

How Minnesota Can Prepare for and Use Federal EV Funds

June 7, 2022

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**Plug In
America**[®]

WE DRIVE ELECTRIC. YOU CAN TOO.

- **The voice of the EV consumer** – in Minnesota and nationwide
- 501c3 nonprofit founded in 2008
- Our members represent the world's deepest pool of experienced EV drivers
- Two core areas:
 1. Policy and Advocacy
 2. Education and Outreach
 - PlugStar: dealers, consumers, utilities
 - National Drive Electric Week and Drive Electric Earth Day



12:00	Welcome: <ul style="list-style-type: none"> - Tim Sexton, MnDOT; Wendall Meyer, FWHA; Rep. Jamie Long, MN House; Sen David Sen-Jam, MN Senate 	1:16	Corridor Charging Station Implementers Panel: <ul style="list-style-type: none"> - Siri Simons, MnDOT; Tony Fischer, Met Council; Will Stein, MN Federal Highways; Lise Trudeau, MN Energy Office; Tandy Dilworth, Xcel; Robert Blake, Native Sun; Stacy O'Rourke, Rural City; Pine City MN; Alex Beaton, EVgo; Rebecca Place, MN Pollution Control Agency; Tim Gross, MN Petroleum Marketers Assoc.
12:08	Keynote Address:: <ul style="list-style-type: none"> - Nancy Daubenberger, MnDOT; Andrew Wishnia, USDOT 	2:02	EV Charging, Transit, School Buses Batteries for MN in Federal Funds: <ul style="list-style-type: none"> - Moaz Uddin, Drive Electric MN
12:25	Global EV Opportunity: <ul style="list-style-type: none"> - Corey Cantor, BloombergNEF 	2:09	Break
12:32	MN State EV Infrastructure Deployment Plan for Priority Corridors: <ul style="list-style-type: none"> - Diane Turchetta, Joint Office; Siri Simons, MnDOT 	2:14	Break-out Sessions on MN opportunities: <ul style="list-style-type: none"> - Rural corridor charging, urban corridor charging, community charging, school buses, transit, battery manufacturing/recycling
12:52	Rural and Underserved EV Charging Opportunities: <ul style="list-style-type: none"> - Alex Clegg, USDOT; MK Anderson, Fresh Energy 	2:56	Next Steps: <ul style="list-style-type: none"> - Dean Taylor, Pete Chipman, Moaz Uddin, Alexia Melendez Martineau, Plug In America and Drive Electric MN
1:02	Corridor Charging Best Practices – Consumer Perspective: <ul style="list-style-type: none"> - Dean Taylor, Plug In America 	3:00	Adjourn
1:11	Break		



Joint Office of
**Energy and
Transportation**

Bipartisan Infrastructure Law National Electric Vehicle Infrastructure Program

June 7, 2022

driveelectric.gov

NEVI Formula Program- Important 2022 Dates

Feb 10:

- NEVI Formula Program Guidance
- AFC Round 6 RFN

May 13:

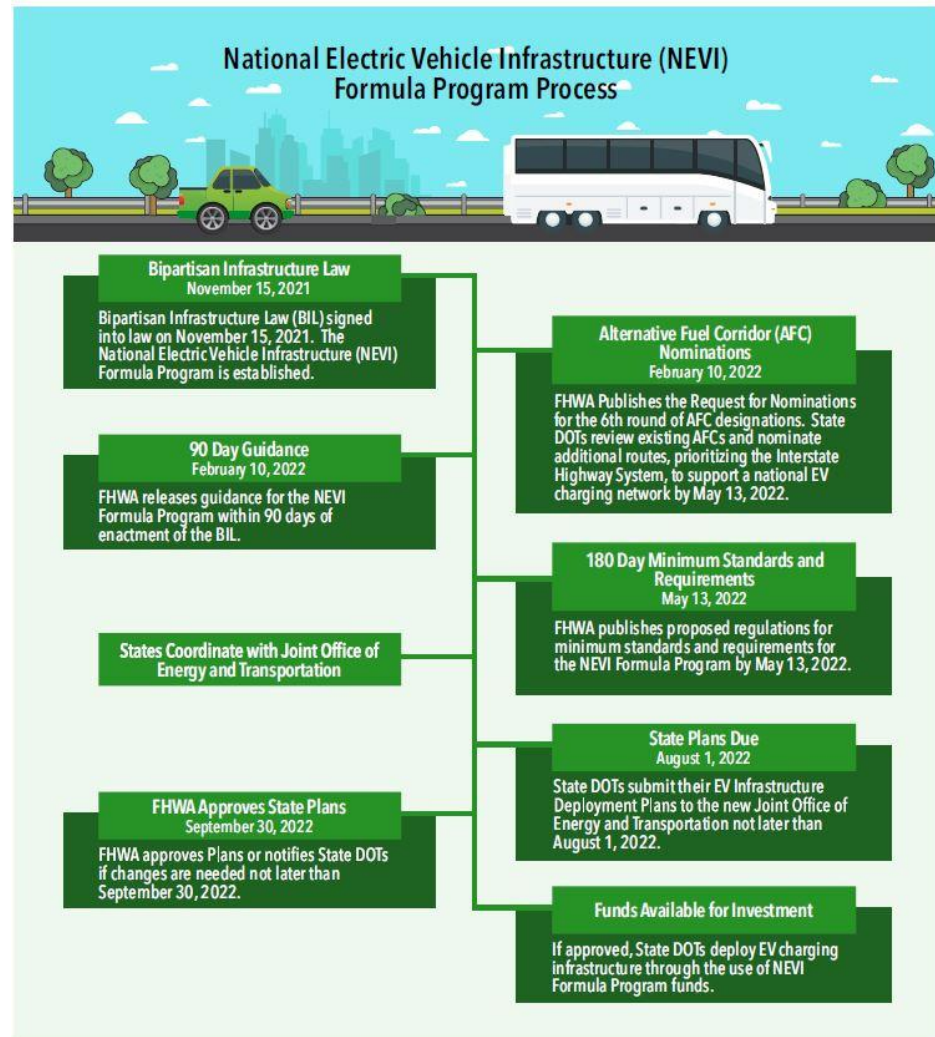
- Round 6 Nominations Due

June:

- 180 Day Minimum Standards published (NPRM)

Aug 1: State Plans Due

Sept 30: FHWA approves State Plans



National Electric Vehicle Infrastructure (NEVI) Formula Program*

□ \$5.0B for **EV Corridors**

- \$1.0B/year for FY2022-2026
- MN – FY 2022 = \$10,089,418
- MN- 5-year = \$68,164,918

□ Any EV charging infrastructure acquired or installed shall be located along a **designated alternative fuel corridor**

□ States required to develop an **EV Infrastructure Deployment Plan**

□ FY22-26 BIL sets aside 10 percent of EV Formula funding for grants to States and local governments that require additional assistance to strategically deploy EV charging infrastructure, as determined by the Secretary of Transportation

*Paragraph (2) under the Highway Infrastructure Program heading in title VIII of division J of the BIL

National Electric Vehicle Infrastructure Formula Program Bipartisan Infrastructure Law



Program Guidance

Federal Highway Administration
February 10, 2022

[Alternative Fuel Corridors - Environment - FHWA \(dot.gov\)](https://www.fhwa.dot.gov/infrastructure/alternative-fuel-corridors-environment/)

Discretionary Grant Program for Charging and Fueling Infrastructure

- For EV charging, hydrogen, propane, and natural gas fueling infrastructure
- Divided into two distinct \$1.25 billion grant programs to support EV charger deployment
 - **Corridor Charging Grant Program.** This program will strategically deploy publicly accessible EV charging infrastructure and hydrogen, propane, and natural gas fueling infrastructure along designated **Alternative Fuel Corridors**
 - **Community Charging Grant Program.** This program will strategically deploy publicly accessible EV charging infrastructure and hydrogen, propane, and natural gas fueling infrastructure in **communities**

