



# Wisconsin Electric Vehicle Infrastructure Plan

Wisconsin Department of Transportation

July 29, 2022



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## WEVI PLAN AND STATE TEMPLATE CHAPTER CORRELATION

The WEVI Plan is organized into 10 chapters that contain all the enumerated content requirements from the Joint Office State Plan template that was issued with NEVI Program guidance on February 10, 2022. This table provides the correlation of the WEVI Plan chapters to those in the State Plan template.

WEVI Plan Chapters (1-10)	Joint Office State Template Chapters (1-14)
<b>1</b> Introduction, Plan Vision, and Goals	1, 4
<b>2</b> State Agency Coordination and Public Engagement	2, 3
<b>3</b> Existing and Future Conditions Analysis	6
<b>4</b> EV Charging Infrastructure Deployment	7
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## ACRONYMS

Abbreviation / Acronym	Definition
<b>AADT</b>	Annual Average Daily Traffic
<b>AASHTO</b>	American Association of State Transportation Officials
<b>AFC</b>	Alternative Fuel Corridors
<b>ADA</b>	Americans with Disabilities Act
<b>ARPA</b>	American Rescue Plan Act
<b>BIL</b>	Bipartisan Infrastructure Law
<b>CCS</b>	Combined Charging System
<b>CFR</b>	Code of Federal Regulations
<b>DAC</b>	Disadvantaged Community
<b>DATCP</b>	Department of Agriculture, Trade and Consumer Protection
<b>DCFC</b>	Direct Current Fast Charger
<b>DBE</b>	Disadvantaged Business Enterprise
<b>DMV</b>	Division of Motor Vehicles
<b>DOA</b>	Department of Administration
<b>DOE</b>	Department of Energy
<b>DNR</b>	Department of Natural Resources
<b>DOR</b>	Department of Revenue
<b>DOT</b>	Department of Transportation
<b>EV</b>	Electric Vehicle
<b>EVITP</b>	Electric Vehicle Infrastructure Training Program
<b>EVSE</b>	Electric Vehicle Supply Equipment
<b>FAC</b>	Freight Advisory Committee
<b>FHWA</b>	Federal Highway Administration
<b>FY</b>	Fiscal Year
<b>GWAAR</b>	Greater Wisconsin Agency on Aging Resources
<b>GW</b>	Gigawatt
<b>GWh</b>	Gigawatt-hour
<b>ICE</b>	Internal Combustion Engine
<b>IDEA</b>	Integrity, Diversity, Excellence, Accountability
<b>kW</b>	Kilowatt
<b>kWh</b>	Kilowatt-hour
<b>LMP</b>	Locational Marginal Price
<b>MAASTO</b>	Mid-American Association of State Transportation Officials
<b>MAFC</b>	Mid-America Freight Coalition
<b>MISO</b>	Midcontinent Independent System Operator
<b>MAPSS</b>	Mobility, Accountability, Preservation, Safety, and Service
<b>MHDV</b>	Medium and Heavy-Duty Vehicle



<b>MM</b>	Mile Marker
<b>MPO</b>	Metropolitan Planning Organization
<b>MTEC</b>	Midcontinent Transportation Electrification Collaborative
<b>MTERA</b>	Midwest Tribal Energy Resources Association
<b>NEPA</b>	National Environmental Policy Act
<b>NEVI</b>	National Electric Vehicle Infrastructure Program
<b>NFPA</b>	National Fire Protection Association
<b>NPRM</b>	Notice of Proposed Rulemaking
<b>O&amp;M</b>	Operations and Maintenance
<b>OBOEC</b>	Office of Business Opportunity and Equity Compliance
<b>PEV</b>	Plug-In Electric Vehicle
<b>PSC</b>	Public Service Commission
<b>REV Midwest</b>	Regional Electric Vehicle Midwest Coalition
<b>RFP</b>	Request for Proposals
<b>RPC</b>	Regional Planning Commission
<b>TOD</b>	Time of Day
<b>VW</b>	Volkswagen
<b>WEDC</b>	Wisconsin Economic Development Corporation
<b>WEVI</b>	Wisconsin Electric Vehicle Infrastructure
<b>WIEV</b>	Wisconsin Electrification Initiative
<b>WiNDAC</b>	Wisconsin Non-Driver Advisory Committee
<b>WIPTA</b>	Wisconsin Public Transportation Association
<b>WisDOT</b>	Wisconsin Department of Transportation

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July 13, 2022

Dear Transportation Partner:

I am pleased to present the Wisconsin Electric Vehicle Infrastructure (WEVI) Plan. This plan is the guiding document that will further the state's efforts to provide leadership in the development and operation of a safe and efficient transportation system by enhancing the state's Electric Vehicle (EV) infrastructure.

This comprehensive strategy and action plan will secure Wisconsin's ability to obligate an estimated \$78.5 million in federal formula funds as allocated in the National Electric Vehicle Infrastructure Program. The funding will be an investment that enhances the state's EV infrastructure and makes the benefits of electrification available to everyone in Wisconsin.

The Wisconsin Department of Transportation has partnered with industry, other state agencies, stakeholders, and the public to develop the WEVI plan. As EVs continue to alter the status quo of the transportation system, WisDOT will continue to collaborate with these partners to create innovative transportation solutions that meet the needs of our state and contribute to the health and well-being of our communities.

The WEVI plan defines comprehensive strategies and actions to facilitate the electrification of Wisconsin's transportation system. It also assesses potential agency efforts that advance electrification and the deployment of EV charging infrastructure.

Finally, the WEVI plan includes recommendations on how Wisconsin will administer federal NEVI funding over the next five years. The WEVI plan's objective is to equitably deploy electric vehicle charging infrastructure along Alternative Fuel Corridors in Wisconsin. This will allow EV owners to travel throughout the state knowing there will be opportunities to charge their vehicles. It's an important part of our mission to prepare Wisconsin for the electrification of transportation.

Sincerely,

A handwritten signature in black ink, appearing to read "Craig Thompson".

Craig Thompson  
Secretary  
Wisconsin Department of Transportation

"Electrification is coming. The private sector has spoken. The major auto manufacturers are retooling and have announced ambitious plans to transition to producing predominantly electric vehicles in the near future. That is good for our environment because it can dramatically reduce emissions from burning fossil fuels. We in the public sector need to be ready for this transformational change – and in Wisconsin, we will be. That is why WisDOT is continuing to work with our partners to enhance Wisconsin's EV infrastructure and make the benefits of EVs available to everyone in Wisconsin."

- Wisconsin Department of Transportation Secretary Craig Thompson

## 1 INTRODUCTION, PLAN VISION, AND GOALS

Wisconsin's Electrification Initiative (WIEV) is a collaborative, statewide government effort to strategically prepare and plan for transportation electrification in Wisconsin. WIEV began in October 2021 with the Wisconsin electrification and infrastructure planning study.<sup>1</sup> As this study progressed, the National Electric Vehicle Infrastructure Program (NEVI) was established, and planning efforts shifted to address the components of the NEVI Program.

The Wisconsin Department of Transportation (WisDOT) is required by the Federal Highway Administration (FHWA) to develop and submit a state plan as a prerequisite to accessing new federal funding for electric vehicle infrastructure deployment. This report serves as Wisconsin's Electric Vehicle Infrastructure (WEVI) Plan submittal to FHWA and is a component of the larger WIEV initiative. The WEVI Plan was informed by the original planning study; the NEVI Program criteria; and robust state agency, stakeholder, and public engagement.

In November 2021, President Biden signed into law the Bipartisan Infrastructure Law (BIL), enacted as the Infrastructure Investment and Jobs Act (IIJA). Within the BIL is the creation of a new program for National Electric Vehicle (EV) Charging. To be eligible for funding under this program, each state is required to prepare and submit an EV Infrastructure Deployment Plan by August 1, 2022. The BIL created the federal Joint Office of Energy and Transportation (Joint Office) to facilitate collaboration between the United States Department of Energy (U.S. DOE) and United States Department of Transportation (U.S. DOT) and its Federal Highway Administration (FHWA).

<sup>1</sup> Wisconsin received a \$1 million planning grant from the U.S. Economic Development Administration's disbursement of American Rescue Plan Act (ARPA) funds. These ARPA funds were provided to support state economic recovery from the coronavirus pandemic and to build local economies that will be resilient to future economic shocks.



## 1.1 WEVI Plan Vision and Goals

The WEVI vision is to develop an interconnected electric vehicle transportation charging network that facilitates the safe movement of people and goods throughout Wisconsin. The objectives of the WEVI Plan that support the goals described in Section 1.1.2 include:

- **Equity:** Ensure equitable distribution of benefits that improve access for all populations, including rural and underserved communities in Wisconsin.
- **Partnership:** Optimize the NEVI Program funding by building and strengthening partnerships.
- **Connectivity:** Develop a robust, interconnected charging network that reduces range anxiety and meets the State's growing charging needs.
- **Safety:** Employ robust safety standards that ensure all funded infrastructure is safe and reliable for travelers in Wisconsin.
- **Accountability:** Establish performance monitoring and data analytics practices to inform and improve operations and investment.

### 1.1.1 Vision Statement

Develop an interconnected electric vehicle charging network that facilitates the safe movement of people and goods throughout Wisconsin.

### 1.1.2 Goals

WEVI Plan goals include:

1. Establish a network of publicly accessible charging stations on Wisconsin's Interstates, Alternative Fuel Corridors (AFCs), and regional routes of significance.
2. Continue stakeholder collaboration to inform planning, deployments, program evaluation, and annual plan updates.
3. Integrate EV charging infrastructure across the state including urban, rural, and suburban areas and historically underserved communities.
4. Leverage funding and partnerships to adapt the state's transportation infrastructure to facilitate electrified transportation.

Quantifiable Goals:

- 100% of Wisconsin Interstates and AFCs fully built out to NEVI Program standards.
- 85% of Wisconsin State Highway System within 25 miles of NEVI-compliant fast charging stations.

Wisconsin's long-term outlook for the program is to build out a statewide NEVI-compliant network with an emphasis on geographic equity while the short-term outlook will be focused on achieving NEVI compliance along interstate corridors. The key to achieving the plan's vision and goals are WisDOT's emphasis on education, outreach, and collaboration; stewardship; and applying a data-driven approach.

## EDUCATION, OUTREACH, AND COLLABORATION

**State Agency Coordination and Public Engagement** describes how WisDOT has coordinated and collaborated across impacted state agencies as well as engaged with the public.

## STEWARDSHIP

**Program Management, Contracting, and Implementation** identifies how the NEVI Program will be implemented in Wisconsin including contracting considerations for building and maintaining electric vehicle supply equipment (EVSE), WisDOT program management, and EVSE data collection and sharing.

**Civil Rights/Equity Considerations** describes how Wisconsin will comply with State and federal civil rights laws during the planning and implementation of electrification. This includes plan development through engagement with rural, underserved, and disadvantaged communities and stakeholders, recognizing the need for these conversations to extend beyond year one plan submission.

## DATA-DRIVEN APPROACH

**Existing and Future Conditions** analysis identifies existing conditions in Wisconsin within one travel mile of the AFCs and known risks and challenges for EVSE deployment. This section explores topics such as land use patterns, travel patterns, grid capacity, industry/market conditions, and other important information related to EVSE deployment.

**Deployment** identifies overall strategy for prioritizing installations along designated AFCs.

**Cybersecurity** will identify Wisconsin's approach to avoid compromising stations, vehicles, and personally identifying information or other sensitive data.

**Program Evaluation** identifies plans to evaluate performance in achieving Wisconsin's 5-year plan vision and goals.



## 1.2 Dates of State Plan for Electric Vehicle Infrastructure Deployment Development and Adoption

Below is a graphic to outline the progression of planning efforts in Wisconsin, including key dates at the state and federal level.

**Figure 1-1: Planning Process Timeline**



## 2 STATE AGENCY COORDINATION AND PUBLIC ENGAGEMENT

### 2.1 State Agency Coordination Introduction

Wisconsin's comprehensive approach to state agency coordination in the development and approval of the WEVI Plan includes:

- Establishment of the Wisconsin Electrification Steering Committee (ESC)
- Individual meetings and coordination with state agencies
- Coordination with the Wisconsin Economic Development Corporation (WEDC)
- Establishment of the Wisconsin Department of Transportation Electrification Workgroup (EWG)

The following sections provide further detail for each state agency coordination activity including roles and responsibilities of the committees and other groups.

### 2.2 Wisconsin Electrification Steering Committee

Electric vehicles and system electrification is not a centralized topic. Multiple Wisconsin state agencies are impacted by potential deployment decisions and strategies. To ensure Wisconsin reflects a comprehensive perspective in the WEVI Plan, an external steering committee was created with seven state agencies including the Department of Transportation, Department of Natural Resources, Department of Agriculture, Trade and Consumer Protection, Wisconsin Economic Development Corporation, Department of Administration/Office of Sustainability and Clean Energy, Public Service Commission, and the Department of Revenue.

As the lead agency of the Wisconsin Electrification Steering Committee, the Department of Transportation coordinated with the state agencies to collaborate on and define key roles and responsibilities relative to electrification, as summarized in **Table 2-1**.

**Table 2-1: Agency Members of the Wisconsin Electrification Steering Committee and Responsibilities**

Department	Responsibilities
<b>Wisconsin Department of Transportation</b>	<ul style="list-style-type: none"><li>• Responsible for administering the NEVI Program funds</li><li>• Lead for WEVI Plan</li><li>• Data collection and analysis - corridor mapping, vehicle data, state owned parcels/real estate</li><li>• Legislative considerations: State highway and Interstate restrictions</li><li>• County and local roads coordination</li><li>• Administer the existing EV registration surcharge</li><li>• Program administration for other EV and EVSE eligible programs (Congestion Mitigation Air Quality (CMAQ), Carbon Reduction Program (CRP))</li><li>• Propose Alternative Fuel Corridors for designation</li></ul>



Department	Responsibilities
<b>Wisconsin Department of Natural Resources</b>	<ul style="list-style-type: none"> <li>Environmental issues</li> <li>State parks</li> <li>Air quality</li> </ul>
<b>Wisconsin Department of Agriculture, Trade and Consumer Protection</b>	<ul style="list-style-type: none"> <li>Consumer protection regulation, specifically monitoring for unfair trade practices and deceptive advertising</li> <li>Regulation of commercial weights and measure devices including EVSE (by adopted standard)</li> <li>Fuel tank/tank attribute setback requirements in relation to hazards (EVSE)</li> </ul>
<b>Wisconsin Economic Development Corporation</b>	<ul style="list-style-type: none"> <li>Industry and manufacturing opportunities within Wisconsin</li> <li>Monitor Buy America policies</li> <li>U.S. Economic Development Association grant management</li> </ul>
<b>Wisconsin Department of Administration</b>	<ul style="list-style-type: none"> <li>Office of the Sustainability and Clean Energy</li> <li>Clean Energy Plan administration</li> <li>Volkswagen (VW) settlement funds administration</li> <li>Regional Electric Vehicle Midwest – point of contact</li> <li>Lake Michigan Circuit – point of contact</li> <li>Fleet upgrades</li> </ul>
<b>Public Service Commission of Wisconsin</b>	<ul style="list-style-type: none"> <li>Office of Energy Innovation</li> <li>Energy Innovation Grants</li> <li>Electric grid reliability</li> <li>Utility definitions, relationships, and regulation</li> </ul>
<b>Wisconsin Department of Revenue<sup>2</sup></b>	<ul style="list-style-type: none"> <li>Monitor implementation</li> </ul>

Together, Wisconsin's state agencies are discussing topics ranging from consumer protection, state legislative needs, infrastructure and consumer safety, grid capacity, government roles and responsibilities, and ongoing collaboration. **Table 2-2** lists the monthly ESC meeting topics. The agency representatives have been provided the WEVI Plan and had an opportunity to comment prior to the WEVI Plan submittal.

**Table 2-2: WI Electrification Steering Committee Monthly Meeting Topics**

Month (2022)	Discussion Topic
April	Roles and responsibilities of state agencies
May	Workforce and public/private partnerships
June	Workforce
July	Implementation

<sup>2</sup> The Department of Revenue (DOR) joined the Steering Committee after initial plan conversations as impacts to DOR occur in implementation.



## 2.3 Individual Agency Coordination

In addition to the ESC meetings, one-on-one meetings between WisDOT and state agencies were conducted to solicit input in the creation of the WEVI Plan. **Table 2-3** lists those agencies and the topics discussed with each.

**Table 2-3: One-on-One Discussions with State Agencies**

Agencies	Discussion Topics
<b>Public Service Commission of Wisconsin (PSC)</b>	<ul style="list-style-type: none"> <li>• Grid capacity</li> <li>• Utility involvement in EVSE – historical, current, future</li> <li>• Electric rate structure</li> </ul>
<b>Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP)</b>	<ul style="list-style-type: none"> <li>• Regulation of EVSE</li> </ul>
<b>Wisconsin Economic Development Corporation (WEDC)</b>	<ul style="list-style-type: none"> <li>• EDA grant coordination</li> <li>• Stakeholder recommendations</li> </ul>

### 2.3.1 WEDC Economic Development and Supply Chain Analysis

The WEDC is developing a strategy for transitioning Wisconsin's manufacturing base and innovation ecosystem toward electric vehicles (EV) and electrified technologies. The bulk of this work is focused on assessing the disruption risks faced by Wisconsin's automotive suppliers; developing strategic and policy recommendations to assist Wisconsin companies to navigate the long-term transition to EV; and identifying and mapping state and local assets that Wisconsin can leverage to implement these recommendations.

WEDC is interviewing EV equipment suppliers that are based in, or have operations in, Wisconsin. In these interviews, information is being collected about their EV infrastructure development work for other states, regions, or countries. WEDC is planning to conduct brief case studies on how other states and regions have pursued opportunities to utilize American-made EVSE as they developed their EV infrastructure.

Upon its completion, results of the WEDC study/analysis may be integrated into future revisions of the WEVI Plan as applicable.

## 2.4 Internal WisDOT Coordination

WisDOT is one of only two state DOTs in the nation with the State Patrol and the Division of Motor Vehicles as divisions of the agency organizational structure. This enables WisDOT to seamlessly develop a workgroup with all its divisions to gain a holistic understanding of transportation electrification concerns, needs and goals.

## 2.4.1 Electrification Workgroup

The Electrification Workgroup (EWG) is comprised of representatives from every division within WisDOT who were nominated by division leadership based on their expertise in department policies and programs. EWG works to define and implement Wisconsin's transportation electrification policies and procedures.

**Table 2-4: WisDOT Division Members of the Electrification Workgroup**

Division	Responsibilities
<b>Division of Budget and Strategic Initiatives</b>	<ul style="list-style-type: none"> <li>• Lead on developing WEVI Plan</li> <li>• Budget and revenue management</li> <li>• EVSE corridor planning</li> <li>• EDA grant administration</li> <li>• State and federal regulations and policies</li> <li>• Inter-agency coordination</li> <li>• Stakeholder and public engagement</li> </ul>
<b>Division of Business Management</b>	<ul style="list-style-type: none"> <li>• Fleet conversion</li> <li>• Data system needs and security</li> </ul>
<b>Division of Motor Vehicles</b>	<ul style="list-style-type: none"> <li>• EV registration data</li> <li>• Surcharge collection</li> </ul>
<b>Division of State Patrol</b>	<ul style="list-style-type: none"> <li>• Vehicle safety and enforcement</li> </ul>
<b>Division of Transportation Investment Management</b>	<ul style="list-style-type: none"> <li>• Corridor mapping and traffic data</li> <li>• Regional planning</li> <li>• Administration of WisDOT programs</li> <li>• Local Programs county and municipal program funding and contractual support</li> <li>• Alternative Fuel Corridor program nominations and coordination</li> <li>• Coordination with Metropolitan Planning Organizations and Regional Planning Commissions</li> <li>• Statewide long-range planning</li> </ul>
<b>Division of Transportation Systems Development</b>	<ul style="list-style-type: none"> <li>• Guidance on right of way (ROW) use, access management, utility accommodation and permitting</li> <li>• Project development and process documentation</li> <li>• Intelligent Transportation System deployment</li> <li>• Roadside facilities management</li> </ul>

Meetings are formatted to allow for related updates as well as discussion. The discussion questions and prompts were designed to inform the chapters within the NEVI Program guidance but as the group evolves, discussions will be used to implement the WEVI Plan. Group representatives receive the questions/prompts a month before the meeting to ensure there is time for any necessary discussions to occur within their divisions prior to the meeting. Discussion prompts include impacts to work being done in specific work areas, concerns regarding electrification, legal implications and barriers, brainstorming optimal partnership and placement opportunities for EVSE, data requirements, and equity considerations.

**Table 2-5: Electrification Workgroup – Monthly Meeting Topics**

<b>Month (2022)</b>	<b>Discussion Theme</b>
January	• Introduction
February	• Impacts to the department and each division
March	• State/Federal Laws and Challenges to Electrification
April	• Current/Future Coordination within State on Electrification
May	• Electrification Implementation
June	• Data and Equity
July	• Preparing for Implementation (Stakeholder Outreach)

Discussion prompts directly informed sections within the WEVI Plan such as state agency coordination, public engagement, WEVI Plan vision and goals, EV charging infrastructure deployment, implementation, equity considerations, and cybersecurity. The EWG was also given the opportunity to review the WEVI Plan before it was submitted and to offer any feedback to its contents.

## 2.5 Public Engagement Introduction

The values statement for WisDOT has guided Wisconsin throughout the development of the WEVI Plan and will continue to do so throughout implementation of the WEVI Plan. The values statement, entitled **WisDOT IDEA**, includes the following:

- **Integrity** – Building trust and confidence in all our relationships through honesty, commitment, and the courage to do what is right.
- **Diversity** – Creating an environment, inclusive of all people and opinions, and which cultivates opportunities to bring varied perspectives to our work and decision making.
- **Excellence** – Providing quality products that exceed our customers' expectations by being professional and the best in all we do.
- **Accountability** – Being individually and collectively responsible for the impact of our actions on resources, the people we serve, and each other.

The values of WisDOT IDEA lay the foundation for the robust and inclusive general public and stakeholder organization engagement strategy implemented through the WIEV initiative and the WEVI Plan development. Included in the strategy are five public engagement objectives:

1. Identify and involve key stakeholder groups in the WEVI Plan's development.
2. Engage the public on preferred electric vehicle charging station locations, charging preferences, costs, and future use of electric vehicles.
3. Engage stakeholders to ensure electric vehicle charging infrastructure achieves equitable and fair distribution.
4. Ensure public participation opportunities are provided to facilitate audience accessibility.



5. Establish public participation opportunities when the WEVI Plan is updated, and or new federal guidance is made available.

This chapter summarizes Wisconsin's public engagement strategies that were used during the WEVI Plan development:

- Website and Engagement Tools
- Contact Database / Subscription and Comment Forms
- Stakeholder Organization Engagement Activities
- General Public Engagement Activities

The topics and themes that emerged from stakeholder and public comments and questions are summarized throughout. Additional detailed information is provided in the Public Engagement Report on WisDOT's Electrification of Wisconsin website.

## 2.6 Website and Engagement Tools

WisDOT launched its [Electrification of Wisconsin](#) website on March 23, 2022. It provides information on the department's ongoing electric vehicle infrastructure efforts and WEVI Plan development. Links to the stakeholder and public webinar events, discussed in detail below, are posted on the website as are links to the subscription and comment forms, and state and federal resources.

The public involvement activities, posted on the website, provide a road map for obtaining imperative information from the general public and stakeholder organizations. The engagement tools developed ensure Wisconsin has a high-level of equitable general public and stakeholder organization collaboration in WEVI Plan development.

## 2.7 Contact Database / Subscription and Comment Forms

Throughout the development of the WEVI Plan, WisDOT engaged with a variety of stakeholders. Wisconsin developed a database of stakeholders comprised of the following groups:

- Utility, freight and logistics, and labor and workforce companies
- Private sector partners
- State, regional, and local government representatives
- Tribal nations representatives
- Underserved and disadvantaged community representatives

The database generated a registration form for those interested in receiving WEVI Plan specific updates and a comment form. The form is posted on WisDOT's Electrification of Wisconsin website. At the time of WEVI Plan submittal, the contact database had over **800 contacts**. This database enables Wisconsin to summarize public engagement continuously and effectively.

## 2.8 Stakeholder Organization Engagement Activities

From the beginning of Wisconsin's electrification initiative, meetings with stakeholders began to expand Wisconsin's understanding of electric vehicle charging infrastructure needs and technology.

Upon completion of the stakeholder database, a webinar event invitation was disseminated via e-mail for the first Stakeholder Webinar, which was held on May 26, 2022. There were **192 participants** and WisDOT received **72 questions and comments**. The webinar began with a presentation, which was followed by a half-hour question and answer period. The presentation outlined the NEVI Program and WisDOT's process, timeline, and framework for the WEVI Plan.

On June 28, 2022, WisDOT held the second Stakeholder Webinar. There were **113 participants** and WisDOT received **25 questions and comments**. Following a similar platform as the first webinar, the second began with a presentation and then an opportunity for participant comments, questions, and responses. A summary of the participant feedback from both stakeholder webinars is located below."

### 2.8.1 Summary of Stakeholder Organization Webinars

A total of **305 participants** attended Wisconsin's virtual Stakeholder Webinar events and WisDOT received a total of **97 questions and comments** during the events. The following table provides common themes and concerns from attendees at the stakeholder webinars.

**Table 2-6: Stakeholder Webinar Common Themes**

<b>Benefits or opportunities of transportation electrification</b>	<ul style="list-style-type: none"><li>Thoughtfulness of EVSE locations in communities</li><li>Reduction in carbon footprint</li><li>Incentives for private retailers to install and maintain EVSE</li></ul>
<b>Concerns with using EVs and EVSE</b>	<ul style="list-style-type: none"><li>User fees and payment methods, taxes</li><li>Impact of EVSE on energy consumption and increase in demand on energy grid</li><li>Reliability and availability of technology for EVSE users</li><li>Future need of ports more than 150kW</li><li>ADA accessibility at charging station sites</li><li>Cost of a charging station</li></ul>
<b>Concerns with NEVI</b>	<ul style="list-style-type: none"><li>Supply chain issues slowing down the installation of EVSE</li><li>Funding requirements and limitations</li><li>Selection criteria considerations</li><li>Additional Alternate Fuel Corridors desired</li><li>Maintenance responsibilities for EVSE</li><li>NEVI-compliant criteria</li><li>Lack of flexibility for funding projects outside of AFCs</li></ul>
<b>Transparency and Coordination</b>	<ul style="list-style-type: none"><li>Desire a public comment period</li><li>Availability of NEVI Program guidance</li><li>Desire that presentation maps to be publicly shared</li><li>Program administration funding</li><li>Clarification of federal rulemaking timeline and allocation</li><li>Disadvantaged Business Enterprise (DBE) involvement</li></ul>



**Deployment Considerations**

- Ability for out-of-state companies to be selected for grants
- Consideration of the walkability of the area connecting charging stations to amenities
- Traffic count impacts on site location preferences
- Consideration of alternative power generation options
- Prioritization of projects already consistent with local zoning and comprehensive plans
- Consideration of new construction at a potential site exit
- Number of Request for Proposal (RFP) rounds
- Site design to allow for vehicles with trailers

## 2.8.2 MPO and RPC Meeting

Wisconsin's Metropolitan Planning Organizations (MPO) and Regional Planning Commissions (RPC) were invited to a virtual meeting on July 6, 2022, with WisDOT. The MPO/RPC presentation was delivered followed by a discussion. The feedback from the meeting participants aligned with the common themes from other stakeholder meetings, which can be found in **Table 2-7** below.

## 2.8.3 One-on-One Stakeholder Organization Meetings

Wisconsin conducted one-on-one meetings with the **58 stakeholder organizations** listed below. Wisconsin recognizes the importance of engaging with organizations representing and serving those in disadvantaged communities, in furtherance of the Justice40 initiative (bolded organizations), which aims to deliver 40% of the overall benefits of federal investments in climate and clean energy, including sustainable transportation, to disadvantaged communities.

