

Montana Electric Vehicle Infrastructure Deployment Plan

June 27, 2022

DRAFT PLAN

Comments on the draft plan are due by July 18, 2022 and may be submitted via
mtenergy@mt.gov

DRAFT

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Introduction

The Montana Electric Vehicle Charging Infrastructure Deployment Plan (Plan) will establish a framework for electric vehicle (EV) charging in Montana. Part of this framework is supporting long-distance EV travel by state residents and visitors. The Plan is also intended to help bolster economic development, tourism, and workforce development in communities across Montana. The Plan provides a framework to develop a network of EV charging stations along key travel corridors. This network will provide a backbone for future build-out of EV fast-charging stations along interstates and key highways in Montana and will support the goal of the National Electric Vehicle Infrastructure (NEVI) program to facilitate a national EV charging network. The Plan focuses on interstate routes and highways that are currently designated as “electric vehicle pending” Alternative Fuel Corridors (AFCs).

The Montana Department of Transportation (MDT) and the Montana Department of Environmental Quality (DEQ) collaborated closely and worked in tandem on developing the Plan. This close collaboration follows the model of the newly created federal Joint Office of Transportation and Energy and leverages MDT’s expertise in transportation planning and DEQ’s expertise in EV infrastructure deployment.

The development of Montana’s Plan included direct input from local governments, Tribes, tourism and economic development agencies, electric utilities, EV charging station companies, small businesses, non-governmental organizations (NGOs), business associations and numerous other private and public entities. Input was gathered through four key methods:

- Public Survey posted to DEQ website, social media, and distributed to targeted e-mail lists;
- Virtual and in-person meetings with stakeholders and organizations;
- Request for information (RFI) for electric utilities; and,
- RFI for charging station providers and original equipment manufacturers (OEMs).

Montana’s approach to developing an EV fast charging network prioritizes charging locations that will fill the largest gaps along interstates and highways. After the largest gaps are filled, the State will prioritize additional locations that are hubs at the intersection of at least two travel corridors, as well as locations along AFCs that bring those AFCs in to “corridor-ready” and NEVI compliance. Other investment priorities include disadvantaged communities and gateway communities to national parks and other recreation destinations.

The State will continue to monitor investments at locations along designated corridors by private charging networks and re-evaluate planned NEVI locations and priorities, as necessary.

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

September 2021 – DEQ initiates a Montana Electric Vehicle Prioritization Study (see Attachment B) to help inform the State’s future investment in EV charging stations.

March 2022 – DEQ and MDT (referred to as “the Agencies” for the remainder of the Plan) establish an interagency partnership to conduct public outreach and stakeholder engagement, and to jointly develop the Plan.

March – July 2022

- The Agencies announce NEVI collaboration publicly and to the Montana Legislature’s Transportation Interim Committee. Committee members invited to provide public comments on development of the Plan.
- The Agencies host a kickoff webinar providing background on NEVI Formula Program and inviting public comment on development of the Plan through June 30.
- The Agencies engage in direct stakeholder outreach. For more details, see Public Engagement section below.
- Draft Plan is released for 21-day-day public comment period.
- Plan submitted to FHWA no later than August 1.

Fall/Winter 2022

- Finalize details for Montana’s administration of NEVI program funding.
- Draft Request for Proposals (RFP) for first round of NEVI funding, for release upon approval of the Plan.

Winter 2022/Spring 2023

- Score proposals and announce successful awards.
- Begin annual EV Deployment Plan review and update.
- Evaluate whether to nominate additional corridors for AFC designation in AFC Round 7.

State Agency Coordination

MDT and DEQ worked collaboratively to gather input, conduct stakeholder outreach, and identify goals and priorities to develop the Plan. The interagency partnership works to leverage MDT’s expertise in transportation funding and planning and DEQ’s experience in planning and deployment of EV infrastructure.

Since 2017, staff from MDT’s Planning Division and DEQ’s Energy Office have been meeting regularly to coordinate on EV charging infrastructure deployment in Montana. Early collaboration led to a joint effort to identify interstates and highways to nominate “electric vehicle pending” corridors through the AFC program. MDT and DEQ worked together to submit nominations to designate each of the interstates and two U.S. Highways in Montana under the AFC program.

After the Bipartisan Infrastructure Law was signed in November 2021, MDT and DEQ began meeting more frequently to focus on developing the State of Montana’s approach and plan for deploying direct current (DC) fast-charging infrastructure along designated AFCs in the state. In March 2022, MDT and DEQ announced a collaborative effort to solicit public input and conduct stakeholder outreach to develop the Montana’s Plan, in accordance with NEVI Guidance.

MDT and DEQ also conducted outreach to other relevant state agencies and policymakers that provided input on development of this Plan including:

- Montana Governor’s Office
- Montana Department of Commerce
- Montana Public Service Commission
- Montana Department of Labor and Industry
- Montana Department of Justice
- Montana Legislature (legislative staff, Transportation Interim Committee, Financial Modernization and Risk Analysis Study committee, and individual legislators)

MDT and DEQ worked together to write Montana’s draft Plan. The draft Plan was reviewed and approved by both agencies before being made available for public comment.

Through NEVI funding opportunities the State will work to ensure that EV supply equipment installed in Montana and funded through the NEVI program is made in the United States and complies with federal Buy America requirements. The State will continue to monitor any changes to Buy America standards and how those changes may impact EV supply equipment (EVSE) compliance.

Public Engagement

On March 21, 2022, DEQ and MDT announced a joint effort to develop the State’s Plan based on MDT’s expertise with federal highway funding and DEQ’s administration of Volkswagen Environmental Mitigation Trust funds to deploy EV charging infrastructure. The agencies also announced a public webinar that would provide basic background information on the NEVI Formula Program and serve as the initial opportunity for Montanans to provide public comment for the Plan. DEQ and MDT also announced a Public Survey in the webinar for any interested party to fill out. The Public Survey was open from April 4 to June 30; 388 people provided responses to the survey.

During the public outreach process, the agencies developed RFIs for electric utilities and the EV charging infrastructure industry. DEQ sent the Electric Utility RFI to the two investor-owned utilities and 26 rural electric cooperatives with service areas in Montana. DEQ received responses from 10 electric utilities. DEQ led the development of an RFI for the EV charging infrastructure industry which was sent to charging companies by the National Association of State Energy Officials on behalf of Regional Electric Vehicle West (REV West), an eight-state regional EV planning collaborative that includes Montana. Montana solicited input from national EV charging companies using a regional approach under the assumption that charging companies would be more interested in responding to a regional RFI rather than similar questions from individual states. NASEO received 19 responses which were shared with all REV West states.

Stakeholders Involved in Plan Development

DEQ All stakeholder meetings were attended by DEQ and MDT staff and the meetings included a total of 156 stakeholders.

Table 1 – Stakeholder Outreach

Stakeholder Type	Number of Stakeholders
Metropolitan Planning Organizations (MPOs)	9
Municipal Governments	7
State Public Service Commission	2
State weights & measurements agency	2
State economic development agency	1
State Department of Justice	1
Tribal governments*	2
Electric utilities	28
Environmental justice organizations	20
Federal land management	1
Freight industry groups	1
EV industry organizations	4
Unions and other labor organizations	22
Gas station owners and operators	5
Clean Cities Coalition	12

Community-based organizations , small business associations, Chambers of Commerce	40
TOTAL	156

Bold notes Justice40 stakeholder outreach

* All Tribal Governments were sent notification of the opportunity to provide input and a request to consult with their respective Tribal Governments.