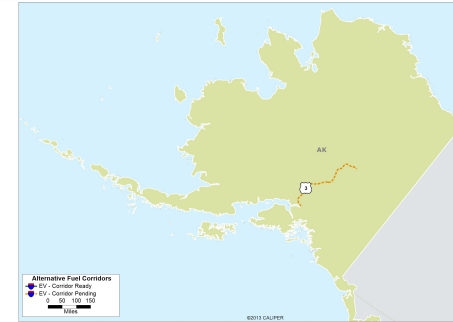
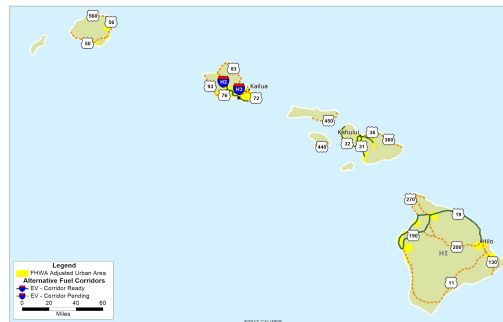
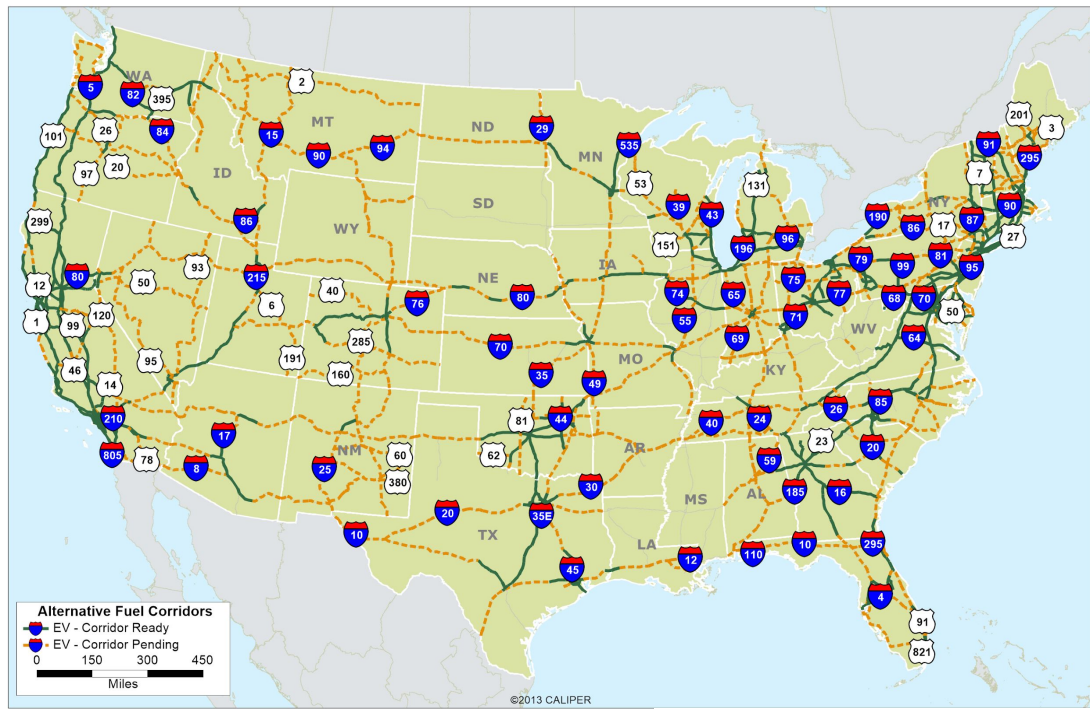
Discretionary Grant Program for Charging and Fueling Infrastructure - Eligibility

- Eligible applicants for Charging and Fueling Infrastructure for Alternative Fuel Corridors and Communities Program discretionary grants are listed below.
 1. A State or political subdivision of a State.
 2. Metropolitan planning organizations.
 3. Unit of local government.
 4. Special purpose district or public authority with a transportation function, including a port authority.
 5. An Indian tribe (as defined in section 4 of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 5304)).
 6. A territory of the United States
 7. An authority, agency, or instrumentality of, or an entity owned by, 1 or more entities as listed above in 1-6.
 8. A group of entities as listed above in 1-7.

2022/Round 6 Reque for Nominations

- Nominations for **EV** “ready corridors” must meet requirements outlined in the National Electric Vehicle Infrastructure (NEVI) Program Guidance
- Focus of nominations is on Interstates, but does not preclude the nomination of other state highways/US roads on the NHS
- Current corridors include portions/segments of 106 Interstates, along with 104 US highways/state roads, Comprises 48 states plus D.C.
- Nominations submitted to FHWA on **May 13, 2022**

[Electric Vehicle \(EV-Round 1,2,3,4 and 5\) - FHWA HEPGIS Maps \(dot.gov\)](#)



State EV Deployment Plans

□ Pages 14-17 of NEVI Formula Program Guidance

- Coordination/stakeholder input
- Vision and goals
- Contracting
- Existing and future conditions/infrastructure deployment
- Implementation
- Civil rights/equity
- Labor and workforce considerations
- Cybersecurity
- Program evaluation
- Discretionary exceptions

□ Template posted on JPO website: [Technical Assistance · Joint Office of Energy and Transportation \(driveelectric.gov\)](https://www.driveelectric.gov/technical-assistance)

Joint Office of Energy and Transportation

- Will play a key role in the implementation of charging infrastructure
- Technical assistance will aim to first leverage existing tools, datasets, best practices, and programs built by partners, DOE, DOT, and national laboratories
- Will work in concert with FHWA Division Offices to support the State in developing EV Infrastructure Deployment Plan
- Plan will be submitted to the Joint Office and FHWA approves the Plan

[Home Page · Joint Office of Energy and Transportation \(driveelectric.gov\)](#)



Joint Office of
**Energy and
Transportation**

Joint Office Technical Assistance

- Holding “State 1:1’s” to discuss NEVI Program issues – all 50 states plus DC & PR have occurred or have been scheduled
- Assist in coordinating state agency teams/working groups
- Establish NEVI points of contact for FHWA Division Offices and State DOT’s
- MOU between American Association of State Highway and Transportation Officials (AASHTO) & National Association of State Energy Officials (NASEO)
- Technical assistance webinars on EV charging:
 - **Justice40 Webinar Friday, June 24 from 2:00 – 3:00 EST**
[Webinars · Joint Office of Energy and Transportation \(driveelectric.gov\)](#)

How to Follow-Up.....