- Alliant Energy Corporation
- American United Transportation Group
- CALSTART
- **Center for Independent Living in Western Wisconsin (CILWW)**
- Charge Point, Inc.
- City of Madison
- City of Milwaukee,  
Department of Public Works
- City of Oshkosh
- Climate Change Coalition
- Consolidated Water & Power Company
- Dairyland Power Company
- Destination Door County
- Eaton Corporation
- Eau Claire County
- Electrification Coalition
- Electrify America
- EnTech Solutions
- EVgo
- EV Public Charging Market
- Faithful + Gould
- Fii USA
- First American Capital Corporation
- Franklin Fueling Systems
- Francis Energy
- Great Plains Institute
- **Greater Wisconsin Agency on Aging Resources**
- Husch Blackwell Strategies
- Inertial Electric
- International Brotherhood of Electrical Workers Local Union 494
- Jackson Electric Cooperative
- Kwik Trip
- **Midwest Tribal Energy Resources Association**
- Milwaukee Regional Medical Center (MRMC)
- Nomad Planners, LLC

- Odyne Systems, LLC
- **Oneida Energy Resources, LLC**
- Paper Transport, Inc.
- Pieper Power
- Powered Up Baraboo
- Renew Wisconsin, Inc.
- Rock County
- Shell Recharge Solutions
- Smart Electric Power Alliance
- Tesla, Inc.
- Tesla Owners Club of Wisconsin
- University of Wisconsin Extension Community Economic Development
- Werner Electric Supply

- WEC Energy Group
- **Wisconsin Board for People with Developmental Disabilities**
- Wisconsin Clean Cities Coalition
- **Wisconsin Council of the Blind & Visually Impaired**
- Wisconsin Counties Association
- **Wisconsin Office of Rural Prosperity**
- Wisconsin Petroleum Marketers and Convenience Store Association
- Wisconsin Public Transit Authority (WIPTA)
- Wisconsin Technical College System
- WPPI Energy
- Xcel Energy

## STAKEHOLDER ORGANIZATION TYPES

Stakeholders who informed the WEVI Plan broadly represent the following organization types:

- Metropolitan Planning Organizations and Regional Transportation Planning Organizations
- Counties and cities, including coordination with existing EV charging programs
- State environmental protection agency
- State economic development agency
- State public utility commission
- State weights and measurement agency
- State consumer protection agency
- County and municipal public transportation agencies
- State manufacturing extension partnerships
- Emergency/disaster preparedness and public safety agencies
- Tribal governments
- Electric utilities and transmission and distribution owners and regulators
- Community-based organizations, small business associations, Chambers of Commerce, and private entities
- Private sector EV charging station owners and network operators
- Investors in EV charging infrastructure
- Vehicle manufacturers
- Unions and other labor organizations
- Minority- and women-based organizations
- Freight industry groups
- Environmental justice, equity, and other community advocacy organizations EV industry organizations and EV advocacy groups
- Gas station owners and operators



- Ride-share drivers/taxi drivers

## ONE-ON-ONE STAKEHOLDER ORGANIZATION MEETING SUMMARIES

**Table 2-7** provides a summary of current electrification initiatives Wisconsin's stakeholders are undertaking as well as common concerns and questions.

**Table 2-7: Stakeholder Meeting Common Themes**

<b>Experience with EV Infrastructure</b>	<ul style="list-style-type: none"> <li>• Exploring and/or starting EV initiatives</li> <li>• Already partnering with commercial and industrial customers</li> <li>• Exploring EVSE in rural communities</li> <li>• Some stakeholders have experience offering EVSE in addition to other alternative fuel sources</li> </ul>
<b>Benefits or opportunities of transportation electrification</b>	<ul style="list-style-type: none"> <li>• Potential to decrease the carbon footprint while meeting customer needs</li> <li>• Long-term return on investments benefit</li> <li>• Thoughtful placement of where to place EVSE in communities</li> </ul>
<b>Concerns with using EVs and EVSE</b>	<ul style="list-style-type: none"> <li>• The cost of EVs need to be cost neutral or better when compared to internal combustion engine (ICE) vehicles</li> <li>• The affordability of EVs is a barrier for some</li> <li>• Power grid capacity to support EV adoption</li> <li>• Anxiety for some about EV battery ranges</li> <li>• A lack of education on how to use EV infrastructure</li> <li>• Concern regarding not being able to charge EVSE users by kwh in Wisconsin</li> </ul>
<b>Concerns with the NEVI Program</b>	<ul style="list-style-type: none"> <li>• 150 kW per port is insufficient for heavy-duty vehicles</li> <li>• Some stakeholders are pausing current EVSE installation projects while waiting for the deployment of the NEVI Program</li> <li>• Supply chain issues may slow EVSE installation</li> <li>• 150 kW per port criteria may be too limiting in light of future technology, i.e., inductive charging</li> </ul>
<b>Questions for WisDOT</b>	<ul style="list-style-type: none"> <li>• Will the focus of the program be on building new infrastructure or upgrading existing, non-NEVI-compliant EVSE to be compliant?</li> <li>• Has WisDOT pre-determined the EVSE site locations or identified priority locations?</li> <li>• What is the average cost of a NEVI-compliant EVSE?</li> <li>• How and when will WisDOT allocate the program funds?</li> <li>• Will the program provide for medium and heavy-duty vehicle charging?</li> <li>• Is there the option for installing EVSE before WisDOT starts the program and being reimbursed after the program begins?</li> <li>• Will energy demand be an issue in Wisconsin?</li> <li>• How will the pricing of EVSE use be handled?</li> <li>• Is there guidance on EVSE session pricing?</li> </ul>

## 2.9 General Public Engagement Activities

Two public webinar events were held in June 2022. WisDOT relied on its social media platforms, a statewide news release, and dissemination of invitations to community- and equity-based organizations to inform the public of these events. The public webinar presentations included educational information specific to the need for fast, NEVI-compliant charging stations to meet intercity and interstate mobility, the utility infrastructure, and overall benefits of electric vehicles and infrastructure. Recordings of these webinars were then placed on the WisDOT electrification website for convenient viewing.

### 2.9.1 Summary of General Public Webinars

A total of **206 participants**, including stakeholders from 97 organizations, attended Wisconsin's virtual Public Webinar events on June 21 and June 22, 2022.

Following WisDOT's presentation, the event was opened for comments and questions. The webinars generated **58 questions and comments**. The following table provides common themes and concerns heard from the audience.

**Table 2-8: General Public Webinar Common Themes**

<b>Benefits and Opportunities of Transportation Electrification</b>	<ul style="list-style-type: none"><li>Partnerships and coordination of existing plans to maximize effective charging coverage</li><li>Opportunity to reduce energy consumption</li><li>Potential for long-term job opportunities</li><li>Ability for local governments, utilities, and private sites to be owners and operators of EVSE</li><li>Additional revenue opportunities</li></ul>
<b>Concerns with using EVs and EVSE</b>	<ul style="list-style-type: none"><li>Consistency of service and charging speeds</li><li>Affordability and cost determination methods</li><li>EVSE timely repairs and maintenance</li><li>Limited electrical grid supply and potential demand</li></ul>
<b>Concerns with the NEVI Program</b>	<ul style="list-style-type: none"><li>Selection criteria for sites is not consistent across states</li><li>Cost of the EVSE and remaining funds after building out the AFCs</li><li>Minimum 150kW per port</li><li>Lack of federal NEVI Program guidance</li><li>Desire for additional AFC selection</li><li>Prohibition of EVSE placement at rest areas</li></ul>

## 2.9.2 WEVI Plan Public Comment Summary

Wisconsin posted the draft WEVI Plan on WisDOT's Electrification of Wisconsin website from July 14, 2022, through July 24, 2022, for public comment. A total of 226 comments were received from individuals and organizations located throughout Wisconsin and from other states. Each comment was reviewed and put into one of five categories. These categories and the common themes that emerged in each are provided in **Table 2-9**.

**Table 2-9: WEVI Plan Public Comment Categories and Common Themes**

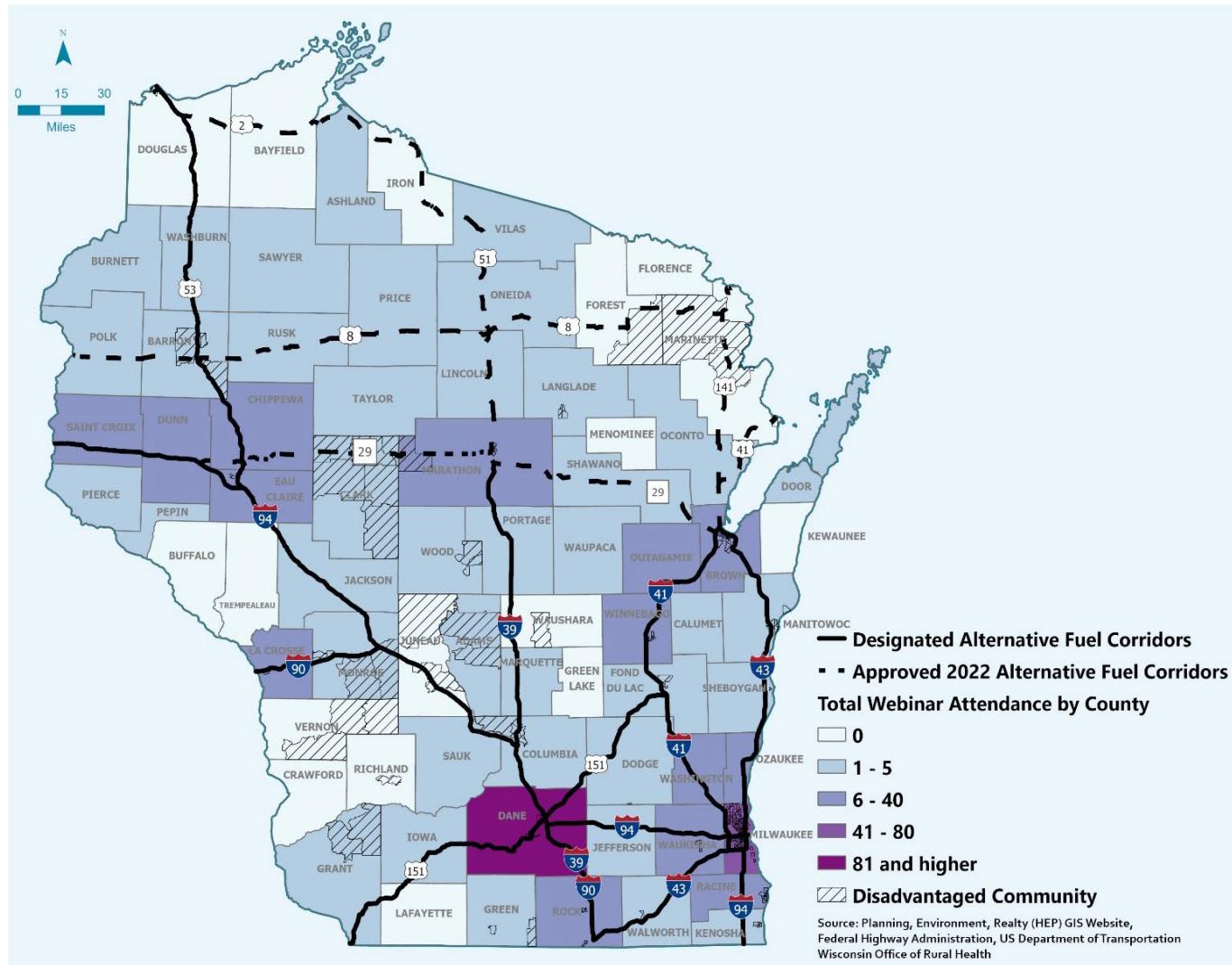
<b>Considerations for Future WEVI Plan Updates or Discretionary Funding Programs</b>	<ul style="list-style-type: none"> <li>• Future AFC and specific municipality or county suggestions</li> <li>• Medium-and heavy-duty vehicles and electric bicycles and scooters in planning efforts</li> <li>• Add additional renewable energy considerations</li> <li>• Fund Level 2 charging in some locations</li> <li>• Require charging stations to have CCS and Tesla ports</li> </ul>
<b>Site Requirement Suggestions</b>	<ul style="list-style-type: none"> <li>• Ensure stations are maintained and reliable</li> <li>• Post up-to-date information on charging station finder applications, i.e., state if a charging station is down and when will be back up</li> <li>• Provide clear wayfinding signage</li> <li>• Provide drive-through stations under canopies</li> <li>• Assign charging station parking spaces and enforce EV-only usage</li> </ul>
<b>Deployment Suggestions</b>	<ul style="list-style-type: none"> <li>• Prioritize rural areas</li> <li>• Prioritize small town tourist areas</li> <li>• Prioritize disadvantaged communities</li> <li>• Prioritize sites located at or near specific land uses, i.e., gas stations, restaurants, malls, libraries, trail heads, shopping centers, tourist destinations</li> <li>• Provide reimbursements to companies that choose to start the procurement process now to get ahead of supply chain issues</li> </ul>
<b>Reasons for Support or Opposition of Wisconsin's Electrification Initiative</b>	<ul style="list-style-type: none"> <li>• Support because it will lower tailpipe emissions</li> <li>• Oppose due to battery and charging station disposal concerns</li> <li>• Support because it will decrease range anxiety and subsequently increase EV purchases</li> <li>• Oppose due to grid capacity concerns</li> <li>• Support because it will normalize EV charging and contribute to manufacturers increasing supply and lowering EV prices</li> <li>• Oppose because EVs and the charging stations are too costly, and taxpayers shouldn't be responsible for funding the infrastructure just as they don't for gas station pumps</li> <li>• Support because EVs are the future of transportation</li> </ul>
<b>Considerations for Update or Revision in Existing WEVI Plan</b>	<ul style="list-style-type: none"> <li>• Provide additional details on how charging station locations will be required to meet ADA standards</li> <li>• Alternative exits for sites other than those specified</li> <li>• Suggestions to further address equity considerations</li> </ul>



## 2.10 Engagement Summary

The WEVI Plan attracted a total of **511** participants to four webinar events. Wisconsin is proud of its engagement effort that reached people within 54 of Wisconsin's 72 counties throughout only a two-month timeframe, as shown in **Figure 2-1**. Wisconsin is also happy that 226 quality public comments were received were considered for this WEVI Plan, subsequent plans, and the deployment phase of Wisconsin's Electrification Initiative.

**Figure 2-1: Total Webinar Event Participants by County**



## TEN THEMES

The following ten common themes emerged from the WEVI Plan stakeholder organization and general public engagement events and activities:

- Commercial entities are excited about the WEVI funding opportunity, are eager to learn about the selection criteria, and want to apply as soon as possible.
- Limiting EVSEs to a minimum of 150 kW per port is of concern to manufacturers working on new technology, such as inductive charging, and those who have already invested in DCFC EVSE.
- There is excitement about looking at land use patterns as part of the selection criteria.
- Desire for Wisconsin – already a manufacturing state – to have a major role in EVSE manufacturing to support local and state economic development and job growth.
- Electric grid supply and capacity is a concern with the requirement for 600 kW at one site, especially as more manufacturers switch to 100% electric.
- There is excitement about the ability to fund EVSE connected to renewable energy and storage.
- Supply chain concerns are prevalent since all 50 states could be procuring American-made EVSE at the same time.
- Desire for guidance on the funding availability for EVSE not on the AFCs.
- Affordability and equity concerns regarding EVs and desire for government to incentivize light-duty vehicle manufacturers to reduce EV prices.
- Funding needed for medium- and heavy-duty vehicle EVs and EVSE since shipping and freight companies, municipal fleets, and fire stations are currently investing in EVs, and they produce the most tailpipe emissions.

### 2.11 Ongoing Engagement Activities

Wisconsin is dedicated to continuing its robust public engagement throughout the five-year program while deploying electric vehicle charging stations across the state. Wisconsin will also intentionally seek out ways to engage those from disadvantaged communities who were not involved in initial outreach. These activities will be reported during each of the annual WEVI Plan updates.

# 3 EXISTING AND FUTURE CONDITIONS ANALYSIS

## 3.1 Introduction

Electric Vehicle consumer adoption rates are rapidly increasing in Wisconsin, and it is anticipated this growth will have significant impacts on Wisconsin's economy, workforce, and transportation system. The following provides an analysis of existing and future conditions in the state to ensure successful build-out of Wisconsin's EV charging network.

Wisconsin is well-positioned to maximize available NEVI Program funding, build out the state's charging network, and meet the growing demand for electric vehicles on the road.

## 3.2 Existing Electric Vehicle Infrastructure

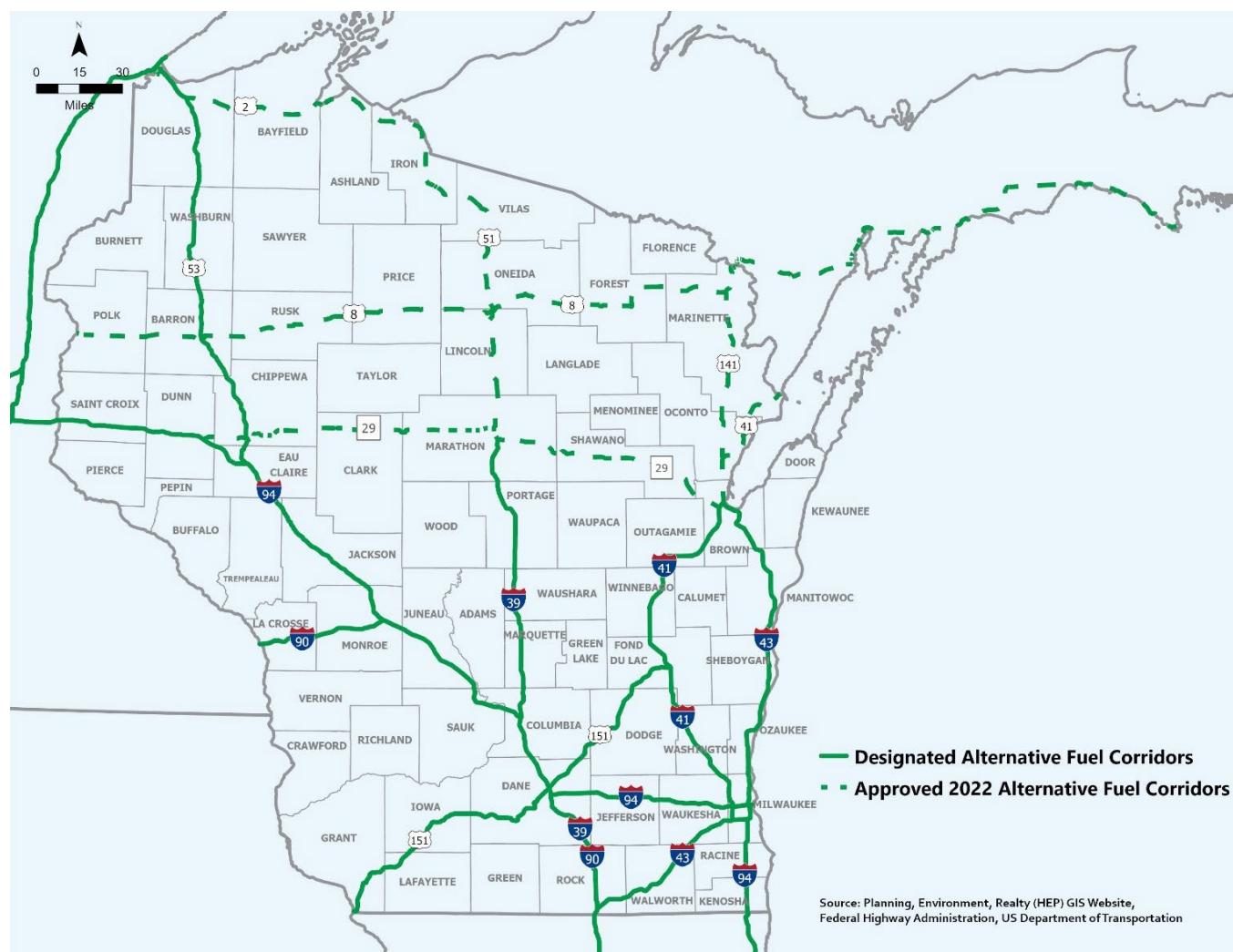
This section provides information on Wisconsin's existing electric vehicle infrastructure, inclusive of its designated Alternative Fuel Corridors (AFC) and its existing charging station locations.

### 3.2.1 Alternative Fuel Corridors

FHWA issued a Request for Nominations Memorandum (2022 Round 6 AFCs) dated February 10, 2022, to allow for states to nominate new corridors for the NEVI Program. WisDOT submitted new nominations to provide greater geographic equity to facilitate better connectivity and access across Wisconsin. FHWA approved all of Wisconsin's nominations on July 5, 2022, and the maps in this WEVI Plan illustrate these corridors as "Approved 2022 AFC Corridors."

As presented in **Figure 3-1**, Wisconsin's designated Alternative Fuel Corridors are portions of I-90, I-94, I-39, I-41, I-43, I-535, U.S. 151, and U.S. 53. Wisconsin recently received approval to extend portions of U.S. 51, WIS 29, U.S. 2, and U.S. 141, and all of U.S. 8 and U.S. 41 as AFC federal designations. These corridors are important because they:

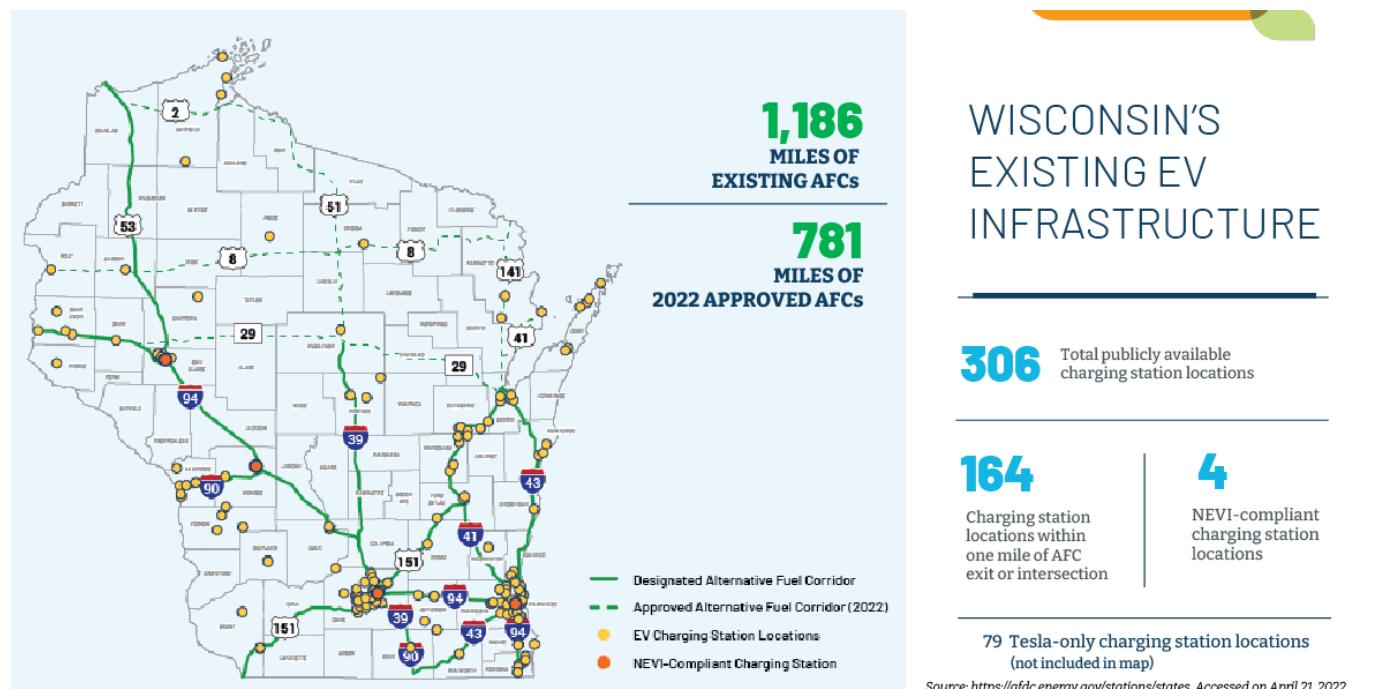
- Serve traditionally underserved and rural portions of the state
- Are extensions of existing AFC corridors
- Connect to tourism and recreation destinations in the northern part of the state and provide AFC connections to other states

**Figure 3-1: Wisconsin's Designated Alternative Fuel Corridors**

### 3.2.2 Existing Electric Vehicle Infrastructure

**Figure 3-2** provides a comprehensive view of Wisconsin's existing EV infrastructure conditions. According to the U.S. Department of Energy Alternative Fuel Data Center, there are currently 306 publicly available charging station locations in Wisconsin. Of these, 164 are located within one mile of an AFC and four are NEVI-compliant.

**Figure 3-2: Wisconsin's Existing EV Infrastructure**

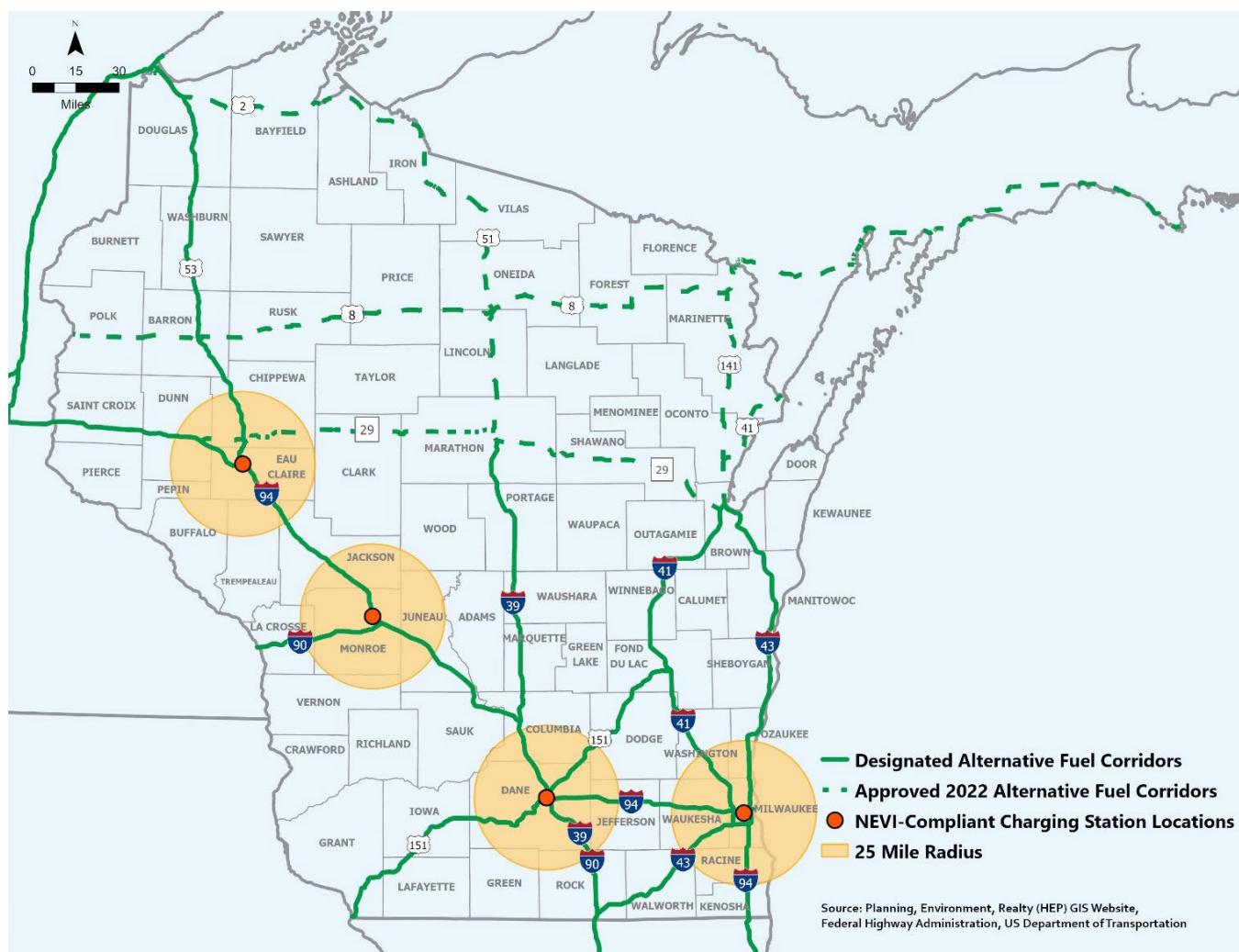


### 3.2.3 NEVI-Compliant EV Charging Station Locations

The U.S. Department of Energy Alternative Fuel Data Center identifies four of Wisconsin's existing charging station locations as NEVI-compliant because they meet the minimum NEVI Program standards of having four ports able to charge EVs at 150 kW simultaneously and are within one-travel-mile from an AFC. Wisconsin will continue to report on compliant charging station locations as the program evolves. **Figure 3-3** illustrates where these NEVI-compliant charging stations are located and a 25-mile radius surrounding them, which is the base for Wisconsin to determine where attention needs to be directed to fill the first 50-mile gaps.