In addition to stakeholder meetings, DEQ hosted or participated in several larger meetings including:

- DEQ/MDT NEVI Formula Program Informational Webinar & Public Outreach – 145 participants
- Climate Smart Missoula: Electrifying Transportation webinar – 14 participants
- Montana State University Extension: Electric Vehicle Adoption in Montana webinar – 70 participants
- Montana Petroleum Marketers & Convenience Store Association Annual Convention – 100 participants
- Montana Automobile Dealers Association Convention – 70 participants

Summary of key input from the Public Survey and stakeholder meetings include:

- Recommendations to designate additional AFCs including the following highways: MT-200, US-89, US-191, US-287, US-87, US-12, US-212, MT-83, MT-28, MT-35, MT-135, MT-3, MT-37, MT-59, and MT-464.
- Focus on developing a statewide network of charging infrastructure. In the Public Survey, the option that received the most responses for what corridor should receive priority was “all.” As noted by the recommendations to designate additional AFCs, Public Survey respondents and stakeholders identified locations outside of current AFCs as in need of charging infrastructure. Montanans do not always use the interstates to get across the state and often use U.S. Highways or other highway system routes.
- Invest in rural areas for charging infrastructure. Input noted that private investments in charging infrastructure will likely happen in Montana’s larger cities. Indeed, one charging station company recently announced a new planned location in Billings.
- The ability to charge up quickly while traveling between major communities, which are spaced 85 to 193 miles from each other, will reduce range anxiety.

Notable responses to public survey responses are included below.

Figure 1 – Public Survey Question 4: “Should Montana prioritize certain Alternative Fuel Corridors for electric vehicle charger deployment? Check as many as you think should be prioritized.” Total responses: 309

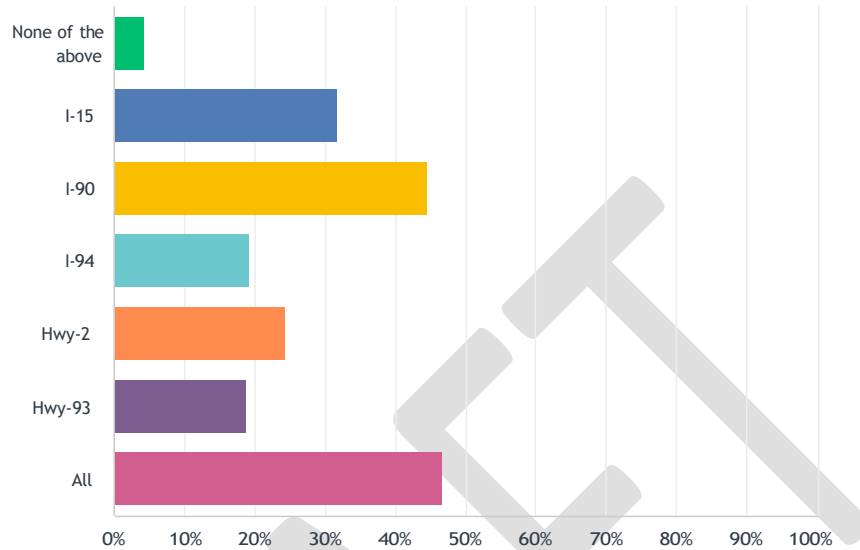
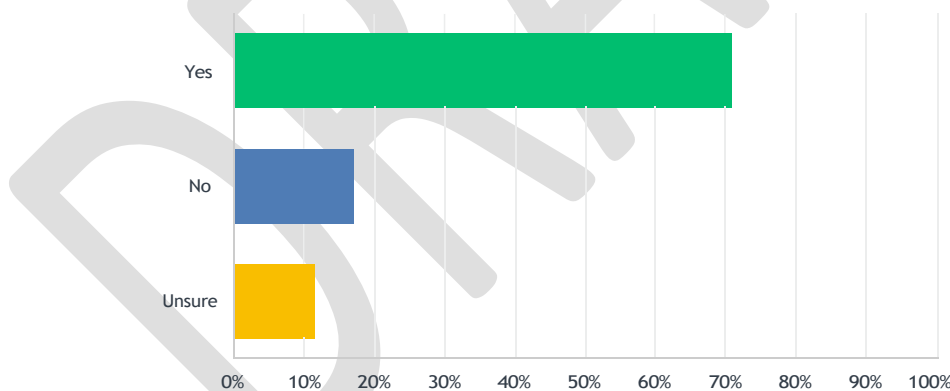


Figure 2 – Public Survey Question 15: “Some parts of Montana currently have more EVs than other parts of our state. Do you think it is important to have charging infrastructure in communities that might not see many EVs today?” Total responses: 301



Plan Vision and Goals

The vision of Montana’s Plan is to efficiently, equitably, and strategically deploy funding to support an interconnected national network that provides Montana EV users and visiting EV drivers reliable and affordable access to EV charging infrastructure. To implement this vision, the Plan will support the following goals:

1. **Corridor build-out:** Develop EV charging corridors along key travel routes for residents and visitors. By 2030, these corridors will support the 30,000 Montana residents and 100,000 visitors

projected to be driving EVs through the state.¹

2. **Rural connectivity:** Establish an EV network that helps connect rural communities with population centers and facilitates inter-regional EV travel.
3. **Affordability:** Ensure that the charging station investments and the timing of those investments supports affordable operation, maintenance, and use of EVs in the short and long term. A phased approach to the build-out of charging infrastructure that fills the largest gaps in the first two years and 50-mile gaps in the later years will help support this goal.
4. **Outcome-oriented data collection:** Identify specific metrics and data that will help ensure long-term success of charging station investments. Only data that is necessary to evaluate reliability, usage, and affordability will be collected by the State. Data will be collected at regular intervals, as required by the final federal guidance for this program.
5. **Reliable operation:** Lack of reliable charging stations is more than just an inconvenience in rural areas. Inoperable charging stations can become a safety issue and leave EV drivers stranded in remote locations for long periods of time. Montana will ensure that the charging network operates reliably by establishing strict requirements for measuring and reporting charging station uptime. Charging providers will be required to provide data on uptime percentages for current charging stations in their network.

Montana will work to implement a program to comply with the NEVI requirements of deploying fast-charging locations no more than 50 miles apart, within one travel mile of the corridor, within walking distance of amenities, while maintaining a high operational reliability rate. Montana will enter partnerships to develop a statewide network of charging locations that are accessible to rural and urban EV drivers and that meet these goals.

While siting EV charging stations every 50 miles may be challenging along certain corridors in Montana, the State will continually evaluate progress toward this standard and assess in future years if exemptions to NEVI requirements will be necessary.

Year 1 Focus Areas/Quantitative Goal: In the first year, Montana will focus on filling large gaps of 100 miles or more along Interstates 15 (I-15), 90 (I-90), and 94 (I-94). Approximately 10 new locations will be needed to fill these large gaps. Priority locations may change, depending on private investments that may occur along interstate highways. The State will also prioritize locations that are “hubs” – communities located at the intersection of at least two designated AFCs.

Year 2-5 Focus Areas: After large gaps along interstates are filled, the State will prioritize locations that fill 100-mile or greater gaps along US-2 and US-93. Gateway communities to national parks and recreation/tourism destinations will also be a priority for investment. If there is funding remaining, the State will prioritize upgrading existing locations funded through other programs or private investments to be NEVI compliant. The State will also evaluate whether to nominate additional US Highways as AFCs.

Contracting

Montana intends to contract with third parties or the installation, ownership, operation, maintenance, and data collection of NEVI-funded EV charging stations. The required non-federal match will be secured from the non-State owners and operators of the charging stations. The State plans to issue competitive solicitations for proposals to install, operate and maintain EV charging stations at locations along AFCs that meet NEVI program requirements. Minimum site, technology, reporting, operation, and maintenance requirements will be included in the competitive solicitation and will meet or exceed federal requirements

¹ AECOM, Montana Electric Vehicle Infrastructure Prioritization Plan, June 2022, Page 18.

and guidelines. The solicitation will allow applicants to request funding to install charging stations at multiple or individual locations along AFCs. The State will give preference to applications that have secured agreements from charging station site hosts.

Contracts with each entity will require the facility owner to operate and maintain charging stations at each location for a minimum of five years and to describe how they will continue to maintain and operate the charging stations beyond the five-year minimum.

The competitive solicitation will require applicants to describe how they engaged with community organizations and members to site, design and operate charging locations. Proposals that include letters of support from local community organizations and individuals will be given priority consideration. Applicants will also need to include a plan that outlines how they will continue to engage with and receive feedback from organizations and individuals within the communities where the NEVI-funded charging stations are located.