•NEVI Formula Program

- Requests for TA, technical questions on EV equipment, power levels, etc. **should be directed to the Joint Program Office at <https://www.DriveElectric.gov>.**
- Non-technical questions regarding the implementation of the NEVI Formula Program, such as those regarding financial management, non- Federal share, or other title 23 requirements, should be directed to the appropriate FHWA Division Office.

Planning for EVs in Minnesota

ELECTRIC VEHICLE INFRASTRUCTURE PLAN

Siri Simons, Sustainability and Public Health

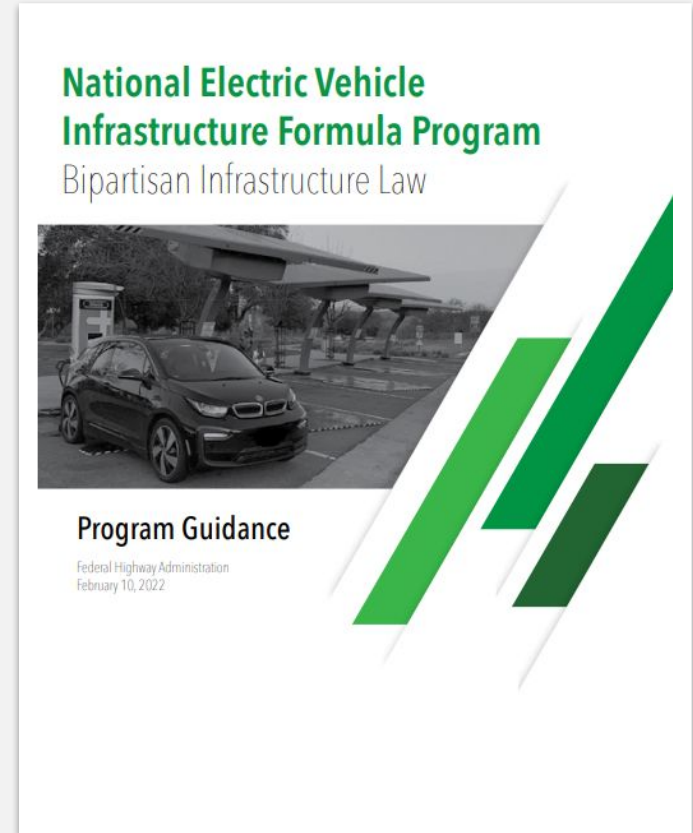


NEVI Plan Overview



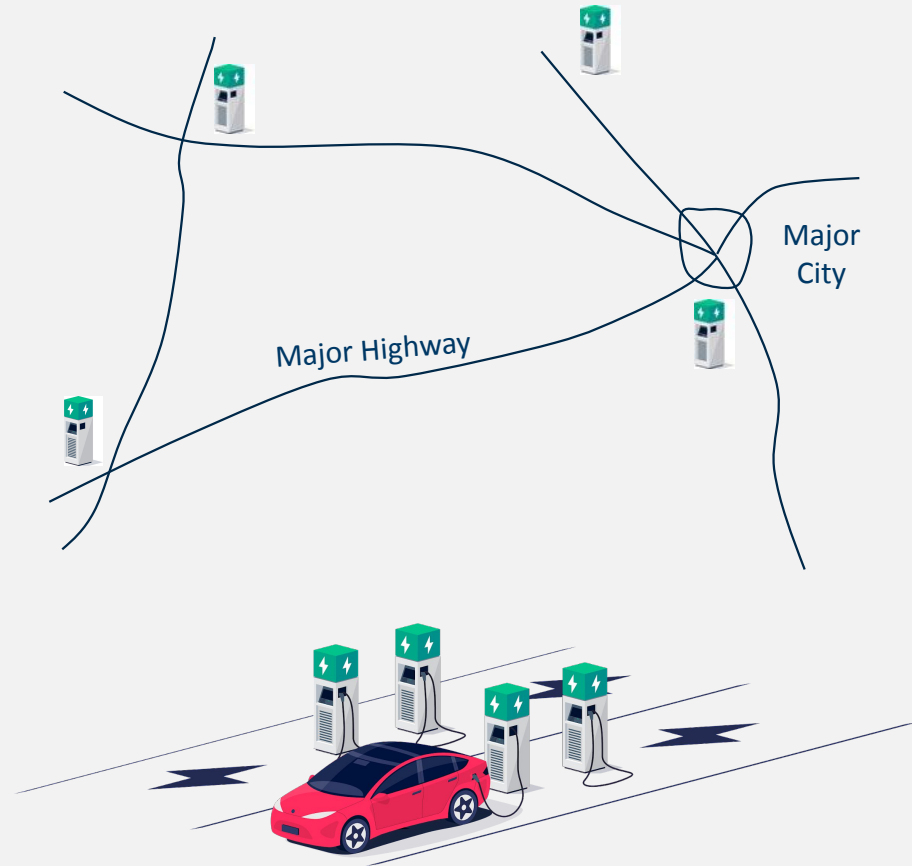
What is NEVI?

