can be handled by an experienced contract partner and will not be the responsibility of MnDOT.

STATUS OF CONTRACTING PROCESS

As of July 31, 2023, MnDOT has not yet begun a RFP process or entered into any contract awards. MnDOT was required to receive explicit statutory authority from the Minnesota Legislature to enter into contracts for the NEVI Formula Program. In May 2023, the Minnesota Legislature and Governor Walz approved the following enabling language as part of what is now Chapter 68 of Minnesota law effective Aug. 1, 2023:

> *SECTION 69*
>
> *[174.47] ELECTRIC VEHICLE INFRASTRUCTURE PROGRAM.*
>
> *SUBD. 3.AUTHORITY TO CONTRACT.*
>
> *THE COMMISSIONER MAY ENTER INTO AN AGREEMENT WITH ANY PRIVATE OR PUBLIC ENTITY TO PROVIDE FINANCIAL ASSISTANCE FOR, OR ENGAGE IN THE PLANNING, DESIGNING, DEVELOPING, HOSTING, CONSTRUCTING, EQUIPPING, OPERATING, OR MAINTAINING OF, ELECTRIC VEHICLE INFRASTRUCTURE, INCLUDING BUT NOT LIMITED TO ENVIRONMENTAL STUDIES, PRELIMINARY ENGINEERING, FINAL DESIGN, CONSTRUCTION, AND DEVELOPING FINANCIAL AND OPERATING PLANS.*

MnDOT is now proceeding with the development of a grant program that meets the requirements of Title 23 and 2 CFR 200 as required in the NEVI standards. MnDOT anticipates opening the RFP process in early fall 2023 with the intention of having contracts in place by the late spring or early summer 2024. However, as this is a new program and process for MnDOT that timeline is expected to shift. The timeline is depicted in Figure 9.

Figure 9: Minnesota timeline to install chargers along I-94 and I-35, MnDOT, 2023

AWARDED CONTRACTS

As of July 31, 2023, MnDOT has not awarded any contracts. MnDOT is working to finalize the RFP contracting provisions through early fall 2023.

SCORING METHODOLOGIES UTILIZED

As of July 31, 2023, MnDOT has not completed the development of scoring methodology that will be used to evaluate proposals and contracts. MnDOT is working with a consultant to develop the scoring criteria. All required criteria in the NEVI rule and state requirements will apply. MnDOT contracting goals (1-7) are listed in the Contracting Goals section previously.

PLANS FOR COMPLIANCE WITH FEDERAL REQUIREMENTS

MnDOT will include provisions in contract agreements with all third-party entities to require compliance with 23 U.S.C., 23 CFR 680 and all applicable requirements under 2 CFR 200.

OPPORTUNITIES FOR SMALL BUSINESSES

MnDOT continues to explore opportunities for small businesses to apply for NEVI Formula Program funds, including coordination with MnDOT Office of Civil Rights. The agency also partners with DEED and DLI to promote the NEVI Formula Program to small businesses that are eligible for the funding.

MnDOT intends to host pre-solicitation workshops to help qualified small businesses understand federal requirements associated with the NEVI Formula Program and support technical assistance needs to complete the application.

EFFICIENT AND EFFECTIVE DEPLOYMENT

MnDOT initiated a Clean Transportation Pilot Program to provide federal transportation funding to pilot, test and increase adoption of clean transportation technologies, especially where cost is a barrier to implementation.

In March 2021, MnDOT selected the first round of projects that included EV charger installations. Contracting was delayed while MnDOT worked with grantees and partner agencies to meet all state and federal requirements (e.g., procurement, vendor selection and environmental compliance). In many cases, MnDOT developed new processes to meet these requirements.

In March 2022, MnDOT executed the first grant contract and announced the projects that were selected for the first round of funding after the agency executed contracts with the grantees. The agency continues to document and apply lessons learned from the Clean Transportation Pilot Program to support efficient charger deployment through the NEVI Formula Program.

See the Existing and Future Conditions Analysis section, subsection Public Transportation Needs for more information.

OPERATIONS AND MAINTENANCE

Public and partner engagement revealed that some EV drivers are concerned about the reliability of the existing EV charging network in Minnesota. MnDOT is committed to ensuring efficient delivery of ongoing operations and maintenance (O&M) services for EV chargers funded through the NEVI Formula Program.

The RFP process will include criteria for demonstrating the ability to provide reliable O&M.

The agency will collect historic information from bidders about charger uptime and response time to maintenance issues. MnDOT will research industry trends, best practices and develop a process for ensuring a smooth transition for EV charging station owners to fund O&M independently after the 5-year period of support from the NEVI Formula Program concludes. This remains a topic with questions that MnDOT hopes to resolve before fall 2023 when the RFP is released.

COMMUNITY ENGAGEMENT

Contracting will include a process for communities, including BIPOC, rural and low-income communities, to influence site selection and key project elements. MnDOT staff are exploring opportunities to support community engagement in the site selection and design process. The agency will use resources provided by FHWA and internal staff expertise and experience.

MnDOT is also working with a range of partners, especially those most impacted by pollution from transportation and who have historically been underrepresented in transportation planning processes, to help determine what metrics will be used in annual evaluations for reporting progress around Justice40 efforts. It is important that communities are asked what benefits are important to them and determine ways to track those benefits.

6. EXISTING AND FUTURE CONDITIONS ANALYSIS

STATE GEOGRAPHY, TERRAIN, CLIMATE AND LAND USE

GEOGRAPHY

Minnesota is home to a unique range of geography, from rocky landscapes and thick swaths of deciduous and coniferous forests in the north, to river valleys that cut through agrarian landscapes in the south. The terrain in Minnesota is not expected to reduce the usable range of EVs.

CLIMATE

Minnesota is becoming warmer and wetter. Between 1895 and 2020 Minnesota's temperatures have risen by 3°F with annual precipitation having increased 3.4 inches on average.[3] Heavy rainfall is more common and intense, with an increase in large area extreme and damaging rainstorms. Climate projections indicate that these conditions will continue to grow in frequency and severity. Strategies to address Minnesota's climate risks are described in the Implementation section.

The state experiences temperature extremes, with cold winters and hot summers. On average, Minnesota experiences 32 inches of rain and 47 inches of snow per year. June is the wettest month of the year with an average precipitation of 4 inches. January is typically the coldest month in Minnesota, with an average low of 10 degrees Fahrenheit (°F) and a high of 24°F. The hottest month of the year is July, when the average temperature low is 65°F and the average high is 83°F. Cold temperatures can reduce EV range up to 40%, which highlights the importance of adequate, reliable charging for drivers to use year-round.

POPULATION

Minnesota is the 22nd most populous state in the United States, with over 5.7 million residents. The population is expected to grow to 6.6 million by 2070. Approximately 60% of Minnesota's population is centered in the Minneapolis-St. Paul metropolitan area. Hennepin, Ramsey, Dakota, Anoka and Washington counties are the most populous counties in the state, and no other county in Minnesota has a population greater than 250,000. [4]

Minnesota has eight federally designated MPOs with a population over 50,000. Figure 10 identifies the location of each MPO's urban area and metropolitan planning area boundaries. Urban areas comprise a relatively small percentage of the state. Rural EV charging stations are essential to support statewide EV travel and may require more resources to install and maintain them.

EV USE AND AVAILABILITY

The number of EVs and EV chargers in Minnesota continues to grow. Model availability is expected to improve with the adoption of Clean Cars Minnesota, a state rule that requires more EVs to be available beginning in 2025. As of April 2022, Minnesota had 26,109 registered EVs. EV adoption varies by location. Most EVs are registered in the Twin Cities and other urbanized areas across the state (see Figure 11), but EVs are registered in all counties statewide. Rochester and communities along the North Shore of Lake Superior have some of the highest density of EVs outside the Twin Cities,

[3] "Climate Trends." Minnesota Department of Natural Resources. https://www.dnr.state.mn.us/climate/climate_change_info/climate-trends.html.

[4] "Population Data." Minnesota State Demographic Center. https://mn.gov/admin/demography/data-by-topic/population-data/our-estimates/.

Figure 10: Minnesota Metropolitan Planning Organization Boundaries, MnDOT, 2023

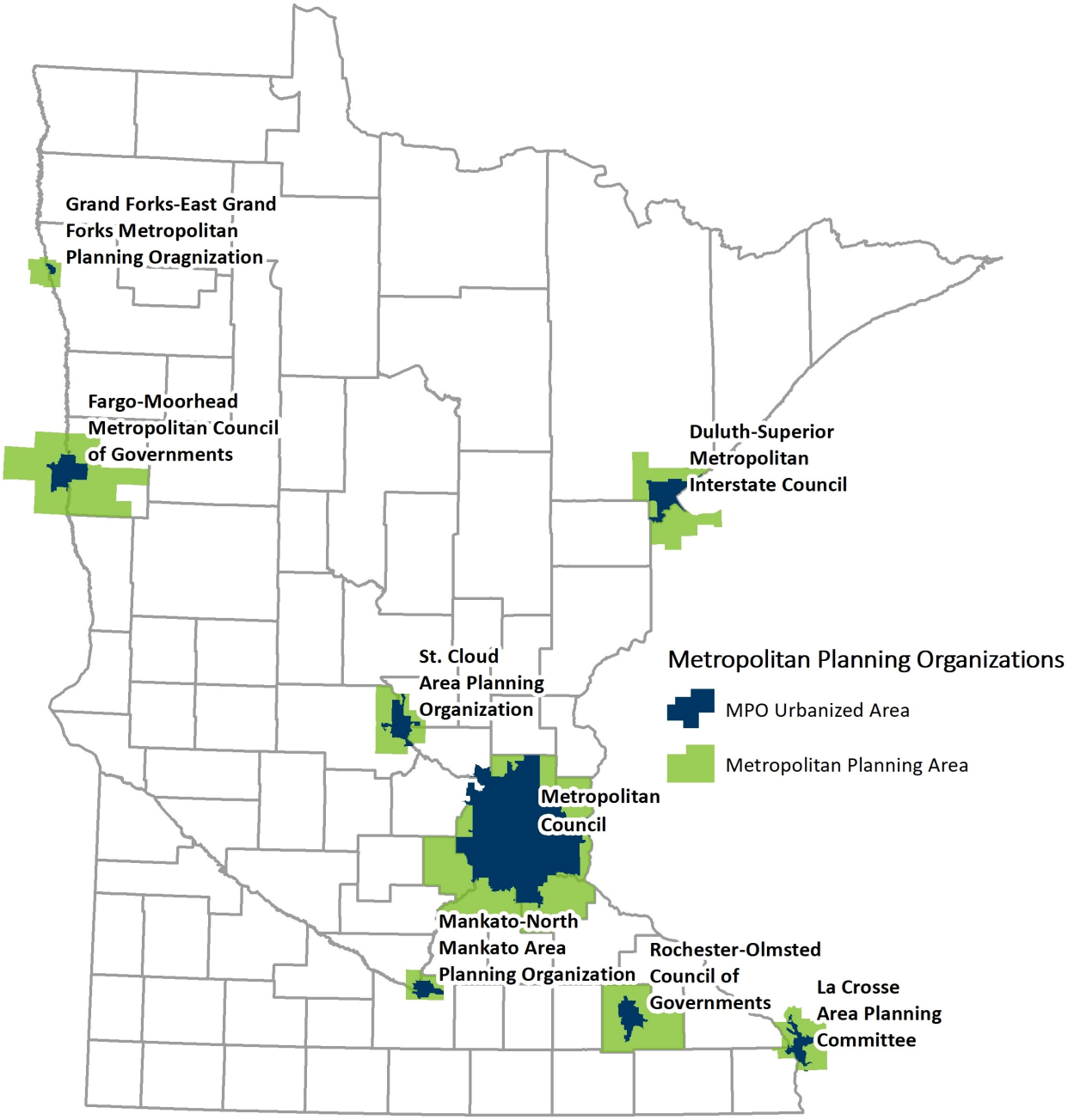
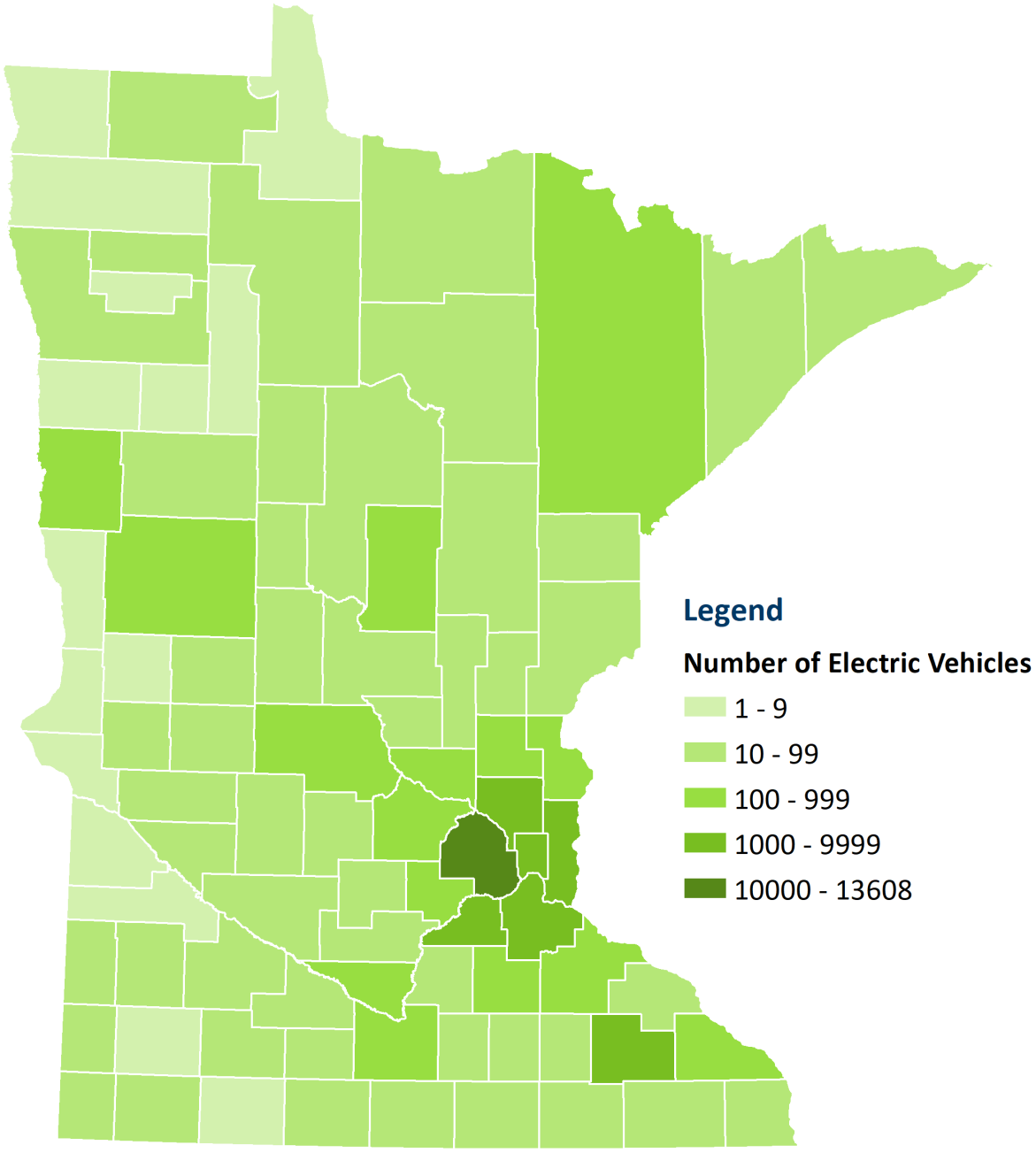