**Table 3-1** provides detailed locations for each of these NEVI-compliant charging stations.

**Figure 3-3: Wisconsin NEVI-Compliant EV Charging Stations and Alternative Fuel Corridors**



**Table 3-1: Wisconsin NEVI-Compliant EV Charging Station Locations**

ID	Charger Level	Route	Latitude	Longitude	EV Ports	EV Network
121711	DCFC	US 53 (Eau Claire)	44.774773	-91.428375	4	Electrify America
122809	DCFC	I-94 (Tomah)	44.019245	-90.508558	4	Electrify America
122884	DCFC	US 151 (Madison)	43.110223	-89.311529	5	Electrify America
190417	DCFC	I-94 (West Milwaukee)	43.017416	-87.965306	10	Electrify America

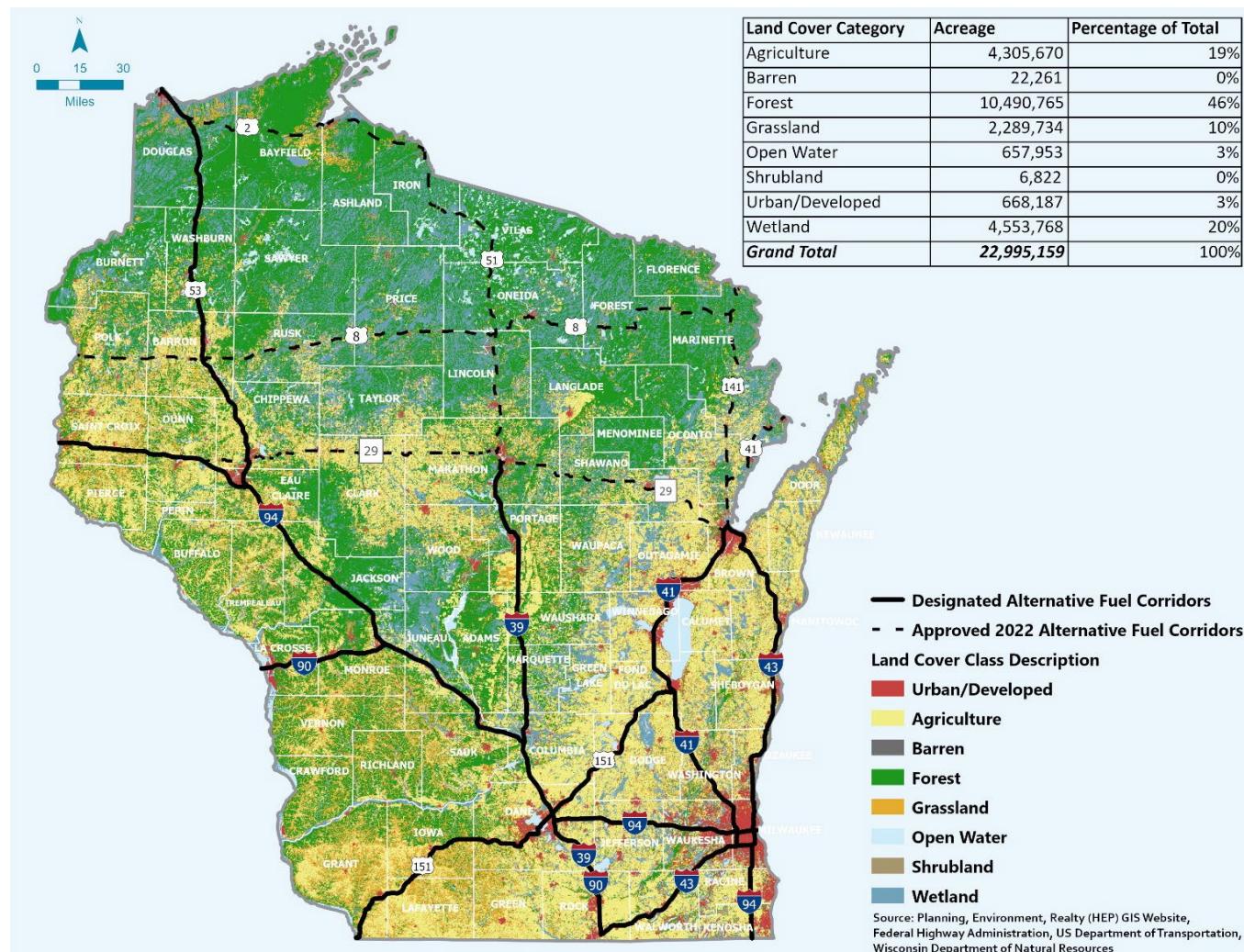
**Source:** Alternative Fuel Data Center, June 2, 2022,

### 3.3 State Geography, Terrain, Climate, and Land Use Patterns

#### 3.3.1 Geography and Terrain Patterns

**Figure 3-4** shows Wisconsin's land cover in relationship to the designated AFCs. Primary land cover categories include forest, wetland, agriculture, and grassland, with localized urban/developed areas. Wisconsin has designated AFCs located in or near each of the eight land cover categories.

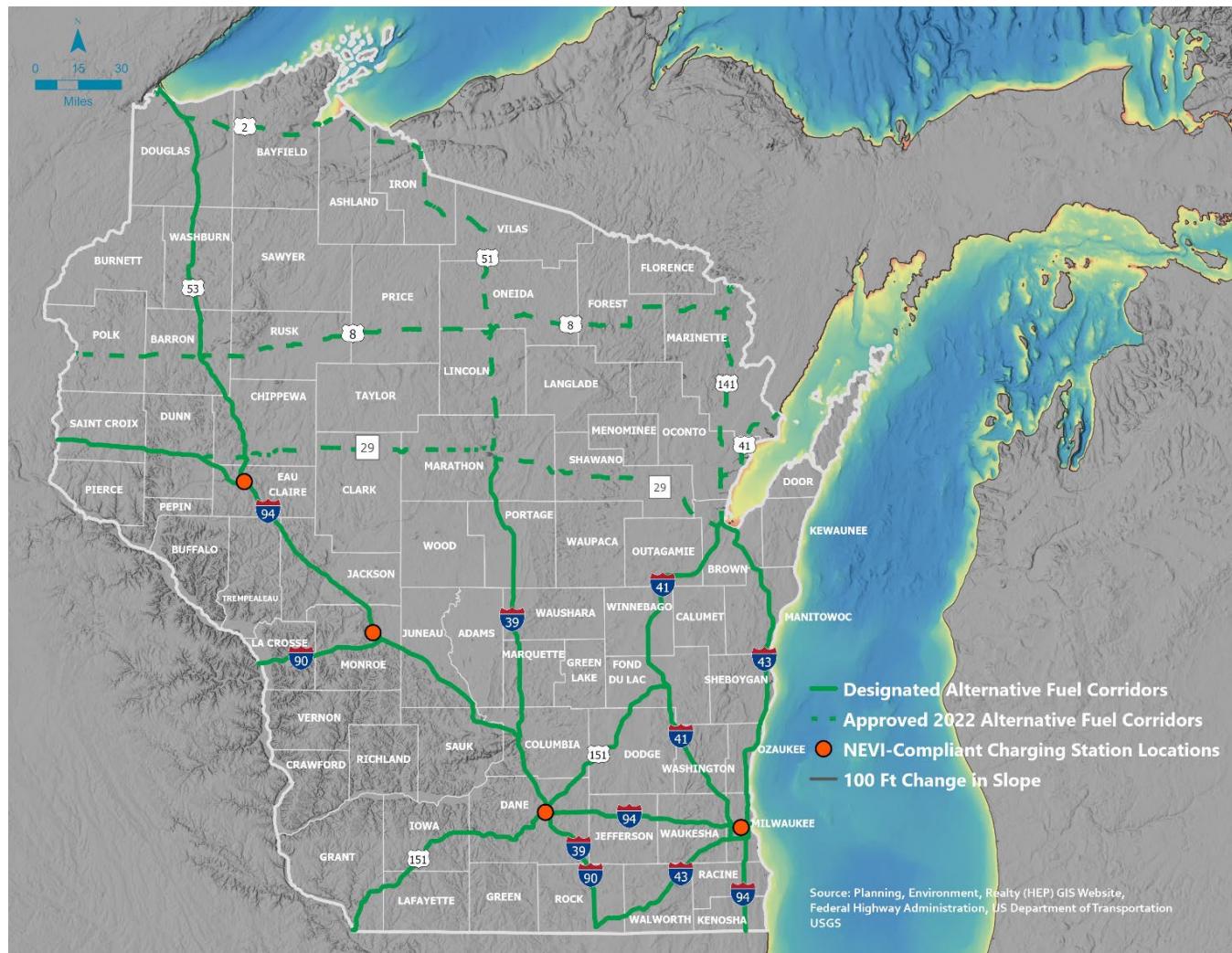
**Figure 3-4: Wisconsin's Land Cover and Alternative Fuel Corridors**



**Figure 3-5** shows Wisconsin's terrain in relationship with designated AFCs. Wisconsin's elevation and terrain are relatively mild and pose little risk.

WisDOT does not anticipate any specific EV charging infrastructure deployment challenges related to the state's geography and terrain and will work with site hosts to ensure that any site-specific geography or terrain characteristics are appropriately addressed during EVSE deployment.

**Figure 3-5: Wisconsin's Terrain and Alternative Fuel Corridors**



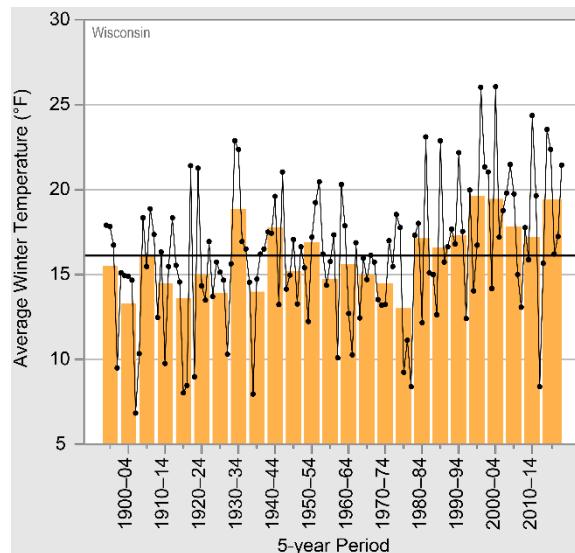
### 3.3.2 Climate Patterns

Wisconsin experiences a variety of climate patterns with cold air masses typically originating from the north affecting the state during the winter months and warm, humid weather from the south affecting the summer months. The state is bordered by Lake Superior to the north and Lake Michigan to the east, which affects temperatures and precipitation up to 15 miles inland along and from the lakes' shorelines.

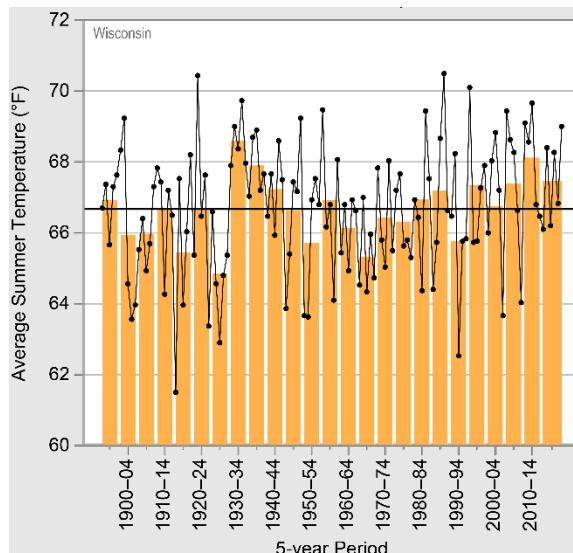
## EXISTING TEMPERATURE PATTERNS

Annual average temperatures vary from 39 degrees Fahrenheit in the northern portion of the state to 50 degrees in the southern portion of the state. **Figure 3-6** and **Figure 3-7** show the average state winter and summer temperatures. The dots show the annual values whereas the bars show averages over five-year periods (last bar is a six-year average). The horizontal black lines show the long-term (entire period) averages of 16.1 °F in the winter and 66.7 °F in the summer.

**Figure 3-6: Observed Winter Temperature**



**Figure 3-7: Observed Summer Temperature**

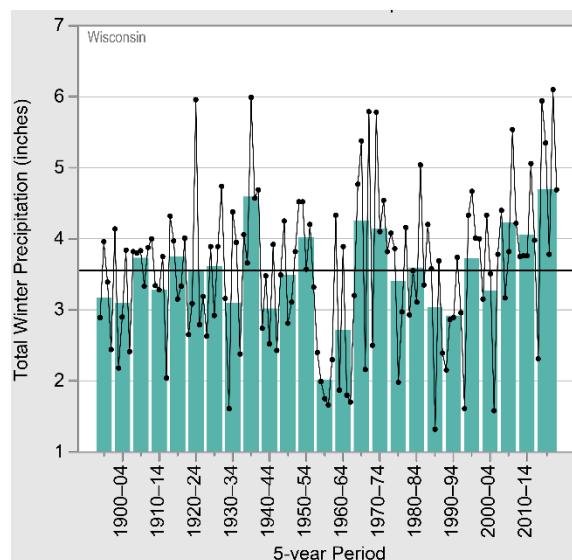


**Source:** Wisconsin State Climate Summary, National Oceanic and Atmospheric Administration (NOAA) National Centers for Environmental Information, 2022, <https://statesummaries.ncics.org/downloads/Wisconsin-StateClimateSummary2022.pdf>

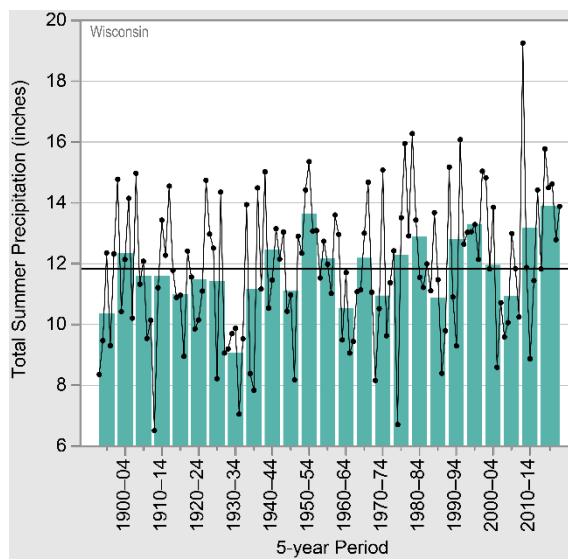
## EXISTING PRECIPITATION PATTERNS

Most of the state's precipitation occurs during the warmer summer months with a range from 20.5 inches in 1910 to 44.6 inches in 2019. Due to the state's northern location, severe winter storms can be a regular occurrence. Snowfall varies within the state from 30 inches total accumulation in the south to more than 100 inches in the northern portion of the state along the Gogebic Range which creates more lake-effect snow along the south shore of Lake Superior. Annual snowfall totals have been trending upwards since 1930. **Figure 3-8** and **Figure 3-9** depict these winter and summer trends.

**Figure 3-8: Observed Winter Precipitation**



**Figure 3-9: Observed Summer Precipitation**



**Source:** Wisconsin State Climate Summary, NOAA National Centers for Environmental Information, 2022, <https://statesummaries.ncics.org/downloads/Wisconsin-StateClimateSummary2022.pdf>

## FUTURE TEMPERATURE AND PRECIPITATION TRENDS

Temperatures in Wisconsin have risen more than 2°F since the beginning of the 20th century and are projected to continue to rise. Precipitation is also projected to increase for Wisconsin, with the most increases occurring during the winter and spring. Extreme precipitation is projected to increase, which will potentially increase the frequency and intensity of floods. Snowfall, however, is projected to decline in Wisconsin due to warmer temperatures.<sup>3</sup> The National Oceanic and Atmospheric Administration (NOAA) projections indicate temperatures in Wisconsin increasing anywhere from 2°F warmer than the historical average in low emissions models to 12°F warmer than the historical average in high emissions models.<sup>4</sup>

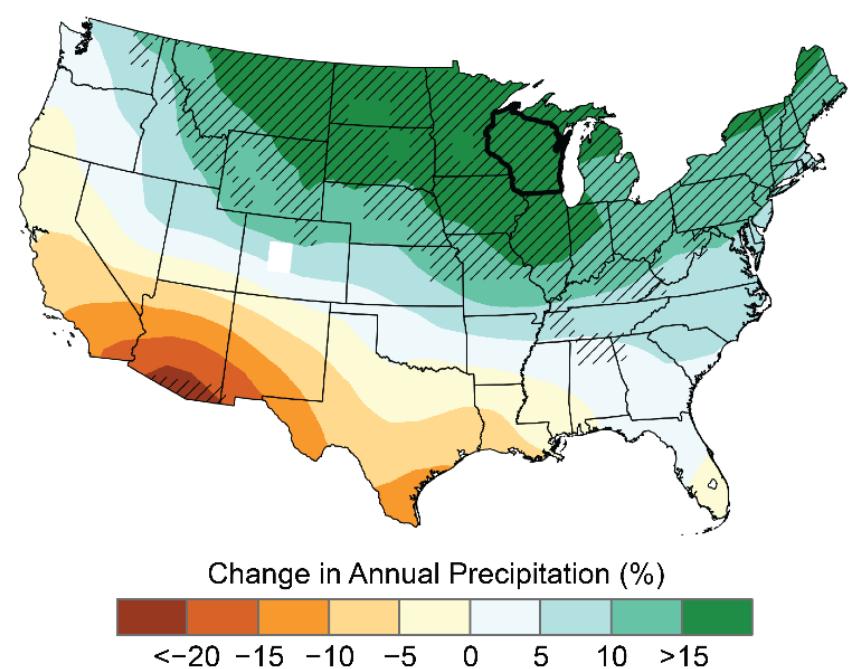
**Figure 3-10** depicts that Wisconsin is in the region with the highest increase in the projected percentage of spring (March to May) precipitation from the late 20<sup>th</sup> Century to the middle of the 21<sup>st</sup> Century. The hatching

<sup>3</sup> Source: Wisconsin State Climate Summary, NOAA National Centers for Environmental Information, 2022, <https://statesummaries.ncics.org/downloads/Wisconsin-StateClimateSummary2022.pdf>

<sup>4</sup> Source: Wisconsin State Climate Summary, NOAA National Centers for Environmental Information, 2022, <https://statesummaries.ncics.org/downloads/Wisconsin-StateClimateSummary2022.pdf>

on Wisconsin indicates areas where most climate models project a statistically significant change. For more details on Wisconsin's resiliency strategies, see Section 5.5.3 of this WEVI Plan.

**Figure 3-10: Projected Change in Spring Precipitation**



Sources: CISSESS and NEMAC. Data: CMIP5

## CLIMATE PATTERN SUMMARY

The WEVI Plan calls for siting new EV charging stations on developed property with existing amenities along the state's major interstate highways and AFCs. While temperature and precipitation patterns will continue to change, these changes are not expected to significantly impact the siting, installation, operation, or maintenance of NEVI-compliant EV charging stations at existing facilities along the state's AFCs.

### 3.3.3 Land Use Patterns

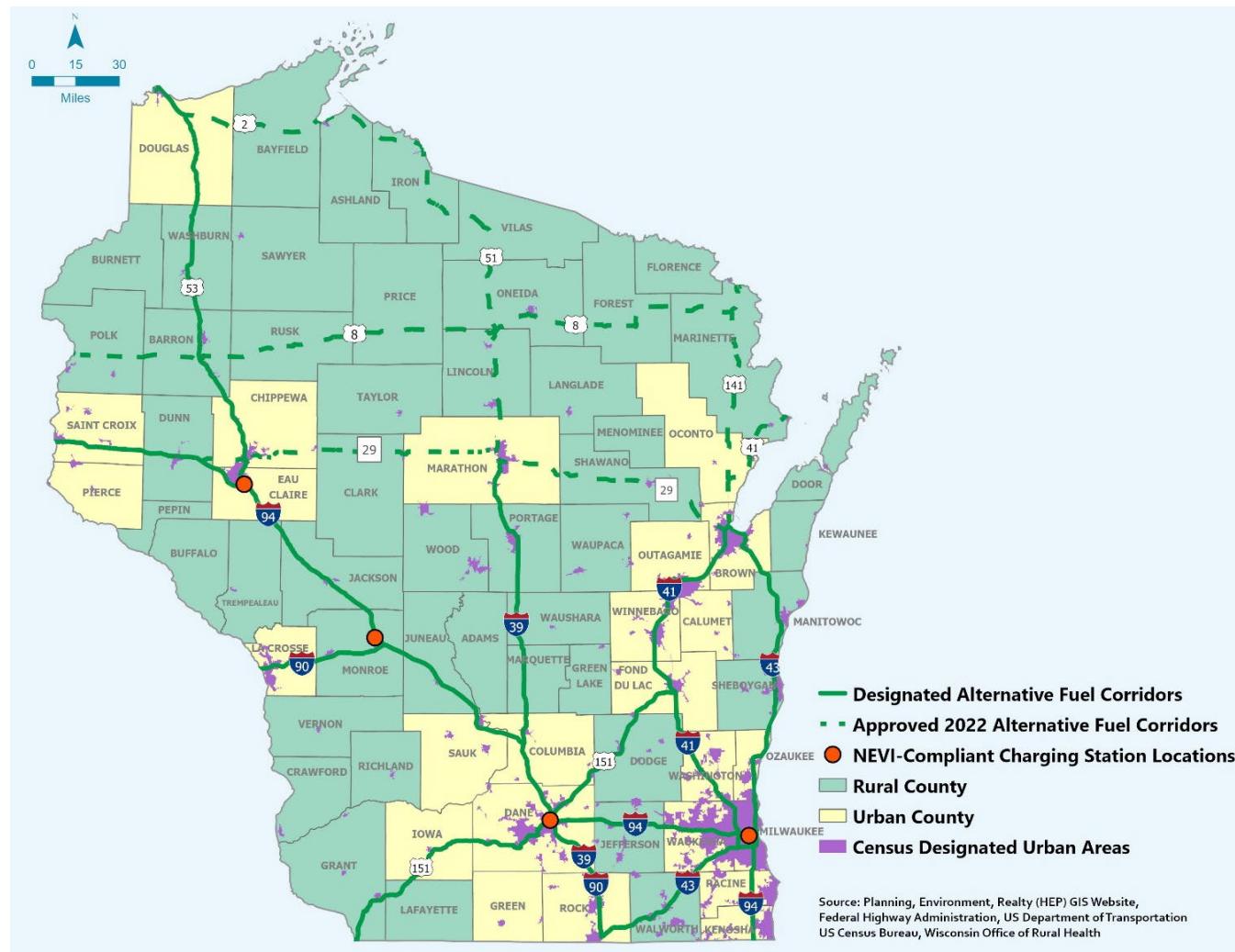
Wisconsin is divided into 72 counties and, as of the 2020 census, has a population of nearly 5.9 million. An EV charging network that functions for both urban and rural Wisconsin residents is a significant priority for Wisconsin. Given Wisconsin's designated AFCs, and in accordance with NEVI Program guidance, EVSE accessibility for rural and urban Wisconsin residents will be significantly improved by the buildup of Wisconsin's AFCs.

In Wisconsin, local governments prepare comprehensive plans, determine local transportation choices, and make local land use decisions (such as zoning changes). Private entities propose development and physically develop land (such as housing subdivisions). WisDOT plans, designs, and constructs state transportation facilities to support regional and inter and intra state traveling needs of the public and commerce.

Since the link between land use and transportation is critically important to economic health and livability of the state's communities, Wisconsin is working to find ways to improve coordination efforts at all levels. One

important approach is to foster cooperation with our stakeholders, including private landowners and local governments, to find ways to prevent traffic congestion, improve safety and improve opportunities for multi-modal transportation. This includes fostering connections and cooperation between the transportation needs and priorities of Wisconsin's urban and rural counties. Urban and rural counties are shown in **Figure 3-11** in relation to Alternative Fuel Corridors.

**Figure 3-11: Wisconsin's Urban and Rural Counties and Alternative Fuel Corridors**

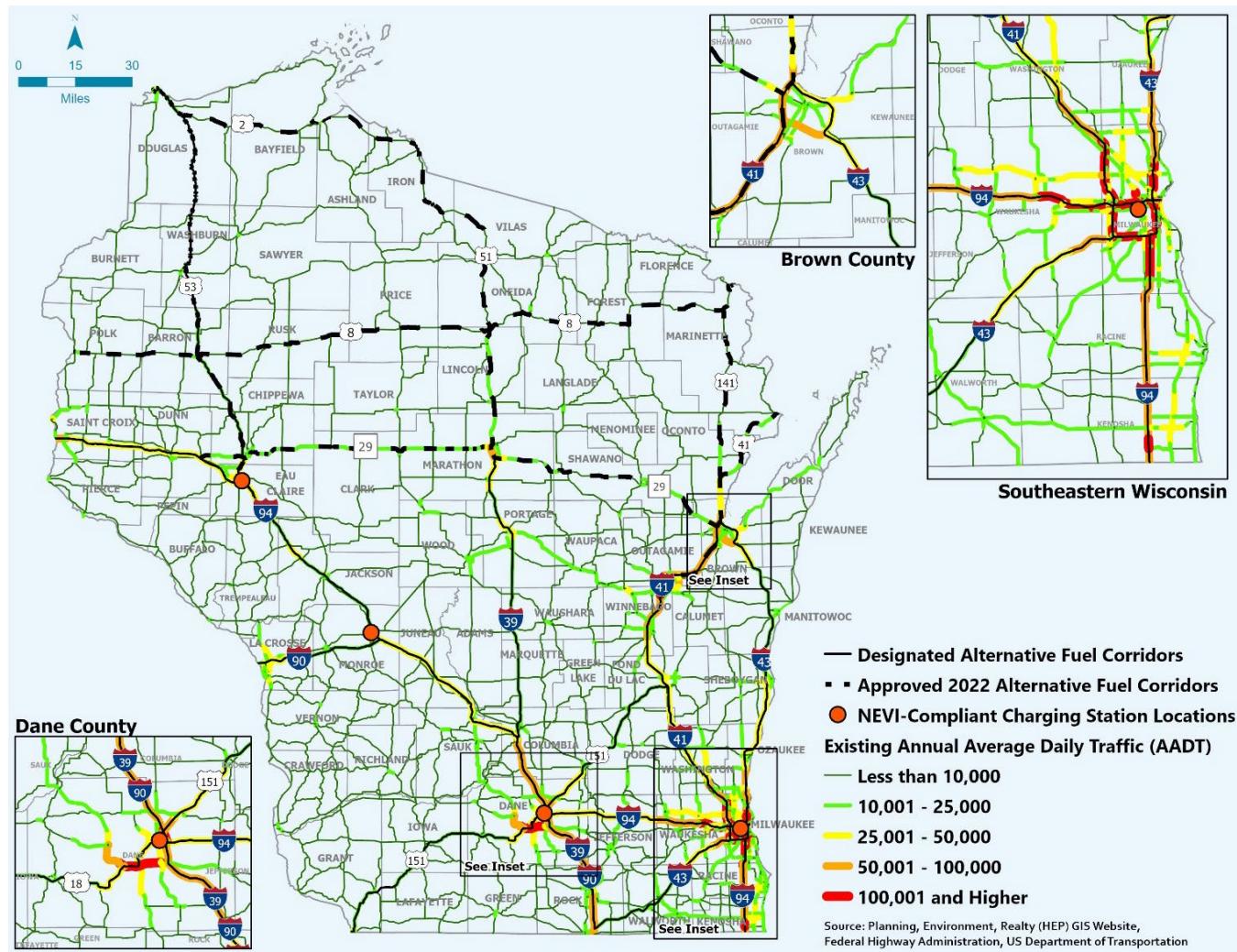


## 3.4 Travel Patterns and Public Transportation, Freight and Other Supply Chain Needs

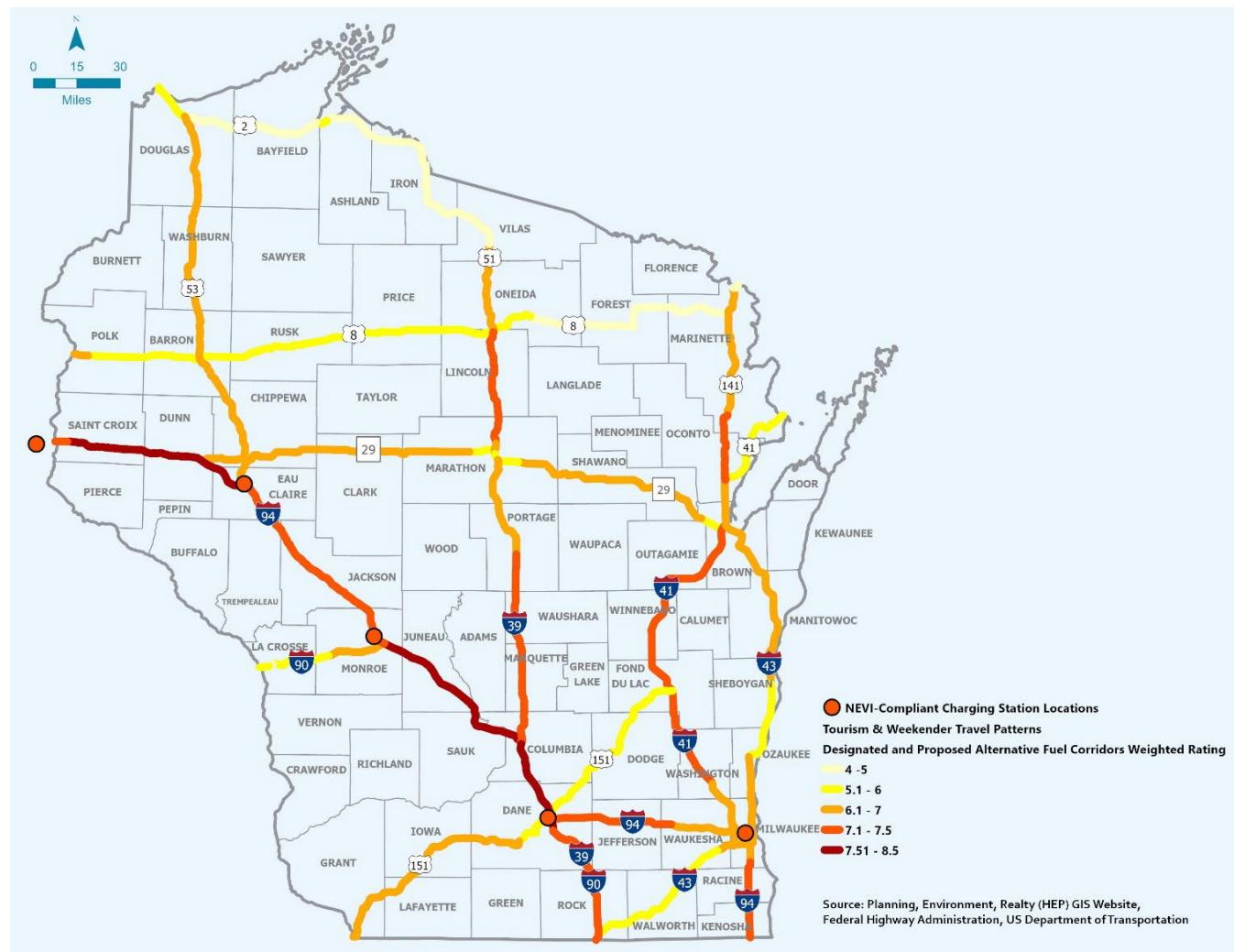
### 3.4.1 Travel Patterns

Wisconsin's annual average daily traffic (AADT) is mapped in **Figure 3-12**. Wisconsin is focusing on the full EVSE buildout of AFCs, which will respond to a latent need in the statewide EV charging network and will facilitate electric vehicle travel on some of Wisconsin's most-travelled roadways.