- New federal program authorized under the Bipartisan Infrastructure Law
- Provides funds to states to install DC fast chargers along designated corridors
- Federal appropriation for Minnesota is \$68 million for federal FY 22 – 26
- 20% non-federal match and state legislative spending authorization required
- Plans due to new Joint Office of Energy and Transportation by **Aug 1** to access formula funds



So how does the NEVI program work?

- Funding must be used to build out Alternative Fuel Corridors (AFCs) first before spent on non-AFC corridors
- Charger requirements for full build out
 - Level 3 DC Fast Charging
 - Located every 50 miles
 - Located <1-mile from AFCs
 - 4 150 kW fast chargers at each site
- MnDOT's first year of funding will focus on the build-out of NEVI compliant chargers along the existing AFCs in Minnesota: I-94 and I-35



Process

Plan Kick-off:
April 4, 2022

Stakeholder and Public
Outreach

AFC Applications Due:
May 13, 2022

Stakeholder and Public
Outreach

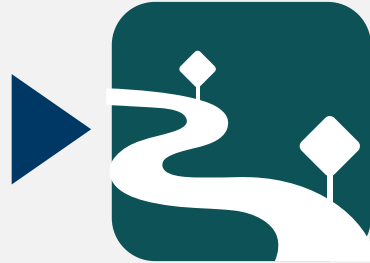
Plan Due:
August 1, 2022



**Establish
criteria for
MN EV Fast
Charging
Network**



**Draft MN EV
Fast Charging
Network**



**Determine AFCs
that will receive
FY2022
investment**



**Identify
potential fast
charger
locations along
AFCs**



**Plan
production**

Public and Stakeholder Engagement



Public and Stakeholder Participation

Key Audiences

- Public
- Stakeholders
- Traditional Transportation Partners
- EV Infrastructure Deployment Partners
- Tribal Coordination
- MnDOT Staff

Engagement Strategies

- Ongoing engagement through plan workgroup, project website and newsletter
- Online survey and comment form
- 3 virtual stakeholder workshops
- 4 in-person pop-up events

Public Survey Overview

- **Timing:** April 11 – May 3, 2022
- **Total responses:** 5,681
- **Total visitors:** 8,938
- **Open-ended comments:** 13,000+
- **How we spread the word:**
 - Stakeholder emails
 - Targeted social media

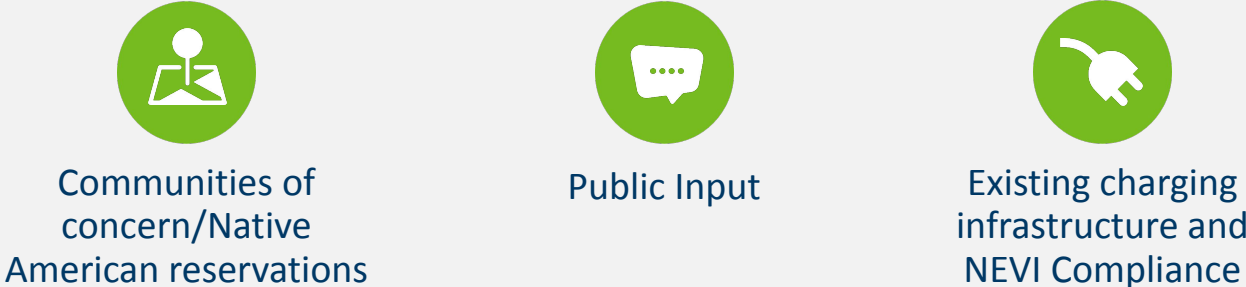
Key Findings

- Nearly 40% of respondents plan to or would like to own an EV in the future, but the **lack of charging infrastructure is the top reason preventing an EV purchase**. For those who already own EVs **inconvenient charging locations** and **long charging times** are the **biggest challenges**.
- Respondents feel focusing on **interstate highways** and providing EV charging to communities that have the **longest travel times** is how we should prioritize the EV charging network.
- More convenient travel, increased awareness and openness to EVs, and potential to boost the economy and tourist attraction are seen as **benefits of this program**.