Existing and Future Conditions Analysis

Current EV Ownership in Montana

As of January 2022, Montana had 2,895 light-duty EVs registered in the state. Of these, 1,893 were battery electric vehicles and 1,002 were plug-in hybrid vehicles. Flathead County, Missoula County, and Gallatin County are the top three counties for EV registrations in the state. Non-Tesla vehicles make up just over half of the EVs registered. EVs represent about 0.18% of all light duty vehicles registered in the state. Montana has one of the lowest EV adoption rates in the United States but the number of EVs registered in Montana has more than doubled since DEQ began collecting registration data in 2019.

Montana EV registration data can be found at: <https://www.atlasevhub.com/materials/state-ev-registration-data/>

EV Adoption and Market Conditions

EVs do not make up a significant share of the light duty vehicle market in Montana and the state has relatively low EV adoption rates compared to other states. A recent report authored by AECOM and commissioned by DEQ estimates that by 2030 under a medium growth scenario, 3% of light duty vehicles registered in Montana, or 31,350 vehicles will be electric. By 2040, the report estimates that 9% of registered vehicles, or 87,900 vehicles in the state under medium growth will be electric.

Most of the EVs travelling in Montana over the next five years will be driven by out-of-state visitors. Montana averages over 10 million visitors each year and tourism contribute over \$2 billion to Montana's economy each year. Over 70% of these visitors travel to Montana by passenger vehicle or truck.² A recent analysis estimates that there are 1,029,428 unique passenger vehicles that travel to Montana annually, and that by 2030, nearly 10% or 100,000 of these vehicles will be electric. Charging stations that are in areas that support the increasing number of visitors that will be driving EVs will help support Montana's tourism economy.

² *Nonresident reports*. Institute for Tourism & Recreation Research. (n.d.). Retrieved June 23,2022, from http://www.tourismresearchmt.org/index.php?option=com_nonresidentreports&view=nonresidentreports&Itemid=115

Grid capacity considerations

Montana is a net exporter of electricity, generating more electricity than is consumed in state. According to the Energy Information Administration,³ in 2021, Montana's net electricity generating capacity was made up of 43% coal, 40% hydropower, 12% wind, 2% natural gas and 2% oil.

Utilities in Montana, like other western states, anticipate capacity constraints and the potential for periods of electricity shortfalls in the coming years. NorthWestern Energy, Montana's largest utility provider, anticipates about an 800-megawatt (MW) peaking capacity deficit by 2030 without the addition of new peaking capacity resources (peaking capacity is the amount of power that can be delivered during times of maximum electricity demand). This capacity deficit is mostly due to changes in generation resources but is in small part due to anticipated increases in electrical load, including from EVs. Smart charging programs are largely untested in Montana but will be an important strategy to ensure that the grid impacts from DC fast-charging stations are minimized.

The Montana Electric Vehicle Infrastructure Prioritization Study estimates that the expected additional annual electricity consumption from EVs travelling along the current designated AFCs is expected to reach 61 gigawatt hours (GWh) in 2030 under standard weather conditions and 88 GWh in a cold weather scenario.⁴ For context, Montana electricity sales totaled 14,585 GWh in 2019. Much of the additional electricity use to charge EVs in 2030 is expected to be consumed at home chargers. Some of the additional electricity will be consumed at public charging stations by residents and visitors travelling along these corridors. The maximum combined estimated power output at locations along AFCs that will meet NEVI requirements would be 21.6 megawatts (MW). However, it is not anticipated that every single charging port funded under NEVI will be drawing power simultaneously in the near term.

As part of the EV Prioritization study, DEQ and AECOM met with utilities that serve locations along each of the current designated corridors. The purpose of these meetings was to identify any electric capacity and grid constraints in communities spaced at 50 miles apart along the corridors that may limit the ability to host NEVI-compliant charging stations. Utilities also identified any locations that are reaching capacity limits or where upgrades would be cost-prohibitive. The communities with potential grid limitations are listed in Table 2.

³ U.S. Energy Information Administration, Open Data API for Electricity Net Generation, Net Generation: all fuels: Montana: annual. Retrieved June 23 from <https://www.eia.gov/opendata/v1/qb.php?category=1>.

⁴ AECOM, Montana Electric Vehicle Prioritization Study, June 2022. Page 27.

Table 2 – Communities identified in the Montana Electric Vehicle Prioritization Study where charging capacity may be limited

Proposed EV Charging Community	AFC Corridor	Charging Constraints Identified
Columbus	I-90	Certain nearby substations may be fully loaded if charging at peak
Superior	I-90	Certain nearby substations may be fully loaded if charging at peak
Dutton	I-15	Certain nearby substations may be fully loaded if charging at peak
Darby	US-93	Certain nearby substations may be fully loaded if charging at peak
Essex	US-2	600kW station would overload substation at system peak. Electricity supply and infrastructure is very limited
Chester	US-2	Certain nearby substations may be fully loaded if charging at peak
Gildford	US-2	600 kW station would overload substation at system peak
Hinsdale	US-2	600 kW station would overload substation at system peak
Malta	US-2	Certain nearby substations may be fully loaded if charging at peak
Glasgow	US-2	Certain nearby substations may be fully loaded if charging at peak

Whether distribution system upgrades will be required to serve charging station loads within a given community will depend on utility distribution service capacity at the specific charging site. Costs to perform necessary upgrades vary widely based on site characteristics and whether environmental review is needed.

State Geography, Terrain, Climate and Land Use Patterns

Montana is the fourth largest geographic state in the United States, with an internal land area that covers over 147,000 square miles. Montana is at relatively high latitude, so it experiences cooler winters and summers. Montana’s topography is diverse and ranges from higher elevation mountainous areas to lower elevation prairie landscapes. Elevations across the state range from 1,800 to 12,800 feet. Montana is split geographically by the Continental Divide, which runs from north to south and follows several mountain ranges in the Rocky Mountains. Lower elevations with prairie and grasslands lie east of the Continental Divide with more mountainous and forest landscape west of the Continental Divide.

Seasonal temperatures are relatively cool and average seasonal temperatures vary depending on the elevation and proximity to the Continental Divide. The average annual temperature in areas west of the Continental Divide is 39 degrees Fahrenheit, and about 44 degrees Fahrenheit for areas east of the Continental Divide. Montana is a semi-arid state that receives an average of about 14 inches of precipitation annually. Temperatures across Montana have increased 2.5 degrees since the beginning of the 20th century.

Montana can experience some extreme weather events throughout the year, and these events are becoming more frequent. During the summer, hot, dry, and windy conditions can fuel wildfires in forests and grasslands across the state. During the winter, heavy snow, high winds, and extreme cold

temperatures can have widespread impacts. As temperatures warm up in the spring, rain events and rapid snow melt can cause severe flood events in areas along streams and rivers.

As of the 2020 Census, Montana’s population was just over 1 million and it is the third least densely populated state in the United States, with 7.42 people/mi². The state’s low population density and colder average annual temperatures can contribute to increased “range anxiety” for EV drivers travelling long distances across the state.

State Travel Patterns, Public Transportation Needs, Freight and Other Supply Chain Needs

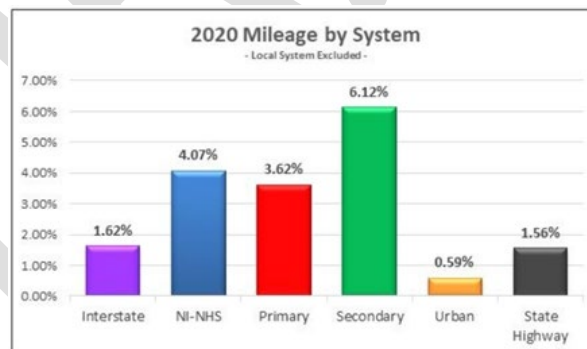
State Travel Patterns

Montana is considered a frontier state and includes some of the most isolated and sparsely populated counties on the urban-rural scale. Most of the state’s population centers are in the western side of Montana except for Billings, the state’s largest city, located in eastern Montana. State residents travel long distances for recreational activities and to commute to population centers for work.

Federal and state roadway systems are designated to enable allocation of federal and state resources. The federally designated National Highway System (NHS) includes the Interstate and Non-Interstate (NI) principal arterial roadways important to the nation’s economy, defense, and mobility. State-designated systems, include the Primary, Secondary, and Urban highway systems. As well as other highways maintained by the state that connect with roadways on the designated highway systems. All remaining roads not designated to a state or federal highway system fall under the responsibility of local government entities.