**Figure 3-12: Wisconsin's Average Annual Daily Trips (AADT) on Alternative Fuel Corridors**



Wisconsin has assigned travel demand and recreational demand scores to its AFCs based on corridor traffic data. This model is illustrated in **Figure 3-13** where a weighted rating is assigned to each AFC corresponding to its average tourism and weekend travel demand. Seasonal, weekend, and average daily traffic patterns were incorporated into the model to provide a statewide charging network that responds to these travel needs.

**Figure 3-13: Alternative Fuel Corridor Travel and Recreation Demand Weighting**

### 3.4.2 Public Transportation Needs

Public transit plays an important role in Wisconsin's statewide and local transportation networks. As presented in **Figure 3-14**, Wisconsin's 81 public transit systems, that travel throughout the state's urban and rural areas, are among the nation's best in terms of efficiency and effectiveness and connect thousands of residents to jobs, schools, and other destinations.

Wisconsin's public transit operators are key partners, with established channels for information sharing and outreach.

The Wisconsin Public Transportation Association (WIPTA) and WisDOT met to discuss public transportation electrification needs. WIPTA represents a broad range of public transportation providers throughout Wisconsin.

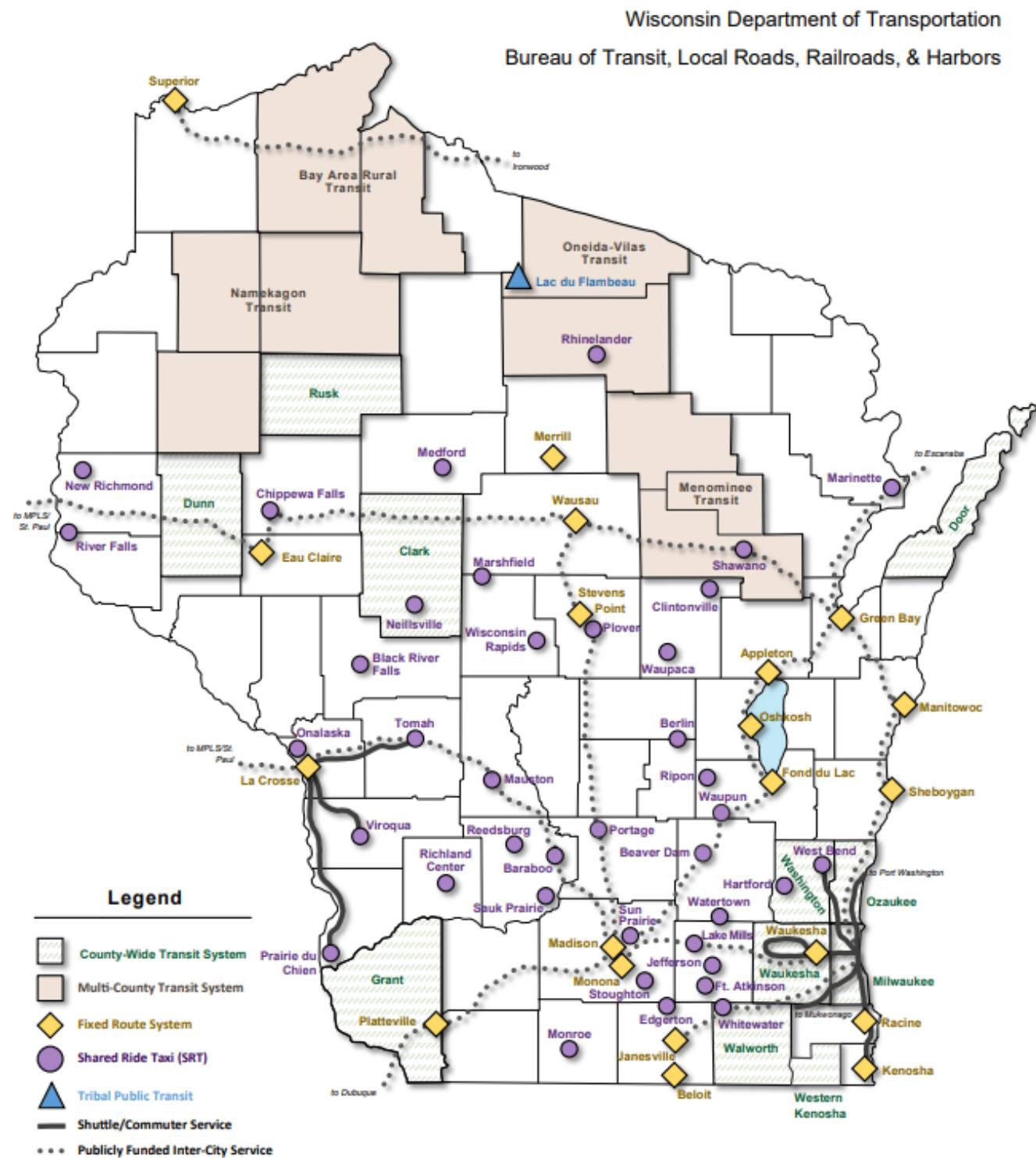
Wisconsin has identified two principal challenges to the electrification of transit infrastructure and capital. These are cost and the logistics of charging. Many transit systems in Wisconsin report existing funding and cashflow challenges. Ongoing funding challenges mean that transit operators must make investment tradeoff decisions between maintenance and operations, making the purchase of new vehicles a challenge.

The need for charging and specialized infrastructure presents a potential operational logistics challenge since vehicular service hours will need to accommodate hours spent charging. Location, charging infrastructure, and route-specific considerations also play a role. Additional study is needed to identify proven best practices for overcoming these challenges.

Where requested and as appropriate, Wisconsin intends to work with public transit agency partners on eligible activities.



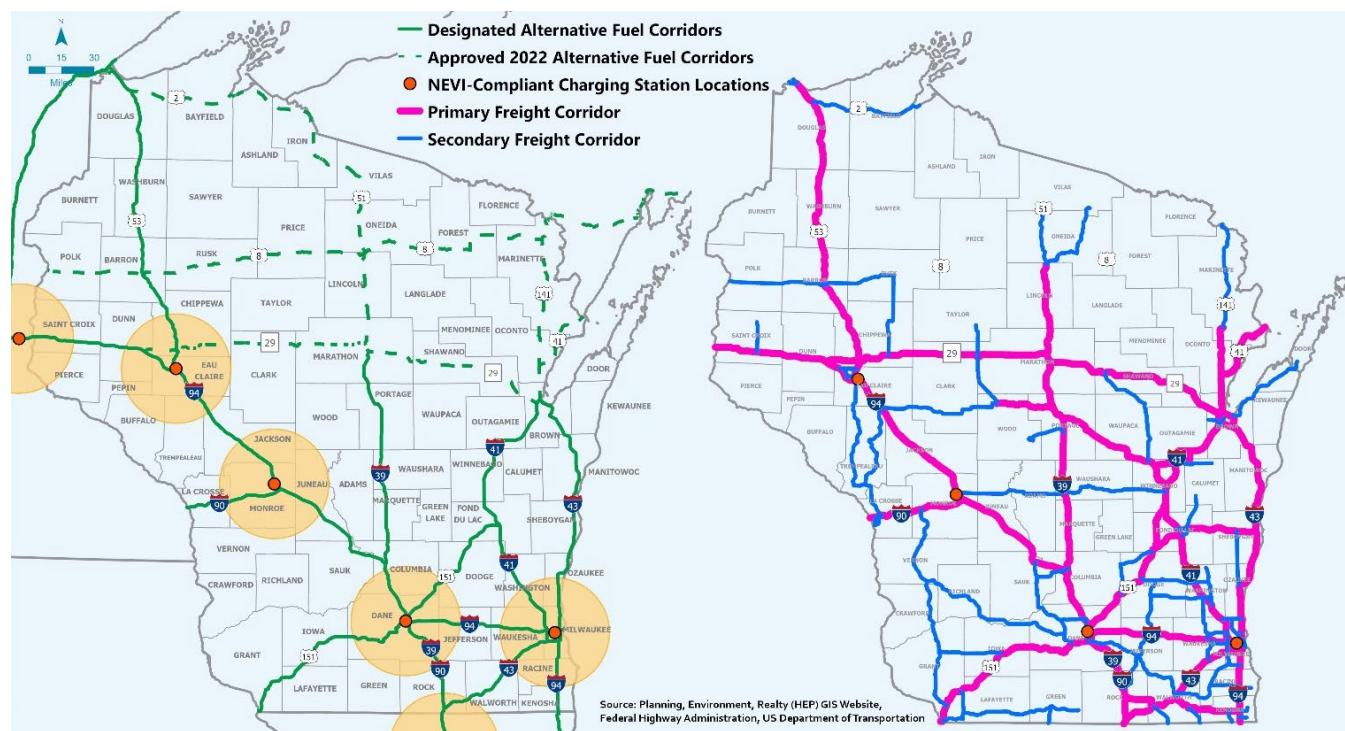
Figure 3-14: Wisconsin's Public Transit System



### 3.4.3 Freight and Other Supply Chain Needs

Wisconsin's public road system drives Wisconsin's economy by providing safe and efficient transportation of freight. Businesses throughout Wisconsin use the road system to obtain the products needed to produce their goods and get them to market. The enhancement of freight mobility is a top priority for Wisconsin. The state has nearly 116,000 miles of public roads, from Interstate freeways to town roads to city and village streets.<sup>5</sup> In 2019, more than 368 million tons of freight traversed Wisconsin roadways, valued at \$547 billion.<sup>6</sup> WisDOT maintains a [State Freight Plan](#), which designates primary and secondary freight routes in the state, as shown in relationship to Wisconsin's AFCs in **Figure 3-15**.

**Figure 3-15: Freight and Alternative Fuel Corridors**



### 3.4.4 Freight Advisory Committee (FAC)

The Freight Advisory Committee (FAC) was established to provide guidance to WisDOT on freight related issues. FAC members were included in the development of freight-specific electrification policies and procedures. FAC members include representatives from the industrial, agriculture, logistics, warehousing, economic development, and transportation sectors. It is anticipated that this committee will continue to be an active forum for ongoing engagement of the freight sectors on electrification.

<sup>5</sup> WisDOT, Bureau of Planning and Economic Development, Traffic Forecasting Section, <https://wisconsindot.gov/Documents/projects/data-plan/veh-miles/vmt2020.pdf>

<sup>6</sup> 2019 IHS Transearch database, <https://wisconsindot.gov/Documents/doing-business/freight/flow2019.pdf>

### 3.4.5 Mid-America Freight Coalition (MAFC)

Wisconsin is a member of the Mid-America Freight Coalition (MAFC) along with Illinois, Indiana, Iowa, Kansas, Kentucky, Michigan, Minnesota, Missouri, and Ohio. MAFC works on planning, operation, preservation, and improvement of transportation infrastructure in the Midwest.<sup>7</sup> A current study focuses on understanding the relationship between the development of electrification, commercial truck operations, and the planning, programming, and policy functions of state transportation agencies. The study will result in new data to understand truck operations and fueling needs in relation to freight corridors and freight generators.

## 3.5 Industry and Market Conditions

As of 2022, there has been an acceleration of electric vehicle registration rates across the United States.<sup>8</sup> Wisconsin saw an increase from 319 EV registrations in 2013<sup>9</sup> to 9,039 EV registrations in 2021.<sup>10</sup> The increase is driven by several factors, including advances in technology, decisions made by state policymakers, and commitments by automakers. **Table 3-2** shows the number of EVs registered by Wisconsin county as of January 1, 2022.

<sup>7</sup> Mid-America Freight Coalition website, <https://midamericafreight.org/>

<sup>8</sup> Wisconsin Office of Energy Innovation, <https://www.atlasevhub.com/materials/state-ev-registration-data#data>

<sup>9</sup> Wisconsin Department of Transportation, Wisconsin DMV, Registered by Fuel Type, Calendar Year ending 2013, <https://wisconsindot.gov/Documents/dmv/shared/rpt25-cal.pdf>

<sup>10</sup> Wisconsin Department of Transportation, Wisconsin DMV, Registered by Fuel Type, Calendar Year ending 2021, <https://wisconsindot.gov/Documents/dmv/shared/rpt-25-cal-21.pdf>



**Table 3-2: Wisconsin's Registered Electric Vehicles by County**

<b>County</b>	<b>No. of EVs</b>	<b>County</b>	<b>No. of EVs</b>	<b>County</b>	<b>No. of EVs</b>
Adams	15	Iowa	34	Portage	74
Ashland	9	Iron	3	Price	4
Barron	23	Jackson	11	Racine	223
Bayfield	17	Jefferson	78	Richland	10
Brown	320	Juneau	21	Rock	187
Buffalo	11	Kenosha	247	Rusk	4
Burnett	16	Kewaunee	10	Sauk	94
Calumet	60	La Crosse	146	Sawyer	8
Chippewa	48	Lafayette	9	Shawano	13
Clark	5	Langlade	11	Sheboygan	121
Columbia	78	Lincoln	11	St. Croix	185
Crawford	7	Manitowoc	81	Taylor	2
Dane	2,277	Marathon	103	Trempealeau	10
Dodge	55	Marinette	17	Vernon	47
Door	41	Marquette	7	Vilas	14
Douglas	21	Menominee	0	Walworth	242
Dunn	31	Milwaukee	1,320	Washburn	12
Eau Claire	158	Oconto	16	Waukesha	1,067
Florence	2	Oneida	21	Waupaca	27
Fond du Lac	81	Outagamie	216	Waushara	15
Forest	1	Ozaukee	344	Winnebago	193
Grant	34	Pepin	5	Wood	56
Green	48	Pierce	56	Vehicles kept out of state	43
Green Lake	14	Polk	39		
Monroe	31	Washington	179	<b>Total</b>	<b>9,039</b>

**Source:** Wisconsin Department of Transportation, Report 25 – Registered by Fuel Type, Calendar Year 2021,  
<https://wisconsindot.gov/Documents/dmv/shared/rpt-25-cal-21.pdf>

### 3.5.1 Projected EV Registrations in Wisconsin

Based on Wisconsin's EV registration trend increases, the driving age population, and IHS Markit National unit sales data, Wisconsin projects that electric light-, medium-, and heavy-duty vehicles will increase from 0.1% of the existing total registered fleet<sup>11</sup> to 31% of the total fleet in 2050<sup>12</sup> (**Table 3-3**). The level of growth in EV ownership is still new. Projections should be interpreted cautiously, though they are useful for planning and to make sure Wisconsin is well-positioned to meet the demand for these new vehicles.

**Table 3-3: Projected Wisconsin Electric Vehicle Registrations**

Year	Projected Wisconsin EV Registrations	Percent of Total Fleet
2022	9,039	0.1%
2027	217,048	4.1%
2030	334,097	6.1%
2035	553,686	9.9%
2040	843,623	14.7%
2050	1,863,585	31.0%

*Sources:* DMV Registration reports: vehicle type by fuel type and plate types by vehicle weight; Woods & Poole Economics: Wisconsin population forecast by age group; IHS Markit National unit sales data for light vehicles, light trucks, and heavy & medium trucks; U.S. Energy Information Administration

## 3.6 Electric Utilities and Grid Capacity to Support EV Charging Infrastructure

### 3.6.1 Electric Utilities and Service Territories

The Wisconsin electric transmission grid is overseen by the Midcontinent Independent System Operator (MISO), which is a regional transmission organization. There are 12 investor-owned distribution utility companies in Wisconsin, with the following five serving most of the customers in the state: Wisconsin Power & Light (WPL), Madison Gas & Electric (MGE), Northern States Power Company (NSP), Wisconsin Energy Power Company (WEPCO), and Wisconsin Public Service (WPS).

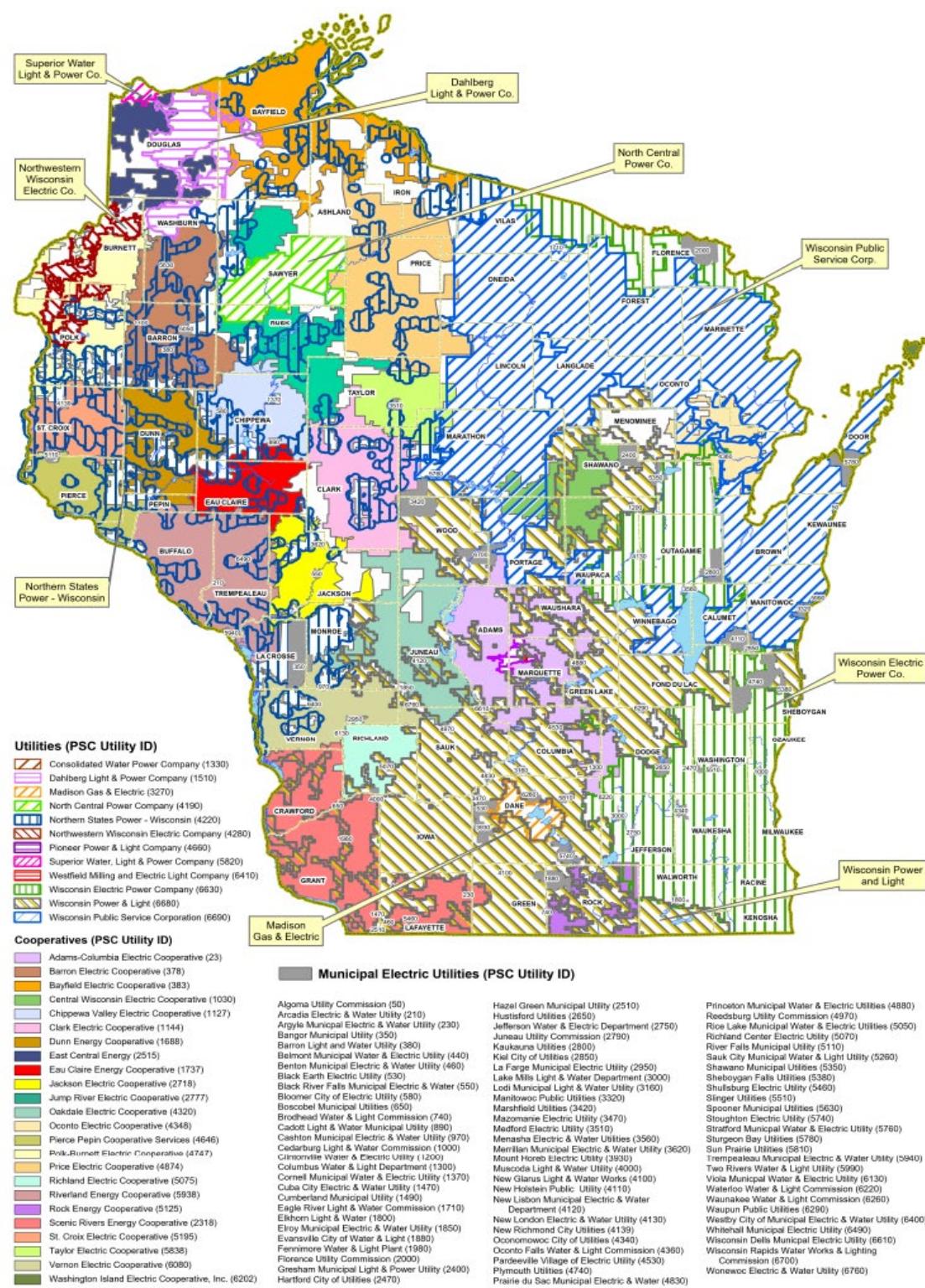
Areas not served by these distribution utilities are mostly served by municipal utilities and electric cooperatives. All of Wisconsin's utilities and their service territories are shown in **Figure 3-16**.

<sup>11</sup> Wisconsin Department of Transportation, Report 25 – Registered by Fuel Type, Calendar Year 2021, <https://wisconsindot.gov/Documents/dmv/shared/rpt-25-cal-21.pdf>

<sup>12</sup> U.S. Energy Information Administration



Figure 3-16: Wisconsin Electric Utilities and Utility Service Territories



### 3.6.2 Public Service Commission of Wisconsin

The Public Service Commission of Wisconsin (PSC), established by the 1907 Public Utilities Law, is the utility regulatory authority for the state. Key components of the regulatory system developed by the 1907 Public Utilities Law include:

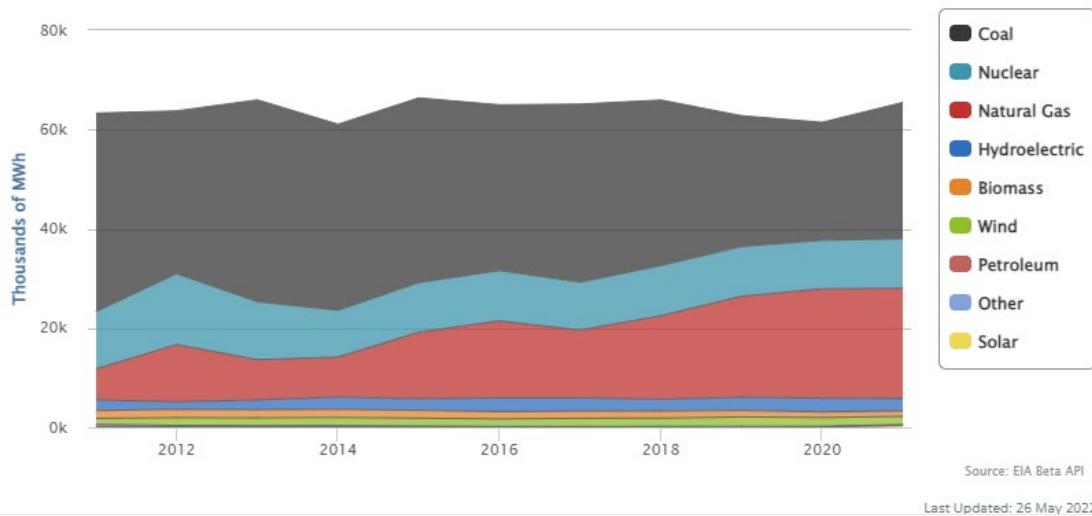
- A broad definition of “public utility.”
- Centralized regulatory authority vested in the PSC.
- Monopoly status for public utilities.
- Minimum service standards.
- State regulation of rates and other charges.

The PSC is currently responsible for regulating more than 1,100 Wisconsin public utilities, which provide electric, natural gas, combined water and sewer utilities and certain aspects of local telephone service throughout the state of Wisconsin.

### WISCONSIN NET ELECTRIC POWER GENERATION

Wisconsin's total electric power generation for 2021 was 65,455,335 MWh, with coal-fired power plants providing 39% of Wisconsin's electricity net generation, down from a high of 82% in 1997. Natural gas fueled 35% of Wisconsin's in-state utility-scale generation in 2020, a share that is almost four times larger than a decade earlier. Wisconsin's total electric generation capacity and demand have remained relatively stable over the past decade, with net annual electric generation capacity and fuel source shown in **Figure 3-17**.

**Figure 3-17: WI Net Annual Electric Generation by Fuel Source**



Wisconsin's electric utilities are part of a broader regional system called MISO that moves energy between 15 states and one Canadian province. Ultimately it is MISO that is responsible for making sure there is enough power on the electrical grid, and utilities throughout the region are required to follow MISO's orders.

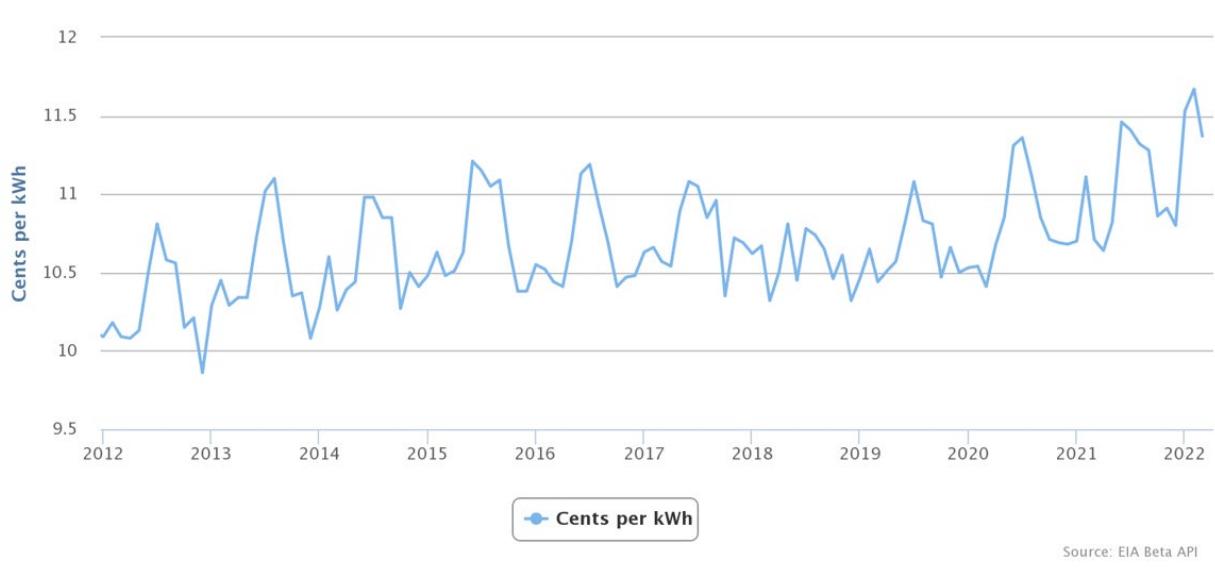
MISO predicts that its region as a whole has the potential for summer energy shortages in 2022 under the worst-case scenarios. This is largely because a few states within MISO (not Wisconsin) have less capacity to provide energy than expected, due to differences in how their electric markets are structured. MISO plans to avoid broad electric restrictions that may seek to shut off customers in states like Wisconsin, and instead

hope to target blackouts or brownouts in the states and areas that do not have adequate electric generation. This targeted approach avoids negative impacts to states like Wisconsin, which have adequately planned supply to meet expected demand.

## WISCONSIN AVERAGE RETAIL PRICE OF ELECTRICITY

Wisconsin's statewide 2021 average retail price for electricity was 11.37¢/kWh. Wisconsin's average annual retail price for electricity has fluctuated between 10¢/kWh - 12¢/kWh over the past decade shown in **Figure 3-18**.

**Figure 3-18: WI Average Retail Price for Electricity**



## IMPACTS OF ELECTRIC VEHICLE GROWTH ON WHOLESALE ELECTRICITY PRICES IN WISCONSIN – PSC REPORT

PSC staff helped produce a report, published in 2020 World Electric Vehicle Journal, exploring the impact of the rapid growth of EVs on wholesale electricity pricing through 2030.<sup>13</sup> PSC's goal for the report was to understand EV impacts on Wisconsin's electric grid for mid- and long-range planning and to assist the state's electricity transmission owners, distribution utilities, and regional system operators. This PSC report was produced in collaboration with researchers at the University of Wisconsin – Madison's La Follette School of Public Affairs and Department of Electrical and Computer Engineering.

The report considered projected EV growth in Wisconsin through the year 2030, using 2018 EV registration as a baseline with reference and high EV growth rate scenarios described in **Table 3-4**, which was taken directly from 'The Impacts of Electric Vehicle Growth on Wholesale Electricity Prices in Wisconsin' report referenced in footnote 13.

<sup>13</sup> Zielke, Megan, Adria Brooks, and Gregory Nemet. 2020. "The Impacts of Electric Vehicle Growth on Wholesale Electricity Prices in Wisconsin" World Electric Vehicle Journal 11, no. 2: 32. <https://doi.org/10.3390/wevj11020032>

**Table 3-4: EV Growth Rate Scenarios**

Number of Plug-In Electric Vehicles (PEV) by service territory in 2018 (data from 12 service territories) and the modeled number in 2030 under the reference and high-adoption growth scenarios. PEV increases over 2018 registrations are shown.

	Utility						
	MGE	NSP	WEPCO	WPL	WPS	Total	Increase over 2018
<b>2018 Registrations</b>	355	272	1,437	729	285	3,077	-
<b>Reference Growth</b>	3,072	2,351	12,433	6,309	2,466	26,632	765%
<b>High Adoption</b>	43,114	32,993	174,479	88,549	34,627	373,761	12,046%

Modeled 2030 annual load (GWh/year) in Wisconsin utilities resulting from the baseline, reference, and high adoption growth scenarios. Energy increases over the baseline scenario are shown.