Minnesota's EV Fast Charging Network



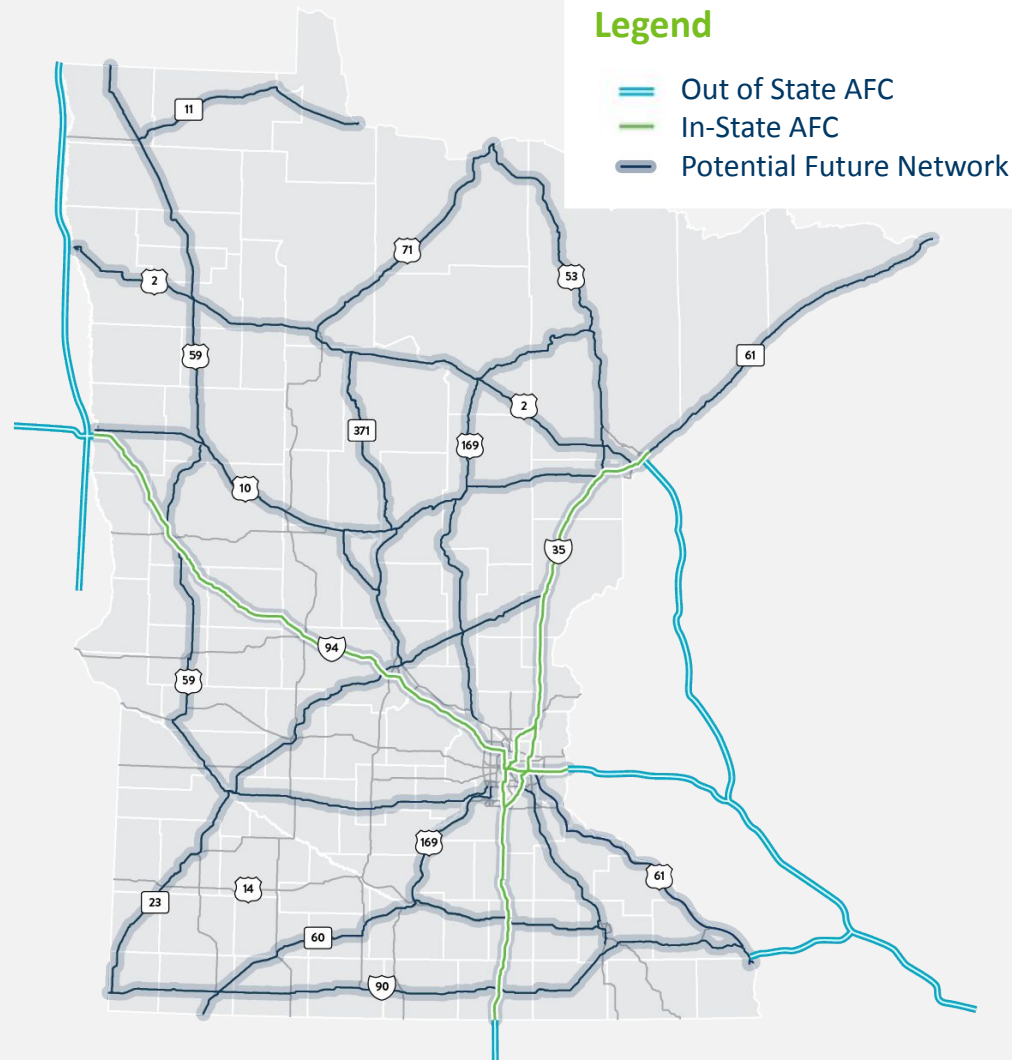
How did we develop the draft network?