In Montana, there are 12,923 centerline miles of MDT routes. The interstate system accounts for 1.62% of the overall road mileage in Montana and 25.3% of daily vehicle miles of travel (DVMT).⁵

Figure 3 – 2020 Mileage by System



⁵ MDT, [Montana's 2020 Traffic Statistics](#)

Figure 4 – 2020 DVMT by System

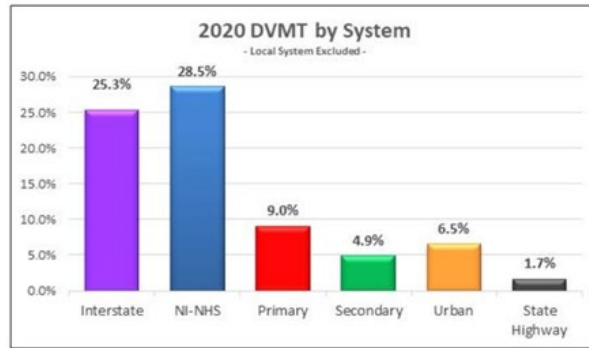
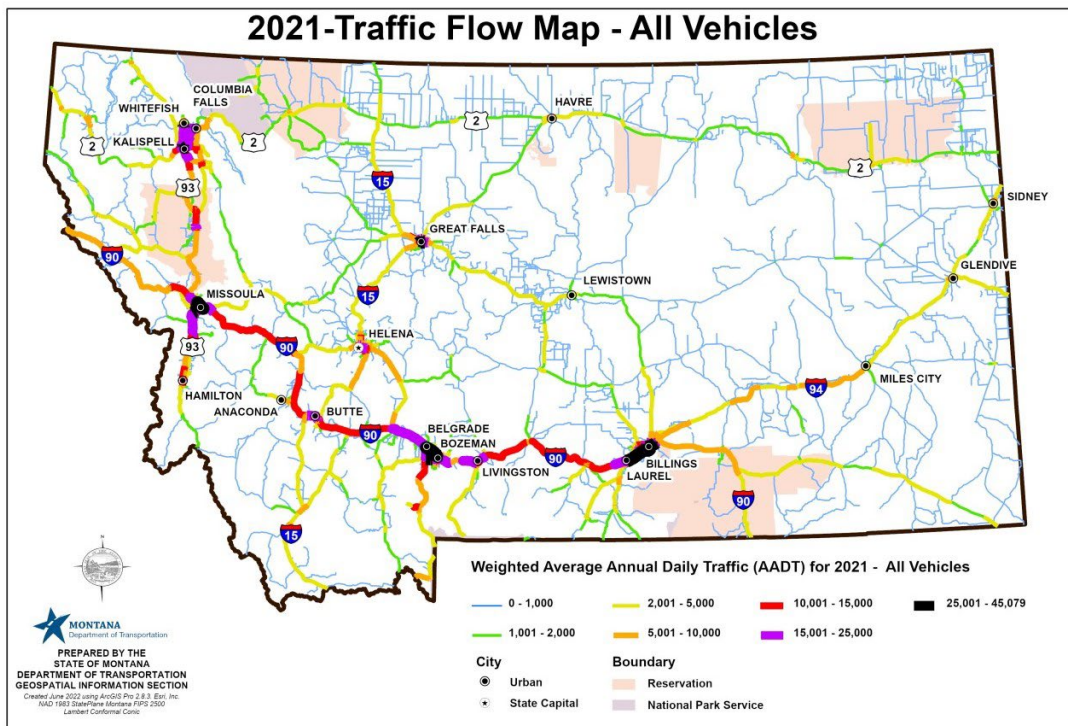


Figure 5 provides a snapshot of Montana’s 2021 weighted AADTs illustrating I-90 and US 93 are the most heavily travelled corridors.

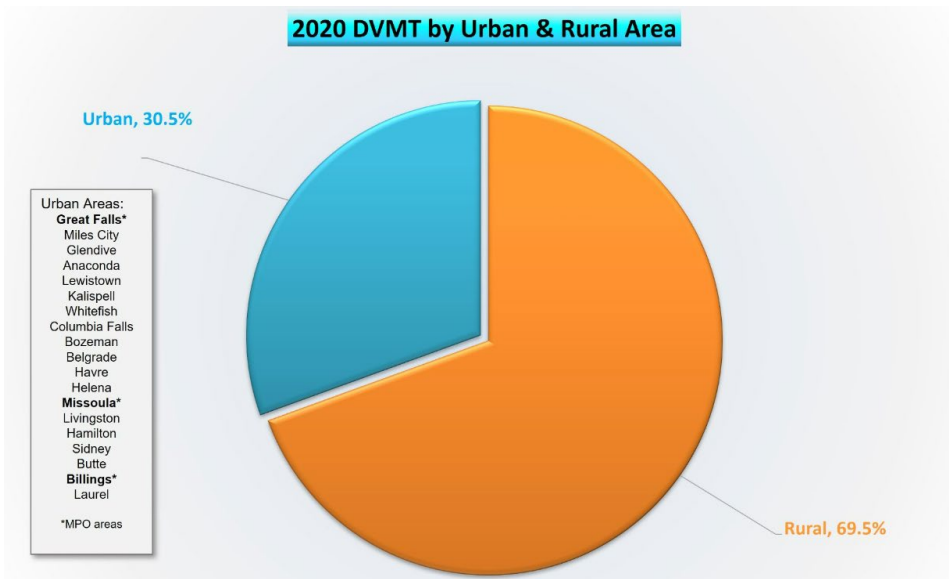
Figure 5 – 2021 Traffic Flow in MT



Roadways are also designated according to their location in either rural or urban settings. FHWA defines urban areas as having a population of 5,000 or more residents based on decennial census data. In 2020, 69.5% of highway vehicle miles traveled on MDT routes were outside the state’s 19 urban areas.⁶

⁶ Ibid.

Figure 6 – 2020 DVMT by Urban & Rural Areas



Montana’s light duty vehicle travel patterns are seasonal. During the summer months (May-August) the number of vehicle trips more than doubles compared to the winter months. This correlates with the summer tourism season in Montana. Over 74% of the visitors travelling in Montana arrive in-state by passenger vehicle.

The State records daily passenger vehicular traffic and mileage data for each corridor, as shown in Table 3. The data is further categorized into rural and urban segments as well as an overall route average of vehicular traffic. Daily vehicle miles traveled (DVMT) was determined as the product of the length of the corridor segments in miles and the annual average daily traffic (AADT). To account for increases in traffic through 2040 due to population and economic growth, a 0.72% annual growth rate was assigned to the AADT and DVMT. This table can demonstrate the State Travel Patterns across the AFCs where the EV Charging Infrastructure will be located.

Table 3 – AADT by Corridor in Montana

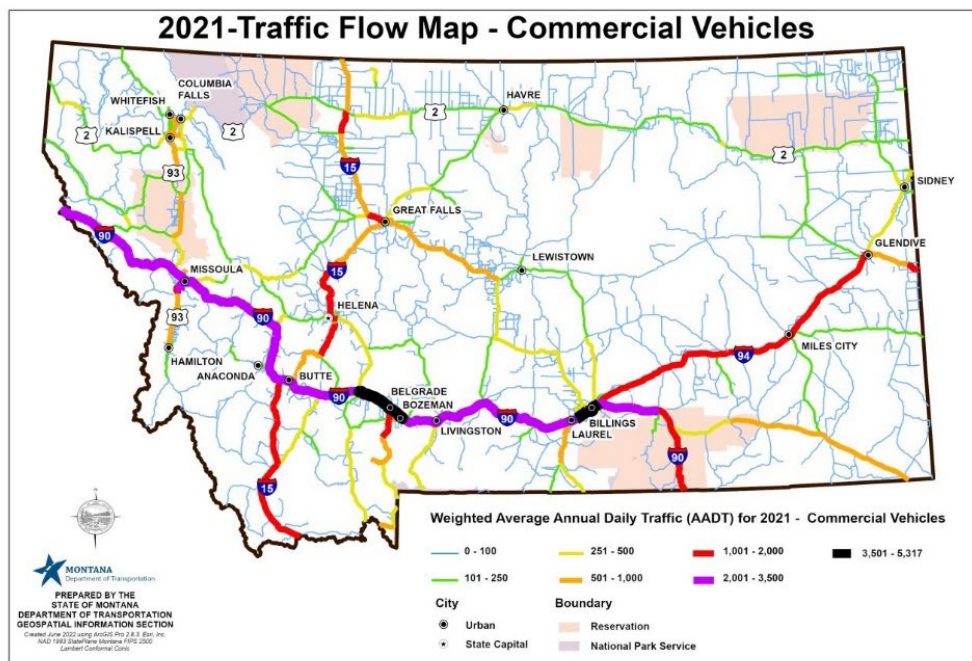
Corridors	Urban/Rural	Miles	2020 Annual Average Daily Traffic (AADT)	2020 Daily Vehicle Miles Traveled (DVMT)
I-90	Rural	481	6,601	3,174,558
	Urban	64	17,541	1,119,550
	Route Total	545	7,883	4,294,108
I-15	Rural	375	2,780	1,043,654
	Urban	21	10,016	210,194
	Route Total	396	3,163	1,253,848
I-94	Rural	239	2,835	676,878
	Urban	11	4,505	48,987
	Route Total	250	2,908	725,865
US-93	Rural	335	6,608	719,862