	Utility						
	MGE	NSP	WEPCO	WPL	WPS	Total	Increase over 2018
<b>Baseline Growth</b>	4,508	64,126	42,928	16,304	15,581	143,447	-
<b>Reference Growth</b>	4,518	64,133	42,970	16,326	15,589	143,536	0.06%
<b>Progressive Growth</b>	4,650	64,191	43,483	16,591	15,734	144,649	0.84%

For the PSC report, the price of electricity was calculated based on the locational marginal price (LMP). LMP is a way for wholesale electric energy prices to reflect the value of electric energy at different locations on the grid, factoring in locational specific price variables such as load, demand, and congestion patterns as well as physical transmission limits and local energy efficiency losses. Inefficiency losses and energy demand congestion on any transmission line can cause price differences between locations that affect final retail pricing, most commonly reflected as peak and demand charges on consumer electric bills. Overall, the report concluded that even under high EV growth assumptions, Wisconsin's grid generation capacity, pricing, and hourly LMPs would see minimal impacts as detailed in **Table 3-5**.

**Table 3-5: Impacts of EV Growth on WI Electricity Prices**

<b>Sufficient WI Electric Generation Capacity</b>	Modeled EV adoption in Wisconsin does not indicate that transmission system upgrades will be needed in direct response to the growth in charging load.
<b>Minimal Impact on WI Electricity Costs</b>	Minimal impacts on electricity prices (<2%) in Wisconsin through 2030.
<b>Minimal Impact on WI Local Marginal Prices</b>	Increases projected in hourly electric LMPs due to EV growth would be less than those seen in annual changes of historic electricity prices in Wisconsin.
<b>Moderate Impact to WI Congestion Prices</b>	Under high EV adoption scenarios, the report found relatively moderate increases in congestion prices (+16–32%), which could impact consumer demand charges.

The PSC report did show that under high EV adoption scenarios there would be moderate increases in congestion prices (+16–32%), which could provide an opportunity to align electric vehicle charging schedules with times of low transmission congestion through pricing and policies discussed below.

## PUBLIC SERVICE COMMISSION OF WISCONSIN EV POLICIES

In 2019, the PSC opened an investigation in docket 5-EI-156 to consider future policies and regulations related to EVs and concluded that:

- Barriers to EV adoption in Wisconsin include insufficient charging infrastructure, upfront costs of EVs and associated charging equipment, and limited customer awareness and education.
- PSC and utility policies and regulations, such as electric rates and rate design, can significantly influence EV deployment.
- PSC can influence EV deployment by providing regulatory clarity.
- Pilot programs can serve existing EVs while preparing the PSC and utilities for future EV growth.

Informed by stakeholder feedback, PSC issued an Order in December 2020 encouraging utilities to submit pilot program proposals that address identified barriers to EV adoption, serve customer needs, and explore EV-related issues. The Order also offers regulatory clarity by establishing a framework that sets clear expectations for the information any provider must include in proposing EV pilots to PSC.<sup>14</sup> Multiple providers have received PSC approval for EV pilots serving residential, commercial, and fleet customers as detailed in **Table 3-6**.

**Table 3-6: Wisconsin Utility PSC Approved & Proposed EV Pilot Programs**

<b>EVSE Make Ready Investments</b>	Commercial programs allowing utilities to own and maintain “make-ready” infrastructure for EVs (not EVSE hardware but the wiring and equipment needed to connect EVSE to the electric grid system) and allow customers to pay for new infrastructure extensions through monthly fees or demand charges.
<b>EVSE Station Investments</b>	Residential programs where customers may contract with their utility to install an EVSE, the cost of which will be prepaid or paid in installments.
<b>Time of Day (TOD) Rates</b>	Customer options to enroll in time-of-day (TOD) rates which establish lower rates for energy use during overnight hours and higher rates during hours of peak demand, providing economic incentives for customers to charge their vehicles during periods of low demand and help utilities avoid high costs associated with serving increased peak demand.
<b>Demand Rate Discounts</b>	Program designed to address cost barriers associated with demand rates by offering commercial customers with meters dedicated to EV charging a discounted demand rate for up to five years.
<b>Managed Charging Pilot</b>	A proposed managed charging pilot would offer customers a monthly payment to deploy telematics software on EVs designed to communicate with the grid and allow the utility to manage charging timing to support reliability and load management without requiring the installation of a separate electric meter. <sup>15</sup>

WisDOT and PSC remain in close coordination to ensure the successful deployment of EVSE throughout the state.

14 Order of December 23, 2020. <https://apps.psc.wi.gov/ERF/ERFView/viewdoc.aspx?docid=402117>.

15 Electric Vehicle Managed Charging Pilot Applications. March 15, 2022. <https://apps.psc.wi.gov/ERF/ERFView/viewdoc.aspx?docid=432550>



### 3.7 Known Risks and Challenges

Increased deployment of EVSE and accelerated adoption of electric vehicles presents Wisconsin with an opportunity to evaluate the effectiveness of the state's regulatory environment that supports transportation electrification. WisDOT is working with supporting state agencies including the Wisconsin Department of Agriculture, Trade and Consumer Protection and PSC to determine whether changes to state statutes or administrative rules are needed. The Wisconsin Electrification Steering Committee has identified and continues to discuss potential impacts to the following chapters of state statute:

- Chapter 66: General Municipality Law
- Chapter 84: State Trunk Highways; Federal Aid
- Chapter 98: Weights and Measures
- Chapter 100: Marketing, Trade Practices
- Chapter 196: Regulation of Public Utilities

Under current state law, Chapter 196: relating to the Regulation of Public Utilities may pose a challenge for Wisconsin in the implementation of the National Electric Vehicle Infrastructure Program. As currently interpreted, Chapter 196 only provides for the direct sale of electricity to customers by kWh by public utilities. While this regulatory framework does not explicitly prohibit successful deployment of EVSE under the NEVI Program, it does provide regulatory uncertainty to many private partners who are evaluating the potential return on investment that may result from implementation under this program. Regulatory clarity on this issue could potentially enable NEVI Program dollars to act as a catalyst for future private sector investment. WisDOT has engaged in legislative discussions to address the concern and will continue to work with legislative partners when the legislative session resumes in early 2023.

### 3.8 Information Dissemination about EV Charging Station Availability

As detailed further in Chapter 5 of this WEVI Plan, Wisconsin will require NEVI Program funded EVSE stations to report data and provide it in real time via Application Programming Interface (API) to third parties free of charge to comply with the NEVI Program Notice of Proposed Rulemaking (NPRM). Wisconsin will ensure this data is accessible to the U.S. Department of Energy's Alternative Fuel Vehicle Data Center Station Locator tool, as well as to private sector apps such as Plug-Share for the dissemination and ready access of information on EV charging station availability for the general public. In addition, Wisconsin will require appropriate wayfinding signage as required in the NPRM and per any further Wisconsin agency requirements.



## 4 EV CHARGING INFRASTRUCTURE DEPLOYMENT

This section details Wisconsin's overarching strategy for EV charging infrastructure installations and associated policies to meet the compliance standards of the NEVI Program and vision and goals for EVSE deployment in Wisconsin.

### 4.1 Funding Sources

As detailed in Chapter 5, Wisconsin intends to create a competitive procurement program that will seek applications from eligible EVSE site hosts seeking NEVI Program funding to install, own, and operate NEVI-compliant EVSE throughout Wisconsin. Currently, Wisconsin will seek to secure non-federal matching funds of at least 20% from awarded EVSE owners and operators.

Wisconsin anticipates receiving \$78.65 million in federal NEVI Program funds throughout the five year life of the NEVI Program. WisDOT is in the initial stages of preparing for the 2023-25 state biennial budget process. While Wisconsin has determined that current statutes and appropriations allow for administration of the NEVI Program, Wisconsin is investigating the potential creation of new appropriations. Provisions for federal, state, and local appropriations would provide Wisconsin with further authorization to receive federal funds related to the federal NEVI Program, local funds or other eligible entities as defined in statute, and state funds authorized by the Wisconsin State Legislature. The appropriations will allow Wisconsin to expend funds received for eligible activities, such as awarding grants, administration, and management of the NEVI Program. The creation and modification of these appropriations is dependent on legislative consideration and action.

It is anticipated federal NEVI Program funds will be made available to local governments and private entities, working collaboratively to install and operate EV fast charger systems along designated corridors. In future years, as the build-out of the designated corridors are certified as complete, other transportation corridors identified by Wisconsin may be included for WEVI Program funds, based on Wisconsin goals such as providing services in rural areas and other underserved areas of the state.

Funding made available under the above-mentioned appropriations will be used to provide grants on a competitive basis to eligible entities. The initial WEVI program will be a reimbursement program, allowing for the reimbursement of actual expenditures incurred by the project sponsor during the project's development. Project sponsors will be responsible for any project cost coverage beyond the award amount.

The federal cost-share for NEVI Program projects cannot exceed 80%. It is anticipated private and government funds will be used to provide the remaining cost-share. As appropriate, NEVI Program funds may be combined with other eligible U.S. DOT funding for EV charging infrastructure projects, if the eligibility requirements are met for both programs and the total federal cost-share does not exceed 80%. In addition, Wisconsin may use other eligible state program funds for EV charging infrastructure projects, if the eligibility requirements are met for both the NEVI Program and the state funded program.

Wisconsin will continue to update this information on an annual basis with updates to the WEVI Plan and as Wisconsin's EVSE infrastructure is built out and the state's needs continue to evolve.

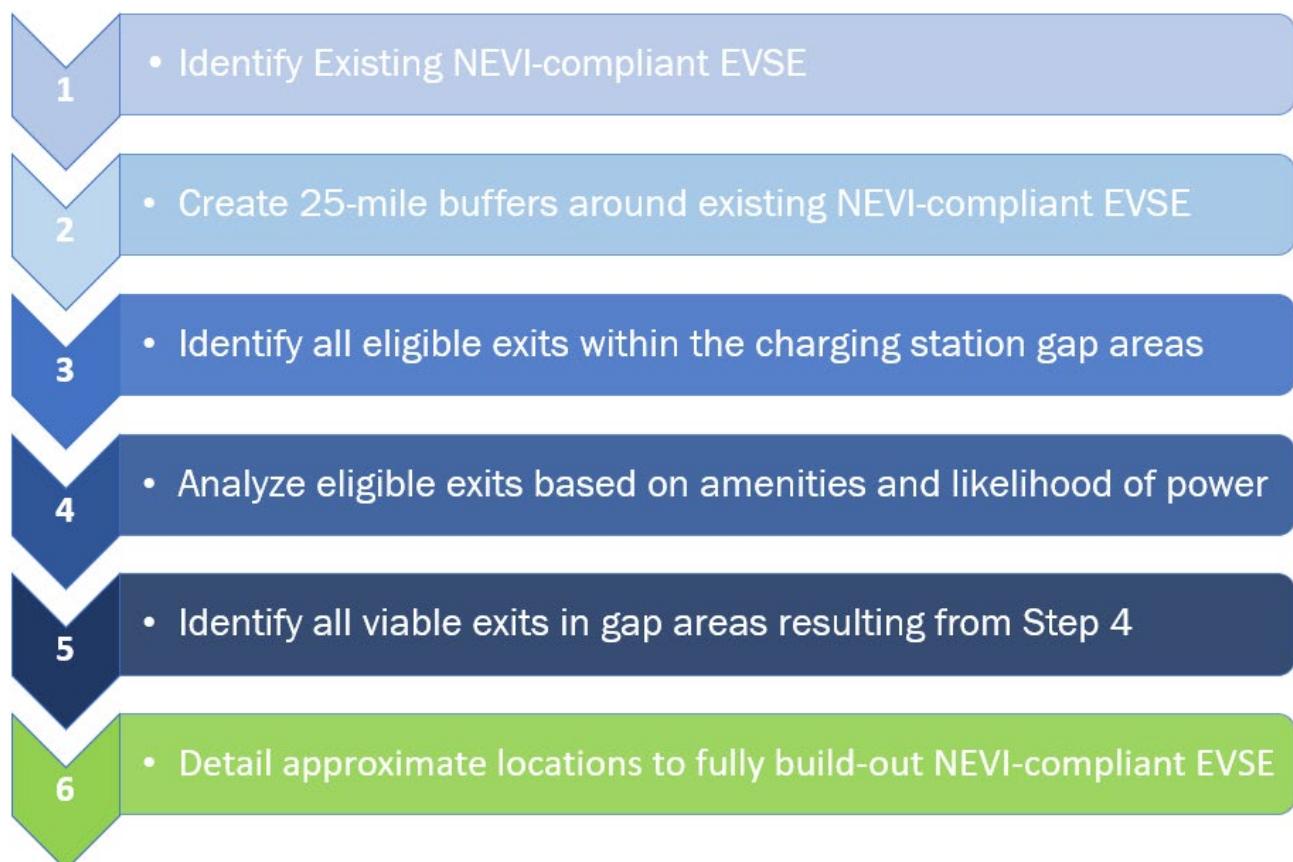
## 4.2 Infrastructure Deployment and Upgrades

This section details the initial locations of new EVSE installations needed to reach “fully built out” certification on Wisconsin’s portions of the federal Interstate Highway System and FHWA designated AFCs. Additional information in this section identifies existing locations of EVSE chargers that could be upgraded to meet minimum NEVI Program standards. In the subsections below, information about how deployments will address which utility territories the planned installations or upgrades are in, as well as detailed additional deployment considerations including capacity redundancy, commercial freight needs, public transportation, and transit coordination, and impacts of state, regional, and local policy will be discussed.

### 4.2.1 WisDOT Deployment Planning Process

This section describes the steps in the Wisconsin planning process, provides information on the processes and strategies behind these steps, identifies the initial approximate locations for Wisconsin’s EVSE build-out on federal AFCs, and visually represents all information in a series of maps and tables. The flow chart in **Figure 4-1** below describes each of the basic steps WisDOT took to develop this deployment plan. Additional maps and tables are provided below to further visually represent and list approximate locations of NEVI-compliant EVSE needed to receive certification of “fully built out” by the U.S. DOT Secretary.

**Figure 4-1: WEVI Plan Deployment Mapping and Process to Identify “Approximate Locations” of EVSE**



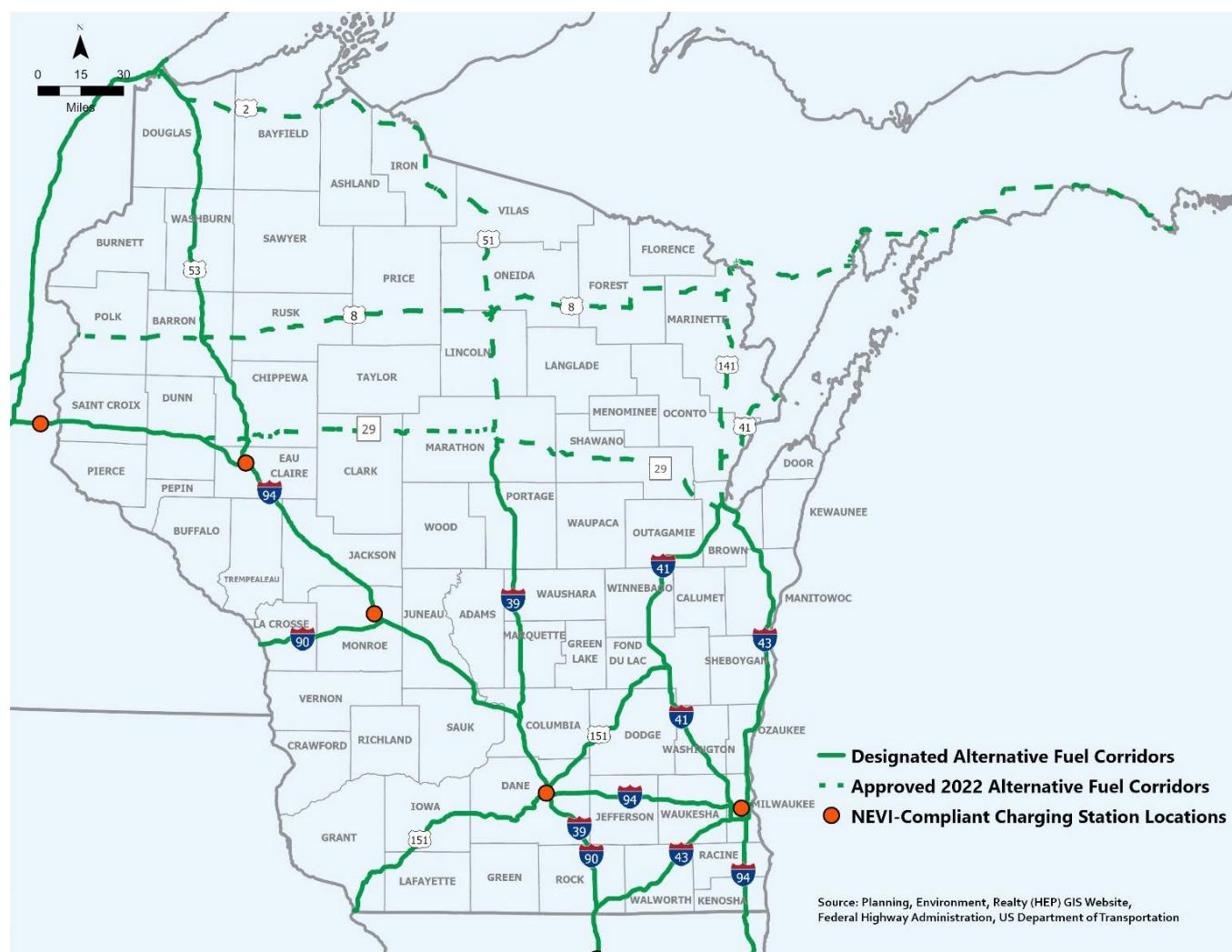
As detailed in **Figure 4-1**, Wisconsin performed the following six steps to identify viable sites along the EV AFCs in Wisconsin.

**Step 1:** Identify existing NEVI-compliant charging sites in the state. **Table 4-1** shows the existing NEVI-compliant charging sites within Wisconsin and two NEVI-compliant sites in neighboring states with coverage areas that extend into Wisconsin.

**Table 4-1: Existing NEVI-Compliant Charging Sites**

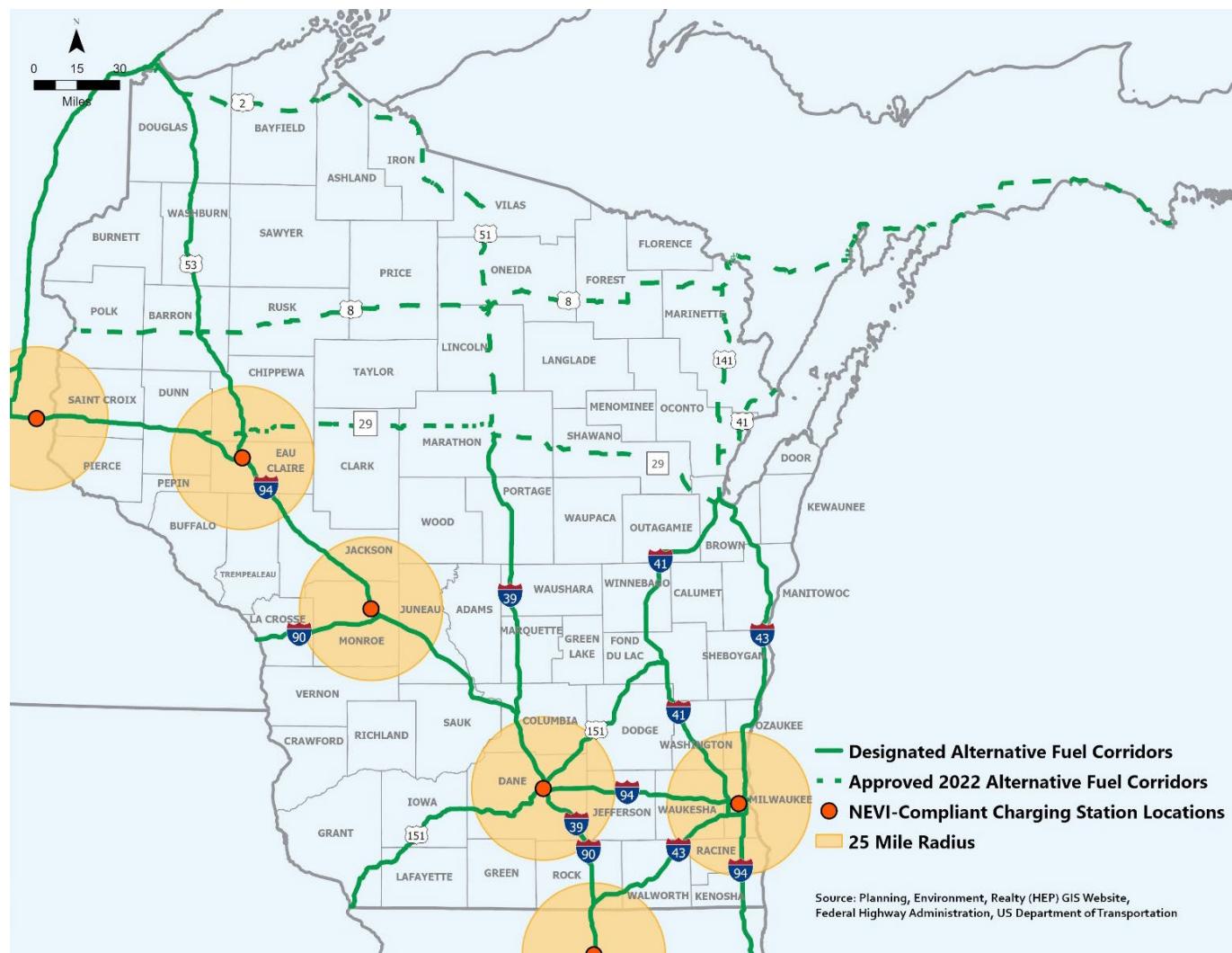
ID	Charger Power (#CCS Ports x kW)	Route	Location	EV Network
<b>121725</b>	3x150 4x350	I-90 (IL)	<a href="#">Sam's Club 7151 Walton St, Rockford, Illinois, 61108</a>	Electrify America
<b>122884</b>	3x150 6x350	I-90/I-94	<a href="#">Walmart Supercenter 4198 Nakosa Trail, Madison, Wisconsin, 53714</a>	Electrify America
<b>121711</b>	3x150 4x350	I-94	<a href="#">Walmart Sam's Club 4001 Gateway Dr, Eau Claire, Wisconsin, 54701</a>	Electrify America
<b>145683</b>	11x150 4x350	I-94 (MN)	<a href="#">Walmart Supercenter 10240 Hudson Rd., Woodbury, Minnesota, 55129</a>	Electrify America
<b>122809</b>	3x150 4x350	I-94	<a href="#">Walmart Supercenter 222 W McCoy Blvd, Tomah, Wisconsin, 54660</a>	Electrify America
<b>190417</b>	15x150 4x350	I-94	<a href="#">Walmart Supercenter 4140 W Greenfield Ave, Milwaukee, Wisconsin, 53215</a>	Electrify America



**Figure 4-2: Wisconsin Interstates, AFCs, and Existing NEVI-Compliant EV Chargers**

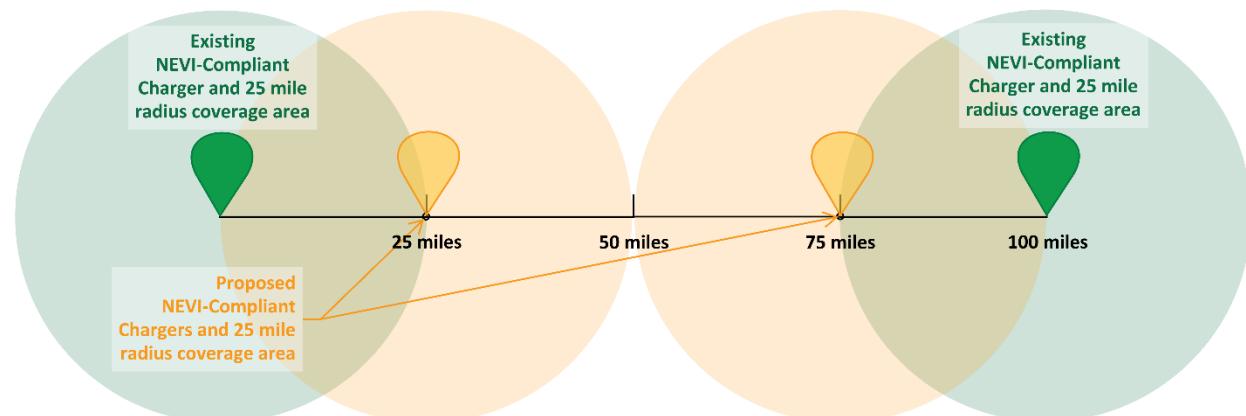
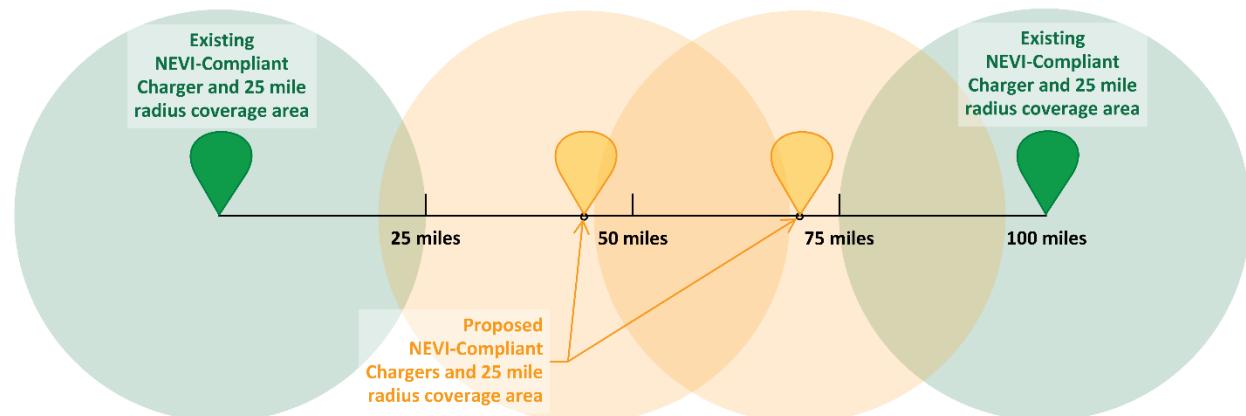
**Step 2:** Having identified the existing NEVI-compliant EVSE in Wisconsin and its neighboring states, Wisconsin next created a 25-mile radius buffer around NEVI-compliant sites to determine coverage gaps. See **Figure 4-3**.

**Figure 4-3: Wisconsin Existing NEVI-Compliant EV Charger Coverage Areas**



A 25-mile radius buffer was purposely used instead of a 50-mile radius buffer. First, it is easier to see the coverage gaps in areas between two coverage areas. Second, by using this radius there are more options to locate a charging site. For example, if there are 100 miles between two existing NEVI-compliant chargers, technically, by installing one charger in the middle at 50 miles the corridor would follow NEVI Program guidelines with the three chargers all being within 50 miles. However, in practice this is more difficult since there likely is not an exit located at the precise middle point of two NEVI-compliant chargers. Another issue with trying to space the chargers as close to 50 miles as possible, is that it limits the options for prospective charging bidders and would make the procurement more prescriptive. **Figure 4-4** shows a more typical and non-optimal scenario for siting charging sites using 25-mile radius coverage areas.

**Figure 4-4: WEVI 25-Mile Coverage Area Scenarios**



**Step 3:** Having identified all existing charging stations and coverage areas, Wisconsin next worked to identify all exits within the coverage gaps, or the regions not currently covered by an existing NEVI-compliant EVSE.

**Figure 4-5** shows the coverage gap between two existing NEVI-compliant EVSE coverage areas on I-94 between Madison and Milwaukee.

**Figure 4-5: Example NEVI EV Charging Station Gap Area on I-94 between Madison and Milwaukee**



**Step 4:** After identifying all gap areas not covered by NEVI-compliant EVSE, Wisconsin further sought to analyze the number and type of amenities within one-mile driving distance from each “eligible exit” within a gap area. Wisconsin chose this process to be more method based and quantifiable. The number and types of available amenities such as fueling stations, restaurants, retail locations, and big box stores were determined. The number of available businesses was used as a proxy to determine the likelihood of 3-phase power availability.