Figure 11: EV registrations in Minnesota, MnDOT, 2022

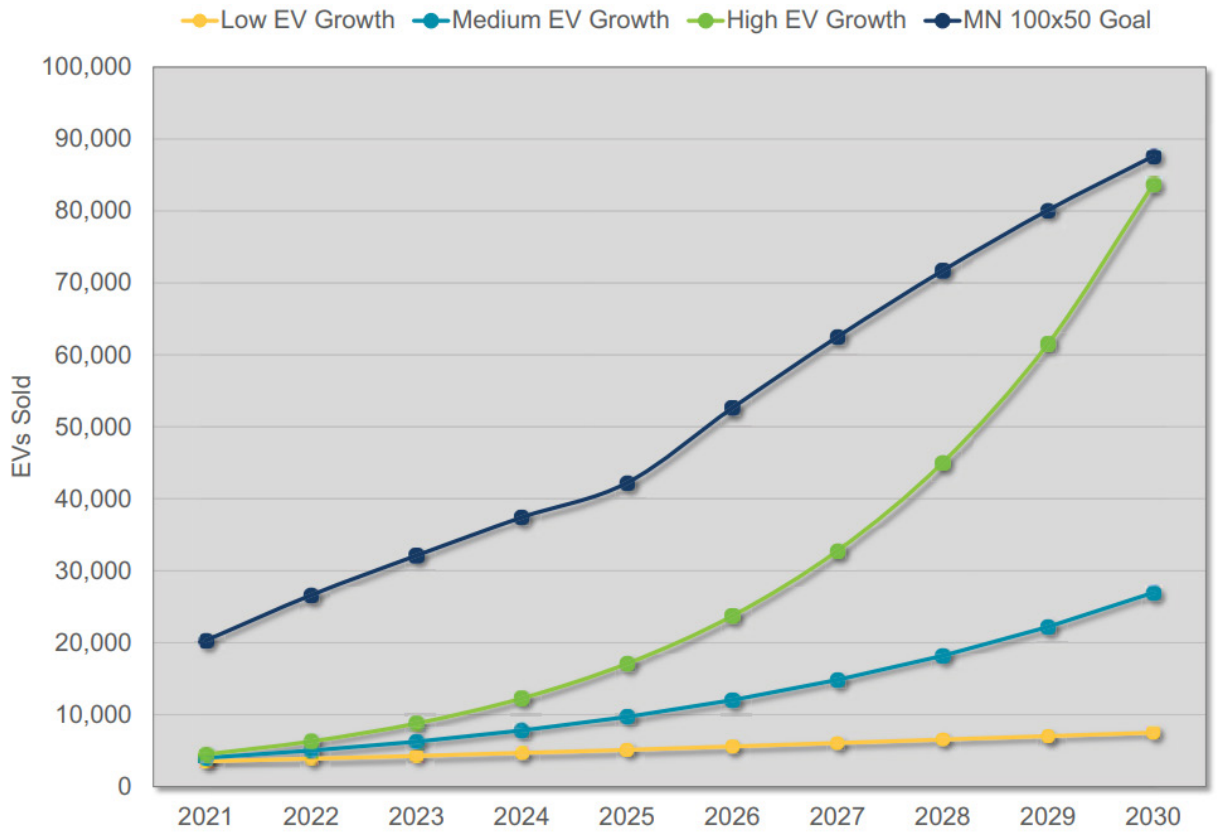


with close to 1% of total vehicles. Minnesota EV registrations have increased significantly in the last 5 years; however, EVs make up less than 1% of total light-duty vehicle registrations.[5] To meet state decarbonization goals for transportation, EVs would have to make up 60% of all new car sales and 20% of cars on the road in 2030.

Minnesota's EV sales are not on track to meet the emission reduction goals outlined in the 2019 Pathways to Decarbonizing Transportation in Minnesota or the 2022 SMTP targets. To understand the sales increases needed to reach these targets, MnDOT developed three additional EV sales growth scenarios for sedans and sport utility vehicles (SUVs) using April 2021 EV registration numbers as a baseline (see Figure 12), including a Reference scenario, an 80x50 scenario and a 100x50 scenario. The scenarios address different levels of policy and market intervention, resulting in different EV sales totals and GHG emissions reductions. The 80x50 scenario models a pathway to an 80% reduction in total surface transportation emissions by 2050, aligning with the Next Generation Energy Act goal. The 100x50 scenario models a pathway to achieve a 100% reduction by 2050. The Pathways scenarios align with the state's goal to achieve 20% light-duty EVs on the road by 2030.

As of January 20, 2023, there were 34,505 EVs registered in Minnesota.[6] Minnesota expects to continue to see increased sales of EVs as the Clean Cars rule goes into effect in 2024 for the 2025 model year vehicles.[7]

Figure 12: Annual EV sales in Minnesota by growth scenario, MnDOT, 2022



[5] "2021 Minnesota EV Assessment." Minnesota Department of Transportation. https://edocs-public.dot.state.mn.us/edocs_public/DMResultSet/Urlsearch?columns=docnumber,docname&folderid=19994055.

[6] "Electric Vehicle Dashboard." Minnesota Department of Transportation. June 20, 2023. https://www.dot.state.mn.us/sustainability/electric-vehicle-dashboard.html.

[7] "MPCA Clean Cars Minnesota Rules Report." Minnesota Pollution Control Agency, May 7, 2021. https://mn.gov/oah/assets/9003-36416-mpca-clean-cars-minnesota-rules-report_tcm19-480433.pdf.

STATE TRAVEL PATTERNS, PUBLIC TRANSPORTATION NEEDS AND FREIGHT AND OTHER SUPPLY CHAIN NEEDS

STATE TRAVEL PATTERNS

The Metropolitan Council's Travel Behavior Inventory (TBI) is a survey that provides data on travel patterns in the Twin Cities metropolitan region. This survey, along with other data (e.g., Census Bureau data and regional development trends), help depict travel trends in Minnesota. Key findings from the 2021 TBI include:

- Driving remains the main way people travel throughout the region, accounting for nearly 83% of trips, down slightly from 85% in 2019.
- 49.2% of household trips in 2021 were for everyday activities like healthcare visits, shopping, errands, or picking up and dropping off family members, which is down from 51% in 2019.
- Work and work-related trips account for 20.9% of all trips in 2021 compared to 25% of all trips in 2019; 83% of workers typically drove alone in 2019, while 89.2% of workers typically drove alone in 2021, which is to be expected with the COVID-19 pandemic.
- In total all trips were down 15.5% from 2019 levels to 2021 levels with approximately 2 million less trips taken in the Metropolitan Council's urbanized area in 2021 compared to 2019.

Travel behavior data is not available for other parts of the state, but average annual daily travel (AADT) volumes are available statewide. Table 2 shows AADT at locations along Minnesota's three interstate highways, I-35, I-94 and I-90.

Table 2: Minnesota Annual Average Daily Traffic volumes at key locations along I-35, I-94 and I-90, MnDOT, 2022

LOCATION	AADT (2017-21)
I-35	
Duluth	44,000
Moose Lake/Sturgeon Lake	16,400
Hinckley/Pine City	24,522
Wyoming/Forest Lake	54,687
Burnsville	93,076
Faribault	15,200
Albert Lea	22,400
I-94	
Moorhead	38,816
Fergus Falls	17,300
Alexandria	21,093
Sauk Centre	24,714
St. Cloud	27,000
Maple Grove	109,189
Minneapolis/St. Paul	137,581
Oakdale/Woodbury	111,971
I-90	
Rochester/Stewartville	11,600
Austin	18,679
Albert Lea	12,600
Blue Earth	9,300
Fairmont	10,200
Worthington	12,400
Luverne	10,500

CHAPTER 6

PUBLIC TRANSPORTATION NEEDS

SEVEN COUNTY METRO TRANSIT

Transit in the Twin Cities region is changing. While downtown Minneapolis and St. Paul have experienced dramatic increases in density, much of the regional job growth has occurred in suburban areas that are more difficult to serve with traditional fixed route transit.

The Metropolitan Council is responsible for developing policies and plans to guide development of the region's transit system, which is currently served by multiple transit agencies, each with different missions, objectives, constituencies and resources. Metro Transit traditionally concentrates on serving multiple core activity centers.

Metro Transit purchased 136 hybrid electric buses between 2002 and 2015 and recently completed a Zero Emission Bus Transition Plan that describes how the council will deploy zero-emission transit buses.[8]

Outside the core urban areas, service from regional transit agencies is a mix of on-demand service, low-frequency fixed-route service and commuter express services.

GREATER MINNESOTA TRANSIT

As of June 2016, Greater Minnesota had 40 public transit systems serving 80 counties. Of these systems, 28 are rural, seven are small urban systems and five are operated by tribal nations. To meet objectives related to global and national competitiveness, sustainability and resiliency and growth and economic development, Greater Minnesota transit systems have goals to upgrade fleet equipment and storage facilities, including by electrifying fleets. Duluth Transit Authority and Rochester Transit Authority operate electric transit buses. Other Greater Minnesota transit providers will begin operating electric transit buses soon. While the first year of investment from the NEVI Formula Program will focus on light-duty passenger vehicle charging, future planning cycles will explore opportunities to provide charging for medium- and heavy-duty vehicles, including public transit vehicles.

[8] "Zero-Emission Bus Transition Plan." Metro Transit. February 1, 2022. https://www.house.leg.state.mn.us/comm/docs/VTAD3Cx1zkKBXGNaC8eRkg.pdf.

FREIGHT AND OTHER SUPPLY CHAIN NEEDS

The structure of Minnesota's economy—population; per capita income; employment; and the type, size and locations of businesses and industries—determines the volume of freight moving in the state. Minnesota's central location within America's Midwest and the state's proximity to Canada also has a large impact on the volume and type of freight that moves throughout the state. Minnesota's economy is diverse and driven by the business services, finance and healthcare industries and by freight- or trade-related industries such as agriculture, mining and manufacturing. Trade-related industries are key drivers of the economy.

FREIGHT TRUCKING

Minnesota is also home to the headquarters of 16 Fortune 500 companies. Trucking is the largest component of this system and it plays a role in distribution for all industries. Even goods moving via other modes of transportation often use trucks for the first- and last-mile of the trip.[9] For example, from the Seven County Metropolitan Area to areas in Greater Minnesota freight trucks carry about 86% of freight by weight and 82% by value.[10] The state highway system in Minnesota consists of 11,703 centerline roadway miles. Some of these highways average more than 5,000 truck trips per day.[11]

FREIGHT RAIL

Rail also plays a significant role in the movement of freight in Minnesota. Minnesota has the eighth highest number of rail miles in the nation. Rail accounts for 25% of freight tonnage moving in the state and is especially important in moving bulk commodities such as minerals and agricultural products.[12] The state's rail network supports regional and national movement of goods between major shipping centers in Chicago and points west, including Pacific Northwest ports. The four primary Class I rail operators in the state are Burlington Northern Santa Fe (BNSF) with about 1,600 miles of track, Canadian Pacific (CP) with 650 miles of track, Union Pacific (UP) with 500 miles of track and Canadian National (CN) with 450 miles of track. In addition, 18 other short line or other regional railroads operate in Minnesota.[13]

PORTS AND WATERWAYS

Freight also moves through, into and out of the state via waterways and ports. Minnesota has a unique position for waterway movements, as it is located on both the Mississippi River and the Great Lakes via Lake Superior. The Mississippi River provides access to river ports to the south and to the Gulf of Mexico via New Orleans. The Great Lakes-St. Lawrence Seaway provides access to other ports along the Great Lakes to the Atlantic Ocean. Minnesota has four ports on the Mississippi River system located in Red Wing, Minneapolis/St. Paul, Savage and Winona that account for a combined tonnage shipped of over 11 million tons in 2019. Additionally, there are three ports on Lake Superior: Silver Bay, Two Harbors and Duluth-Superior, which have a combined tonnage shipped of more than 56 million tons in 2019.[14]

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[9] "Minnesota Statewide Freight System and Investment Plan." Minnesota Department of Transportation. January 1, 2018. https://www.dot.state.mn.us/planning/freightplan/pdf/statewidefreightplanrevised2018.pdf.

[10] "2020 Annual Report." Minnesota Department of Transportation. Minnesota Freight Advisory Committee, https://dot.state.mn.us/ofrw/mfac/index.html.

[11] "Minnesota Statewide Freight System and Investment Plan." Minnesota Department of Transportation. January 1, 2018. https://www.dot.state.mn.us/planning/freightplan/pdf/statewidefreightplanrevised2018.pdf.

[12] "2015 Minnesota State Rail Plan." Minnesota Department of Transportation. https://www.dot.state.mn.us/planning/railplan/2015report/1.pdf.

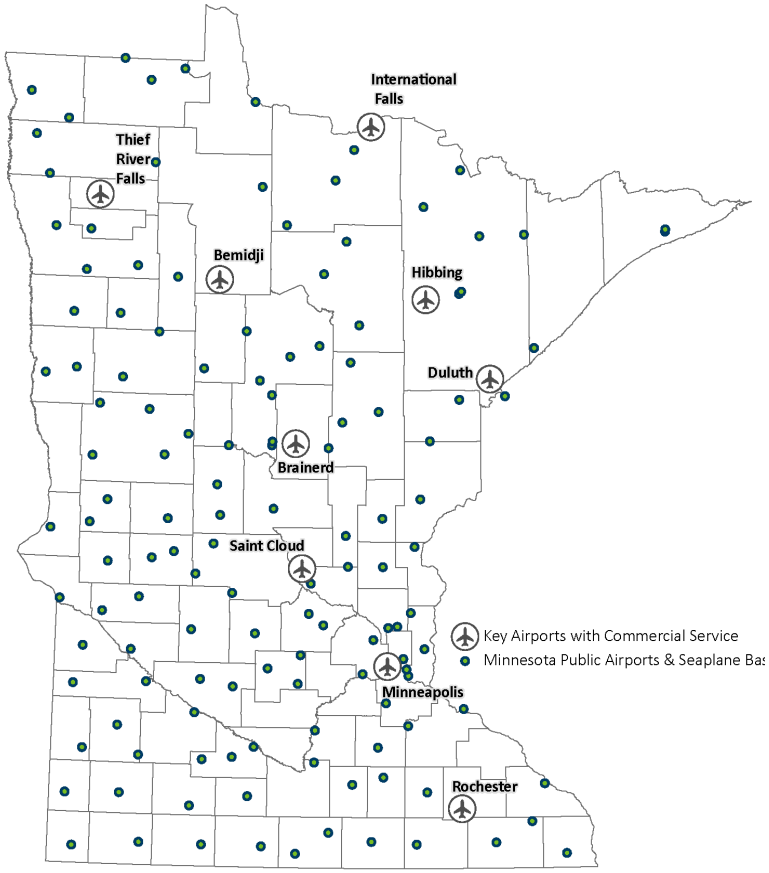
[13] "Minnesota Statewide Freight System and Investment Plan." Minnesota Department of Transportation. January 1, 2018. https://www.dot.state.mn.us/planning/freightplan/pdf/statewidefreightplanrevised2018.pdf.