	Urban	41	15,900	215,344
	Route Total	375	8,140	2,805,617
US-2	Rural	644	1,810	1,165,279
	Urban	22	12,733	274,836
	Route Total	665	2,164	1,440,115
All Five Corridors	Routes Total	2,231	24,258	10,519,553

Freight Considerations

The ability to move goods safely and efficiently across the state of Montana is a critical component of the transportation network. Effective freight movement is key to economic prosperity both for the state and the nation. Figure 7 provides a snapshot of 2021 weighted AADT for commercial vehicles. Per FHWA's Freight Analysis Framework, (Version 5)⁷, commercial truck traffic in Montana is forecasted to increase between 2017 and 2050 by an estimated 51%.

Figure 7 – 2021 Commercial Traffic Flow in MT



Public Transportation Needs

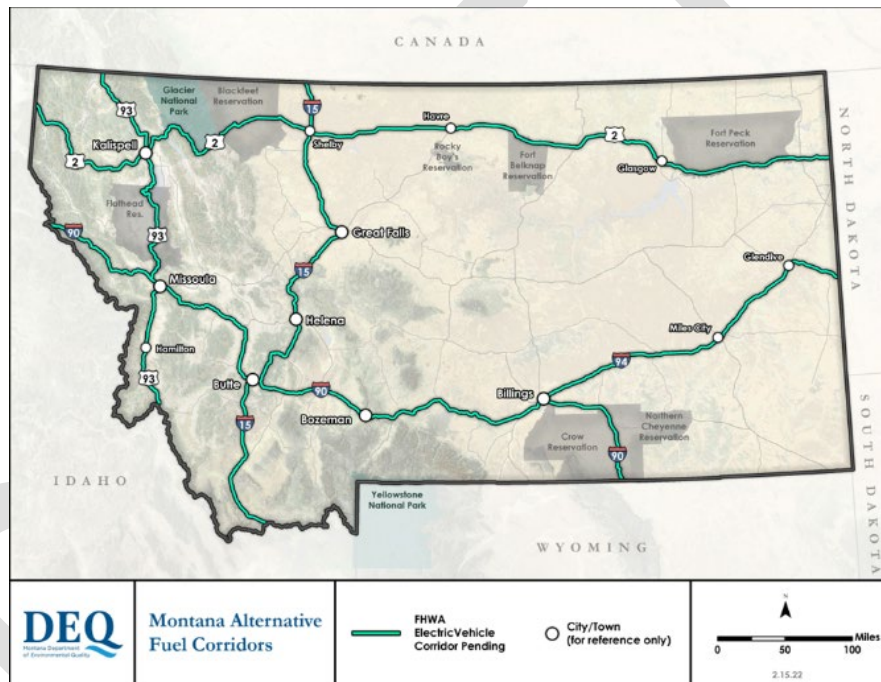
The public transportation network in Montana is operated by several different entities and comprises several modes, including rural and urban bus systems, passenger rail, demand response vehicles, vanpools, carpools, and passenger air service. Assets such as vans and buses are not permanent assets but are continuously replaced and updated based on life cycle, demand, and availability of funds. These services allow people who don't have access to private vehicles to shop, visit friends/relatives, get to medical appointments, go to work and take vacations. MDT provides funding and support to transit providers to ensure efficient, reliable transportation services and enables every Montanan to fully participate in society.

⁷ Oakridge National Laboratory, [Freight Analysis Framework Version 5](#), April 26, 2022.

AFC – Corridor Networks

MDT and DEQ submitted applications to nominate three interstate and two highway routes as AFC's during Rounds 4 and 5 of FHWA's AFC Call for Nominations. These routes are highlighted in green on the map below, and include the entire length of I-15, I-90, I-94, US-2, and US-93. Each of these routes are designated as "electric vehicle corridor pending." FHWA has designated over 2,000 corridor miles as electric vehicle pending corridors. Montana's Plan prioritizes funding charging locations that meet NEVI requirements along each of these corridors. During the public outreach and engagement process in developing this Plan, multiple individuals and organizations recommended that MDT and DEQ nominate additional EV AFCs in future nomination rounds. During the first year of this Plan, the agencies will focus on building out the currently designated corridors. The agencies will continue to evaluate whether nominating additional corridors would help further the goals of building out a national and statewide network of EV charging stations along these key corridors.

Figure 8 – Montana Alternative Fuel Corridors



Existing Locations of Charging Infrastructure Along AFCs

Table 4 – Existing EV Infrastructure

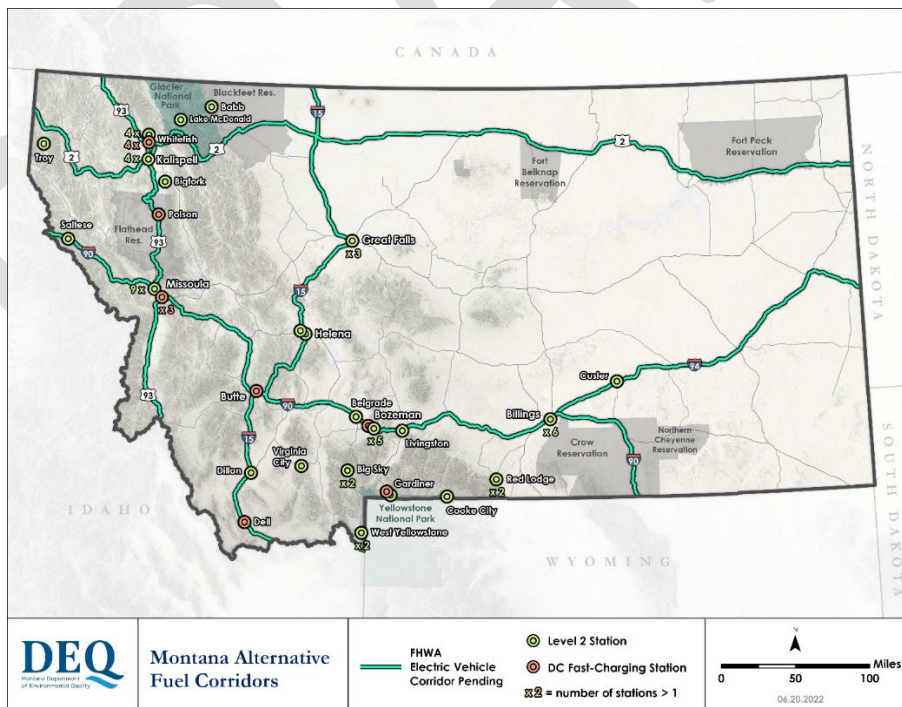
State EV Charging Location Unique ID*	Charger Level (DCFC, L2)	AFC	Location**	Number of EV Connectors	EV Network (if known)
49871	L2	I-90 & US-93	Missoula	1	Non-networked
74624	L2	I-90 & I-94	Billings	1	Non-networked
74625	L2	US-2 & US-93	Kalispell	1	Non-networked
80048	L2		Gardiner	2	Non-networked
82168	L2	I-90 & I-94	Billings	1	Non-networked
86909	L2		Big Sky	2	ChargePoint
86913	L2		Big Sky	2	ChargePoint
87730	L2	I-90	Bozeman	1	Non-networked
99310	L2	I-90 & US-93	Missoula	2	Non-networked
99796	L2	I-90	Bozeman	1	Non-networked
100462	L2	I-90	Bozeman	1	Non-networked
103926	L2	I-90	Saltese	2	Tesla
104819	L2		Bigfork	1	Non-networked
114626	L2	I-90	Helena	3	Tesla
114628	L2	US-2 & US-93	Kalispell	2	Tesla
114629	L2		Lake McDonald	2	Tesla
114630	L2	I-90 & US-93	Missoula	2	Tesla
114632	L2		Red Lodge	4	Tesla
114633	L2		Red Lodge	4	Tesla
114634	L2		West Yellowstone	3	Tesla
114635	L2		West Yellowstone	3	Tesla
114636	L2	US-93	Whitefish	2	Tesla
121706	DCFC	I-90 & US-93	Missoula	4	Electrify America
121712	DCFC	I-15	Dell	4	Electrify America
143151	L2	I-90	Livingston	2	ChargePoint
144372	L2	I-90	Bozeman	1	Non-networked
144374	L2	I-90	Belgrade	2	Non-networked
145527	L2		Cooke City	1	Non-networked
147655	L2	I-94	Custer	2	SemaConnect
155687	L2	I-90 & US-93	Missoula	2	Non-networked
164271	L2	I-15	Great Falls	2	ChargePoint
164638	L2	US-2 & US-93	Kalispell	2	ChargePoint
167373	L2	I-15	Great Falls	2	ChargePoint
168410	DCFC	I-90	Bozeman**	4	EV Connect
170364	DCFC	I-15 & I-90	Butte	4	Electrify America
170726	L2	I-90 & I-94	Billings**	2	Non-networked
186597	DCFC	I-90 & US-93	Missoula**	1	Non-networked
186598	DCFC	US-93	Polson**	1	Non-networked
186599	L2	I-90 & I-94	Billings**	4	Non-networked
191551	L2		Babb	2	SemaConnect
194532	L2	US-2 & US-93	East Kalispell	2	Non-networked