To determine the likelihood of available 3-phase power, Wisconsin’s analysis used the following broad assumptions. Wisconsin assumed 3-phase power is available if one of the following is true:

- The exit has a truck stop or a retail/big box store, or
- The exit has at least two gas stations/convenience stores and one high turnover restaurant, or vice versa

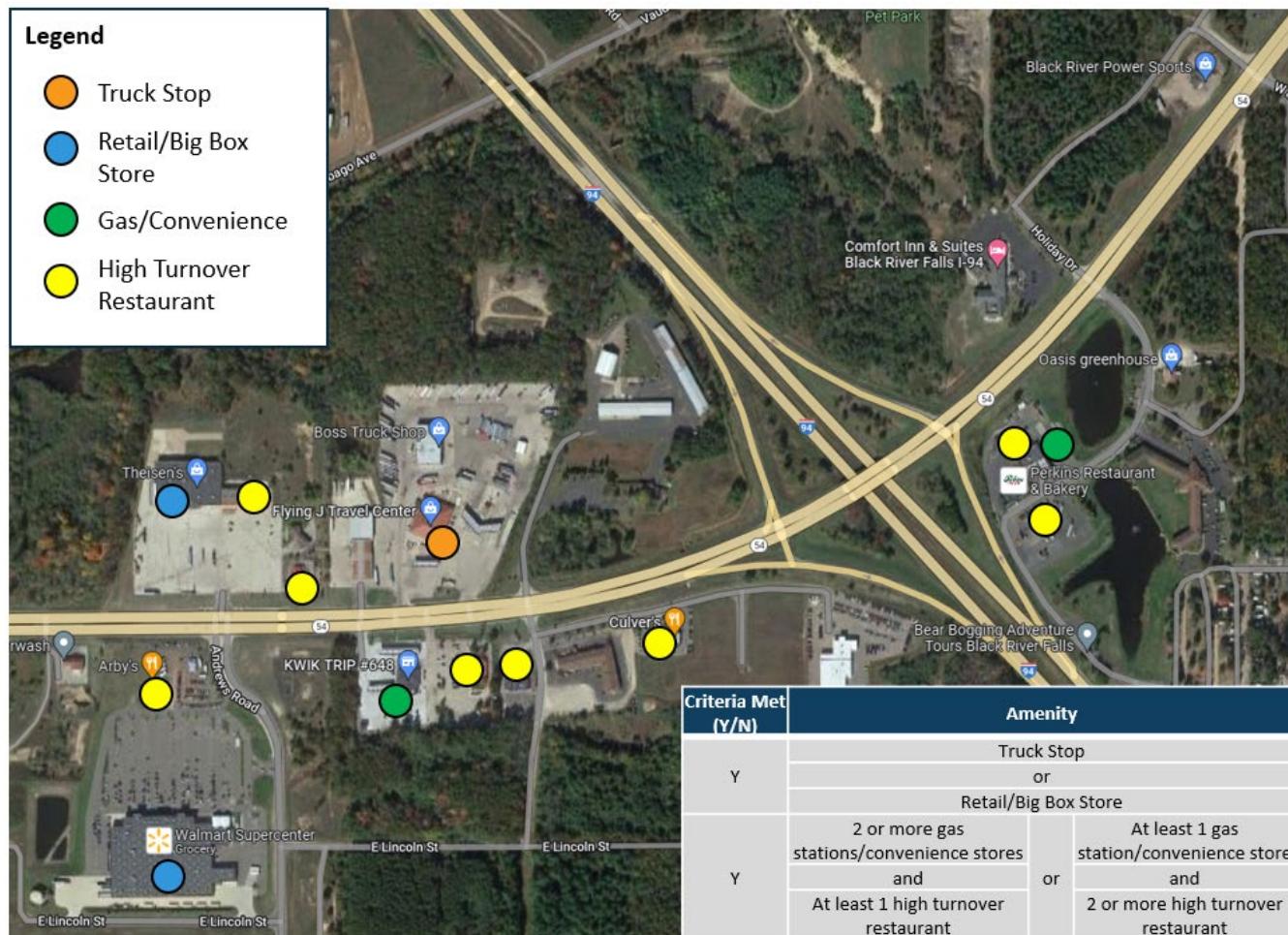
**Figure 4-6** shows another exit along I-94 within the coverage gap that does not meet the exit evaluation criteria since there is only one gas station/convenience store off the exit.

**Figure 4-6: Example Exit Not Meeting Wisconsin “Viability” Criteria for Siting NEVI-Compliant EVSE**



**Figure 4-7** shows Exit 116 on I-94 met the exit evaluation criteria in terms of amenities available and likelihood of 3-phase power available with four restaurants, two gas stations/convenience stores, and one truck stop.

**Figure 4-7: Example Exit Meeting Wisconsin “Viability” Criteria for Siting NEVI-Compliant EVSE**



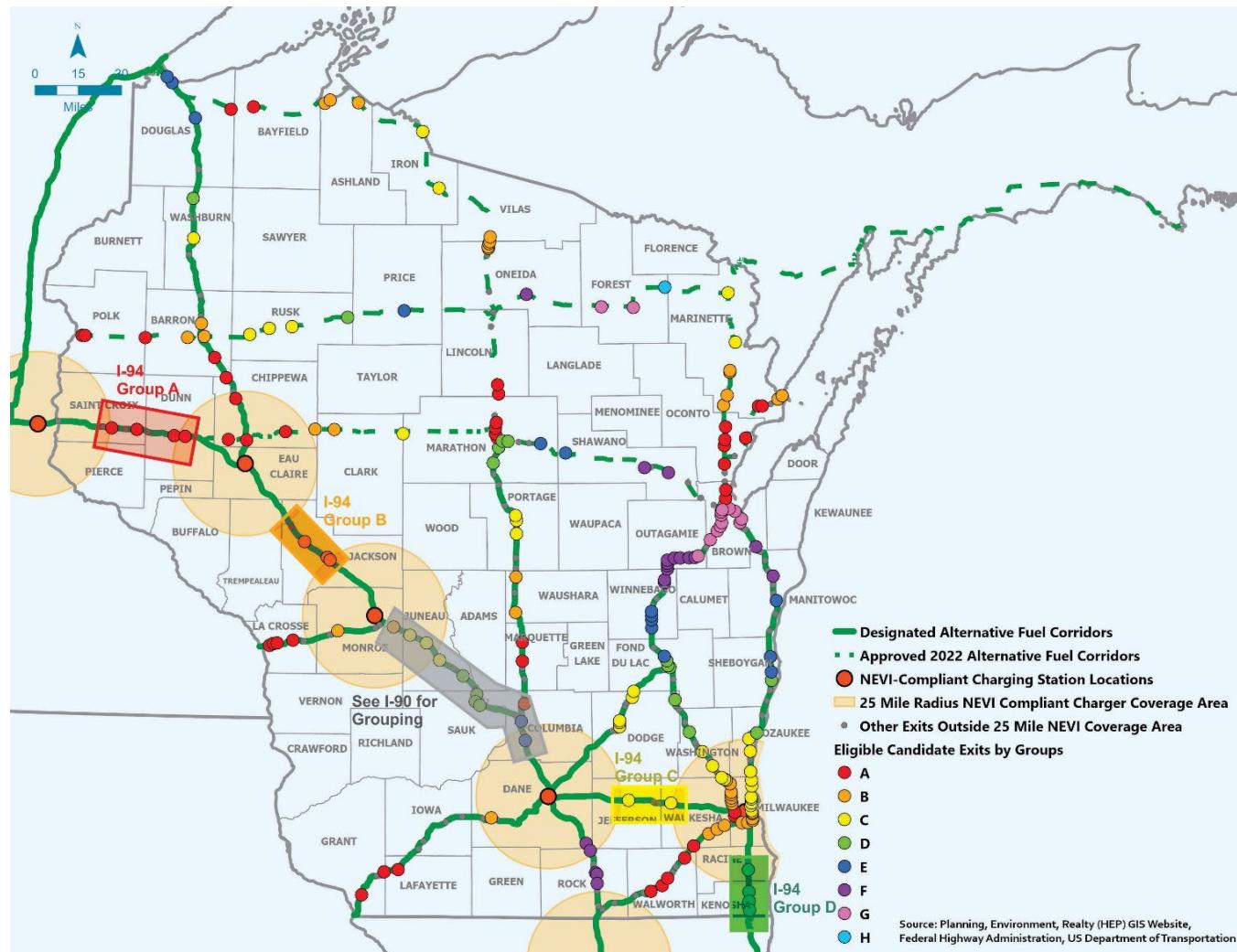
**Step 5:** A list of all the viable exits along I-94 outside of the existing NEVI-compliant charger coverage areas groups them in such a way that regardless of which exit is chosen in each group, they are no more than 50 miles apart. In other words, only one charging site is proposed per group. **Table 4-2** shows all the viable exits identified in the exit evaluation process in four groups labeled A-D. Only one charging site will be installed per group. Rows that are highlighted show the existing NEVI-compliant coverage areas and the mile markers along I-94 that they cover.

**Table 4-2: Example I-94 Viable Exit Groups**

Group	Exit	# of Gas Stations/Conv Stores (none=0, 1=1, >=2=2)	# of Restaurants (none=0, 1=1, >=2=2)	Truck Stop Facilities (Y/N)	Retail Center/Big Box Store (Y/N)
<b>Existing NEVI-Compliant Charger Coverage Area – Woodbury, MN - MM 251 (MN) to MM 17 (WI)</b>					
A	Exit 19: I-94 ALT	2	2	Y	N
	Exit 28: State Rt 128	2	1	Y	N
	Exit 41: N Broadway St	2	2	Y	N
	Exit 45: County Rd B	2	2	Y	N
<b>Existing NEVI-Compliant Charger Coverage Area - Eau Claire - MM 47 to MM 94</b>					
B	Exit 105: WI-95	2	1	Y	N
	Exit 115: U.S.-12	2	2	N	N
	Exit 116: WIS-54	2	2	Y	Y
<b>Existing NEVI-Compliant Charger Coverage Area - Tomah - MM 118 to junction with I-90</b>					
<b>I-90/I-94 Continues to Madison (See exit evaluation for I-90)</b>					
<b>Existing NEVI-Compliant Charger Coverage Area - Madison - MM 114 (I-90) to MM 263 (I-94)</b>					
C	Exit 267: WI-26	2	2	Y	Y
	Exit 282: Summit Ave	2	2	N	Y
<b>Existing NEVI-Compliant Charger Coverage Area - MM 284 to MM 333</b>					
D	Exit 333: Washington Ave	1	2	Y	N
	Exit 340: Burlington Rd	0	1	Y	Y
	Exit 344: 75th St	2	2	N	Y
	Exit 347: 104th St	1	2	N	Y

This list of viable exits on I-94 is visually represented on the map in **Figure 4-8** which shows the four groups labeled A-D and the viable exits within each group on the I-94 corridor.

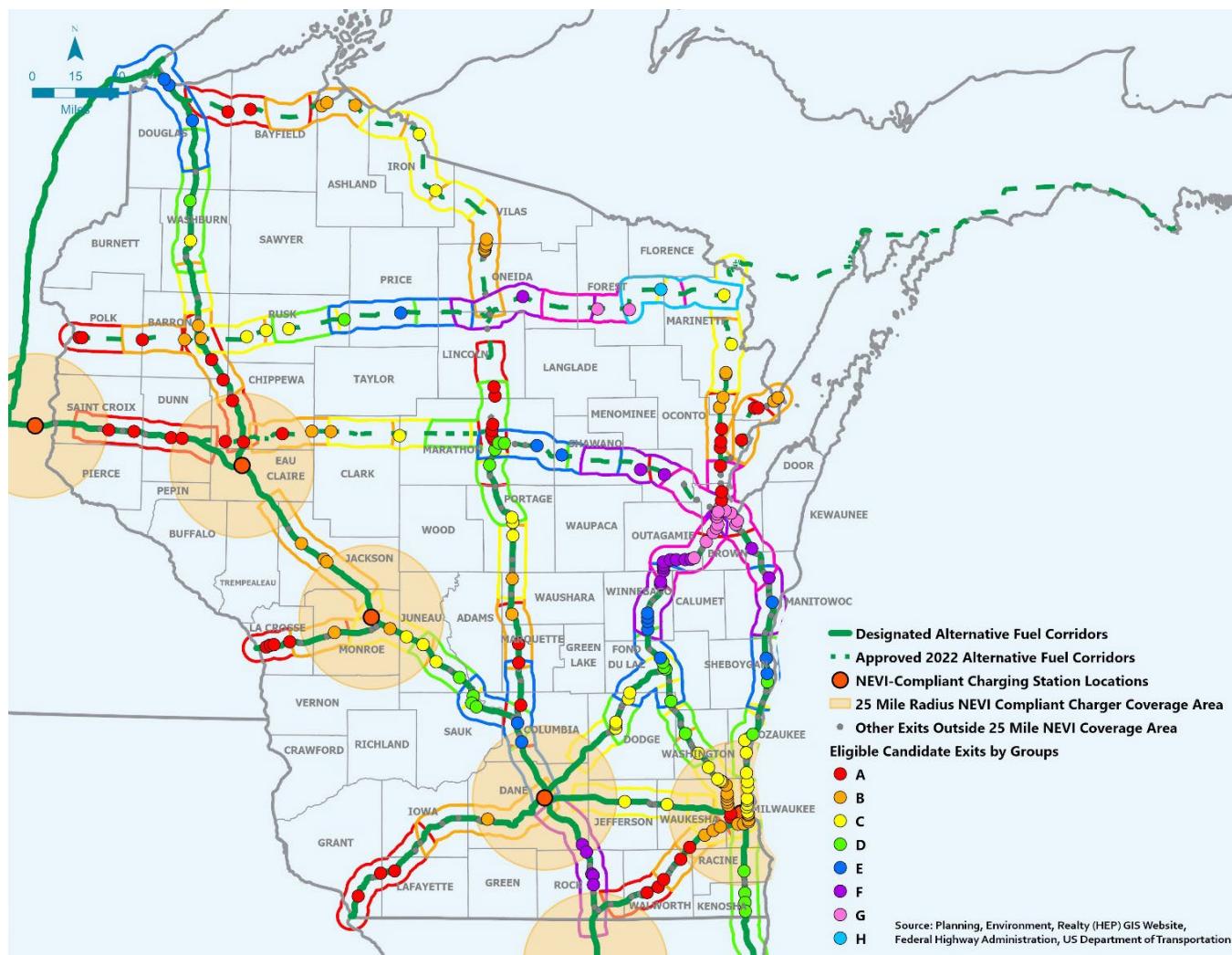
**Figure 4-8: Example Coverage Gap Groupings and Viable Exits on I-94**



**Step 6:** After completing this step-by-step analysis for all designated AFCs, a total of 200 sites were identified as viable. Of these 200 viable sites, installing 61 charging locations (i.e., the total number of groups) would provide EVSE coverage for all AFCs in Wisconsin. The coverage map representing the entire build-out along all AFCs in Wisconsin is shown in **Figure 4-9**.

The identified 61 charging station locations represent the maximum number of stations that could be required using the 25-mile radius coverage areas and facilitates the least prescriptive process. Wisconsin is evaluating strategies to optimize the procurement groupings by narrowing certain groupings to meet the 50-mile criteria more efficiently and also to accelerate station deployments across the AFCs.

**Figure 4-9: Wisconsin Full NEVI-Compliant EV Charging Station Build-Out Coverage Map**



**Table 4-3** below is a summary showing only one viable site per group needed for each corridor to be fully built out. As discussed earlier, most of the groups have more than one viable option.

**Table 4-3: WEVI Plan Proposed “Approximate Locations” for NEVI-Compliant EVSE Full Build-Out**

State EV Charging Location Unique ID	Route (AFC Rounds 1-6)	Location	Utility Territories	FY22 Funding Amount	FY23-FY26 Funding Percent and Party Responsible
I39A1	I-39	Exit 92	Wisconsin Power & Light Company	NEVI/EVSE Owner	80% NEVI; 20% Owner
I39B2	I-39	Exit 136	Wisconsin Power & Light Company / Adams-Columbia Electric Cooperative	NEVI/EVSE Owner	80% NEVI; 20% Owner
I39C3	I-39	Exit 158	Wisconsin Public Service Corporation	NEVI/EVSE Owner	80% NEVI; 20% Owner
I39D4	I-39	Exit 185	Wisconsin Public Service Corporation	NEVI/EVSE Owner	80% NEVI; 20% Owner
I41A1	I-41	Exit 1	Wisconsin Electric Power Company	NEVI/EVSE Owner	80% NEVI; 20% Owner
I41B2	I-41	Exit 42	Wisconsin Electric Power Company	NEVI/EVSE Owner	80% NEVI; 20% Owner
I41D3	I-41	Exit 72	Wisconsin Electric Power Company	NEVI/EVSE Owner	80% NEVI; 20% Owner
I41D4	I-41	Exit 99	Wisconsin Power & Light Company	NEVI/EVSE Owner	80% NEVI; 20% Owner
I41E5	I-41	Exit 119	Wisconsin Public Service Corporation	NEVI/EVSE Owner	80% NEVI; 20% Owner
I41G6	I-41	Exit 150	Kaukauna Electric & Water Utility	NEVI/EVSE Owner	80% NEVI; 20% Owner
I41G7	I-41	Exit 170	Wisconsin Public Service Corporation	NEVI/EVSE Owner	80% NEVI; 20% Owner
I43A1	I-43	Exit 21	Wisconsin Power & Light Company	NEVI/EVSE Owner	80% NEVI; 20% Owner
I43B2	I-43	Exit 312 (I-94)	Wisconsin Electric Power Company	NEVI/EVSE Owner	80% NEVI; 20% Owner
I43C3	I-43	Exit 96	Wisconsin Electric Power Company	NEVI/EVSE Owner	80% NEVI; 20% Owner
I43D4	I-43	Exit 120	Wisconsin Power & Light Company	NEVI/EVSE Owner	80% NEVI; 20% Owner
I43E5	I-43	Exit 149	Manitowoc Public Utilities	NEVI/EVSE Owner	80% NEVI; 20% Owner
I43F6	I-43	Exit 171	Wisconsin Public Service Corporation	NEVI/EVSE Owner	80% NEVI; 20% Owner



<b>State EV Charging Location Unique ID</b>	<b>Route (AFC Rounds 1-6)</b>	<b>Location</b>	<b>Utility Territories</b>	<b>FY22 Funding Amount</b>	<b>FY23-FY26 Funding Percent and Party Responsible</b>
I43G7	I-43	Exit 189	Wisconsin Public Service Corporation	NEVI/EVSE Owner	80% NEVI; 20% Owner
I90A1	I-90	Exit 3	Northern States Power Company-Wisconsin/Riverland Energy Cooperative	NEVI/EVSE Owner	80% NEVI; 20% Owner
I90B2	I-90	Exit 48	Oakdale Electric Cooperative	NEVI/EVSE Owner	80% NEVI; 20% Owner
I90C3	I-90	Exit 69	Wisconsin Power & Light Company/Oakdale Electric Cooperative	NEVI/EVSE Owner	80% NEVI; 20% Owner
I90D4	I-90	Exit 92	Wisconsin Power & Light Company	NEVI/EVSE Owner	80% NEVI; 20% Owner
I90E5	I-90	Exit 115	Wisconsin Power & Light Company	NEVI/EVSE Owner	80% NEVI; 20% Owner
I90F6	I-90	Exit 175	Wisconsin Power & Light Company	NEVI/EVSE Owner	80% NEVI; 20% Owner
I94A1	I-94	Exit 19	Northern States Power Company-Wisconsin/St Croix Electric Cooperative	NEVI/EVSE Owner	80% NEVI; 20% Owner
I94B2	I-94	Exit 116	Black River Falls Municipal Electric & Water	NEVI/EVSE Owner	80% NEVI; 20% Owner
I94C3	I-94	Exit 282	Wisconsin Electric Power Company/Oconomowoc Utilities	NEVI/EVSE Owner	80% NEVI; 20% Owner
I94D4	I-94	Exit 347	Wisconsin Electric Power Company	NEVI/EVSE Owner	80% NEVI; 20% Owner
US2A1	U.S.-2*	County Rd 27	Dahlberg Light & Power Company/Bayfield Electric Cooperative	NEVI/EVSE Owner	80% NEVI; 20% Owner
US2B2	U.S.-2*	Maple St	Bayfield Electric Cooperative	NEVI/EVSE Owner	80% NEVI; 20% Owner
US8A1	U.S.-8*	Glacier Dr	Northern States Power Company-Wisconsin/Polk-Burnett Electric Cooperative	NEVI/EVSE Owner	80% NEVI; 20% Owner
US8B2	U.S.-8*	E Main St	Northern States Power Company-Wisconsin/Polk-Burnett Electric Cooperative	NEVI/EVSE Owner	80% NEVI; 20% Owner

<b>State EV Charging Location Unique ID</b>	<b>Route (AFC Rounds 1-6)</b>	<b>Location</b>	<b>Utility Territories</b>	<b>FY22 Funding Amount</b>	<b>FY23-FY26 Funding Percent and Party Responsible</b>
<b>US8C3</b>	U.S.-8*	WI-27	Northern States Power Company-Wisconsin/Jump River Electric Cooperative	NEVI/EVSE Owner	80% NEVI; 20% Owner
<b>US8D4</b>	U.S.-8*	Main St	Northern States Power Company-Wisconsin	NEVI/EVSE Owner	80% NEVI; 20% Owner
<b>US8E5</b>	U.S.-8*	Granberg Rd	Northern States Power Company-Wisconsin/Price Electric Cooperative	NEVI/EVSE Owner	80% NEVI; 20% Owner
<b>US8F6</b>	U.S.-8*	WI-47	Northern States Power Company-Wisconsin/Price Electric Cooperative	NEVI/EVSE Owner	80% NEVI; 20% Owner
<b>US8G7</b>	U.S.-8*	WI-32	Wisconsin Public Service Corporation	NEVI/EVSE Owner	80% NEVI; 20% Owner
<b>US8H8</b>	U.S.-8*	U.S.-141	Wisconsin Public Service Corporation	NEVI/EVSE Owner	80% NEVI; 20% Owner
<b>US41A1</b>	U.S.-41*	Exit 198	Wisconsin Public Service Corporation/Oconto Electric Cooperative	NEVI/EVSE Owner	80% NEVI; 20% Owner
<b>US41B2</b>	U.S.-41*	Pierce/Riverside Ave	Wisconsin Public Service Corporation	NEVI/EVSE Owner	80% NEVI; 20% Owner
<b>US51A1</b>	U.S.-51*	Exit 188	Wisconsin Public Service Corporation	NEVI/EVSE Owner	80% NEVI; 20% Owner
<b>US51B2</b>	U.S.-51*	WI-70	Wisconsin Public Service Corporation	NEVI/EVSE Owner	80% NEVI; 20% Owner
<b>US51C3</b>	U.S.-51*	Silver St	Northern States Power Company-Wisconsin/Bayfield Electric Cooperative	NEVI/EVSE Owner	80% NEVI; 20% Owner
<b>US53A1</b>	U.S.-53	Exit 110	Northern States Power Company-Wisconsin/Bloomer Electric Utility	NEVI/EVSE Owner	80% NEVI; 20% Owner
<b>US53B2</b>	U.S.-53	Exit 140	Northern States Power Company-Wisconsin/Barron Electric Cooperative/ Rice Lake Municipal Water & Electric Utility	NEVI/EVSE Owner	80% NEVI; 20% Owner
<b>US53C3</b>	U.S.-53	Oak Hill Rd	Northern States Power Company-Wisconsin/Barron Electric Cooperative	NEVI/EVSE Owner	80% NEVI; 20% Owner



<b>State EV Charging Location Unique ID</b>	<b>Route (AFC Rounds 1-6)</b>	<b>Location</b>	<b>Utility Territories</b>	<b>FY22 Funding Amount</b>	<b>FY23-FY26 Funding Percent and Party Responsible</b>
<b>US53D4</b>	U.S.-53	W Hokah St	Dahlberg Light & Power Company	NEVI/EVSE Owner	80% NEVI; 20% Owner
<b>US53E5</b>	U.S.-53	22nd Ave E	Superior Water Light & Power Company	NEVI/EVSE Owner	80% NEVI; 20% Owner
<b>US141A1</b>	U.S.-141*	Exit 173	Wisconsin Public Service Corporation	NEVI/EVSE Owner	80% NEVI; 20% Owner
<b>US141B2</b>	U.S.-141*	Henriette Ave	Wisconsin Public Service Corporation	NEVI/EVSE Owner	80% NEVI; 20% Owner
<b>US141C3</b>	U.S.-141*	U.S.-8	Wisconsin Public Service Corporation	NEVI/EVSE Owner	80% NEVI; 20% Owner
<b>US151A1</b>	U.S.-151	Exit 8	Wisconsin Power & Light Company/Scenic Rivers Energy Cooperative	NEVI/EVSE Owner	80% NEVI; 20% Owner
<b>US151B2</b>	U.S.-151	Exit 69	Wisconsin Power & Light Company/Mount Horeb Electric Utility	NEVI/EVSE Owner	80% NEVI; 20% Owner
<b>US151C3</b>	U.S.-151	Exit 146	Wisconsin Power & Light Company/Waupun Public Utilities	NEVI/EVSE Owner	80% NEVI; 20% Owner
<b>WI29A1</b>	WI-29*	Exit 69	Dunn Energy Cooperative	NEVI/EVSE Owner	80% NEVI; 20% Owner
<b>WI29B2</b>	WI-29*	Exit 108	Northern States Power Company-Wisconsin	NEVI/EVSE Owner	80% NEVI; 20% Owner
<b>WI29C3</b>	WI-29*	Exit 132	Northern States Power Company-Wisconsin/Clark Electric Cooperative	NEVI/EVSE Owner	80% NEVI; 20% Owner
<b>WI29D4</b>	WI-29*	Exit 173	Wisconsin Public Service Corporation	NEVI/EVSE Owner	80% NEVI; 20% Owner
<b>WI29E5</b>	WI-29*	Exit 195	Wisconsin Power & Light Company/Central Wisconsin Electric Cooperative	NEVI/EVSE Owner	80% NEVI; 20% Owner
<b>WI29F6</b>	WI-29*	Exit 234	Wisconsin Electric Power Company	NEVI/EVSE Owner	80% NEVI; 20% Owner
<b>WI29G7</b>	WI-29*	N Taylor St	Wisconsin Public Service Corporation	NEVI/EVSE Owner	80% NEVI; 20% Owner

\* EV AFC Round 6 nomination – official designation approved 7/5/2022



## 4.2.2 Infrastructure Deployment Next Steps

The steps identified in Section 4.2.1 provide Wisconsin's preliminary analysis for the purposes of identifying "approximate locations" for this initial version of the WEVI Plan, but further planning and coordination remains. For example, further analysis can be conducted to aid in the site selection process to prioritize the best-suited sites by scoring criteria based on factors such as equity, proximity to other DCFCs, tourism, freight and transit routes, AADT, EV adoption, and more. In addition, Wisconsin can further coordinate with local utilities for each of the viable exits to verify 3-phase power and available capacity.

To further the deployment planning detailed in the maps and figures above, and to aid in the creation of the future NEVI competitive procurement process, Wisconsin anticipates conducting the following additional steps:

1. Coordinate further with utilities on power availability
2. Review and incorporate updates from U.S. DOT NEVI Program final rulemaking
3. Refine and update site prioritization criteria based on feedback from utilities, public, and U.S. DOT
4. Review all eligible exits and interchanges based on updated criteria and considerations
5. Update list of priority exits, and interchanges based on above
6. Publish all details for public review to accompany procurement solicitation
7. Establish a NEVI competitive procurement process

**It is important to note that Wisconsin does not intend to proscribe or restrict final EVSE locations to those identified in this preliminary process.** As detailed in Chapter 5, Wisconsin intends to create a competitive procurement process for eligible applicants to identify their preferred EVSE sites based on local market conditions and to apply for their chosen sites through WisDOT's procurement process. Wisconsin will select locations that meet all NEVI Program minimum requirements, as well as likely rank applicants based on objective criteria such as the EVSE location's ability to provide maximum gap coverage, site readiness, available utility power, proximity of other available amenities, and cost. At this time Wisconsin does not intend to restrict its procurement process solely to exits deemed viable in this WEVI Plan but rather allow applicants to propose alternatives and exemptions where necessary.

For the purposes of this WEVI Plan, Wisconsin considers all existing EVSE along identified gap segments meeting the NEVI Program distance requirements from the Interstates and AFCs "eligible for upgrade." Site hosts and owner and operators of existing EVSE that meet the NEVI Program driving distance requirements will be encouraged to apply for funding through WisDOT's future NEVI Program competitive procurement process.

## 4.2.3 Upgrades of Interstates and AFCs to "Corridor Ready" Status

As detailed in the maps and figures above, Wisconsin will need, at most, 61 NEVI-compliant charger locations across all existing federal interstates and FHWA designated AFCs to reach "corridor ready" and "fully built out" status as certified by FHWA and the U.S. DOT Secretary.

#### 4.2.4 Plans for Increased Capacity and Redundancy on Wisconsin AFCs

As described in Chapter 1, two of Wisconsin's four main goals for the use of NEVI Program funds are:

- Establish a network of publicly accessible charging stations on Wisconsin's Interstates, AFCs, and regional routes of significance.
- Equitable integration of electrification across the state including urban, rural, and suburban areas and historically underserved communities.

Since much of the state of Wisconsin and the state's highway system are not within proximity to NEVI-compliant EVSE, Wisconsin plans to focus on fully building out the state's interstate highways and AFCs. Once certified as fully built-out by U.S. DOT, Wisconsin will proceed to fill in EVSE gaps along other regional routes and within key equity-based areas. Wisconsin's priorities will not focus on redundancy until EVSE is sufficiently built-out in all areas of the state.

#### 4.2.5 EV Freight and Goods Movement Considerations

As described in detail in Chapter 3, Wisconsin's Interstate Highways and AFCs support the majority of commercial truck freight and goods movement in the state. As such, Wisconsin will fully build out NEVI-compliant EVSE on the major commercial freight corridors in the state. While not all locations are likely to be designed to fully support medium and heavy-duty commercial freight, WisDOT is considering the addition of criteria to its competitive procurement process that will allow the agency to prioritize and select applicant sites that are designed with "pull through" charging configurations that will support both personal vehicles towing trailers as well as commercial trucks of various sizes.