[14] "Ports and Waterways." Minnesota Department of Transportation, Office of Freight and Commercial Vehicle Operations. https://www.dot.state.mn.us/ofrw/waterways/commercial.html.

AIRPORTS

Minnesota is home to 133 airports listed in the 2022 SMTP. Of these, nine are identified as key commercial service airports.[15] Minneapolis-St. Paul international Airport (MSP) is one of the top 30 air cargo airports in the nation. Figure 13 identifies the 133 airports.

Figure 13: Minnesota's aviation system, 2022



FREIGHT ALTERNATIVE FUELS

MnDOT is staying informed of new technology in the freight transportation sector. MnDOT coordinates with regional partners through the bipartisan REV Midwest coalition focused on medium- and heavy-duty vehicle electrification and will continue to engage with public- and private-sector freight partners through the Minnesota Freight Advisory Council (MFAC) and the STAC.

MnDOT is continuing to work with public and private sector partners and interested parties to better understand future freight transportation electrification needs. In partnership with the University of Minnesota, Center for Transportation Studies MnDOT recently completed the first phase of research that would help to identify corridors and sites for future investment in medium- and heavy-duty truck electrification charging stations.[16] With significant state policy direction to decarbonize all electric power generation additional time is needed to understand what powering systems would be needed for heavy-duty truck electrification charging systems. Alongside this effort, MnDOT is also working to update the Minnesota State Freight Plan to comply with new requirements in the IIJA. The update to the State Freight Plan will include strategies to decarbonize freight related transportation systems with the potential for electrification and other zero or low emission fueling sources (e.g., hydrogen).

MnDOT is aware of input from private sector partners on other potential fuel sources (e.g., hydrogen) and will continue to collaborate with the private sector to develop solutions for alternative fuels for freight vehicles.

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[15] "Minnesota Statewide Freight System and Investment Plan." Minnesota Department of Transportation. January 1, 2018. https://www.dot.state.mn.us/planning/freightplan/pdf/statewidefreightplanrevised2018.pdf.

[16] "Identifying and Optimizing Electric Vehicle Corridor Charging Infrastructure for Medium and Heavy Duty Trucks." Minnesota Department of Transportation. https://researchprojects.dot.state.mn.us/projectpages/pages/projectDetails.jsf?id=24539&type=CONTRACT&jftfdi=&jffi=projectDetails%253Fid%253D24539%2526type%253DCONTRACT.

AFC NETWORKS

MnDOT plans to use initial NEVI Formula Program funds to deploy EV charging infrastructure on existing AFCs. The currently designated AFCs are I-94 and I-35, as shown in Figure 14.

MnDOT made the decision not to nominate any additional roads as AFCs during Round 7 that closed on June 21, 2023.

To date MnDOT has not installed a charging station along these AFCs. The earliest installation is anticipated in late summer 2024 or early fall 2024. While there has been interest expressed in the opportunity to install NEVI Formula Program funded EV charging stations, MnDOT does not know the quality or quantity of proposals that will be submitted for the RFP. Additionally, MnDOT is not aware yet how completely the responses will support the completion of both AFCs.

Further, MnDOT is still learning and developing the understanding of what the process of providing grant funds to private industry looks like. Implementing charging stations in phase one will help MnDOT better navigate future solicitations with private partners.

MnDOT is committed to work with partners to provide a standardized charging experience. Establishing another AFC is one way to support a standardized charging experience. MnDOT is open to nominating additional AFCs in future nomination rounds.

MnDOT staff continue to engage with partners statewide to understand what people want to see in an EV charging network. Input and feedback gathered will continue to inform and support the Minnesota EV Plan updates and build out of Minnesota's EV network.

EXISTING LOCATIONS OF CHARGING INFRASTRUCTURE ALONG AFCS

Minnesota has a number of charging stations located throughout the state, particularly along the AFCs and within the Seven County Metropolitan Area. Per the Alternative Fuels Data Center website, as of June 5, 2023, there are 634 Level 2 and DCFC public charging stations in Minnesota. A total of 237 charging stations are located within 1-mile of existing AFCs (e.g., I-94 or I-35). The table in Appendix C lists these DCFC and Level 2 charging stations, which as last updated as of June 12, 2023.[17]

KNOWN RISKS AND CHALLENGES

In order to have a better grasp on the challenges and risks associated with federal funding of EV chargers, MnDOT staff are learning from the Clean Transportation Pilot Program.

Minnesota's Clean Transportation Pilot Program revealed several risks related to efficient deployment of EV chargers funded by federal transportation programs. MnDOT has had and continues to have more than a year of contracting delays for federally funded EV charging projects. In many cases, the agency has not yet been able to execute contracts based on the following factors.

BUY AMERICA REQUIREMENTS

Buy America (BA) requirements are new to the EV charging industry. Standardized BA certification paperwork for EV chargers does not exist, so MnDOT worked with the FHWA to identify the information vendors needed to provide prior to federal authorization for the pilot projects. Vendors were not able to demonstrate BA compliance during the first 16 months of contract development. In some cases, the equipment was not compliant. In other cases, it took time to gather details about the supply chain and obtain approvals to share the information.

[17] "Alternative Fuels Data Center." US Department of Energy. https://afdc.energy.gov/fuels/electricity_locations.html#/find/nearest?fuel=ELEC.

Figure 14: Minnesota's AFC Network for EVs, MnDOT, July 2023

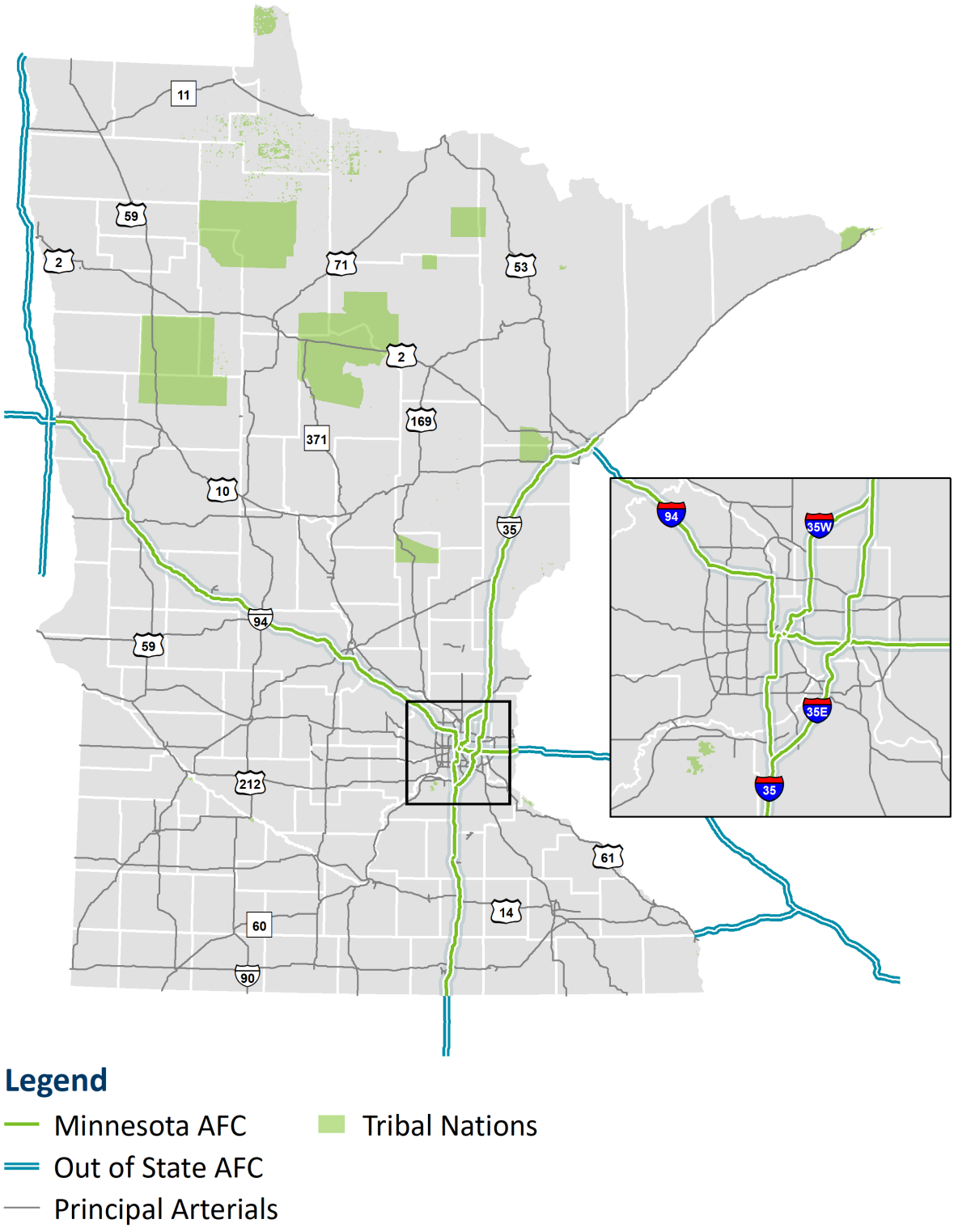
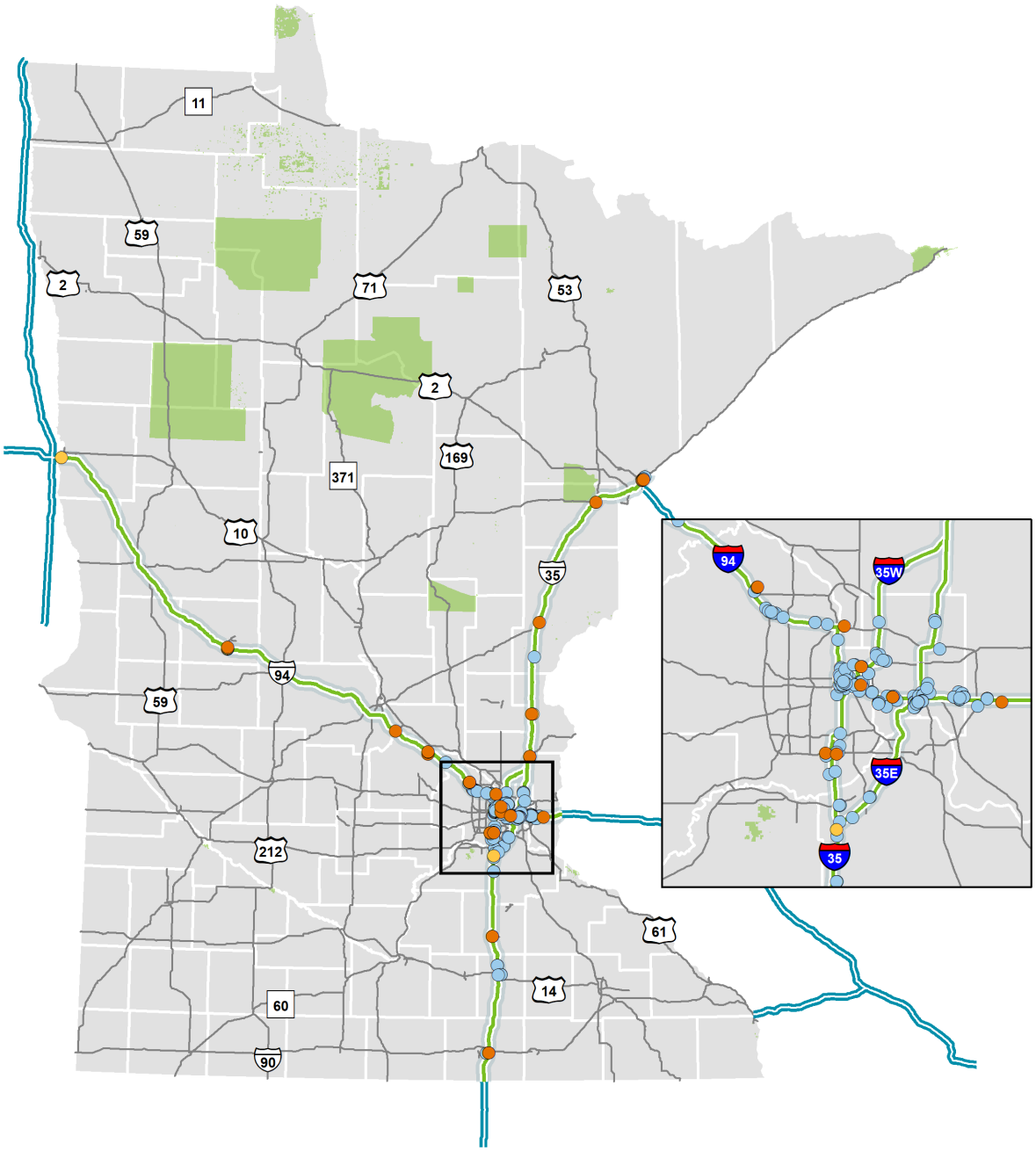


Figure 15: Existing EV charging station locations along Minnesota AFCs, MnDOT, June 2023



Legend

- Minnesota AFC
- Out of State AFC
- Principal Arterials
- Tribal Nations
- DCFC Location
- L2 Charger and DCFC Location
- L2 Charger Location

NATIONAL ENVIRONMENTAL POLICY ACT DOCUMENTATION

All federal transportation projects, including Clean Transportation Pilot Program projects, must be National Environmental Policy Act (NEPA) compliant. Contract execution was delayed by over a year due to the requirements of aligning the process for NEPA documentation with standard practices in the EV charging industry for site selection and development.

One example is that a pilot project's workplans included public and partner engagement to select optimal sites for EV chargers. The EV installer could not begin the workplan without federal authorization, which was contingent on NEPA documentation. NEPA documentation is contingent on having global positioning system (GPS) coordinates for a site. MnDOT worked with the vendor to phase the project and address this challenge.

PROJECT ACCOUNTING PROCEDURES

Establishing accounting procedures to track reimbursement for the pilot projects took time. It took over a year to develop a new accounting code and establish a process for tracking and paying project invoices. Part of the challenge was that the state often pays the required match for federally funded transportation construction projects. In the pilot project, third parties provide the match and directly spend the funds and ask for a reimbursement based on the agreed upon federal and non-federal match requirements. MnDOT established processes to accurately capture the match spending, given the limitations of the existing accounting systems.