194533	L2	US-93	Whitefish	4	Non-networked
194534	L2	US-93	Whitefish	2	Non-networked
202570	L2		Virginia City**	2	Non-networked
204510-12 & 204514	DCFC	US-93	Whitefish	4	ChargePoint
204513	L2	US-93	Whitefish	2	ChargePoint
205871	DCFC	I-90 & US-93	Missoula	1	ChargePoint
206160, 206302, 206320, 206322	L2	I-90 & US-93	Missoula**	8	ChargePoint
206370	L2	I-90 & I-94	Billings	2	ChargePoint
213541	L2	I-15	Dillon**	2	ChargePoint
214084	L2	I-90 & I-94	Billings**	6	EVGateway
214085	L2	I-15	Helena**	2	EVGateway
214337	L2		Gardiner**	2	ChargePoint
214338	DCFC		Gardiner**	1	ChargePoint
214647	L2	US-2	Troy	2	Non-networked
216391	L2	I-90 & US-93	Missoula	2	ChargePoint
220467	L2	I-15	Great Falls	2	SemaCharge

*Locations & information downloaded from the U.S. Dept. of Energy’s AFDC Station Locator on June 17, 2022. Data search included only CCS or J1772 connectors.

**Funded in part by Montana’s Volkswagen Settlement funds.

Figure 9 – AFCs and Existing Public DCFC/LEVEL 2 Locations



Known Risks and Challenges

Station Utilization

Montana's low population density, very few urban areas, low vehicle fleet turnover rates, and low rate of EV adoption will likely contribute to low daily and annual EV charging station use in many locations in the near term. Usage is expected to be higher along the interstates and US-93 than it is along US-2. Based on traffic count data along the corridors, charging stations in some locations may have less than ten charging sessions in one month.⁸ Low utilization can impact whether it is profitable for private entities to own and operate charging stations.

Demand Charges

Utility rate structures that include demand charges will be another significant challenge to station operators, impacting operating costs, affordability, and the economics of charging stations in Montana. A 2021 report from the National Association of State Energy Officials assessed the impact of electricity demand charges on EV fast charging in western states, including Montana. Under a low-use scenario in which one 150kW station is used one time per week, the average utility bill impact for a single charging session would be \$353.82. Typically, the site host or station owner would be responsible for paying this cost. Under a low-use scenario, demand charges account for over 85% of the additional electricity costs from EV fast-charging.⁹ Demand charges as they are currently configured in utility rate structures will be a significant barrier to building out an EV fast-charging network in Montana that meets NEVI program requirements. It will also be challenging to estimate the utility bill impacts of demand charges over five years.

Charging by Time

Montana statute (Title 69, Chapter 8, Part 8, Montana Code Annotated) prohibits any entity operating an EV charging station that is not a public utility from basing EV fueling costs on the cost of electricity. This prohibits non-utilities from charging EVs by the kilowatt-hour. Entities operating EV charging stations currently must charge by the minute, hour, or some other method. Charging by time can create equity issues because older vehicles and batteries typically take more time to charge than newer model EVs.

Buy America and Supply Chain Challenges

During stakeholder outreach, many utilities, charging station OEM's, private businesses, and labor organizations emphasized the impact of supply chain constraints on the cost of charging equipment as well as installation and construction costs. Supply chain problems may also lead to significant delays that will impact project completion dates. These delays may impact the timing of EV infrastructure deployment under the NEVI program.

Montana is also concerned that Buy America requirements may significantly delay project timelines. Montana was one of eight Intermountain West states that issued a RFI from charging equipment providers and manufacturers in May 2022. Several respondents indicated that their equipment does not meet current Buy America requirements, or that they were unsure whether it complied or not. Montana understands the importance of maximizing the use of goods and products manufactured in the United States, but it may take several years for domestic manufacturing of EVSE charging equipment to meet anticipated demand and comply with Buy America requirements.

⁸ AECOM, Montana Electric Vehicle Infrastructure Prioritization Study, June 2022, Table 0-2, Page 40

⁹ NASEO, [Demand Charges & Electric Vehicle Fast-Charging](#), October 2021, Pages 14-15

EV Charging Infrastructure Deployment

Funding Sources

The State will require NEVI funding recipients to provide the necessary non-federal cost share. The State does not intend to use State funds to fund deployment of EV charging infrastructure installations. This approach is modeled on the State’s previous experience making awards of Volkswagen Settlement funds for charging infrastructure, which required awardees to provide a cost share for a portion of the total project cost. The sources of the non-federal cost share for NEVI funded projects will depend on the successful applicants.

2022 Infrastructure Deployments/Upgrades

The priority communities for the first round of NEVI-funded projects are identified in Table 5. Exact locations of charging stations (e.g., specific businesses or parking lots) have not been identified by the State; applicants for funding will be required to identify the specific location in each community where they propose to install charging equipment. The State may be flexible on the community if an applicant proposes a nearby community (Crow Agency instead of Lodge Grass, for example).

The State anticipates station ownership may include local or tribal governments, private entities, or utilities.

Table 5 – FY2022 Priority NEVI Locations

State EV Charging Location Unique ID*	Route (note AFC)	Location	Located in DAC	Anticipated EV Network (if known)	Utility Territories	Anticipated Station Ownership** (if known)	FY22 Funding Amount	FY23-FY26 Funding Amount (Optional)
1	I-90	Superior	Mineral County	TBD	NorthWestern Energy (NWE)	LG, P, or T	TBD	TBD
2	I-90	Three Forks	N/A	TBD	NWE	LG, P, or T	TBD	TBD
3	I-90	Livingston	N/A	TBD	NWE	LG, P, or T	TBD	TBD
4	I-90	Columbus	N/A	TBD	NWE	LG, P, or T	TBD	TBD
5	I-90	Lodge Grass	Crow Indian Reservation & Big Horn County	TBD	Big Horn County Electric Cooperative	LG, P, or T	TBD	TBD
6	I-15	Craig	N/A	TBD	NWE	LG, P, or T	TBD	TBD
7	I-15 & US-2	Shelby	N/A	TBD	Marias River Electric Cooperative	LG, P, or T	TBD	TBD
8	I-94	Custer	N/A	TBD	Yellowstone Valley Electric Cooperative	LG, P, or T	TBD	TBD
9	I-94	Miles City	Custer County	TBD	Montana-Dakota	LG, P, or T	TBD	TBD

					Utilities			
10	I-94	Glendive	N/A	TBD	Montana-Dakota Utilities	LG, P, or T	TBD	TBD

*Locations are identified from west-to-east or south-to-north depending on corridor. ID numbers do not indicate a priority or preference for funding of a location.