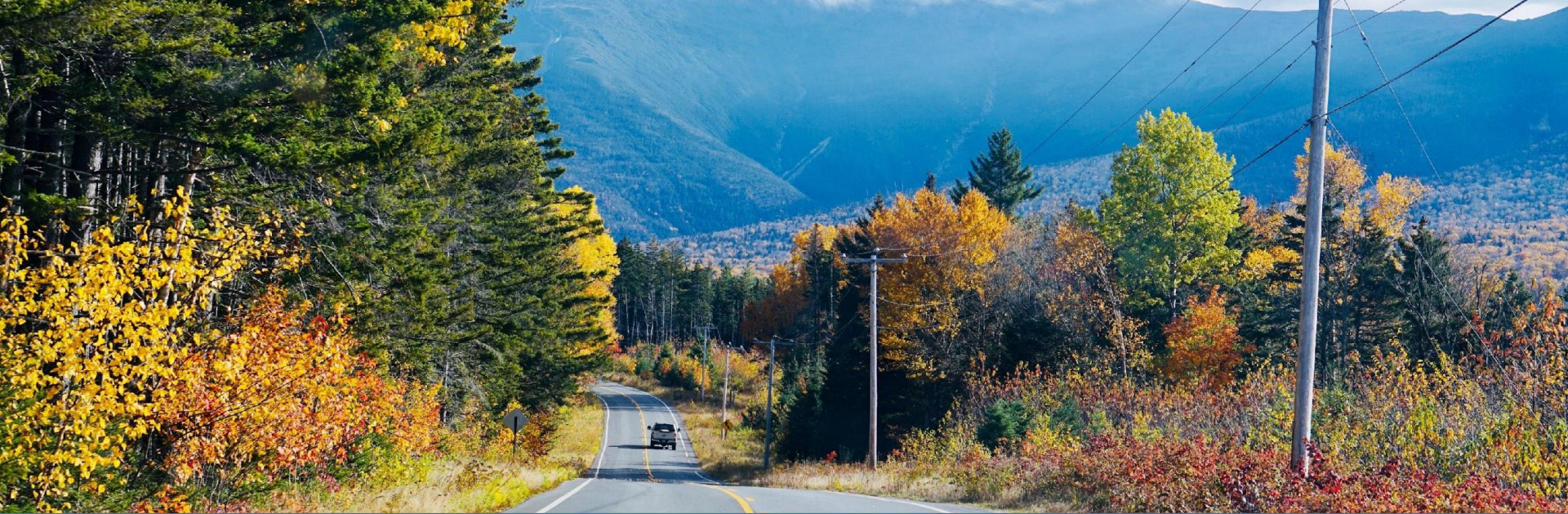


DRAFT EV Fast Charging Network

Includes all potential corridors for investment with the \$68 million of NEVI funds (FY 2022-2026)

- Promotes coverage across the state
- Prioritizes roadways that serve long distance travel
- Creates a network that connects to other networks
- Recognizes both rural and urban communities
- Serves current and future EV drivers





Charging Forward

A Toolkit for Planning and Funding Rural Electric
Mobility Infrastructure

www.transportation.gov/rural/ev/toolkit



About the ROUTES Initiative

The Rural Opportunities to Use Transportation for Economic Success (ROUTES) Initiative aims to address disparities in rural transportation infrastructure and improve safety and economic competitiveness nationwide.



The ROUTES Initiative is established to...

Engage Rural Communities through a series of events to better understand the needs and priorities of rural communities and collect essential data from stakeholders representing different communities, groups, workers, and industries to identify solutions.

Harmonize DOT Programs to implement rural policy by establishing the ROUTES Council to lead and coordinate Departmental activities to implement BIL and better align new and existing funding, financing, and technical assistance programs with the needs of rural and Tribal communities.

Utilize a Whole-of-Government Approach by partnering with other rural-focused Federal agencies such as DOE, DOI, and USDA to expand DOT's presence in rural America, better promote DOT's resources to their customers, and capitalize on synergies between Federal funding programs.



Electrification of Rural Transportation

All Americans should have the opportunity to benefit from the lower operating costs, reduced maintenance needs, and improved performance that EVs provide.

WHY RURAL

- Transportation makes up **20% of rural household expenses**, compared to 16% in urban areas.
- Rural households spend **44% more on transportation fuel** than urban households
- Rural residents drive **10 more miles per day** on average than urban residents.

WHY NOW

- **Federal strategy** to build 500,000 electric vehicle (EV) chargers nationwide.
- **Bipartisan Infrastructure Law** includes \$7.5 billion of funding for new EV chargers and other alternative fueling infrastructure.
- **Executive Order** targeting 50% of new vehicles sold in 2030 be zero-emission vehicles.

USDOT's **Rural EV Infrastructure Toolkit** was created under the ROUTES Initiative to help rural entities plan and fund EV chargers.