USER FEES

Some pilot projects involve charging users a fee to use DCFCs. Federal regulations set guidelines for revenue generation from federal grants. MnDOT is working with FHWA to explore the collection of user fees and what guidelines there need to be for these fees.

More guidance is needed for user fees.

BARRIERS TO EV INFRASTRUCTURE DEPLOYMENT

MnDOT has identified four barriers to EV infrastructure deployment.

- Time required for utility upgrades
- Utility demand charges
- Rural/underserved infrastructure gaps
- Regulatory framework

TIME REQUIRED FOR UTILITY UPGRADES

Grid capacity must be able to support chargers. There are potential concerns for supplying the day-to-day charging needs of EVs. Further, transformer upgrades can take time. Current estimates are a year between ordering and delivery.

UTILITY DEMAND CHARGES

Rate structures can be a barrier to high-power, low-utilization loads. While EV adoption is low, utilization will also be low and costs for electricity will be high. Increased utilization reduces demand charge impacts but may be difficult to achieve if charging fees are high.

RURAL/UNDERSERVED INFRASTRUCTURE GAPS

Supporting long-distance travel means supporting travel through rural areas. These areas may have a small number of local EVs but higher volumes of pass-through EV traffic. These areas may not have easy or existing access to the 3-phase power required by DCFCs.

REGULATORY FRAMEWORK

Planning and zoning will be inconsistent throughout many of the station sites. Some local regulatory agencies do not have experience with EVSE, which may complicate project permitting. Different localities may have different regulations and processes.

7. EV CHARGING INFRASTRUCTURE DEPLOYMENT

As of May 2023, MnDOT has Minnesota Legislative authority to implement NEVI Formula Program funds. MnDOT is moving forward with the RFP process for site applications with the goal of awarding grants to build up to 18 locations along the existing AFCs (e.g., I-94 and I-35). MnDOT intends for this process to be as accessible and open for interested third-party entities to apply. See the Public Engagement section of this document for how MnDOT has and continues to reach out to the public and partners.

NEVI Formula Program funded infrastructure must comply with NEVI Formula Program requirements in 23 CFR 680.

MnDOT has and continues to have frequent conversations with the FHWA-Minnesota Division staff regarding NEVI. MnDOT staff have outlined an overall approach to the process to include adding projects to the State Transportation Improvement Program (STIP) and when federal authorization is to be requested.

At this time, MnDOT is planning to use the NEPA Categorical Exclusion process. This process will be carried out after sites have been identified through the RFP selection process and prior to construction authorization with FHWA.

MnDOT has been and will continue to coordinate with neighboring states to ensure the station placement is consistent along neighboring AFCs.

FUNDING SOURCES

The total five-year federal share of NEVI Formula Program funds available to Minnesota is $68,164,918, with a total estimated available funds of $85,206,147 when including the 20% non-federal match. Federal Fiscal Year (FY) 2022 federal share is $10.1M, with a total year-one project cost of $12,625,000 (including the 20% non-federal match).

For planning purposes, MnDOT estimates that the average EV charging site will cost $900,000. Based on this estimate, it is estimated that a total of 14 charging stations can be built with FY 2022 funding along I-94 and I-35. As of June 2023, a total of 18 charging stations is estimated to fully build out I-94 and I-35 as AFCs.

STATE MATCHING FUNDS

In the 2023 Minnesota Legislative session, MnDOT was allocated funding to provide the non-federal match to IIJA programs with funds from the Minnesota State budget in FY 2024 (July 1, 2023, through June 30, 2024) and FY 2025 (July 1, 2024, through June 30, 2025). Funds are available through June 30, 2027.

Details as to how much of the non-federal match that will be for NEVI and for what uses are still being developed. Non-federal match funds that are not covered by the state funding will be the responsibility of the third parties awarded contracts.

OTHER FUNDS

In Minnesota there are two other EVSE funding sources VW Settlement Mitigation Trust funds and Carbon Reduction Program (CRP) funds.

VW SETTLEMENT MITIGATION TRUST FUNDS

MPCA manages Minnesota's portion of the VW Settlement Mitigation Trust. The Trust is $47 million. EVSE is an eligible mitigation action capped at 15% of that state's total settlement. To date, the MPCA has funded 60 50kW fast charging stations paired with a Level 2 back-up station and 50 dual-port Level 2 stations. A second grant RFP recently funded approximately 40 additional Level 2 charging stations.

In the third and final phase of the settlement planned for 2024-2027 the MPCA has $1.5 million remaining that is eligible for additional EVSE.

CARBON REDUCTION PROGRAM FUNDS

EVSE is an eligible expense under IIJA's CRP. As of July 31, 2023, MnDOT is aware of the following projects in each fiscal year (FY) that are intended to be funded that meet EVSE under 23 CFR 680.

In FY 2023, there are no EVSE intended to be funded with CRP funds.

In FY 2024 the following are EVSE projects intended to be funded with CRP funds and local jurisdiction match funds. State Project numbers are referenced if they have been assigned as of July 15, 2023.

- City of Detroit Lakes intends to install two public EV charging stations funded by CRP funds.
- City of St. Cloud intends to install five charging stations funded by CRP funds (State Project: 162-080-009).
- City of St. Peter intends to install eight EV charging stations in various locations throughout the city (State Project: 165-080-003).
- Otter Tail County intends to install two EV charging stations funded by CRP funds.
- Redwood County intends to install two EV chargers in the City of Redwood Falls (State Project: 064-596-001).

INFRASTRUCTURE DEPLOYMENTS AND UPGRADES

The NEVI Formula Program funding is focused on the build out of the existing AFCs (e.g., I-94 and I-35) in Minnesota. Figure 16 shows the original clusters identified in 2022 of potential exits for DCFC installation along with details on the length of interstate between each potential exits cluster (in bold) as well as the length of the cluster of exits (italicized). Potential exits were selected based on NEVI Formula Program guidelines, power availability, proximity to disadvantaged communities, proximity to existing infrastructure, proximity to existing corridors and public input. Initially there were 56 potential exits identified in the 2022 EV Plan for EV charger sites along I-94 and I-35 in Minnesota. These exits were grouped into 15 clusters. The 2022 EV Plan's purpose was to select a single site per cluster for NEVI funding, except for the Minneapolis/St Paul cluster, which received two charging sites. Within the 2022 Plan, spacing distances were originally measured using 50-mile circle "zones".

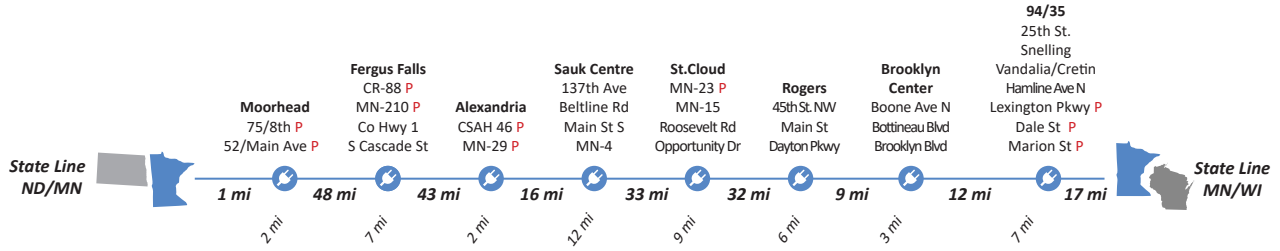
As of July 31, 2023, MnDOT does not have any confirmed site-specific locations for EV charging stations. These sites will be determined through the RFP process, which will occur in the fall of 2023. MnDOT with a consultant have developed an interactive GIS platform that identifies the clusters of exits and potential site exits that assessed the distance between each on driving distance. The driving distance measure is a modification from the original method used to identify the exits/clusters in the original 2022 EV Plan.

As MnDOT makes updates the purpose of the clusters remains unchanged, however using the driving distance measurement, additional clusters have been added resulting in the Minnesota EV Plan now include 18 clusters of exits. These 18 clusters now include a total of 57 potential exits between I-94 and I-35. The intent is that each cluster will only have a single NEVI Formula Program charging site installed at it (Figure 1). With these additional clusters, should any single site be paired with another in the closest neighboring cluster, the sites will be no more than 50-miles apart.

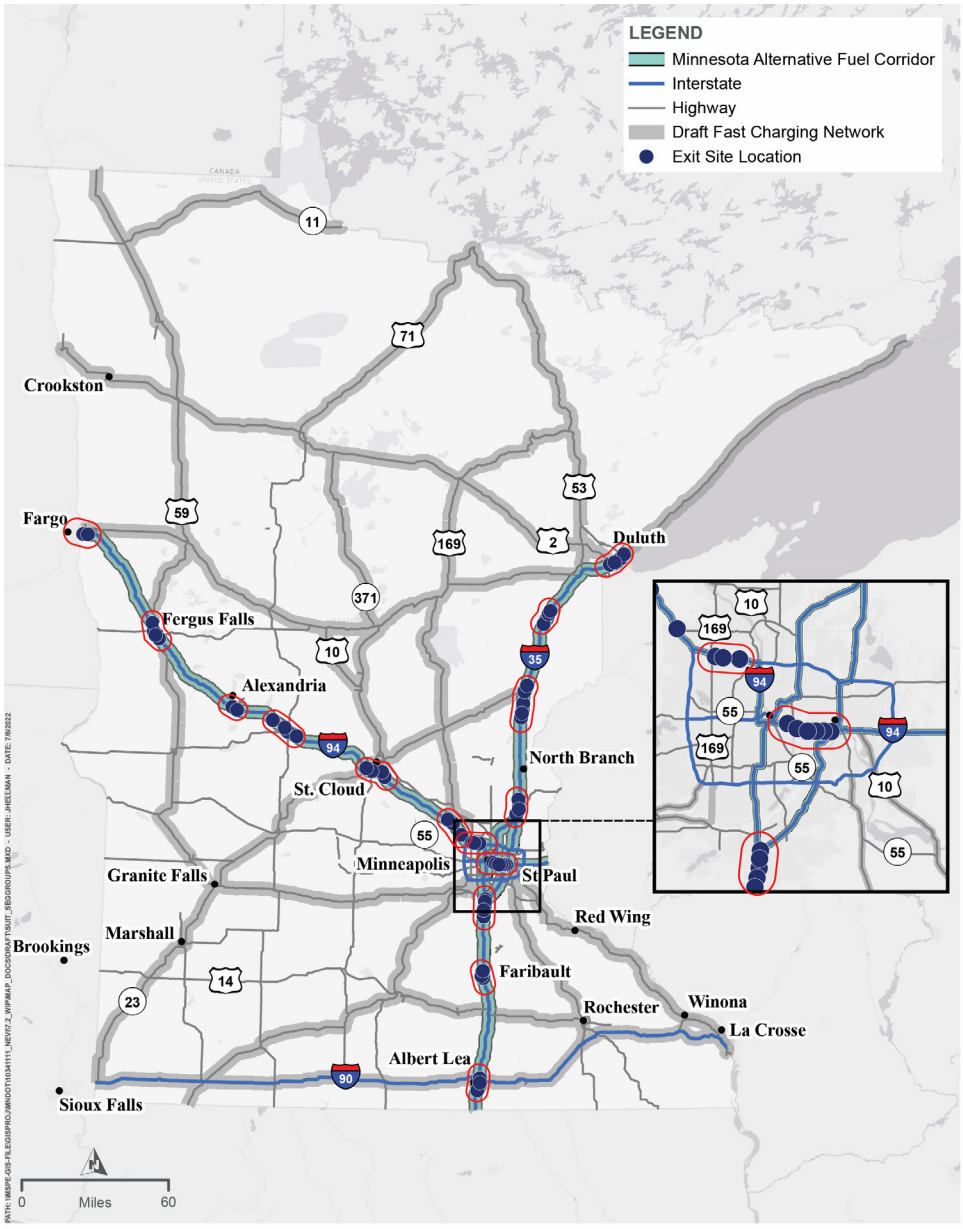
MnDOT will select one site per cluster through the RFP selection process. Appendix D provides a detailed description of the process for selecting location clusters.

The level of detail for planned sites is currently set to the highway interchange (exit) level as identified in Table 3. MnDOT will require that all stations meet the minimum requirements of 23 CFR 680.106.

Figure 16: 2022 NEVI Investment Locations, MnDOT, June 2022



*The "P" indicates confirmation that 3-phase power is available within one mile of the interchange.



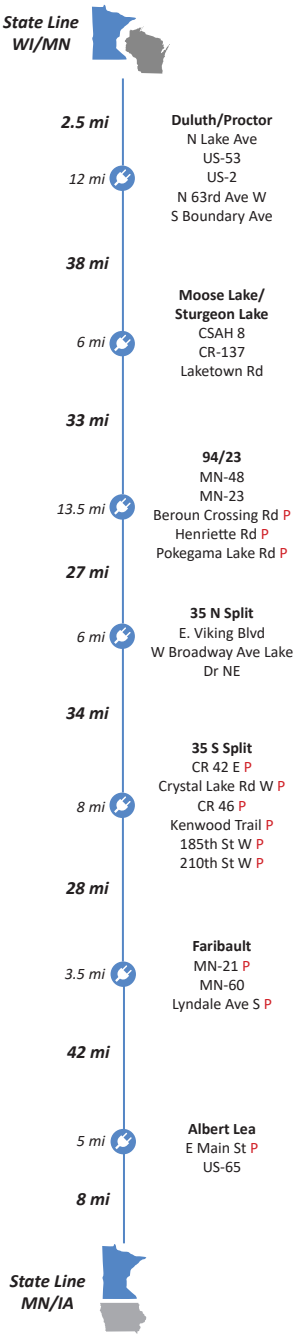


Table 3: Planned EV charging stations, MnDOT, July 2023

STATE EV CHARGING LOCATION UNIQUE ID	CHARGER LEVEL	ROUTE (AFC)	LOCATION (CLUSTERS)	EXIT NUMBERS	NUMBER OF PORTS	ESTIMATED YEAR OPERATIONAL	ESTIMATED COST	NEVI FUNDING SOURCES	NEW LOCATION OR UPGRADE
Not Available	DCFC	94	Cluster 1 - Moorhead	1A, 2 A/B	4	2024	$900,000	FY22/23	New
Not Available	DCFC	94	Cluster 2 - Barnesville, Rothsay	22,24, 38	4	2024	$900,000	FY22/23	New
Not Available	DCFC	94	Cluster 3 - Fergus Falls	54, 57	4	2024	$900,000	FY22/23	New
Not Available	DCFC	94	Cluster 4 - Alexandria	100, 103	4	2024	$900,000	FY22/23	New
Not Available	DCFC	94	Cluster 5 - Sauke Center, Meire Grove, Melrose, Albany	127, 131, 135, 147	4	2024	$900,000	FY22/23	New
Not Available	DCFC	94	Cluster 6 -St. Cloud, St. Augusta	164 A/B, 167 A/B, 171, 173	4	2024	$900,000	FY22/23	New
Not Available	DCFC	94	Cluster 7 - St. Michael, Rogers, Maple Grove	205, 207/207A, 213	4	2024	$900,000	FY22/23	New
Not Available	DCFC	94	Cluster 8 - Brooklyn Park, Brooklyn Center	30, 31, 33	4	2024	$900,000	FY22/23	New
Not Available	DCFC	94/35	Cluster 9 - Minneapolis	234C, 235 A/B, 17C	4	2024	$900,000	FY22/23	New
Not Available	DCFC	94	Cluster 10 - St. Paul	237, 238, 239 A/B, 240, 241A	4	2024	$900,000	FY22/23	New
Not Available	DCFC	35	Cluster 11 - Duluth	256 B, 255 A, 253 B, 252, 249	4	2024	$900,000	FY22/23	New
Not Available	DCFC	35	Cluster 12 - Moose Lake, Sturgeon Lake	214, 209	4	2024	$900,000	FY22/23	New
Not Available	DCFC	35	Cluster 13 - Hinkley, Mora/Hwy 23, Beroun, Pine City	183, 180, 175, 171, 169	4	2024	$900,000	FY22/23	New
Not Available	DCFC	35	Cluster 14 - North Branch	147	4	2024	$900,000	FY22/23	New
Not Available	DCFC	35	Cluster 15 - Wyoming, Forest Lake, Columbus	135, 131, 129	4	2024	$900,000	FY22/23	New
Not Available	DCFC	35	Cluster 16 - Burnsville, Lakeville	88 B, 86, 85, 84, 81	4	2024	$900,000	FY22/23	New
Not Available	DCFC	35	Cluster 17 - Faribault	59, 56	4	2024	$900,000	FY22/23	New
Not Available	DCFC	35	Cluster 18 - Albert Lea	11	4	2024	$900,000	FY22/23	New

UPGRADES OF CORRIDOR-PENDING DESIGNATIONS

Portions of I-94 and I-35 are considered corridor-ready, although most of these sections are classified under pre-NEVI Formula Program criteria.