#### 4.2.6 Public Transportation and Transit Considerations

As described in Chapter 3, Wisconsin coordinates and collaborates closely with public transportation providers and transit agencies throughout the state. Wisconsin recognizes that NEVI Program funds are restricted to use for publicly available charging. Public transit agencies in particular face further specific restrictions due to transit operational needs, safety requirements, and security concerns that may prevent any transit agency EVs from charging at publicly available EVSE stations. However, Wisconsin will seek to identify specific opportunities to site NEVI Program funded EVSE at locations that can serve the needs of public transit agencies and the public. Wisconsin will continue to coordinate with its transit agency partners, MPOs, local communities, and other stakeholders to identify any such opportunities which can be included in the "additional Wisconsin EVSE priorities" for remaining NEVI Program funding phases.

#### 4.2.7 FY23 - FY26 EVSE Infrastructure Deployments

As described above, the WEVI Plan focuses on fully building out the state's interstate highways and AFCs. Once certified fully built out by U.S. DOT, WisDOT will move on to filling in EVSE charging gaps along regional routes of significance and key equity-based areas.

## 4.2.8 State, Regional, and Local Policy

Wisconsin understands that to effectively deploy EVSE throughout the state, WisDOT must work collaboratively with governmental bodies at the local, regional, state, and neighboring state levels. Wisconsin plans to continue coordinating state, regional, and local policy with related stakeholders, on a wide variety of topics. A high-level summary of key topics to coordinate with each level of peer stakeholder is included in **Table 4-4**.

**Table 4-4: Local, Regional, and State Policy EVSE-Related Topic Areas for Continued Engagement**

Local Government Policy	Regional Planning	State Policy
Develop community based equitable charging plan with multi-unit dwelling, workplace, public and fleet charging.	Regional DCFC and Level II EVSE planning for motorists and fleets.	Corridor DCFC Planning; State Parks and Tourism Level II Charger Planning.
Identify priority EVSE locations and set deployment goals.	Coordinate with local governments on EVSE deployments.	EVSE incentives, grants, and funding.
Enact best practice local policies to stimulate EV adoption and EVSE deployment, including “right to charge” and “EV make ready;” as well as building zoning, permitting, parking, signage, and other codes.	Educate MPO government members on model EV local policies and encourage adoption.	EVSE vendors on state contracts for agency and local government purchases.
	Consider use of MPO attributable funding sources for EVSE deployment.	PSC support for investment in EVSE development and regulation of EVSE specific rates.
	Facilitate partnerships between local governments, utilities, and vendors for EVSE deployment.	Update state building codes with EVSE “make ready” goals.



#### 4.2.9 Inter-state Coordination

WisDOT is a member of multiple inter-state efforts related to electrification. These efforts offer an opportunity for Wisconsin to learn from and coordinate with other states on best practices and participate in thoughtful discussions.

#### AMERICAN ASSOCIATION OF STATE HIGHWAY TRANSPORTATION OFFICIALS (AASHTO)

The American Association of State Highway Transportation Officials (AASHTO) created the EV Practitioner's Working Group in the spring of 2022. A WisDOT representative attends the monthly meetings.<sup>16</sup> The intent of the Working Group is to facilitate discussions between states and offer the opportunity to share best practices and act as a sounding board for electrification plans.

#### MID-AMERICAN ASSOCIATION OF STATE TRANSPORTATION OFFICIALS (MAASTO)

The Mid-American Association of State Transportation Officials (MAASTO) Board of Directors established the Electric Vehicle Infrastructure Committee for member states (Illinois, Indiana, Iowa, Kansas, Kentucky, Michigan, Minnesota, Missouri, Ohio, and Wisconsin). The intent of this group is to facilitate cooperation on the development of EV charging infrastructure strategy, as well as other state, local, and private EV charging initiatives. One committee goal is to identify opportunities for pooled funds and the implementation of an electric vehicle charging network across MAASTO states. Meeting topics include rate structuring and contracting.

#### REGIONAL ELECTRIC VEHICLE (REV) MIDWEST COALITION

In September 2021, the governors of Illinois, Indiana, Michigan, Minnesota, and Wisconsin signed a memorandum of understanding to form the Regional Electric Vehicle (REV) Midwest Coalition. REV Midwest created a regional framework to accelerate vehicle electrification in the Midwest and provides the foundation for cooperation on fleet electrification along key commercial corridors. REV Midwest hopes to future proof the region's manufacturing, logistics, and transportation leadership. It will position the region to realize additional economic opportunity in clean energy manufacturing and deployment through a coordinated approach to advance electrification that is informed by industry, academic, and community engagement. Goals of REV Midwest include the acceleration of medium- and heavy-duty fleet electrification; elevation economic growth and industry leadership; and the advancement of equity and a clean air environment.

#### LAKE MICHIGAN CIRCUIT

Illinois, Indiana, Michigan, and Wisconsin have partnered to establish the Lake Michigan Circuit, a network of EVSE around Lake Michigan highlighting tourism locations. The network will decrease range anxiety while promoting ecotourism around the Lake. Wisconsin is coordinating with the state of Michigan to identify EVSE placement opportunities.

<sup>16</sup> 2022 meeting dates include March 30, April 27, May 25, June 22, July 27, and August 24.

## MIDCONTINENT TRANSPORTATION ELECTRIFICATION COLLABORATIVE (MTEC)

The Midcontinent Transportation Electrification Collaborative (MTEC), facilitated by the Great Plains Institute, is comprised of automakers, state governments, electric utilities and cooperatives, EV charging companies, and environmental organizations. In these regular meetings, conversations are facilitated around technologies and current efforts regarding electrification. WisDOT participates in MTEC.

## GREAT LAKES ZERO EMISSIONS CORRIDOR

In January 2017, WisDOT provided a letter of support for the Great Lakes Zero Emissions Corridor. This letter supported the designation of I-94 by FHWA as an AFC from Port Huron, MI to Moorhead, MN. The efforts officially kicked off in 2016.

## MIDWEST TRIBAL ENERGY RESOURCES ASSOCIATION (MTERA)

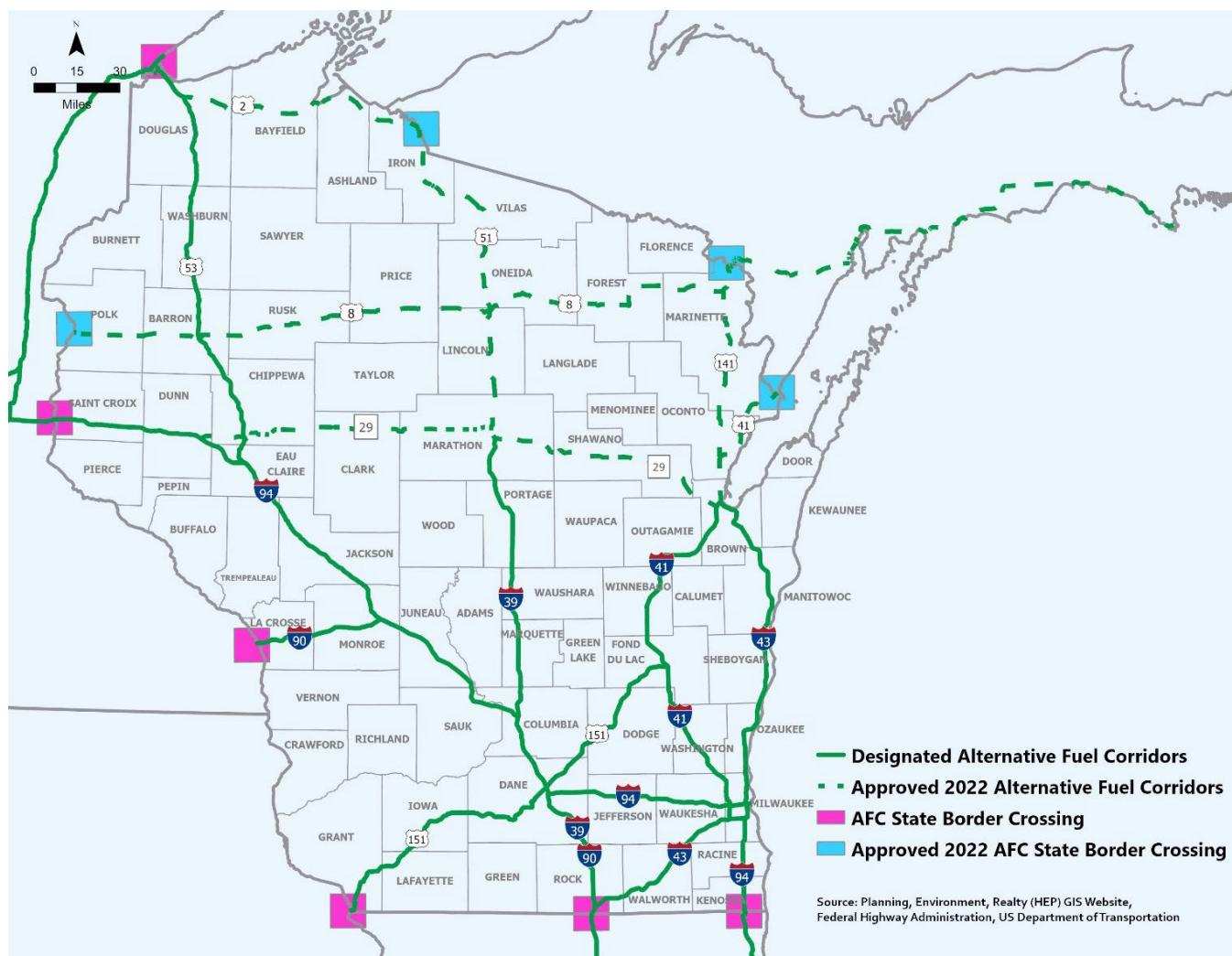
In spring 2022, WisDOT collaborated with the Minnesota Department of Transportation and Michigan Department of Transportation to facilitate a discussion with the Midwest Tribal Energy Resources Association (MTERA).<sup>17</sup> MTERA is a resource for Tribes across the Midwest who are looking to understand and act on the energy challenges and opportunities unique to their Tribal circumstances and represents Tribal Nations from Wisconsin, Minnesota, and Michigan.

## NEIGHBORING STATE COLLABORATION

As Wisconsin explores EVSE placement on designated AFCs, staff continue to coordinate with colleagues from neighboring states. This collaboration allows for holistic planning across the region on an interconnected network of EV chargers.

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<sup>17</sup> Membership includes Bad River Band of Lake Superior Chippewa, Fond du Lac Band of Lake Superior Chippewa, Forest County Potawatomi Community, Ho-Chunk Nation, Lac du Flambeau Band of Lake Superior Chippewa, Leech Lake Band of Ojibwe, Little River Band of Ottawa Indians, Mille Lacs Band of Ojibwe, Minnesota Chippewa Tribe, Oneida Nation, Saginaw Chippewa Indian Tribe, Sault Ste. Marie Tribe of Chippewa Indians, St. Croix Chippewa Indians, Stockbridge-Munsee Band of Mohican Indians, White Earth Nation, and Keweenaw Bay Indian Community.

**Figure 4-10: Wisconsin AFCs and AFC State Border Crossings**

The following designated Wisconsin AFCs crosses the border into neighboring states:

- I-94 crosses near the city of Kenosha/Paddock Lake into Illinois
- I-90 crosses at the city of Beloit into Illinois
- U.S.I-94 crosses at the city of Hudson into Minnesota
- I-535 crosses at the city of Superior into Minnesota

The following designated Wisconsin AFCs end at the border of neighboring states:

- U.S. 2 / U.S. 51 stop near the city of Hurley at the Michigan border
- U.S. 141 / U.S. 8 stops near the city of Niagara at the Michigan border
- U.S. 8 stops at the Minnesota border
- U.S. 41 stops near the city of Marinette at the Michigan border
- I-90 stops near the city of La Crosse
- U.S. 151 stops at the border of the city of Dubuque, Iowa

## 5 PROGRAM MANAGEMENT, CONTRACTING, AND IMPLEMENTATION

This section details Wisconsin's plans for contracting with private entities, including plans for the participation of small businesses. This section also describes how Wisconsin's procurement and contracting strategies will ensure that EVSE is delivered in a manner that leads to efficient and effective deployment consistent with the program's goals. The implementation sections of this chapter also discuss Wisconsin's contracting strategy for achieving efficient delivery of ongoing operations and maintenance activities during and after the period of the award.

### 5.1 Program Management

Wisconsin is developing its approach to the NEVI Program in accordance with federal guidance and rulemaking. Wisconsin will focus its initial efforts on Interstate Highways and designated AFCs to achieve full NEVI-compliance. Wisconsin will be seeking private sector, third party site hosts, owners, and operators to compete for NEVI Program funding through structured procurements. Wisconsin is not proposing to deploy charging stations on WisDOT property and will not own or operate charging stations, but site selection could be on private or public land. Participation will be open to all eligible vendor and business model types and applicants will need to demonstrate how their proposal best meets the NEVI Program and the WEVI Plan goals. Financial competitiveness will likely be part of the scoring criteria in the procurement to identify sites that require less capital or operational subsidy from federal NEVI Program funds. The procurement process will be structured to encourage broad participation and competition from the private sector and contract terms and requirements will comply with federal rulemaking and state laws. Wisconsin's initial NEVI Program will be a reimbursement program, allowing for the reimbursement of actual expenditures incurred by the project sponsor, during the project's development. Project sponsors will be responsible for any project cost coverage beyond the award amount. The contractual terms with the private vendors will include all federal rulemaking provisions to ensure performance and monitoring of EVSE operations and compliance.

The initial plan focuses on the program's first year of deployment to establish lessons learned and best practices that can be incorporated into future WEVI Plan updates and deployments.

### 5.2 Wisconsin and Federal Laws and Rules

Wisconsin understands NEVI Program funds must comply with existing state laws and agency rules as well as with existing federal laws and U.S. DOT rules. WisDOT's Division of Budget and Strategic Initiatives is currently researching how EVSE deployment could be impacted by Wisconsin state statutes and administrative rules. Much of this research relates to contracting and commercial activities along highways, rest areas and public right-of-way. As discussed earlier, one item that could potentially limit the ability of Wisconsin to implement the program according to proposed federal rules is the inability for non-utility entities to sell electricity by the kilowatt hour in Wisconsin.

Wisconsin is fully committed to meeting all federal requirements for receiving federal funds, complying with the Bipartisan Infrastructure Law, and satisfying all of the requirements from proposed and final EV rules. Wisconsin is evaluating and incorporating the recent disclosures regarding the guidance for states, frequently asked questions and notice of proposed rulemaking so Wisconsin's program will be fully

compliant, and its contracts will incorporate the minimum standards and requirements for the implementation of the NEVI Program.

### 5.3 WisDOT NEVI Program Procurement Strategy and Objectives

Wisconsin intends to create a grant program to provide funding for the deployment of charging stations. A competitive procurement process will be established to advertise the opportunity with industry, select preferred entities and enter into contractual agreements with the site hosts. The process will be designed to facilitate private sector innovation and flexibility while not being overly prescriptive on siting requirements. Wisconsin is conducting a thorough review of statutory procurement requirements for various state agencies to identify the appropriate contracting entity for the NEVI Program contracts. Wisconsin will continue to analyze existing and proposed state statutes as well as federal laws and rules to ensure legal and regulatory compliance of the program. While Wisconsin will develop the details around the procurement approach, **Table 5-1** identifies the foundational elements that are currently being developed.

**Table 5-1: Procurement Objectives**

Objective	Description
<b>Market-Driven</b>	Wisconsin will seek input from private industry to develop a program that will attract private investment, is flexible, has minimal siting prescription and has a balanced risk allocation and commercial terms.
<b>Inclusive Approach</b>	Eligibility is intended to be broad to accommodate multiple business models as well as local and small businesses.
<b>Minimum Requirements</b>	Strategies are being developed to pre-qualify bidders that meet minimum requirements.
<b>Evaluation Criteria</b>	Criteria are being developed to communicate the selection parameters for procurement and how proposals will be scored.
<b>Financial Competitiveness</b>	Methods to include a financial component in the scoring are being developed to factor in capital and operational subsidy requests.
<b>Maximize Coverage</b>	Strategies are being developed to identify exits and interchanges for approximate siting locations that will meet minimum NEVI Program requirements every 50 miles.
<b>Ensure Compliance</b>	Operational, performance and monitoring requirements are being developed to comply with the NEVI Program's rules and requirements.

## 5.4 Contracting Process Strategy and Objectives

The contracting process spans the spectrum from initial planning activities to executing the operational duties of the contract. The deployment and procurement processes establish the methods to select specific site hosts while the actual contract defines the responsibilities and terms that must be performed over the life of the contract. As additional NEVI Program funding becomes available on an annual basis, Wisconsin will replicate the contracting process as additional sites are deployed. The following list of activities illustrates the full project lifecycle for planning, implementing, operating, maintaining, and managing EVSE.

1. Program Development – outreach, coordination, prioritization, procurement terms and documents
2. Procurement Process – prequalification, RFP, selection, contracting
3. Construct/Install EVSE – oversight, reporting, compliance, certification
4. Reimbursement – disbursement of public funds for approved expenses
5. Contract Administration – monitoring and enforcement of contract provisions
6. Program Evaluation and Reporting – performance assessment, reporting, WEVI Plan updates
7. Repeat Steps 1-6 - refine approach and processes, initiate new deployments

The procurement process objectives establish the methods that Wisconsin will utilize to encourage broad participation from local and small businesses and a process to pre-qualify entities capable of identifying qualified sites and performing the operations and maintenance responsibilities. Wisconsin will analyze the proposed rules from the Joint Office of Energy and Transportation during the comment period and begin to develop strategies to incorporate the requirements into contractual language. The final contract will include all provisions required from the NEVI Program and comply with all federal and state laws. Additionally, the contract will likely include performance requirements and non-compliance regimes to meet NEVI Program operational targets. Wisconsin will facilitate and encourage local contractors to engage local communities through educational outreach, transparent pricing, workforce development initiatives, electrician trade groups and high-performance standards.

## 5.5 WEVI Plan Implementation

As described in Chapter 0, the electrification objectives related to implementation include:

- **Connectivity:** Develop a robust, interconnected EV charging network that reduces range anxiety and meets the state's growing charging needs.
- **Safety:** Employ robust safety standards that ensures that all funded infrastructure is safe and reliable for travelers in Wisconsin.
- **Accountability:** Establish performance monitoring and data analytics practices to inform and improve operations and investment.

To achieve these objectives, the state, through competitive procurement processes and ultimately through contracts executed, will ensure that the highest levels of connectivity, safety, and accountability are attained. As stated, the prime mechanism to achieve these objectives will be to execute a detailed contract with each party awarded NEVI Program funding, containing applicable federal laws, NEVI Program final rules, and Wisconsin terms and conditions. Wisconsin will ensure these contracts address all FHWA regulations along with minimum standards and requirements for projects funded under the NEVI Program.

### 5.5.1 EVSE Installation, Operations, and Maintenance

Wisconsin's contracts with parties awarded under the NEVI Program will require EVSE stations to comply with the NEVI Program rules, currently available as a Notice of Proposed Rulemaking (NPRM). As detailed in the NPRM, Wisconsin will ensure all charging stations installed with NEVI Program funds comply with the following standards for installation, operation, and maintenance:

#### **§ 680.106 INSTALLATION, OPERATION, AND MAINTENANCE**

- **(a) Procurement Process Transparency**
  - Public disclosure on procurement process, number of bids, awardees, contract terms, project financial cost and award amounts, disclosure of how fees for charging will be set by awardee.
- **(b-d) EVSE Details**
  - DCFC Four (4) x 150kW continuous with permanently fixed CCS 1 connectors
  - AC LII at 6kW continuous J1772 connector, can participate in managed charging
- **(e) Available Access**
  - 24 hours, 7 days a week
- **(f) Payment Methods**
  - Contactless payment method accepting all major debit/credit cards, and Plug and Charge payment capabilities using the ISO 15118 standard
- **(g) Equipment Certification**
  - EVSE certified by an Occupational Safety and Health Admin National Testing Lab
  - LII EVSE must be Energy Star Certified
- **(h) Security**
  - *Physical Security*: "strategies may address" lighting, siting, driver and vehicle safety, fire prevention, tampering, charger locks, and prevention of illegal surveillance
  - *Cybersecurity*: "strategies may address" identity and access, encryption, malware detection, event logging/reporting, software updates, secure operation with no comms
- **(i) Long-Term Stewardship**
  - EVSE maintained in compliance for at least five years after install date
- **(j) Equipment Certification**
  - All electricians installing, operating, maintaining must have EVITP or similar credential
- **(k) Customer Service**
  - EVSE customers must have "mechanisms" to report issues with ADA multilingual access
- **(l) Customer Data Privacy**
  - Only gather personal info "strictly necessary" to provide charging service
  - Must take all reasonable measures to safeguard data
- **(l) Use of Program Income**
  - "A reasonable return on investment of any private person financing the EVSE project, as determined by the State DOT"
  - Also, debt service, O&M costs, necessary improvements, or other title 23 eligible costs

Wisconsin will continue to monitor the NEVI Program final rules in order to include any updates or revisions to the list above to its final contracts with parties awarded NEVI Program funding. In addition, Wisconsin will consider adding any additional items that best serve the state's overall vision, goals, and program objectives.

## 5.5.2 EVSE Data Collection and Reporting

The deployment of EVSE across the state provides for opportunities to collect and share a variety of data that may be used to enhance the overall program and customer experience. Further guidance from FHWA regarding data collection and sharing are pending under [FHWA's Notice of Proposed Rulemaking, U.S. DOT 23 CFR Part 680 \[Docket No. FHWA-2022-0008\] RIN 2125-AG10](#). The bulleted list below depicts the proposed rule for charging station use, cost, reliability and maintenance data that may be collected, maintained, and submitted to FHWA.

- Charging station location identifier so that the following data can be associated
- Charging session start time, end time, and successful session completion (yes/no) by port
- Energy (kWh) dispensed to EVs per session by port
- Peak session power (kW) by port
- Charging station uptime calculated in accordance with the equation in § 680.116(b) for each of the previous three months
- Cost of electricity to operate per charging station in each of the previous three months
- Maintenance and repair cost per charging station for each of the previous three months
- Charging station real property acquisition cost, charging equipment acquisition and installation cost, distributed energy resource acquisition and installation cost, and grid connection and upgrade cost on the utility side of the electric meter
- Distributed energy resource installed capacity, in kW or kWh as appropriate, of asset by type (e.g., stationary battery, solar, etc.) per charging station

In addition, the proposed rule is intending for WisDOT to submit the following data annually to FHWA:

- The name, address and type of private entity involved in the operation, maintenance, and installation of EVSE
- For the identified private entities, identification of and participation in any state or local business opportunity certification programs including but not limited to minority-owned businesses, Veteran-owned businesses, woman-owned businesses, and business owned by economically disadvantaged individuals

Wisconsin will comply with the federal guidance following the proposed rulemaking process and will adjust the proposed data collection and sharing criteria as needed. Wisconsin's intention is to include EVSE data collection and reporting requirements into the agreements with EVSE owner and operators.

## 5.5.3 EVSE Resilience, Emergency Evacuation, and Snow Removal

Wisconsin currently engages in a variety of best practices to ensure the safety and operational needs of the state owned and managed roadway system are met. These strategies are critical to ensuring that the roadway is resilient and is prepared for emergencies, such as evacuations and Wisconsin's weather events. The following information provides an overview of the best practices and their importance to the successful implementation of EVSE.

## SNOW REMOVAL/SEASONAL NEEDS

Being an upper-Midwest state, Wisconsin experiences cold temperatures and snow in addition to the typical seasonal needs affecting other states. WisDOT utilizes its Highway Maintenance Manual (HMM) to prepare and react to the seasons and weathering affecting its roadways. The HMM reflects the policies, guidelines, and practices used by the department regarding all aspects of highway maintenance. The Winter Maintenance Chapter of the HMM provides information on how WisDOT ensures roadway operational safety during the winter months by roadway classifications, storm management responsibilities, snow removal and snow removal materials, and weather services.

WisDOT intends to incorporate all snow removal and seasonal needs requirements into the agreements with third party owners and operators who receive NEVI Program funds for EVSE. The third-party owners and operators will be responsible for all aspects of snow removal and seasonal needs for the area surrounding the EVSE.

## EMERGENCY EVACUATION/EMERGENCY INCIDENT MANAGEMENT

In the event of an emergency evacuation or emergency incident management, WisDOT's Division of State Patrol (DSP) coordinates its response with a variety of partners such as, local law enforcement and first responders, local government, state/local emergency management agencies, and WisDOT's Division of Transportation System Development (DTSD) Regional Incident Management Coordinators. WisDOT's DSP and DTSD Regional Incident Management Coordinators have built relationships over the years with local partners to better meet the needs of a safe and operational roadway. Through these relationships, WisDOT's DSP and DTSD's Regional Incident Management Coordinators can assist local partners in pre-planning for weather events and social events such as the Ryder Cup, Wisconsin State Fair, music festivals, etc. The pre-planning efforts have the potential to create strategies for event management needs such as efficient traffic and crowd control. These strategies can be augmented to include EVSE as critical infrastructure for transportation.

WisDOT's DSP has two steps when encountering an emergency incident, such as a road closure due to a snow emergency, on the roadway.

1. Scene management – take the necessary steps to stop or mitigate further safety risks by securing the scene.
2. Detour route - establish alternative routes for traffic as needed. WisDOT's DSP communicates with WisDOT DTSD's Regional Incident Management Coordinators to determine detour routes to flow traffic away from the incident.

If an emergency evacuation or incident were to occur, WisDOT's DSP and DTSD Regional Incident Management Coordinators will coordinate with local partners using existing standard operation procedures and potentially develop new procedures to ensure the operational safety of the roadway system.

## RESILIENCE

Through the existing and future conditions analysis, WisDOT identified rainfall and snowfall as potential risks for flooding. WisDOT is in the process of creating a system risk assessment tool to identify the locations with the highest risk of experiencing flooding and/or being significantly impacted by flooding. This tool will be integrated with an asset management approach to design policy considerations. The rainfall confidence interval products of NOAA Atlas 14 are key inputs in the model.

WisDOT anticipates that the system risk assessment tool, once operationalized, will be applied to placement analysis for EV charging infrastructure. A normalized flooding vulnerability risk score can be assigned to roadway segments. Based on a risk score, WisDOT will be able to identify areas of high flooding risk and avoid placing charging stations in areas of high risk.

#### 5.5.4 Labor, Safety, and Training Standards

Wisconsin's contracts will seek to ensure parties awarded NEVI Program funds for EVSE installation, operation, and maintenance will comply with the standards for strong labor, safety, training, and installation as described in the list below, as well as further expanded on in Chapter 6.

- **Disadvantaged Business Enterprise and Small Business Participation and Prevailing Wage Requirements:** Federal Highway Administration (23 CFR 230.107) to require: that all federal-aid highway construction contracts include specific equal employment opportunity requirements and prevailing wages.
- **Licensed Electricians with EVSE Credential:** Wisconsin's contracts will require that all electricians are licensed per Wisconsin Law, as well as require all electricians have Electric Vehicle Infrastructure Training Program (EVITP) or similar credential as currently required by NPRM § 680.106 (j).
- **Equipment and Site Safety Requirements:** Charging stations must meet relevant technical or safety standards, including but not limited to UL 2202, and Code of Federal Regulations, Title 47, Part 15 (47 CFR 15), and must have valid certification(s) from an OSHA recognized national lab. Charger enclosures must be constructed for use outdoors in accordance with UL 50E Standard for Safety for Enclosures for Electrical Equipment, Environmental Considerations, Type 3R exterior enclosure or equivalent. Chargers must incorporate a cord management system or method to eliminate potential for cable entanglement, user injury, or connector damage from lying on the ground.
- **Americans with Disabilities Act (ADA) Compliance:** EVSE stations will be required to be compliant with ADA per final NEVI Program rules.
- **EVSE Fire Code and First Responder Safety Training:** The National Fire Protection Association (NFPA) codes on EVs and EVSE and any code relevant to install locations will be followed. The NFPA is also working to deliver a report due in October 2023 to provide updated training programs and code compliance readiness for EVs. Other than the NFPA, the SAE J2990 document (Hybrid and EV First and Second Responder Recommended Practice, July 2019) provides training and information they must have on hand on when dealing with an electric vehicle thermal event.