**Federal Government Owned (FG), Jointly Owned (J), Local/Municipal Government Owned (LG), Privately Owned (P), State/Provincial Government Owned (SG), or Utility Owned (T)

Figure 10 – Priority FY2022 NEVI deployment communities and existing DCFC locations

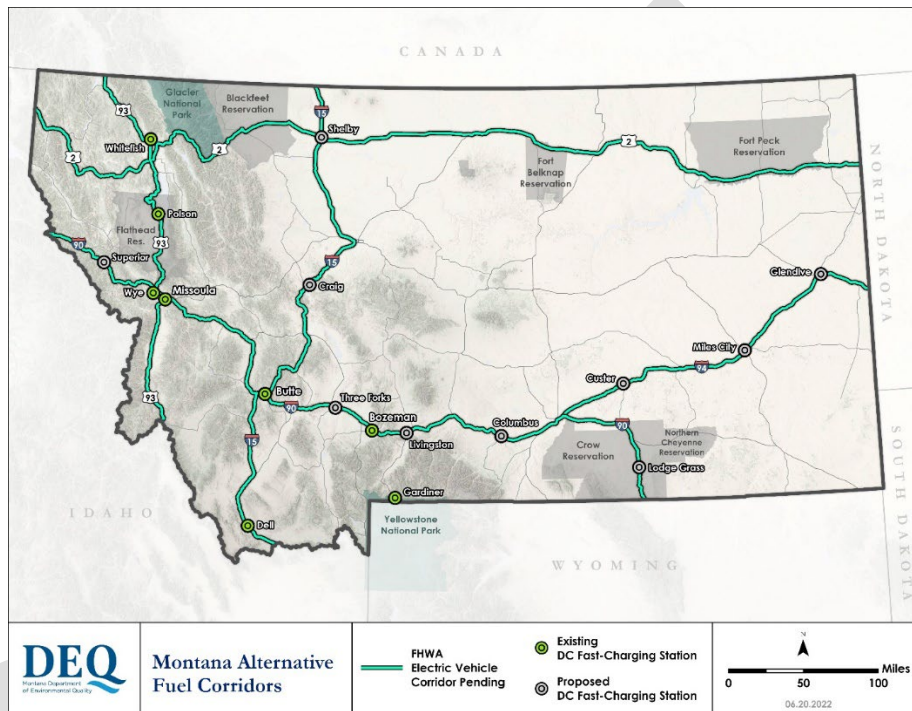


Table 6 – Distance between existing fast-charging locations and FY2022 priority funding locations

	EV Priority Funding Location	Distance to nearest planned or existing station (miles)	Would station meet corridor pending or corridor ready requirements?
I-15 Corridor (South to North)	MT/ID Border	24	Pending
	Dell Mercantile*	99	Pending
	Flying J Town Pump, Butte*	111	Pending
	Craig	129	Pending
	Shelby	35	Ready
	MT/Canada Border	End	N/A
I-90 Corridor (West to East)	MT/ID Border	47	Ready

	Superior	50	Pending
	Taco Bell, Wye*	8	Pending
	Walmart 3259, Missoula*	120	Pending
	Flying J Town Pump, Butte*	60	Pending
	Three Forks	33	Pending
	Audi Bozeman, Bozeman*	24	Pending
	Livingston	75	Pending
	Columbus	122	Pending
	Lodge Grass	25	Ready
	MT/WY Border	End	N/A
I-94 Corridor (West to East)	Billings	53	Pending
	Custer	91	Pending
	Miles City	76	Pending
	Glendive	36	Ready
	MT/ND Border	End	N/A

* Existing station location

Bold notes an existing NEVI-compliant station location

FY2023-26 Infrastructure Deployments

Depending on the progress towards 2022 goals, 2023-26 deployments will focus on:

- Prioritization of locations along U.S. Highway corridors that:
 - Fill gaps over 50 miles from existing and planned station locations.
 - Are gateway communities to National Parks/tourism destinations.
 - Are addressed in the DEQ’s EV Prioritization Study. See Appendix B for locations identified in the Study.
- Designation of additional U.S. and other highways as AFCs.
- Prioritize locations along designated Interstate and U.S. Highway corridors that fill gaps over 50 miles.
- Upgrade existing locations (funded through Volkswagen Settlement awards, separate private investments, or NEVI funds) to be NEVI compliant.

State, Regional, and Local Policy

As noted above, Montana’s current statute that prohibits non-utility charging station operators from charging based on the cost of electricity will affect the approach station owners use to set pricing at NEVI-funded charging stations.

Montana is part of the Regional Electric Vehicle West, or REV West voluntary collaboration with seven other Intermountain west states. The purpose of this group is not to establish policy, but to coordinate on EV infrastructure deployment along regional travel corridors. Montana will continue to coordinate with other REV West states to deploy, operate and maintain EV charging infrastructure that addresses regional needs and complies with NEVI requirements and standards.

Entities that contract with the State and charging equipment providers will need to demonstrate that they are coordinating with property owners and municipalities to ensure that they follow local permitting

requirements, zoning laws, and land-use policies before charging sites are selected.

Implementation

Strategies for EVSE Operations & Maintenance

The State will establish requirements for operation and maintenance of NEVI funded charging stations that comply with the final rules and guidance for the NEVI Program. These requirements will be included in contracts with the entities that own and operate the charging stations and/or property that is hosting the charging station. The State will monitor station uptime based on the data provided by EV charging providers, site hosts or property owners. Additional uptime data may be collected from third-party websites that allow users to report charging station status in real-time. The State will collect uptime and other data from project owners at regular intervals that meet the NEVI program requirements, while also avoiding collection of unnecessary data and ensuring protection of consumer privacy.

Strategies for Identifying Electric Vehicle Charger Service Providers and Station Owners

The State will seek proposals through a competitive solicitation process. Entities eligible to apply will include, but not be limited to, EV charger service providers, potential station owners/site hosts, electric utilities, businesses, local governments, and nonprofit organizations. Proposals will be required to identify EVSE providers, station owners, and specific site locations and specifications.

Strategies for EVSE Data Collection & Sharing

The State will collect data at regular intervals that meet NEVI rules and program requirements, avoid collection of unnecessary data, and ensure protection of consumer privacy. Contracts and funding agreements will define the data collection and reporting requirements. Anonymized data will be shared on a quarterly basis via a publicly accessible website.

Strategies to Address Resilience, Emergency Evacuation, Snow Removal/Seasonal Needs

Montana must prepare for and be ready to respond to wildfires, floods, severe storms, earthquakes, avalanches, and landslides. In addition to natural disasters, human-caused events can disrupt lives and cause hazards to public health. Montana's transportation system is essential to the movement of emergency vehicles, goods, and services, both during and after a disaster. In the event of such an incident, citizens may need to be evacuated and emergency services deployed to disaster sites for damage control and to return sites to normal operations. The main issue to address for EV owners would be the locations of the charging stations. They will be placed in suitable locations that are near crossroads, interstates, and commercial or public sites. This will allow for those who need to evacuate to not have to deviate from their routes and therefore, save time while feeling safe to do so.

Montana receives a considerable amount of snow that will need to be addressed to maintain access to charging infrastructure throughout the winter. The State will address this in the site solicitation and contracting processes to ensure the charging infrastructure will be appropriately maintained throughout the year.