PLANNING TOWARD FULLY BUILT OUT DETERMINATION

MnDOT plans to use funds from FY 2022 and FY 2023 on the initial investment locations to build up to 18 charging station locations as noted previously. MnDOT anticipates this will meet the FHWA requirements for full build out of the two existing AFCs (e.g., I-94 and I-35).

MnDOT anticipates that contracts with third party entities will be awarded by summer 2024, at which time final design and construction can begin. The timeline for installation is likely to shift due to the variability of the supply chain, concerns around Buy America complaint EVSE and the availability of transformers and other electrical equipment. MnDOT does not anticipate full build out of operational stations until the end of 2024 or possibly into 2025.

INCREASES OF CAPACITY/REDUNDANCY ALONG EXISTING AFC

MnDOT is pursuing a strategy of building additional stations to meet NEVI Formula Program compliance. Private partners may choose to expand an existing station beyond the minimum requirements, if desired. At this time, the standard NEVI-compliant station will include a minimum of four 150 kW DCFC chargers, although MnDOT may explore stations with power-sharing capabilities that may allow up to 350 kW charging if only one vehicle is present. MnDOT may also explore modular charging units that minimize charger down-time and support easier upgrades to the system.

The Seven County Metropolitan Area has charger locations planned throughout the area along the two AFCs to support the higher density of EV ownership, traffic and population. Two charging stations are planned for along the convergence of I-35 and I-94 in Minneapolis and St. Paul. In total there is estimated to be six EV charging stations in the Seven County Metropolitan Area, which also includes the existing station at Woodbury Drive near the border to Wisconsin.

Because the clusters are spaced at 50-mile intervals and additional chargers are planned for the Seven County Metropolitan Area, the average EV charging station density along both corridors will be approximately one station per 35 miles.

Since the initial 2022 EV Plan development, MnDOT has further reviewed the driving distance and identified a few potential gaps between the original clusters. As of July 2023, MnDOT is proposing the addition of two new cluster locations and modification or removal of some of the original exits. See Figure 17: 2023 NEVI Investment Locations and more information under Infrastructure Deployments and Upgrades subsection.

EV FREIGHT CONSIDERATIONS

At this time, NEVI Formula Program investments are focused on light-duty EV charging needs. Infrastructure and power requirements needed to serve freight would be far in excess of the infrastructure being deployed using FY 2022 and FY 2023 NEVI Formula Program funds. However, by the close of the NEVI Formula Program, MnDOT expects I-90, a primary route for interstate freight to be fully built-out.

While plans have not been developed to address freight, there may be consideration of freight when I-90 is in planning stages. The level of power needed for freight electrification required substantial coordination with utilities, freight providers and neighboring states to determine feasibility.

See the Existing and Future Conditions Analysis section and Freight and Other Supply Chain needs subsection for more information about freight.

PUBLIC TRANSPORTATION CONSIDERATIONS

At this time, NEVI Formula Program investments are focused on light-duty EV charging needs. MnDOT anticipates transit providers working to electrify their fleets will develop policies and plans that match their unique needs and pursue funding through the Federal Transit Administration's Low or No Emission Vehicle Program and Buses and Bus Facilities Program.

However, transit providers that operate light-duty vehicles (i.e., paratransit) will be able to use the NEVI Formula Program funded EV chargers. MnDOT anticipates further planning will need to be done to address the needs where Americans with Disabilities Act (ADA)-compatible EVs are deployed into paratransit service.

STATE, REGIONAL AND LOCAL POLICY

EVs and EV infrastructure are supported through state policy, state partnerships, local zoning, education and outreach and utility investments.

STATE POLICY

MINN. STAT. 216H

In 2007, the state passed the bipartisan Next Generation Energy Act, which established goals for the state to reduce greenhouse gas (GHG) emissions by 15% below 2005 levels by 2015, 30% by 2025, and 80% by 2050. However, the state did not meet the 2015 goal and is not on track to meet its future goals. Transportation became the largest emitter of carbon pollution in the state in 2016.

MINN. STAT. 174.01

Minnesota has 16 goals defined in state statute that guide MnDOT work to create an integrated multimodal transportation system in Minnesota. A number of these goals directly relate to increasing low-emission vehicles, reducing GHG emissions and minimizing environmental impacts.

EXECUTIVE ORDER 19-37

In 2019, Governor Walz signed Executive Order (EO) 19-37 to address the size and scope of the climate crisis, rally the resources of state government and push the state forward on climate action. EO 19-37 describes the existential threat of climate change to all Minnesotans, including risks to health and wellbeing, natural resources, the economy and quality and way of life. It also highlights that significant disparities exist in Minnesota and that

these existing disparities mean climate risks are not distributed equally; some communities bear a disproportionate burden of the negative impacts.

Therefore, effective change and planning must consider differences based on race, gender, geography and economic status to make sure Minnesota's climate solutions consider equity, respond to community needs and bring benefits to all Minnesotans. EO 19-37 established the Climate Change Subcabinet and the Governor's Climate Change Advisory Council to address these issues.

MINN. STAT. 216B.1691 AMENDED

In February 2023, Governor Walz signed into law amended language in Minnesota Statute 216B.1691 to add a Carbon-free standard. The addition requires that 'each electric utility must generate or procure sufficient electricity generated from a carbon-free energy technology to provide the electric utility's retail customers in Minnesota'. By the end of 2030 80% of public utilities and 60% of other electric utilities are to be compliant. By the end of 2035 90% of all electric utilities are to be compliant. Then by 2040, 100% of all electric utilities are to be compliant.

This amendment will increase the clean energy used to power the EV charging stations and highlights the cross-sector efforts to reduce GHG emissions and minimizing environmental impacts.

STATE PARTNERSHIPS

SUSTAINABLE TRANSPORTATION ADVISORY COUNCIL

The STAC makes recommendations to the MnDOT commissioner to help MnDOT reduce carbon pollution from the transportation sector in Minnesota, consistent with MnDOT statutory goals outlined in Minn. Statute 174.01, the Next Generation Energy Act and the annual MnDOT Sustainability Report.

The STAC is a type of long-form public engagement with leaders from public, private and nonprofit sectors in Minnesota. STAC workgroups develop recommendations that prioritize climate action and equity. The goal of the STAC is to help Minnesota transition to a low-carbon transportation system consistent with statutory goals for energy and emissions reductions to maximize benefits to Minnesota. The STAC must strive for their goals while recognizing the importance of improving safety, reducing inequities and supporting economic development. The STAC has provided several recommendations to MnDOT about advancing EV adoption and expanding the EV charging network in Minnesota.

GOVERNOR'S CLIMATE CHANGE SUBCABINET

The Governor's Climate Change Subcabinet includes executives from 15 state agencies, departments and boards. It is responsible for several actions:

- Identify policies and strategies to put Minnesota back on track to meet or exceed the Next Generation Energy Act goals to reduce GHG emissions.
- Identify policies and strategies to enhance the climate resilience of Minnesota's natural resources, working lands and communities and to assist state agencies, businesses and local communities to prepare for climate change impacts that cannot be avoided or mitigated.
- Engage with Minnesotans on these complex issues.

- Promote equitable policy solutions that reduce disparities in Minnesota, ensure a just transition for impacted workers and communities and encourage green economic development and job creation.

To help identify the most effective policies and strategies, state leaders created action teams to bring together subject-matter experts across state agencies and gather knowledge about different sectors of the economy and society and the challenges and solutions. MnDOT participates on three action teams to gather input to inform state-level transportation, sustainability and public health strategies.

TRANSPORTATION ACTION TEAM

MnDOT leads the Transportation Action Team to address climate change and decarbonize the transportation sector in Minnesota. Examples of work include developing analysis, implementation plans and policies to support the Climate Change Subcabinet, such as proposed actions to expand the statewide EV charging network.

MID AMERICA ASSOCIATION OF STATE TRANSPORTATION OFFICIALS

Minnesota participates in the Mid America Association of State Transportation Officials (MAASTO), which includes state DOT staff representatives from Ohio, Illinois, Indiana, Iowa, Kansas, Kentucky, Michigan, Missouri, Minnesota and Wisconsin. The group meets several times during the spring and summer to coordinate regionally on the development of statewide plans and policies (i.e., electric vehicle infrastructure deployment plans, equity). Minnesota continues to actively participate in the MAASTO EV Committee to ensure that fast charger planning and deployment aligns with efforts in neighboring states to the extent possible.

CLEAN TRANSPORTATION FUEL STANDARD WORKING GROUP

The 2023 Minnesota Legislature established the Clean Transportation Fuel Standard Working Group to prepare recommendations for implementing a Clean Transportation Standard (CTS), including development of performance-based incentives to reduce carbon pollution from all transportation fuels including gasoline, diesel, biofuels and electricity. The working group will be jointly convened by the Commissioners of Department of Agriculture (MDA), COMM, MnDOT and MPCA.

The goal of a CTS is to significantly reduce transportation emissions, create new jobs, attract new investments and reduce air and water pollution in Minnesota. The working group will make recommendations on fuel pathways and determine impacts to jobs, fuel prices, rural and agricultural economic development and environmental justice for legislation in the 2024 legislative session to reduce the carbon intensity (CI) of all fuels used in transportation.

By Feb. 1, 2024, the working group will develop recommendations for structuring a CTS that requires the aggregate carbon intensity of transportation fuel supplied to Minnesota be reduced to at least 25% below the 2018 baseline level by the end of 2030; reduced by 75% by the end of 2040; and reduced by 100% by the end of 2050.

More information on membership, the timeline and next steps can be found on the MnDOT Clean Transportation Fuel Standard Working Group website.

GREENHOUSE GAS EMISSIONS IMPACT MITIGATION WORKING GROUP

The 2023 legislature established the Greenhouse Gas Emissions Impact Mitigation Working Group to prepare recommendations for implementing a Transportation Greenhouse Gas Emissions Impact Assessment for capacity expansion projects on state highways prior to inclusion in the STIP or a

metropolitan planning organization's Transportation Improvement Program (TIP). The working group will be convened by the Commissioner of Transportation (MnDOT).

The goal of a Transportation Greenhouse Gas Emissions Impact Assessment is to align project decision-making with the State's GHG emissions reductions targets under Section 174.01 Subdivision 3 and Vehicle Miles Traveled (VMT) reduction targets established in the SMTP.

By Feb. 1, 2024, the working group will develop recommendations for a Transportation Greenhouse Gas Emissions Impact Assessment for capacity expansion projects on state highways, an impact mitigation plan and consideration of options related to funding GHG emissions mitigation activities and consideration of options for alternative mitigation options.

More information on membership, the timeline and next steps can be found on the MnDOT Transportation Greenhouse Gas Emissions Impact Mitigation Working Group website.

LOCAL ZONING

Local governments in Minnesota are encouraging more EV charging infrastructure through their zoning ordinances. Some cities require charging infrastructure to be installed in all new or reconstructed parking structures, with varying requirements for multi-unit dwellings and non-residential buildings.

One example is that the City of Bloomington, Minnesota permits EV chargers in every zoning district as an accessory use. For multi-unit dwellings, the city requires one space per 50 units to have at least a Level 2 charging station.

EDUCATION AND OUTREACH

In Minnesota, nonprofit organizations, local governments, utilities and others provide educational materials and outreach to residents to accelerate EV adoption in the state.

DRIVE ELECTRIC MINNESOTA

Drive Electric Minnesota is a "partnership of Minnesota's EV champions, dedicated to encouraging the deployment of EVs and the establishment of EV charging infrastructure through public-private partnerships, financial incentives, education, technical support and public policy." Facilitated by the Great Plains Institute, Drive Electric Minnesota partners with city governments, state agencies, electric utilities, charging providers and dealerships to increase EV adoption.

MN ELECTRIC VEHICLE OWNERS

MN Electric Vehicle Owners is the Minnesota chapter of the National Electric Auto Association, a group of EV owners who meet every other month around the state. Their three main objectives are to provide a space for EV owners to connect, continuously learn about new vehicles and technologies and be a resource for prospective EV buyers. Their private Facebook group has over 2,170 members.

MINNESOTA CLEAN CITIES COALITION

Minnesota Clean Cities Coalition is designated under the U.S. Department of Energy's Clean Cities program and hosted by the American Lung Association in Minnesota. The Coalition is implementing or supporting several federally funded projects to expand access to light-, medium- and heavy-duty electric vehicles and charging infrastructure. In addition, the Coalition provides technical assistance for fleets and coordinates public education and outreach activities, such as EV ride-and-drives.