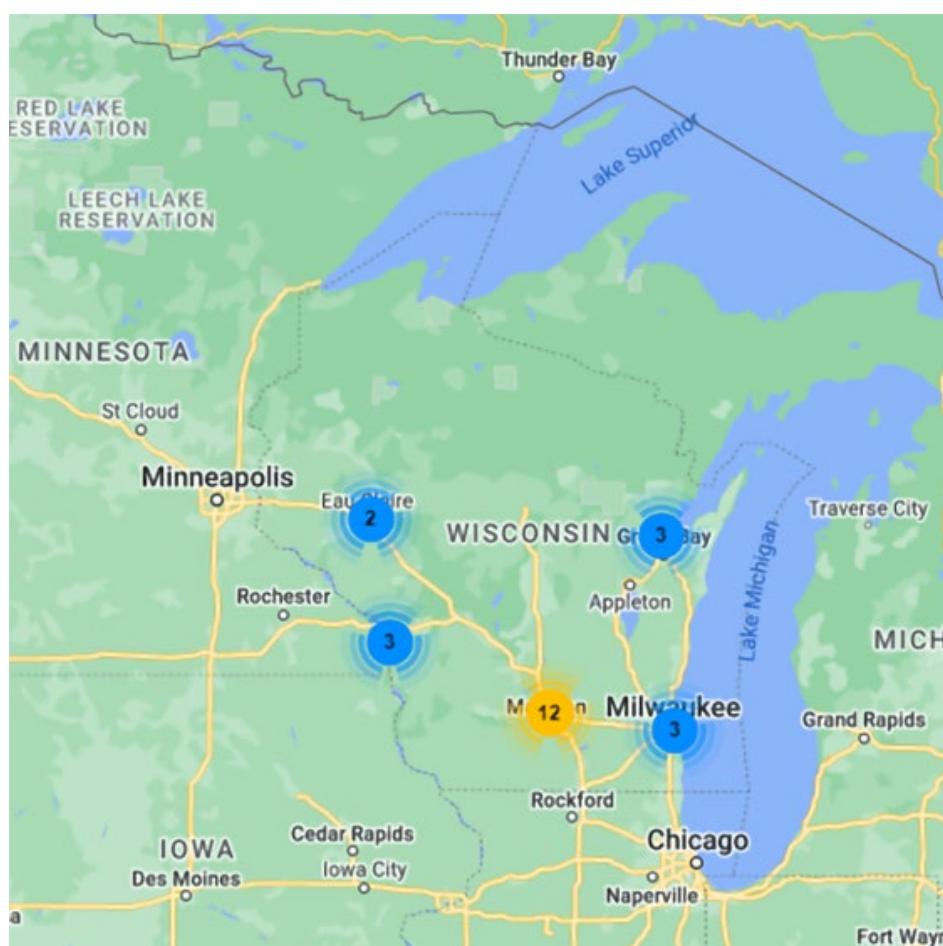


## 6 LABOR AND WORKFORCE CONSIDERATIONS

The deployment and operation of Wisconsin's EV charging infrastructure will provide new opportunities to engage an emerging industry, establish support for the development of a skilled workforce and ensure equitable access to employment opportunities for communities across Wisconsin. Wisconsin has already engaged multiple state agencies and stakeholder groups to understand the breadth of existing programs and capabilities and is developing strategies to meet the needs and requirements of the program. Consistent with our program goals, Wisconsin will undertake proactive steps to achieve equitable participation from under-represented and under-served communities and work to establish entry-level training programs to improve access to employment.

Wisconsin will leverage the guidance and requirements outlined for certification from the EVITP as well as current in-state requirements for safety and performance considerations across the charging network. Engagement and support activities will increase awareness of requirements, promote training and certification programs, and seek opportunities to overcome or subsidize barriers and costs (i.e., the 18-hour certification requirement). Wisconsin currently has 23 contractors with EVITP certification, and this number is expected to increase over time as EVSE deployments become commonplace throughout Wisconsin.

**Figure 6-1: Location of Wisconsin Certified EVITP Contractors**



Source: [EVITP](#)

Wisconsin has already begun efforts to promote strong labor, safety, training, and installation standards in addition to opportunities for small businesses. WEDC and their consultant are developing a detailed assessment of Wisconsin's automotive and manufacturing workers who are at risk of displacement by the state's transition to EV. This assessment includes a survey of relevant training programs in Wisconsin's higher education institutions and a review of statewide labor and training standards as they relate to EV charging operations and maintenance. A key objective of the WEDC assessment is to develop recommendations for retraining and reskilling potentially displaced workers in Wisconsin.

Encouraging a diverse workforce for the EV network will also be an important focus. To the extent that data is available, WEDC and their consultant will examine the training and qualifications required for occupations related to the installation and maintenance of EV charging infrastructure. They will then evaluate these standards in the context of Wisconsin's skilled technical workforce to identify potential skills gaps. Additionally, the assessment will break down relevant occupations by race and gender to identify opportunities to increase diversity within the workforce.

In short, Wisconsin is currently working on and is thoroughly committed to providing a strong workforce for all EV infrastructure deployments and on-going maintenance and monitoring needs.

## 7 CIVIL RIGHTS AND EQUITY

EVs could soon be a major component of all transportation systems. As such, it is vital that charging infrastructure be accessible and inclusive. Wisconsin recognizes the importance of including voices from all members of the traveling public in the planning conversation for this transformative technology. To ensure the WEVI Plan works for all members of the traveling public, Wisconsin has worked with representatives of various communities and the general public to provide meaningful, inclusive, and ongoing opportunities to provide insight into the WEVI Plan. Wisconsin will continue to develop its approach and monitor federal guidance and best practices to identify, prioritize and measure benefits for disadvantaged communities from EV charging infrastructure development.

### 7.1 Identification and Outreach to Disadvantaged Communities (DACs) in Wisconsin

Wisconsin is working toward identifying a Wisconsin-specific approach to addressing EVSE needs of disadvantaged communities. This approach will be based on cross agency coordination and analysis of different populations in Wisconsin and may include considerations such as rural population and disability status.

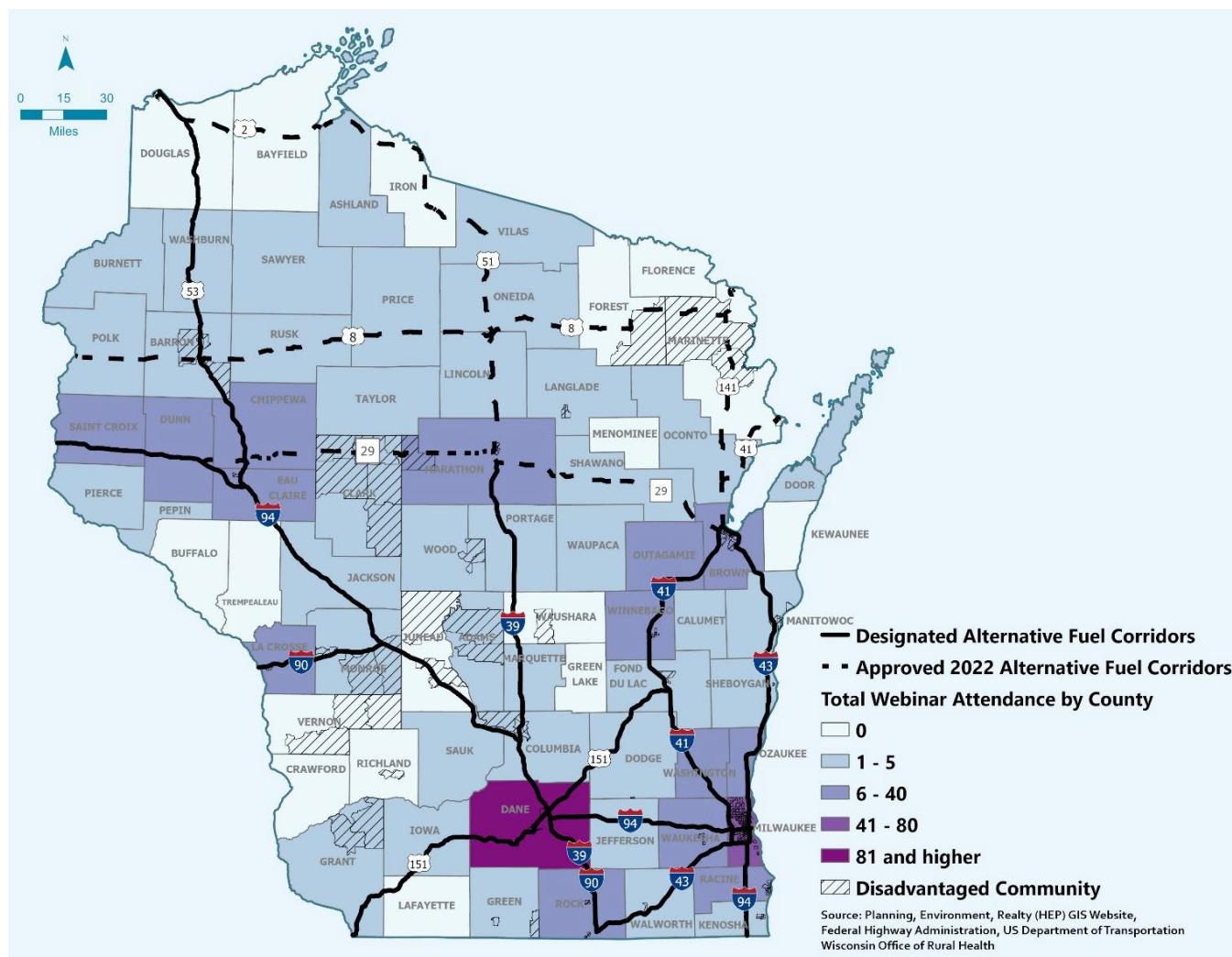
Through Wisconsin's outreach efforts, 67 different equity organizations were invited to participate in webinars with 9 organizations directly invited for one-on-one conversations. These organizations include those with rural focus, municipalities, counties, various chambers of commerce, and Tribal contacts. In addition to direct outreach, Wisconsin has welcomed conversations with any equity organization which has reached out and expressed a desire to discuss electrification. This framework will continue throughout the lifetime of the WEVI Plan to ensure that input from all communities is heard throughout the electrification planning and implementation process.

#### 7.1.1 Equity-Based Community Engagement

Wisconsin has actively sought to engage with a variety of stakeholders to ensure a range of voices are included when planning for transportation electrification. For more context on that engagement, see Chapter 2, State Agency Coordination and Public Engagement. Wisconsin has engaged with rural, underserved, and disadvantaged communities on the topic of transportation electrification.

On June 21 and June 22, 2022, WisDOT led two public webinars. The map below shows attendance from these webinars as it relates to the disadvantaged communities in Wisconsin.



**Figure 7-1: Public Engagement Webinar Attendance by County**

During these webinars, questions and comments were welcomed and are summarized in Section 0 Engagement Summary. These themes were taken into consideration in this planning effort and will continue to be used to inform future WEVI Plan iterations as well as program development.

In addition to the webinars, Wisconsin is conducting one-on-one meetings with various stakeholder groups including groups who work directly with disadvantaged communities. The intention of these meetings is to engage in conversations on how transportation electrification can be accessible for all and to understand potential benefits and opportunities for disadvantaged communities. Through the equity-based discussions, a few themes remain consistent. These themes include access to accessible electric vehicles, safety and accessibility of charging infrastructure, and best practices of current gas stations that could or should be carried forward to electric charging stations. These concepts will be brought forward as Wisconsin plans the programmatic side of the WEVI Plan.

### 7.1.2 Ongoing Equity-Based Community Engagement

Wisconsin recognizes the importance of continuous involvement with our disadvantaged communities. Throughout the course of this WEVI Plan, Wisconsin will actively seek out opportunities for public engagement, especially opportunities with those from disadvantaged communities who have not previously been engaged. Specifics on this engagement will be determined based on target audiences and local community-based organizations, and may include opportunities such as:

- Public webinars
- Continuing the public comment form online, as well as opportunities for email and mail
- Continual updates to the WisDOT Transportation Electrification page, which can be translated into other languages
- Involvement in WisDOT advisory committees such as the Wisconsin Non-Driver Advisory Committee (WiNDAC)
- Freight Advisory Committees (FAC)
- Others

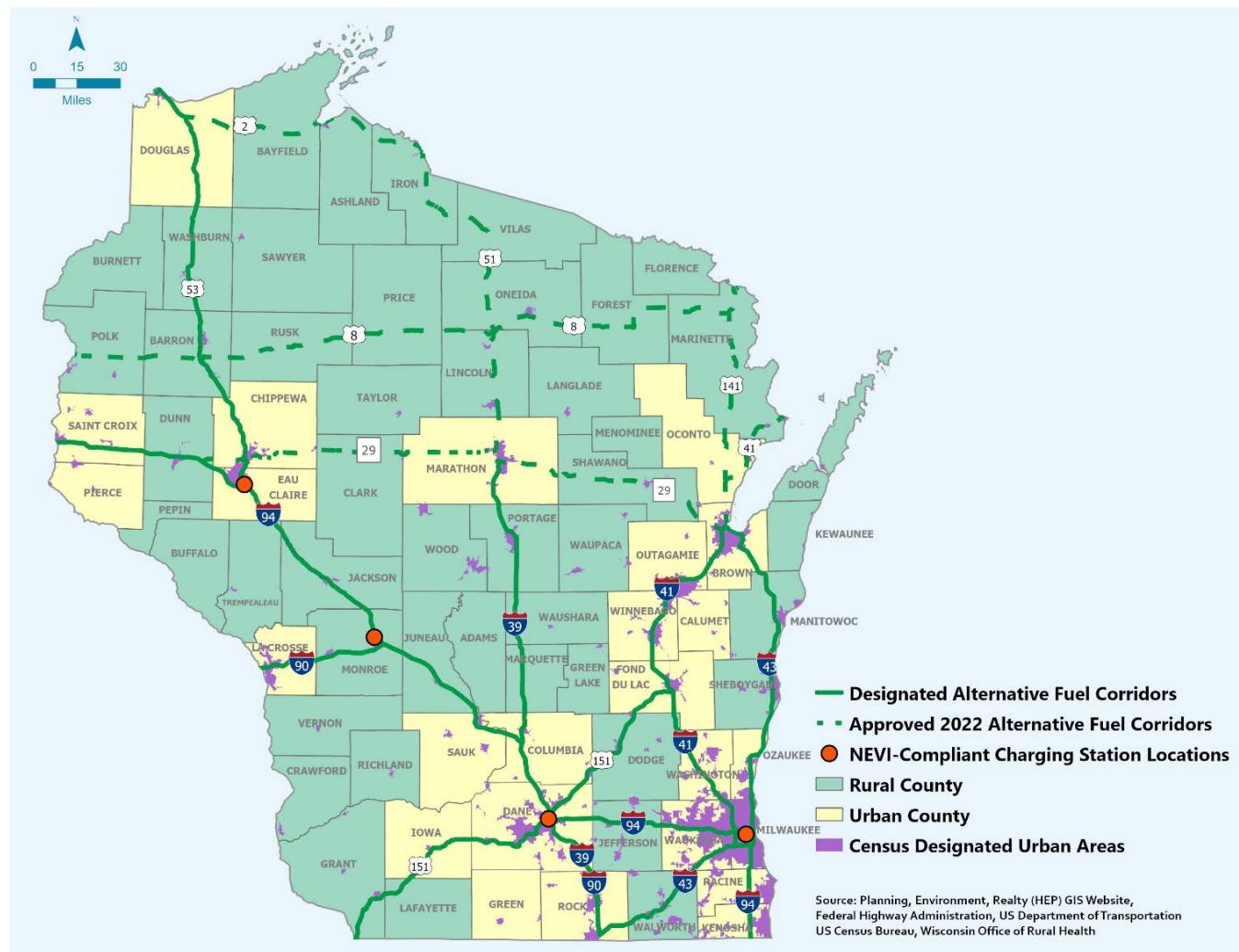
These interactions will inform Wisconsin's efforts to continually refine and update the electrification efforts to ensure those efforts are meeting the needs of Wisconsin's traveling public.

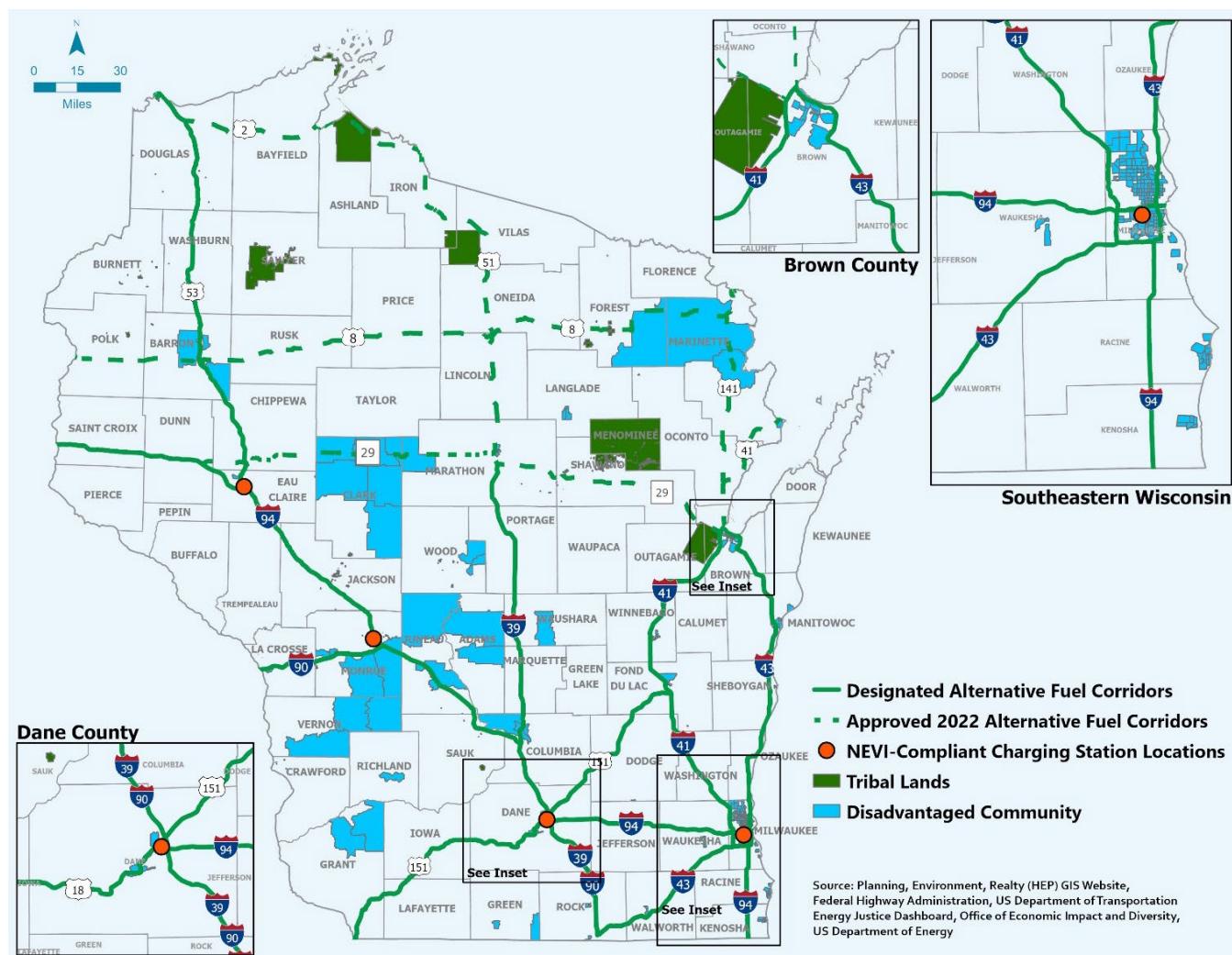
## 7.2 Process to Identify, Quantify and Measure Benefits to DACs

Wisconsin has a large rural population in addition to our disadvantaged communities. **Figure 7-2** shows each Wisconsin county and their classification, rural or urban, and how they relate to Wisconsin's designated AFCs. **Figure 7-3** depicts Wisconsin's AFCs and how they overlay with both Tribal Lands and Disadvantaged Communities.



Figure 7-2: Wisconsin Urban and Rural Classification



**Figure 7-3: Wisconsin Tribal and Disadvantaged Communities**

Wisconsin is committed to engaging with DACs throughout the state during the development of this WEVI Plan and subsequent updates. Engagement has and continues to be open and inclusive to ensure that everyone is represented.

### 7.2.1 Measuring Benefits to Equity-Based Communities

With the large rural population and disadvantaged communities, it will be important to measure benefits to both rural populations as well as disadvantaged communities as Wisconsin plans for the EVSE infrastructure.

At present, the following statistics summarize the location of Wisconsin's AFCs.

**Table 7-1: Wisconsin Rural Area Statistics based on Roadway Miles**

Element	Percentage
Percent of Round 1-5 Designated AFCs outside of U.S. Census Urban Areas	76%
Percent of Round 6 (Approved 2022) AFCs outside of U.S. Census Urban Areas	98%
Combined percentage of all AFCs outside of U.S. Census Urban Areas	85%

Wisconsin is committed to providing EVSE opportunities to all areas of the state through the program.

**Table 7-2: Wisconsin DAC Statistics based on Roadway Miles**

Element	Percentage
Percent of Round 1-5 Designated AFCs in DACs	6%
Percent of Round 6 (Approved 2022) AFCs in DACs	13%
Combined percentage of all AFCs in DACs	9%

To measure benefits to equity-based communities, Wisconsin will:

- Measure reduction in tailpipe emissions as a result of charging infrastructure placement
- Continually monitor EV registration throughout the state
- Determine increased access to charging infrastructure
- Evaluate the decreasing transportation cost burden
- Calculate percent of miles of AFCs through DACs

Additionally, Wisconsin will explore how to measure the following benefits or similar benefits as the ones listed below:

- Percent of overall site contracts awarded to small/disadvantaged businesses
- Number of sites EVSE built in DACs
- Emissions benefits generated for DACs

Additional benefits include:

- Increased job creation or repurpose toward electrification
- Create opportunities for disadvantaged businesses and job training

Wisconsin will abide by any benefit measurements defined in the final NEVI rule, once published.



## 7.3 Benefits to DACs through this Plan

Mobility and transportation choices are at the core of an efficient and effective transportation system, which is critical to Wisconsin's economic vitality and quality of life. Regardless of transportation mode, it is important for all users of the transportation system to experience the benefits of transportation vehicle electrification.

Though not currently directly tied to the WEVI Plan, the users of public transportation should see benefits of transportation electrification. These benefits may currently be seen by the Wisconsin Department of Natural Resources Clean Bus Program or the Wisconsin VW Mitigation Fund efforts. In future years, Wisconsin is anticipating including medium- and heavy-duty electrification into the WEVI Plan including opportunities for public transportation to engage in electrification.

Users who do not have access to a personal vehicle or public transportation should still benefit from electrification. WisDOT formed the Wisconsin Non-Driver Advisory Committee<sup>18</sup> in spring 2020 as an advisory forum to develop recommendations to improve transportation for non-drivers in Wisconsin. WiNDAC meets twice a year.

As part of WisDOT's commitment to improving transportation mobility, safety, and accessibility for non-drivers in Wisconsin, representatives from the Wisconsin Counsel of the Blind and Visually Impaired, Wisconsin Board of People with Developmental Disabilities, and Greater Wisconsin Agency on Aging Resources (GWAAR) met with WisDOT to discuss transportation electrification. These conversations highlighted several important considerations to allow for EVSE to be inclusive of all members of the traveling public.

One main theme was the need for education across a number of communities. There is a need for education on topics such as safety of the vehicles, how to use or charge an EV, reliability of the vehicle and the grid, and overall operation of charging infrastructure. Another consideration that emerged from the conversations is charging station accessibility, with concern expressed due to the current lack of standardization of accessibility measures in place at charging stations.

These conversations featured important considerations to enable a more inclusive approach with the traveling public for EV ownership and EVSE participation. One consistent theme across most communities was the need for additional education around the electric vehicle ecosystem. There is a need for education on topics related to the vehicles (safety, charging, reliability, costs), charging infrastructure and electric grid impacts.

## 7.4 Civil Rights

WisDOT complies with Title VI of the Civil Rights Act of 1964, the American Disabilities Act of 1990, and Section 504 of the Rehabilitation Act of 1973. To assist in compliance, WisDOT employs staff in the Office of Business Opportunity and Equity Compliance (OBOEC), including a Title VI and ADA Coordinator. OBOEC was consulted in the planning efforts for the WEVI Plan.

<sup>18</sup> [Wisconsin Department of Transportation Improving transportation for non-drivers \(wisconsindot.gov\)](https://wisconsindot.gov/transportation/improving-transportation-for-non-drivers)



To ensure compliance with the ADA and Title VI of the Civil Rights Act of 1964 (Title VI), electrification planning should include:

- Program review by appropriate OBOEC staff<sup>19</sup>
- Considerations should be given to ensuring ADA compliant charging stations
- Recommend following ADA Requirements for Workplace Charging Installation<sup>20</sup> as recommended by the U.S. Department of Energy, including the Summary of Important ADA Requirements shown in **Table 7-3.**

**Table 7-3: Summary of Important ADA Requirements for EVSE**

Element	ADA/ABA 2004 ANSI A117.1 2003
Number of Spaces	4% of parking spaces, or 1 for every 25 spaces, in any given lot, be designated as accessible; 1 out of every 6 spaces should be van accessible
Parking Stall	8x18 feet for a car and 11x18 feet for a van
Accessible Route Width	Minimum 36 inches wide
Accessible Route Slope/Cross Slope	Maximum 1:20 (5%) running slope and 1:48 (2%) cross slope; Accessible vehicle spaces 1:48 (2%) in all directions and 90-inch clearance for vans
Reach Range	48 inches front and side to allow reach to all operable parts from a wheelchair
Accessible Controls	Operable with one hand and not requiring grasping, pinching, or twisting of the wrist or force more than 5 lbs. Exception: Gas pumps
Accessible Ramps	A ramp or curb-cut must be accessible in order to allow for operation of charging station
Facility Accessibility	Must be connected by a minimum of 50-inch-wide accessible route in proximity (not necessarily adjacent) to the entrance of the building
Side Access Aisle	Side access aisle of 60 inches wide to allow space for wheelchair and equipment in and out of space
Accessible Card Reading Devices	Must be connected by a minimum 50-inch-wide accessible route in proximity (not necessarily adjacent) to the entrance of the building
Other Considerations	Ensure that bollards, wheel stops, or curb do not obstruct use of charging station

**Source:** [https://afdc.energy.gov/files/u/publication/WPCC\\_complyingwithADArequirements\\_1114.pdf](https://afdc.energy.gov/files/u/publication/WPCC_complyingwithADArequirements_1114.pdf)

WisDOT is also continuing to review the U.S. Access Board's recently released "[Design Recommendations for Accessible Electric Vehicle Charging Stations](#)," a technical assistance document that summarizes existing requirements and new recommendations for making EV charging stations accessible. Wisconsin will abide by any additional ADA requirements defined in the final NEVI rule, once published.

<sup>19</sup> WisDOT staff make up an ADA Managing Committee consisting of representatives from across the Department. This group discusses various types of transportation infrastructure to ensure ADA compliance and review opportunities for increased compliance.

<sup>20</sup> [https://afdc.energy.gov/files/u/publication/WPCC\\_complyingwithADArequirements\\_1114.pdf](https://afdc.energy.gov/files/u/publication/WPCC_complyingwithADArequirements_1114.pdf)



## 8 CYBERSECURITY

The U.S. Cybersecurity and Infrastructure Security Agency (CISA) [defines cybersecurity](#) as “the art of protecting networks, devices, and data from unauthorized access or criminal use and the practice of ensuring confidentiality, integrity, and availability of information.” The State of Wisconsin and WisDOT recognize the critical role cybersecurity plays in the successful deployment of EVSE across the state. Protecting the EVSE network, the surrounding infrastructure and the personal or business information of EVSE users, owners and operators is integral for EVSE cybersecurity.

Ensuring Wisconsin assets and programs are secure from cyber threats is a high priority. Wisconsin will apply the same level of cybersecurity rigor it applies to all its infrastructure needs as EVSE are deployed across Wisconsin. Further guidance, from FHWA regarding cybersecurity guidelines are pending under [FHWA's Notice of Proposed Rulemaking, U.S. DOT 23 CFR Part 680 \[Docket No. FHWA-2022-0008\] RIN 2125-AG10](#). WisDOT will comply with the federal guidance following the proposed rulemaking process.



## 9 PROGRAM EVALUATION

WisDOT will perform an annual assessment of program progress based on the goals identified in Chapter 1 of this WEVI Plan. This includes monitoring overall statewide EVSE build-out, analyzing data submitted by site hosts as required by any final NEVI Program rule, [FHWA's Notice of Proposed Rulemaking, U.S. DOT 23 CFR Part 680 \[Docket No. FHWA-2022-0008\] RIN 2125-AG10](#), and working with partners to develop new locations and make necessary adjustments to existing EVSE locations. In accordance with NEVI Program guidance, WisDOT will annually update the WEVI Plan.

WisDOT has an existing performance improvement program, called [MAPSS](#) (Mobility, Accountability, Preservation, Safety, and Service), which focuses on the five core goals and associated performance measures that guide WisDOT in achieving its transportation mission "to provide leadership in the development and operation of a safe and efficient transportation system." The department is committed to quarterly reporting of progress, with updates published in January, April, July, and October. As part of our ongoing program development, WisDOT will evaluate how to best operationalize NEVI Program evaluation within the MAPSS program.



## 10 DISCRETIONARY EXCEPTIONS

Wisconsin has received the recent guidance provided in the Frequently Asked Questions and the Exceptions Template from the [Joint Office](#) that states exceptions will only be granted under very limited circumstances on a case-by-case basis, and approved in conjunction with annual state plan certification. The guidance identifies the four circumstances that could qualify as grid capacity, geography, equity, and extraordinary cost.

Currently, Wisconsin has not identified any specific locations for charging sites, so we have not identified any exceptions. Chapter 4, EV Infrastructure Deployment, describes the mapping approach we are currently performing to identify approximate areas for charging stations located a maximum of every 50 miles and has additionally identified amenities and likelihood of high-power transmission lines within one mile of exits/interchanges. Wisconsin's approach to procurement is to not be overly prescriptive in identifying exact sites or exits/interchanges. As we continue our due diligence and begin procurements around potential locations, utility constraints, amenities, rural limitations, and DAC opportunities, it is possible that future WEVI Plan updates may include exception requests. Wisconsin will work with our local and federal partners to discuss the rationale for any such requests and, if needed, submit the exception template on a limited basis.