Strategies to Promote Strong Labor, Safety, Training, and Installation Standards

To ensure the safe and efficient installation and maintenance of EV infrastructure, such work must be carried out by a highly trained and highly skilled workforce and done in compliance with Montana permitting and licensure requirements for electrical work and other skilled labor. A well-trained workforce for long-term maintenance and operation will also be vital to meeting a high operational reliability rate. Montana will require compliance with applicable federal labor standards including any training or certification requirements for electricians involved in EV infrastructure installation. The State

may give additional consideration to projects installed by electricians trained through the Electric Vehicle Infrastructure Training Program (EVITP) or other federally recognized EV infrastructure training program.

Civil Rights

The State will ensure compliance with State and Federal civil rights laws, including Title VI of the Civil Rights Act and accompanying U.S. Department of Transportation regulations, the American with Disabilities Act (ADA), and Section 504 of the Rehabilitation Act. Through other state and federal funding sources, the State has experience including civil rights law requirements in project contracts. All NEVI funded projects will comply with applicable civil rights requirements.

Equity Considerations

Montana’s deployment of NEVI-funded fast-charging locations will focus on rural communities where private investments are less likely to occur. By monitoring planned deployments through private investments, Montana will focus on filling gaps between larger communities. These investments will focus on complying with the Justice40 Initiative by increasing access to charging stations, access to clean transportation, and reducing exposure to harmful transportation-related emissions.

Identification and Outreach to Disadvantaged Communities (DACs) in the State

According to the Electric Vehicle Charging Justice40 Map, the following are DACs in Montana. Many of these DACs are on Montana AFCs already designated by FHWA.

Table 7 – DACs in Montana

Disadvantaged Community*	Alternative Fuel Corridor
Big Horn County	I-90
Blaine County	US-2
Carbon County	N/A
Cascade County	I-15
Chouteau County	N/A
Custer County	I-94
Deer Lodge County	I-90
Flathead County	US-2 & US-93
Glacier County	US-2
Hill County	US-2
Lake County	US-93
Lincoln County	US-2
Mineral County	I-90
Missoula County	I-90 & US-93
Pondera County	I-15
Ravalli County	US-93
Rosebud County	I-94
Sanders County	N/A
Silver Bow County	I-15 & I-90
Valley County	US-2
Yellowstone County	I-90 & I-94
Blackfeet Indian Reservation	US-2
Crow Indian Reservation	I-90
Flathead Indian Reservation	US-93

Fort Belknap Indian Reservation	US-2
Fort Peck Indian Reservation	US-2
Northern Cheyenne Indian Reservation	N/A
Rocky Boy's Indian Reservation	N/A

*Portions of the listed counties are designated as DACs. The entire Indian Reservations are designated as DACs.

Through the Public Survey and direct stakeholder outreach, the State received comments and input from Montanans from 46 of the 56 counties. Stakeholder outreach included contacting statewide and local entities including chambers of commerce, small business development corporations, economic development associations, Tribal governments, nonprofit organizations, environmental justice organizations, Clean Cities Coalition, and local governments. Installation of EV charging stations in each of the DACs sited on the currently designated AFCs will be necessary to complete NEVI-compliant corridors so this outreach to local entities was important to establishing relationships for future NEVI-funded charging locations.

Process to Identify, Quantify, and Measure Benefits to DACs

The State will develop processes to identify, quantify, and measure potential benefits of charging stations to DACs. Prior to developing funding opportunities using NEVI funds, Montana will engage directly with DACs along and near designated corridors. The methods of engagement will include in-person and virtual meetings, workshops, roundtable discussions, interactive websites, surveys, and focus groups and will be tailored to each community. The key goals of community engagement will be to determine what benefits are important to these communities, and how the state can help ensure that these communities are receiving these benefits.

Benefits that the State anticipates tracking includes:

- Increasing access to clean transportation options in rural and underserved communities;
- Supporting local economies and businesses by providing an additional service for residents and visitors;
- Reducing public exposure to transportation emissions and public health impacts;
- Improving air quality; and,
- Increasing equitable adoption of EVs by increasing access to affordable charging options.

The State has experience measuring and evaluating benefits to DACs for other transportation and alternative fuel programs. Examples include measuring emission reduction, public health, and economic benefits to communities from school bus, transit bus, and other vehicle replacements as well as benefits of charging stations to these communities. Recently, the State has used the EPA's EJ Screening Tool to evaluate environmental and benefits from projects in specific Montana communities.

Benefits to DACs through this Plan

Once NEVI-funded stations are built in DACs, those communities will have access to reliable EV charging, supporting increased adoption of EVs by local drivers. Availability of EV fast-charging stations in DACs may also reduce exposure in DACs to transportation emissions by providing out-of-state or long-distance EV drivers an option to use zero emission vehicles along these corridors.

Montana will give extra consideration to project proposals siting charging stations in DACs and will annually evaluate key locations in DACs and work through direct outreach to community stakeholders about the work and level of interest in a NEVI location within the community.

Labor and Workforce Considerations

To ensure the safe and efficient installation and maintenance of EV infrastructure, such work must be carried out by a highly trained and highly skilled workforce and done in compliance with Montana permitting and licensure requirements for electrical work and other skilled labor. A well-trained workforce for long-term maintenance and operation will also be vital to meeting a high operational reliability rate. Montana will require compliance with applicable federal labor standards including any training or certification requirements for electricians involved in EV infrastructure installation. The State may give additional consideration to projects installed by electricians trained through the Electric Vehicle Infrastructure Training Program (EVITP) or other federally recognized EV infrastructure training program.

Cybersecurity

EVs and charging stations are critical infrastructure and may be vulnerable to cyberattacks. These attacks could impact energy and transportation system infrastructure and consumer privacy or financial information. There is not currently a comprehensive cybersecurity approach or industry-wide best practices that have been established for EV charging stations.

The State will require the owners and operators of NEVI-funded EV charging stations will be required to submit a cybersecurity plan that complies with current requirements and will comply with any future federal and state laws. Cybersecurity plans will be required to address how the contractor will ensure that the EV hardware, network, and ongoing operations are secure. The contractor will also need to outline specific steps that will be taken to mitigate cybersecurity threats and address cybersecurity attacks should they occur.

Program Evaluation

Montana will determine criteria to continually evaluate and report the State's progress on its buildout of the AFCs. We will work closely with the private sector to ensure that the new charging locations are available online and that the data is being reported to best inform the State on future decisions. The State will monitor the work being done and will require regular status reports for all NEVI funded projects.

Using the data and feedback received, Montana will update the Plan annually to best reflect the current goals of the program. The State will also update each relevant section of the Plan as best practices emerge, and the charging station technology evolves. The Agencies will continue to collaborate on the program to make informed decisions. Additionally, the State will continue to engage with stakeholders so that the State is tailoring the program to fit the needs of Montanans.

Discretionary Exceptions

Montana does not anticipate any issues meeting federal requirements for DCFC stations in the first year of implementing this Plan. The state will continue to monitor progress as the program develops and will continue to work closely with the FHWA Division Office and Joint Office on any issues that may trigger the need for an exceptions waiver on future annual updates to the Plan.

Appendix A: Glossary of Key Terms

AADT - Annual Average Daily Traffic

AFC's - Alternative Fuel Corridors

BIL- Bipartisan Infrastructure Law

DAC's - Disadvantaged Communities

DCFC - Direct current fast-charging station, also referred to as a Level 3 station

DEQ - Montana Department of Environmental Quality

DVMT - Daily Vehicle Miles Travelled

EV - Electric Vehicle

EVITP - Electric Vehicle Infrastructure Training Program

EVSE - Electric Vehicle Supply Equipment

FHWA - Federal Highway Administration

GWh - Giga-watt hours

KW - Kilowatt

kWh - kilowatt-hour

L2 - Level 2 charging station- medium speed charging stations, 3-19kilowatts, 208-240 volts

L3 - Level 3 charging station-fast speed charging stations, 50-350 kilowatts

MDT - Montana Department of Transportation

MPO - Metropolitan Planning Organization

MW - Megawatt

MWh - Megawatt-hour

NHS - National Highway System

NEVI - National Electric Vehicle Infrastructure Program

NGO's - Non-governmental organizations

NI - Non-Interstate

NWE - NorthWestern Energy

OEM - Original Equipment Manufacturer

RFI - Request for Information

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Appendix B: Montana Electric Vehicle Infrastructure Prioritization Study

Placeholder

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