LOCAL GOVERNMENTS

The city of Fridley hosted a ride-and-drive event for their citizens, to encourage EV adoption. The city also incorporated EV awareness efforts into other city events like parades and environmental fun fairs. Another way cities and tribal nations have acted is by participating in Cities Charging Ahead!, a peer cohort of cities working to become EV-ready facilitated by the Great Plains Institute and Clean Energy Resource Team. Through the cohort, 12 cities purchased, leased or plan to purchase a total of 21 EVs; 11 cities installed or plan to install a total of 27 charging stations; and 13 cities completed or are working to implement guidance on EV-ready development in the private sector.

Additional examples of how tribal nations are engaging in the EV sector are through tribal government initiatives such as the Guiding Leech Lake to Sustainability effort and Fond du Lac EV stations.

The Leech Lake Band of Ojibwe is preparing to build its own Tribal EV Corridor, which will place chargers at community centers in rural Reservation communities. This ensures that those living farther from principal arterials still have access to EV infrastructure. This also ensures that the Reservation will stay up to date with changing vehicle technology.

At Fond du Lac, the Energy Vision of the Band is to maximize the efficiency of energy usage and develop energy resources in ways that will sustain current and future generations by addressing the economic, environmental and social issues of energy within the context of Fond du Lac Band's culture, traditions and established tribal policies for the wise use of our solar, forest, water and wind resources.

Currently, there are 14 different EV charging stations on the Fond du Lac Reservation. These 14 stations are distributed across four different locations. Three locations with Level 2 chargers: Fond du Lac Tribal Center has two Level 2 chargers, Min No Aya Win Clinic has two Level 2 chargers and the Black Bear Casino parking garage has two Level 2 chargers. All Level 2 stations on the Reservation have J-1772 (or "J-plug") connectors.

One DCFC is located on the Reservation at Black Bear Casino. This location has a Tesla Supercharger with eight charging ports and a parking stall that can accommodate a trailing towing vehicle.

The Fond du Lac Band of Lake Superior Chippewa has provided a letter of support for the MnDOT IRRR EV GROW Charging & Fueling Infrastructure Application. The Band is exploring EV charging funding opportunities and is actively working to expand EV infrastructure on the Fond du Lac Reservation.

UTILITIES

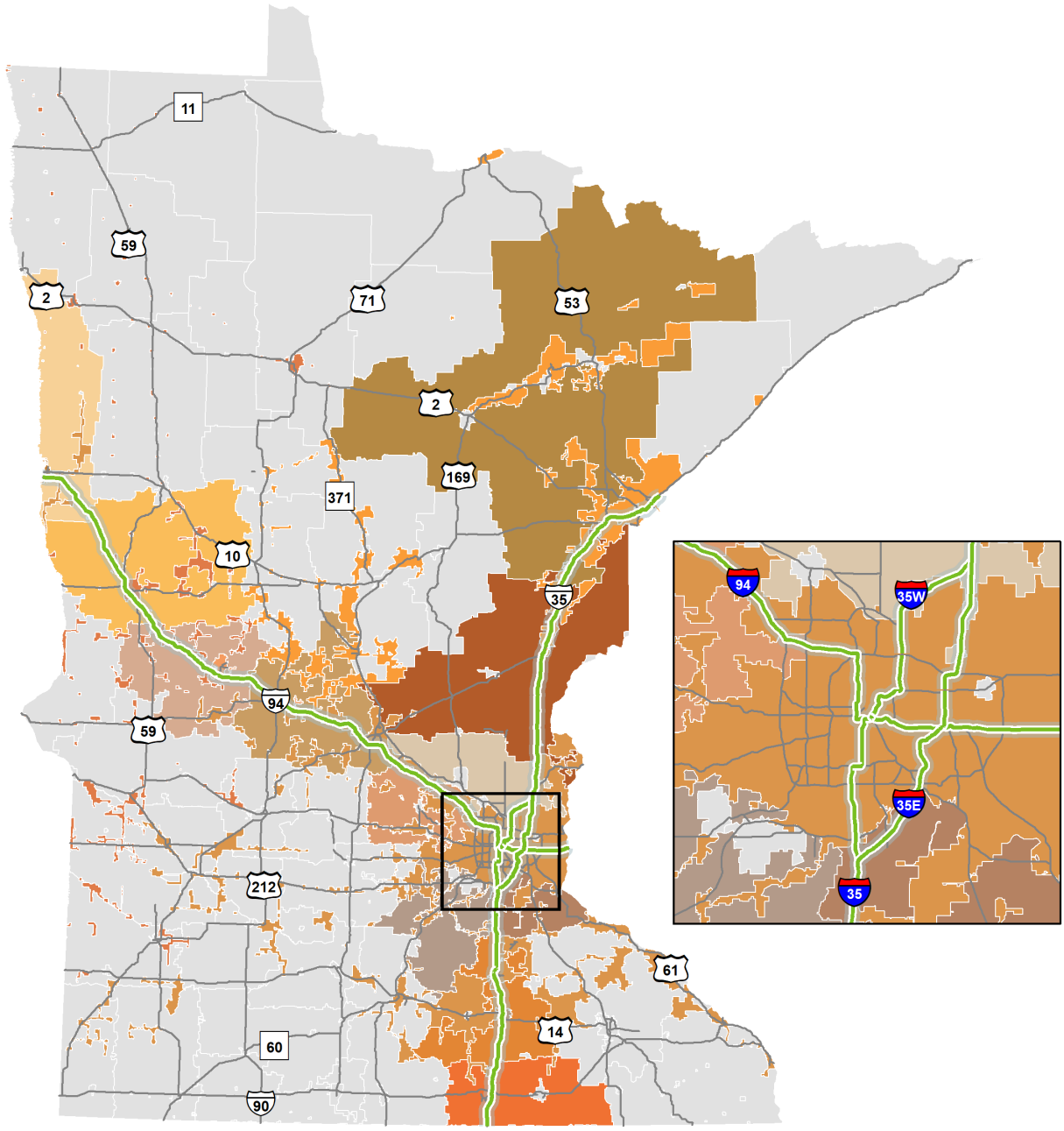
As previously discussed, many electric utilities in Minnesota are educating their customers about EVs by hosting ride-and-drives, including information on their websites.

UTILITY INVESTMENTS

Minnesota's electric grid providers have been engaged throughout the process and have provided MnDOT with a cursory understanding at this early stage where 3-phase power is available along each of the AFCs. Figure 17 shows utilities along designated AFCs with proposed NEVI Formula Program investment. Many utilities will experience minimal impacts with only one charging station within their boundary. As the EV Plan is implemented, continued engagement with utility partners is necessary to support the efficient planning, design and construction of stations.

See the Public and Partner Engagement section for more information on the engagement with utility partners.

Figure 17: Utility Boundaries in Minnesota, Minnesota Geospatial Commons, 2023



Legend

- Minnesota AFC
- Principal Arterials

Electric Service Utility

- Alexandria
- Connexus Energy
- Dakota Elec. Assn.
- East Central Elec. Assn.
- Freeborn-Mower Elec. Coop.
- Lake Country Power
- Lake Region Coop. Elec. Assn.
- Melrose
- Minnesota Power
- Minnesota Valley Elec. Coop.
- Moorhead
- Moose Lake
- Otter Tail Power
- Owatonna
- Proctor
- Red River Valley Coop. Power Assn.
- Runestone Elec. Assn.
- Sauk Centre
- Stearns Coop. Elec. Assn.
- Steele-Waseca Coop. Elec. Co.
- Wright-Hennepin Elec. Coop.
- XCEL

8. IMPLEMENTATION

The June 22, 2022, Notice of Proposed Rulemaking (NPRM) established proposed minimum standards and requirements. The EV Charging minimum standards final rule and requirements were published in the Federal Register February 28, 2023. Key proposed standards and requirements from the final rule are identified in the subsections below. Minnesota will incorporate the final NEVI Formula Program minimum standards and requirements into the RFP selection process for contractors.

STRATEGIES FOR EVSE OPERATIONS AND MAINTENANCE

Minnesota aims to provide an accessible and reliable charging experience with minimal wait times. Through public and partner engagement on the EV Plan, MnDOT learned that reliability and long-term performance of EV charging stations is a top concern for drivers and industry partners. MnDOT will use NEVI Formula Program funds to contract with a third party for the first 5 years of O&M for the EV chargers. The agency will incorporate the NEVI Formula Program minimum standards and requirements in 23 CFR 680 for O&M into the RFP selection process with contractors.

STRATEGIES FOR IDENTIFYING EV CHARGER SERVICE PROVIDERS AND STATION OWNERS

MnDOT will use the RFP selection process to advertise, select and award NEVI Formula Program funds to third party contractors. MnDOT will implement the program through a grants approach. MnDOT's Office of Finance, *Grants Management and Grant Manual* provides guidance and requirements over the lifecycle of a grant award through three phases: pre-award, post-award and closeout. The MnDOT Office of Sustainability and Public Health (OSPH) will provide direct oversight for the NEVI program. All *OSPH Grant Manual* procedures and processes will be followed for the NEVI Formula Program.

Installation, maintenance and ownership responsibilities will be included in contract award agreements. Verification of compliance, federal and state requirements will be applied during the reimbursement of expenses.

For additional information about Minnesota's proposed contracting approach, see the Contracting section.

The agency will leverage relationships built through the public engagement process for the EV Plan. For a list of EV charger service providers and potential third-party contractors that provided input on the EV Plan, see 2022 Minnesota Electric Vehicle Infrastructure Plan Appendix E.

CHARGING SITES LOCATED AT REST AREAS

During the plan development process, MnDOT has and continues to receive many questions about siting chargers at rest areas. Rest areas are not a priority for DCFC charging stations because they lack many of the amenities of privately-owned sites. Rest areas could be an option if MnDOT cannot identify private site hosts, but this comes with a number of challenges and restrictions.

Due to current federal and state regulations, the agency cannot charge drivers a fee to use fast chargers at rest areas. This would mean that electricity would need to be given away for free if charging stations were installed at rest areas.

STRATEGIES FOR EVSE DATA COLLECTION AND SHARING

Since the Joint Office of Energy and Transportation is developing the Electric Vehicle Charging Analytics and Reporting Tool (EV-ChART), MnDOT will not collect this data separately. Contractors will be required to submit data through EV-ChART to be compliant with 23 CFR 680.112. This is a change from the 2022 EV Plan.

Details regarding monitoring of the stations during the construction process, commissioning and operations will follow MnDOT *Grant Manual* requirements. These requirements and specifications are still being developed for the NEVI Formula Program.

MnDOT will share the procurement process as required in 680.106 (a) on the Electric Vehicle Infrastructure Plan website. The requirements of 680.116 (Information on publicly available electric vehicle charging infrastructure locations, pricing and real time availability and accessibility through mapping) will be part of the RFP selection award process between MnDOT and the third-party entities. Compliance with these requirements will be a condition for funding reimbursement.

STRATEGIES TO ADDRESS CLIMATE RESILIENCE NEEDS

Climate risks in Minnesota include extreme precipitation, flooding, extreme temperatures and longer wildfire seasons. Excessive downpours have become more frequent and more intense over the past several decades. Projections indicate further increases in extreme precipitation in the future. The state experiences extreme heat and extreme cold that can pose reliability issues for EV chargers. The combination of increased temperatures and shorter winters means that the wildfire season is longer than average, which can lead to road closures, detours and increased pressure on the statewide EV charging network.

MnDOT will plan for infrastructure resilience by selecting appropriate equipment for Minnesota's climate, carefully selecting sites with current and future climate conditions in mind. MnDOT will also be developing best practices for emergency evacuation and snow removal at charging sites. MnDOT intends to encourage higher access protection ratings for equipment to cope with harsh weather conditions, such as winter storms and hot or humid weather.

Further, MnDOT will use the best available data to avoid current and anticipated flood zones when selecting sites for EV chargers. MnDOT will require contractors to provide timely snow removal and will act if contract agreements are not honored. The agency will also work with contractors to develop site-specific plans for emergency evacuation in the event of climate emergencies such as flooding or wildfires.

STRATEGIES TO PROMOTE STRONG LABOR, SAFETY, TRAINING AND INSTALLATION STANDARDS

The NEVI Formula Program generates opportunity for job creation in the electrical and construction trades as a nationwide network of EV DCFCs are planned, designed, installed and commissioned. The NEVI Formula Program will also increase opportunities for power generation and power distribution utilities to strengthen their workforce to provide EV transportation that is convenient, reliable, affordable and equitable. Minnesota is prepared to meet this opportunity with its utility partners and robust workforce practices.

Minnesota has a construction workforce of over 135,000 people that accounts for approximately 4.3% of the state's labor force. Within the construction industry, the development of the NEVI Formula Program network will rely on labor throughout the state and will need to leverage specialty contractor services, particularly electricians.

MnDOT will continue to promote the use of small businesses in the construction and maintenance of Minnesota's transportation infrastructure.

For more information and details on how MnDOT plans to promote strong labor, safety, training and installation standards, see the Labor and Workforce Considerations section.

9. CIVIL RIGHTS

MnDOT routinely administers federal-aid funds and is committed to compliance with state and federal civil rights laws as a regular business practice. MnDOT will implement the NEVI Formula Program using the adopted practices related to civil rights compliance that other federal funding programs have successfully implemented for decades. The Title VI of the Civil Rights Act, Americans with Disabilities Act (ADA), Section 504 of the Rehabilitation Act and all accompanying U.S. Department of Transportation (DOT) regulations and ancillary programs will be an automatic part of the NEVI Formula Program from the onset.

The state of Minnesota protects all Minnesotans from discrimination through the Minnesota Human Rights Act, one of the strongest civil rights laws in the country. The Minnesota Human Rights Act prohibits discrimination in business, credit, education, employment, housing, public spaces and government services, including retaliation based on race, color, creed, religion, national origin, sex, marital status, disability, public assistance, age, sexual orientation, gender identity, familial status and local human rights commission activity.

TITLE VI AND ADA

MnDOT is committed to ensuring that projects, programs and services are performed without discrimination, under Title VI and ADA. To accomplish this, MnDOT is responsible for ensuring the implementation and enforcement of the civil rights program within their activities and programs and any representatives or contractors associated with the NEVI Formula Program. This is accomplished by:

- Incorporating Title VI and ADA nondiscrimination requirements into appropriate manuals, directives and regulations.
- Incorporating Title VI and ADA nondiscrimination requirements into the designing and planning phases of project development.
- Developing procedures to advise beneficiaries of all nondiscrimination laws.
- Maintaining documentation of beneficiary nondiscrimination activities.
- Ensuring that workforce and budget appropriations are adequate to accomplish nondiscrimination commitments.
- Ensuring that federally funded contracts with consulting firms contain Title VI and ADA protections.
- Providing and obtaining nondiscrimination assurances and ensuring that consultants comply.
- Notifying the public of compliance with Title VI and ADA.
- Providing a complaint process that allows for investigations of alleged violations and provides clear and effective access to efficient resolutions.
- Creating a uniform data collection standard for evaluation of and outreach to Environmental Justice (EJ) communities in alignment with the Justice40 Initiative.

10. EQUITY CONSIDERATIONS

MnDOT's Advancing Transportation Equity Initiative includes a commitment to transportation equity, key transportation equity terms and a definition of transportation equity. More information can be found on the MnDOT Advancing Transportation Equity Initiative website. These equity commitments and definitions were adopted with the 2022 Statewide Multimodal Transportation Plan.

COMMITMENT TO TRANSPORTATION EQUITY

MnDOT is committed to creating an equitable transportation system. The following paragraphs highlight MnDOT's commitment to transportation equity, our acknowledgment of historic harms phased by underserved communities, the role of agency employees to advance transportation equity as well the agency's definition of transportation equity. This language was adopted with the 2022 Statewide Multimodal Transportation Plan

ACKNOWLEDGEMENT OF PAST HARMS

MnDOT acknowledges the transportation system and agency decisions have underserved, excluded, harmed and overburdened some communities. MnDOT understands some past decisions denied Black and Indigenous communities as well as people with disabilities the full participation of transportation benefits. These and other underserved communities have historically carried disproportionate burdens of transportation decisions.

HOW MNDOT DEFINES TRANSPORTATION EQUITY

Transportation equity means the benefits and burdens of transportation systems, services and spending are fair and just, which historically has not been the case. Transportation equity requires ensuring underserved communities, especially Black, Indigenous and People of Color (BIPOC), share in the power of decision making.

MNDOT'S JOURNEY TO TRANSFORM THE TRANSPORTATION SYSTEM

The journey of transforming the transportation system, services and decision-making processes will require ongoing listening, learning, changing, implementing and adapting.

INDIVIDUAL MNDOT STAFF ROLES TO ADVANCE TRANSPORTATION EQUITY

Everyone at MnDOT regardless of position or work assignment has a role to advance transportation equity. MnDOT staff will partner with community members, community-based organizations, transportation service providers, Tribal Nations and government institutions to evolve the work and to change outcomes for communities.

CHAPTER 10

EQUITY CONSIDERATIONS FOR TRANSPORTATION ELECTRIFICATION

MnDOT is committed to addressing equity considerations when planning for EV charging infrastructure and investments in the state. While the number of EVs in the state increased in the past decade, EV users are predominantly white, middle-and-upper income, male and most often living in urban areas. Additionally, the current build-out of EV charging infrastructure is inadequate to equitably support the transition to a sustainable transportation future. Low-to-moderate income (LMI) households, BIPOC communities, women, disabled residents and rural residents may experience intersecting barriers to EV use and can be underserved by current EV programs and policies.

Strategies for enhancing equity in the context of EV charging infrastructure include:

- Increasing EV charger access for LMI Minnesotans, particularly those that reside in multi-family housing
- Addressing the lack of charging in LMI, BIPOC and rural communities
- Providing affordable charging
- Designing charger stations to support personal safety

MnDOT aims to integrate these strategies into NEVI Formula Program investments and coordinate with partners to advance equitable transportation electrification in the state.

MnDOT intends to disperse infrastructure equitably throughout corridors of the state, focusing investment in rural, disadvantaged and tribal communities to allow those that are often underserved, or those that disproportionately bear the burden of transportation system impacts, to receive significant benefits from EV charging investments.

The Justice40 Initiative, established in January 2021 by Presidential Executive Order 14008 on Tackling the Climate Crisis at Home and Abroad, requires at least 40% of the overall benefits of certain federal investments to flow to disadvantaged communities. The Interim Implementation Guidance for the Justice40 Initiative (released July 2021) and the NEVI Formula Program Guidance (released in February 2022 and updated June 2023) identifies clean transportation, including the NEVI Formula Program, as Justice40-covered programs. This is especially relevant to energy and transportation decision-making, as the burdens of these systems have been disproportionately borne by disadvantaged communities. Incorporation of the Justice40 Initiative into Minnesota's EV Plan helps ensure that the benefits of EV charging infrastructure investment benefit these communities.

IDENTIFICATION AND OUTREACH TO DISADVANTAGED COMMUNITIES IN THE STATE

As part of the U.S. DOT and U.S. Department of Energy (DOE) partnership in implementing the Justice40 Initiative, an interim definition for disadvantaged communities was developed to assist states in identifying such areas.

"Communities" are defined as a group of individuals living in close geographic proximity to one another.

"Disadvantaged" is defined through data investigation of these communities by a combination of variables including low income (and/or high-persistent poverty), racial minority composition, linguistic isolation, high transportation-cost burden, high energy-cost burden and disproportionate environmental stressors.

The National Electric Vehicle Infrastructure Standards and Requirements, 23 CFR 680.104, uses the following definition:

> *Disadvantaged Communities (DACs) mean census tracts or communities with common conditions identified by the U.S. Department of Transportation and the U.S. Department of Energy that consider appropriate data, indices, and screening tools to determine whether a specific community is disadvantaged based on a combination of variables that may include, but are not limited to, the following: low income, high and/or persistent poverty; high unemployment and underemployment; racial and ethnic residential segregation, particularly where the segregation stems from discrimination by government entities; linguistic isolation; high housing cost burden and substandard housing; distressed neighborhoods; high transportation cost burden and/or low transportation access; disproportionate environmental stressor burden and high cumulative impacts; limited water and sanitation access and affordability; disproportionate impacts from climate change; high energy cost burden and low energy access; jobs lost through the energy transition; and limited access to healthcare.*

MnDOT used the EV Charging Justice40 Map tool to analyze the existing and planned future EV network in Minnesota. The location of these communities is also being incorporated as key criteria for the selection of corridors and the priority scoring of exits along these corridors.

MnDOT has developed and implemented procedures to encourage and monitor public participation in the planning process. This includes, but is not limited to, meaningful engagement in projects and programs with BIPOC and low-income individuals, those with limited English proficiency and other underserved groups. MnDOT is developing approaches to encourage and monitor public participation. The NEVI Formula Program planning process included community members in the extensive outreach and engagement program. See the Public and Partner Engagement section for more information. Further engagement will include meaningful participation in projects and programs with these same groups.

Over the course of the NEVI Formula Program, MnDOT will engage these groups to understand the potential for workforce development, potential barriers for effective deployment and use of the infrastructure and potential to adjust the program to better suit the needs of every community member. The agency will engage with community members to determine benefits to measure as well as barriers.

Engagement with disadvantaged communities is and continues to be an important part of the NEVI program and Minnesota EV Plan. Justice40 communities and Tribal communities were considered as part of the exits identified when creating the 2022 EV Plan. MnDOT anticipates that at least half of the stations funded with the first round of NEVI Formula Program funds will be in Justice40 communities. A description of MnDOT's work for 2023 is found in the Public and Partner Engagement section.

An important component of engagement in these communities has been the desire that whatever engagement MnDOT does is relevant to people involved. EVs do not yet have wide adoption across Minnesota and there is skepticism of EVs. MnDOT staff have focused much engagement on the workforce potential around the transition to EVs and charging stations in communities. The reason is that jobs are a relevant topic to many people and it is also something that NEVI Formula Program funding could be used towards.

PROCESS TO IDENTIFY, QUANTIFY AND MEASURE BENEFITS TO DISADVANTAGED COMMUNITIES

MnDOT sees value in performance-based planning and is experienced in measuring performance and reporting in accordance with U.S. DOT requirements. MnDOT recognizes the emerging nature of the NEVI Formula Program and looks forward to working with U.S. DOT to measure the benefits of this program as it evolves.

Benefits of the NEVI Formula Program beyond geographic location can only be discussed qualitatively, as tools do not yet exist to measure other expected benefits. MnDOT expects the NEVI Formula Program will evolve and mature to have a national standard for benefit metrics and measurement set by U.S. DOT. Until that time comes, MnDOT is evaluating existing programs and data tools that can be used to internally enhance, target and measure the benefits of the NEVI Formula Program to disadvantaged communities.

Initially, MnDOT will track the location of EV charging stations and the percentage of those located in U.S. DOT-designated disadvantaged communities using the EV Charging Justice40 Map tool. In addition, workforce participation from underserved, disadvantaged and Tribal communities will be a measured metric, as well as the overall reduction of vehicle emissions in underserved, disadvantaged areas (as estimated through AADT measurements combined with EV registration rates). MnDOT anticipates working in consultation with community members to determine additional benefit metrics they would find valuable to track.

MnDOT will explore opportunities to measure DBE utilization on NEVI Formula Program projects. The Labor and Workforce Considerations section discusses this further. MnDOT will also explore existing partnerships with MPOs and local jurisdictions to refine potential measurements and improvements for gauging statewide air quality, particularly in disadvantaged communities.

As of July 2023, MnDOT is still in the process of developing the benefits and metrics for measuring the benefits to disadvantaged communities. MnDOT will be using the information gathered during the past year of public engagement to inform this effort. The list of benefit categories from the 2022 Plan (Table 4) still apply and updates are included under the tracking column.

Table 4: Benefits to Disadvantaged Communities and Tracking Metrics, MnDOT, July 2023

BENEFITS CATEGORY (AS NOTED IN THE 2022 EV PLAN)	STRATEGY FOR TRACKING BENEFITS (METRICS, BASELINE, GOALS, DATA COLLECTION & ANALYSIS APPROACH, COMMUNITY VALIDATION)
Improve clean transportation access through the location of chargers	Location of EVSE stations and percent in U.S. DOT designated disadvantaged communities using the EV Charging Justice40 Mapping Tool.
Workforce participation from underserved, disadvantaged and tribal communities	Data collected from NEVI funded contractors. Working with DLI and DEED to develop additional data points.
Overall reduction of vehicle emissions in underserved, disadvantaged areas	Air Quality pollution data is being considered. MnDOT is working with Minnesota Department of Health and MPCA to determine if this is a viable option. GHG emission reduction (calculated from kWh consumption).
Others – TBD	MnDOT has begun working in consultation with community members where EVSE will be installed to determine other appropriate metrics they would find valuable to track.

BENEFITS TO DISADVANTAGED COMMUNITIES THROUGH THIS PLAN

MnDOT expects the benefits of EV investment go beyond geographic location of the EV charging stations.

Increased EV adoption, for example, will reduce GHG emissions that cause climate change, while also improving air quality, particularly for LMI and BIPOC Minnesotans who are disproportionately exposed to GHG emissions from the transportation sector.

NEVI Formula Program investments will also support job growth in EV related industries, as well as bring financial benefits to EV users through reduced O&M costs.

The NEVI Formula Program can and will contribute to a more just and sustainable transportation system in Minnesota.

11. LABOR AND WORKFORCE CONSIDERATIONS

The NEVI Formula Program generates opportunity for job creation in the electrical and construction trades as a nationwide network of EV DCFCs are planned, designed, installed and commissioned. The NEVI Formula Program will also increase opportunities for power generation and power distribution utilities to strengthen their workforce to provide EV transportation that is convenient, reliable, affordable and equitable. Minnesota is prepared to meet this opportunity with its utility partners and robust workforce practices.

Minnesota has a construction workforce of over 139,583 as of May 2023, approximately 4.6% of the state's labor force.[18] Within the construction industry, the development of the NEVI Formula Program network will rely on labor throughout the state and will need to leverage specialty contractor services, particularly electricians.

MnDOT will continue to promote the use of small businesses in the construction and maintenance of Minnesota's transportation infrastructure.

LABOR AND WORKFORCE

MnDOT continues to promote the use of small businesses in the construction and maintenance of Minnesota's transportation infrastructure. Over the past year MnDOT staff have met with labor unions and electrical training educators to discuss needs and raise awareness of business opportunities related to EVSE.

MnDOT staff also met with a nonprofit immigrant workforce organization and a nonprofit that helps with funding options for small businesses taking on construction projects. MnDOT's Office of Advancing Equity is also being tapped as a resource on connecting with potential labor pools.

MnDOT is continuing to coordinate with DEED and DLI on how the NEVI funds might be used for workforce development in Minnesota. MnDOT provided an article in the May newsletter of the Minnesota Electrical Association to share information about the Electric Vehicle Infrastructure Training Program (EVITP) training requirements for contractors. Using contractors with this training will be part of MnDOT's contract awards.

ELECTRICAL TRADE

The use of well-trained electrical staff will be critical to the success of building out the NEVI Formula Program network in Minnesota. Of the full construction workforce, 11,850 are electricians.[19] Minnesota is also well prepared with 40 Minnesota-based electrical contractors that have become EVITP certified.

LOCATION OF CONSTRUCTION LABOR FORCE

Approximately 62% of Minnesota's workforce is within the Seven County Metropolitan Area. MnDOT's intention is that the NEVI Formula Program will ultimately provide statewide coverage. This means that the NEVI Formula Program will generate construction activity throughout the state. Proactive development of local construction workforces will be necessary across the state, including in underserved communities, to ensure that rural and disadvantaged communities will benefit from this added job growth.

[18] "Current Employment Statistics." Minnesota Department of Employment and Economic Development. May 1, 2023. https://apps.deed.state.mn.us/lmi/ces/Results.aspx.

[19] "Occupational Employment and Wage Statistics." Minnesota Department of Employment and Economic Development. https://mn.gov/deed/data/data-tools/oes/.

TRAINING AND INSTALLATION

Minnesota has strong existing strategies that enable the NEVI Formula Program investment to create jobs, a diverse and sustainable electric vehicle workforce and inclusive, local benefits. Further, all strategies will be coordinated with the DEED and DLI with goals to expand the sources of training, experience level and diversity of the workforce that is installing and maintaining EV charging infrastructure.

Strategies include taking proactive steps to encourage broader participation among women, Black, Latino, Asian American, Pacific, Indigenous and other underrepresented groups in the development of the EV charging infrastructure workforce. Strategies may also include utilizing geographic, economic or other hiring preferences and innovative contracting approaches authorized by law to maximize job creation and economic benefits for local communities. MnDOT is also soliciting partner input from utility operators.

MnDOT anticipates the following components will be part of a successful workforce strategy:

- Educational collaboration
- Inclusive input and outreach
- Inclusivity of contractors
- Training and wages

EDUCATIONAL COLLABORATION

MnDOT is planning to work with partners to ensure the availability of technical training and higher education in sufficient quantity and diversity to support the NEVI Formula Program impact on the local workforce. The NEVI Formula Program will incorporate outreach strategies with local schools, colleges and vocational programs to develop a pipeline of employees with skillsets needed for the deployment of the NEVI Formula Program. This engagement and collaboration has already started and is expected to continue and evolve with the NEVI Formula Program.

INCLUSIVE INPUT AND OUTREACH

The workforce development training and outreach plans include input from diverse communities, advocacy groups, industry organizations and DBE firms. MnDOT is applying tested practices to establish appropriate trainee and apprentice goals for the NEVI Formula Program deployment projects.

INCLUSIVITY OF CONTRACTORS

Minnesota has a successful program that aims to increase the participation of women- and minority-owned businesses in state contracts and procurements. This will continue with the NEVI Formula Program RFP selection process.

TRAINING AND WAGES

The enabling language in Chapter 28 of Minnesota Law (May 2023) created the Electric Vehicle Infrastructure Program at MnDOT and also includes the following language regarding program requirements related to training and wages:

> *Subd. 4 Program Requirements*
>
> *The commissioner must require that electric vehicle infrastructure funded under the program is constructed, installed and maintained in conformance with the requirements under Code of Federal Regulations, title 23, section 680.106, paragraph (j), or its successors*
>
> *An electric vehicle infrastructure project that receives funds under the program is subject to the requirement of paying the prevailing wage rate as defined in section 117.42 and the requirements and enforcement provisions in sections 177.27, 177.30, 177.32, 177.41 to 177.435, and 177.45*

For the NEVI Formula Program, MnDOT, other state agencies and private partners may be able to identify workforce training opportunities. Contractors should recognize that ongoing O&M of the infrastructure and the sites should be an opportunity to develop regional skills and workforce opportunities. Contractors should also note that training of this workforce is a key component of the program.

MnDOT is planning to identify opportunities for workforce development that meet the requirements of 23 CFR 680.106(j) for technician qualifications and certification through the Electric Vehicle Infrastructure Training Program (EVITP). MnDOT is anticipating that private providers will work with MnDOT, training providers, workforce boards, labor unions, community-based organizations, non-profits and other worker organizations to encourage the development of a broad workforce that can safely operate and maintain this charging infrastructure.

EXAMPLE OF EQUIPMENT TRAINING

Equipment could possibly be made available for training purposes. The purchase of a DCFC solely for training purposes can be a substantial investment for a vocational school. Opportunities may exist to use real-world DCFCs and equipment located in the AFCs for educational purposes prior to or during equipment installation. This could apply to the actual installation process of the equipment, where the contractor may be asked to provide educational assistance to further develop a skilled Minnesota workforce related to charging infrastructure. This is also an opportunity to engage with the underserved, disadvantaged communities to develop workforce training opportunities related to infrastructure installation, operation and maintenance.

SAFETY

Safety is a top priority for MnDOT. Members of the public have expressed concerns about the safety of EVs, as well as at EV charging stations. MnDOT is taking safety into consideration as the requirements for site applications are developed.

Regarding safety, training should be made available to first responders and site hosts to provide guidance and safety procedures to manage infrastructure in the case of malfunction, equipment destruction or an emergency event. The EV Plan includes draft standards related to charging sites, chargers and desired amenities.

MnDOT will work with private providers to develop a set of installation and design standards for the NEVI Formula Program. MnDOT anticipates that these standards should allow flexibility for different technologies and chargers to be deployed at a future date.

For future contracts that may be utilized for regional projects, contractors may develop modified standards that respond to regional characteristics or site-specific requirements. These should always be coordinated with MnDOT to ensure consistency and sharing of safety information.

12. CYBERSECURITY

Minnesota and MnDOT are committed to public service, including cybersecurity, cyber-resiliency and privacy protections for all services and systems in the communities in which they serve.

The NEVI Formula Program has allocated funds for deployment of EVSE within the transportation system. The potential sources and types of cybersecurity threats for EVSEs are evolving and regularly scheduled risk assessments are prudent and necessary to provide Defense-in-Depth protection. Successful exploitation of even a single DCFC can cause relay chatter, other various power quality issues and phase instability that can have cascading effects upstream.

Primary goals of the EVSE cybersecurity guidance are:

- Ensure that all EVSE infrastructure deployed within the MnDOT transportation system is secure. “Secure” is defined as:
    - Protected against physical or electronic intrusion by unauthorized persons or entities.
    - Hardened against damage or loss of service due to weather, environment, transient surge voltages, traffic incidents, etc.
    - Protected against insider threats, whether malicious or inadvertent.
    - Segmented (separated) to protect against unintended damage, unauthorized access, loss of data, service availability, privacy breach, etc. from unprotected connections among partner and user systems. Ensure that all revenue and financial systems are compliant with payment card industry (PCI) requirements.
- Ensure that all security operations are compliant with, and certification maintained for, Security Operations Center – Level 2 audit requirements.
- Ensure that the functionality required for a fully functional EV charging system is available to support commercial vehicle operations, state fleet operations and service to private motorists, while assuring maintenance of the above secure environment.
- Ensure physical and electronic resiliency is built in
- Ensure Security by Design is implemented for each project.

CURRENT CYBERSECURITY STATE OF THE INDUSTRY

Since 2022, MnDOT has participated in Joint Office of Energy and Transportation webinars on cybersecurity and has the sample cybersecurity procurement language to consider for use in the contract awards. MnDOT's Office of Chief Counsel and staff from Minnesota Information and Technology (MNIT) services with experience in cybersecurity, will assist with contract language and guidance on oversight.

INDUSTRY STUDIES AND REPORTS

According to a September 2021 joint report by Sandia National Labs and the U.S. Department of Energy "… there is no comprehensive EVSE cybersecurity approach and limited best practices have been adopted by the EV/EVSE industry." The report went on to state, "There is an incomplete industry understanding of the attack surface, interconnected assets and unsecured interfaces."

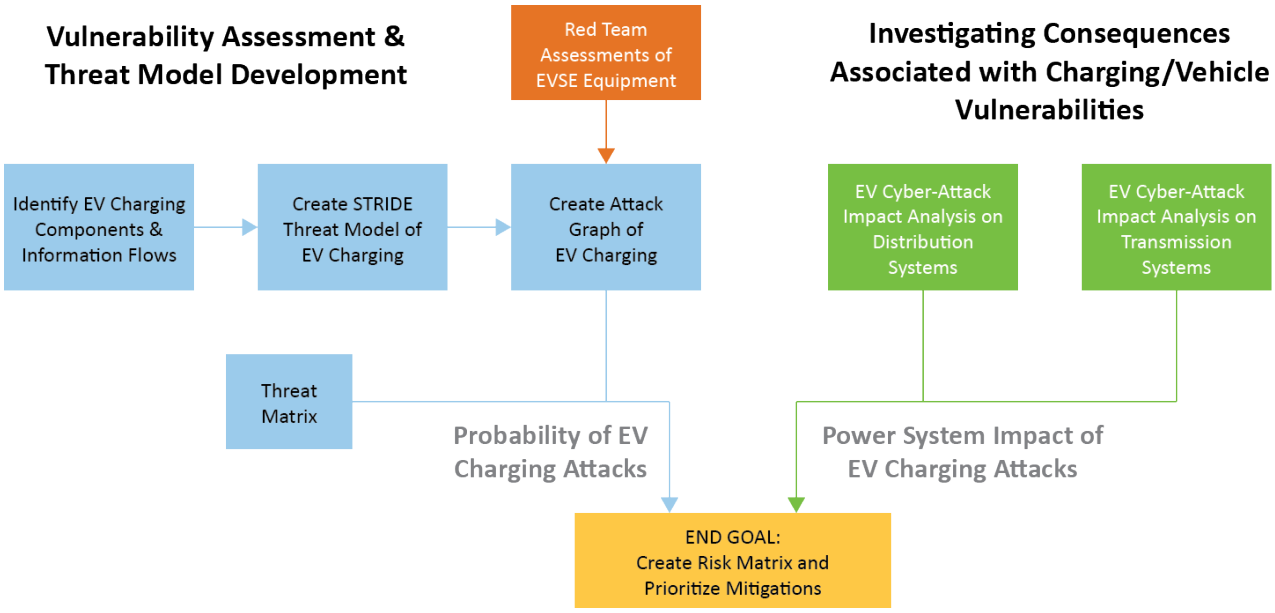
NEED TO CONDUCT PROJECT SPECIFIC RISK ASSESSMENTS

Since the industry does not yet have a clear picture of the attack surfaces, each project (or group of related projects) will require a full-scope risk assessment to identify the comprehensive threat surface presented by and against the elements of all partners and users (grid operators, vehicles, original equipment manufacturer [OEM] vendors, charging network operators, etc.).

Sandia National Labs followed the above process or task flows in conducting their research on potential risk models for EVSE. This is a recommended approach.

Microsoft created the STRIDE Model for capturing threat surfaces, which is a good tool for documenting threat surfaces based on analysis of Processes, Data Flows, Endpoints, Trust Boundaries and Electrical Equipment. These key elements for analysis are identified from the architecture and assessed for risk against the threats represented by STRIDE (see Figure 18).

Figure 18: Risk and consequence process flows, Scandia National Labs, 2021



GUIDELINES, PRINCIPLES AND STANDARDS

MINIMUM GUIDELINES

A critical element to establishing and achieving the expectations outlined in this EVSE security plan is following a set of best practices. The EVSE implementer will follow best practices for ensuring cybersecurity of the EV infrastructure.

FOUNDATIONAL PRINCIPLES

Employing two foundational principles, Security by Design and Defense-in-Depth, facilitates achieving the best feasible protective posture.

- Security by Design is the controlled use of established processes to build security functions, safeguards and procedures into software and system design from project initiation, ensuring security is considered and tested throughout the entire design and engineering phases.
- Defense-in-Depth is the practice of constructing cybersecurity defense via layers of protection that overlap and enhance adjacent layers. Where one layer is defeated, another is automatically implemented to step into the gap and continue defensive efforts.

FOLLOWING EXISTING STANDARDS

MnDOT requires compliance with all applicable national and Minnesota and industry standards.

GENERAL BEST PRACTICES

A common set of recommended best practices is summarized below for the EV deployers. Details of these are available from the U.S. DOE, Office of Scientific and Technical Information website.[20]

RISK MANAGEMENT

- Establish full life-cycle risk reviews and prioritize improvements based on risk to EVSE operations.
- Maintain updated architecture diagrams to identify critical assets, internet connections, open ports and supported protocols.
- Establish a process for active security patch management.

CONFIGURATION AND CHANGE MANAGEMENT

- Create a formal process for uploading code.
- Properly secure keys, credentials and other secret items.

IDENTITY AND ACCESS MANAGEMENT

- Require individual credentials for system login and do not reuse credentials.
- Limit the use of system/maintenance accounts.

THREAT AND VULNERABILITY MANAGEMENT

- Use a common vulnerability scoring system (CVSS) to evaluate potential vulnerabilities and prioritize responses.
- Establish and regularly update a comprehensive threat profile.

COMMUNICATIONS

- Encrypt all information both internal and external to the EVSE.
- Apply network segmentation and security systems including intrusion detection systems (IDS's), intrusion prevention systems (IPS's) and firewalls.

[20] "Securing Vehicle Charging Infrastructure." US Department of Energy. Office of Scientific and Technical Information, November 6, 2020. https://doi.org/10.2172/1706221.

EVENT AND INCIDENT RESPONSE AND CONTINUITY OF OPERATIONS

- Implement information security continuous monitoring per National Institute of Standards and Technology Special Publication 800-137.
- Establish protocols and procedures for immediate response to logs or alerts from information security continuous monitoring, security information and event management, intrusion detection systems and intrusion prevention systems.
- Create a Security Operations Center and maintain Security Operations Center – Level 2 certification.
- Establish business continuity, incident response and disaster recovery plans. Conduct regularly scheduled tabletop exercises, drills and reviews to test procedures, train staff and update per technology changes.

SUPPLY CHAIN MANAGEMENT

- Use secure shipping channels that include verification of the state of EVSE when it departs a facility.
- Use tamper-resistant seals, alarms and other protective measures to prevent and report attempts of unauthorized access to equipment or enclosures.

WORKFORCE MANAGEMENT

- Ensure that critical roles have redundancy in personnel and cross-function capabilities.
- Evaluate competence of staff with periodic social engineering (phishing), audits, etc.

CYBERSECURITY PROGRAM MANAGEMENT

- Mature a cybersecurity program strategy with clear priorities and governance model.
- Include a “safe” environment for anonymous or protected means to report violations or vulnerability concerns.

13. PROGRAM EVALUATION

MnDOT will develop a program evaluation plan that will provide the Joint Office with data documenting the impacts of the federal dollars invested in EV charging infrastructure. The program evaluation plan will also provide the Joint Office and MnDOT with metrics regarding Minnesota's progress towards its goals and the performance of the EV charging network. Working in conjunction with its public and private partners, MnDOT will collect data and report progress on its EV goals at a minimum annually. MnDOT is committed to collecting and sharing data on the schedule required by the Joint Office, which may be more frequent than annually. MnDOT will use this information to inform network development and the installation of additional chargers based on the use and performance of existing chargers on the network in which they serve.

As of July 2023, MnDOT has not yet installed any NEVI-funded charging stations and therefore have no evaluation data to report in the 2023 EV Plan. It is MnDOT's intention to use the Proposed Program Evaluation Metrics originally provided in the 2022 EV Plan and shown in Table 5 to track progress once charging stations are operational.

Each goal in Table 5 is tied to one or more metrics that measure progress toward each goal. MnDOT can determine the most effective ways to strengthen or reorient its investment and overall program through regular, holistic evaluation of Minnesota's charging network.

Table 5: Minnesota proposed program evaluation metrics, MnDOT, July 2023

GOAL	FOCUS AREA	METRIC
Support Minnesota's GHG emissions reduction goals and minimize transportation's impact on human and environmental health		Air quality (modeled pollutants)
		GHG emissions reduction (calculated from kWh consumption)
Facilitate regional and statewide travel while setting the standard for EV infrastructure in the Midwest	Minimum viable network	Number of charging stations meeting NEVI Formula Program minimum standards
		Number of charging stations exceeding NEVI Formula Program minimum standards
		Statewide system miles covered by EV charging stations
	Access	Percent of population within 50 miles of a charging station
		Percent of population within 15 miles of a charging station
		Average waiting time for a charger
	Reliability	Charger availability/uptime
		Number of calls/complaints per location
	Utilization	Percent of time with a vehicle connected aggregated by time of day, payment type, land use and location
		Number of charging events
		Energy consumed per charge event and in aggregate
Distribute 40% of NEVI Formula Program benefits towards disadvantaged communities in Minnesota		Percent of workforce drawn from disadvantaged communities
		Share of chargers installed in or adjacent to disadvantaged communities
		Disadvantaged population within 15 miles of a charging station
Advance EV adoption		Registered light-duty vehicles that are BEVs (number and percentage)
Support job creation and workforce development		Number of new jobs created by investment
		Number of workers engaged in the NEVI Formula Program

14. DISCRETIONARY EXCEPTIONS

As of July 2023, MnDOT is not requesting, nor anticipating the need for any discretionary exceptions for infrastructure built using FY 2022 and FY 2023 NEVI Formula Program funds. MnDOT is adding three additional clusters and subsequently additional exits for the site application RFP to help ensure stations can be located within the required distances. See the EV Charging Infrastructure Deployment section, subsection on Infrastructure Deployments and Upgrades for more information about the potential EV charging site locations.

15. SUMMARY NOTE

The NEVI Formula Program offers Minnesota an incredible opportunity to expand EV charging. The initial investment along I-94 and I-35 will serve as a catalyst for future fast charger deployment.

The EV Plan is updated annually. The next update for the Minnesota Electric Vehicle Infrastructure Plan (EV Plan) is due to FHWA no later than Aug. 1, 2024.