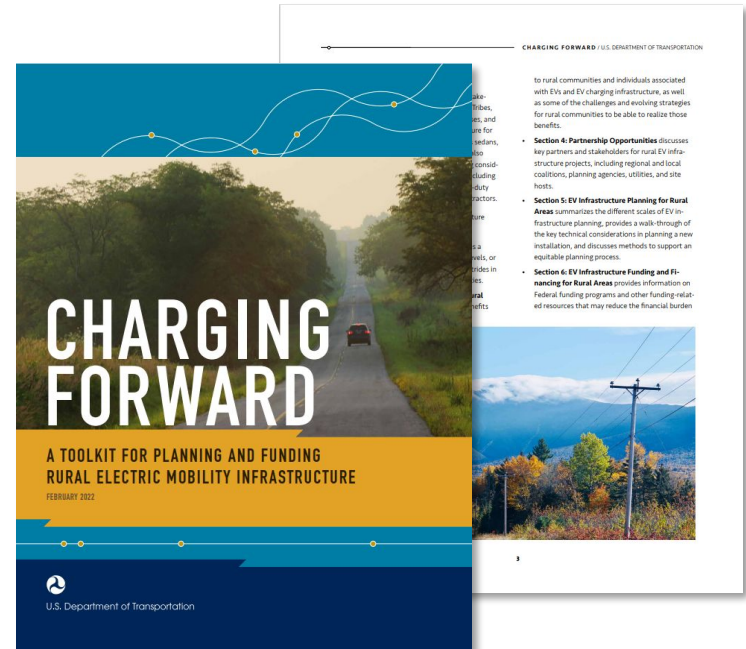


USDOT's Rural EV Infrastructure Toolkit

Charging Forward: A Toolkit for Planning and Funding Rural Electric Mobility Infrastructure

The toolkit provides a free, one-stop resource to help rural stakeholders scope, plan, and fund EV charging infrastructure.

- Highlights the benefits of EVs for rural areas
- Identifies key stakeholders and partners in project planning and implementation
- Walks through a project planning checklist and provides technical advice on project scoping, installation, and operations
- Compiles helpful tools and resources for cost analysis, charging needs assessment, and equitable planning
- Lists Federal funding and financing programs and eligibility criteria



- \$20 Billion over 5 years for rural transportation infrastructure
 - New rural surface transportation grant program
 - Increased funding for programs with rural set-asides (including RAISE and INFRA)
- Departmental emphasis on equity to ensure all communities are able to benefit from funding (especially rural and Tribal communities)
- Codifies ROUTES Initiative
- BIL resources
 - White House [Bipartisan Infrastructure Law Playbook](#)
 - White House [Bipartisan Infrastructure Law Rural Playbook](#)
 - DOT [Bipartisan Infrastructure Law hub](#)



Select Upcoming NOFOs

Program	FY22 NOFO (est.)	FY22 Funding (est.)	Rural Set-Aside	Rural Definition	Eligible Applicants					
					State	MPO	Local	Tribe	PA	Other
Safe Streets and Roads for All	OPEN	\$1 Billion	n/a	n/a		✓	✓	✓		
Nationally Significant Federal Lands and Tribal Project Program	June	\$55 Million	n/a	n/a	✓*		✓*	✓		✓
Bridge Investment Program	June	\$2.4 Billion	n/a	n/a	✓	✓	✓	✓	✓	✓
Railroad Crossing Elimination Program	June	\$600 Million	20%	Outside UA >50k	✓	✓	✓	✓	✓	✓
Ferry Service for Rural Communities	June	\$200 Million	100%	Outside UA >50k	✓					✓
Reconnecting Communities Pilot Program	June	\$195 Million	n/a	n/a	✓	✓	✓	✓		✓
Culvert Removal, Replacement, and Restoration	Summer	\$200 Million	n/a	n/a	✓		✓	✓		
CRISI	August	\$2 Billion	25%	Outside UA >50k	✓		✓	✓	✓	✓
	September	\$100 Million	30%	Outside UA >50k	✓	✓	✓	✓	✓	

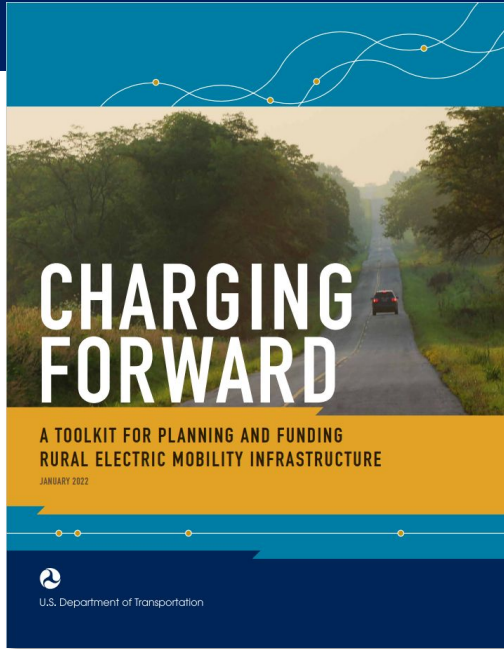
Please note schedule is approximate and subject to change

<https://www.transportation.gov/doing-business-usa/working-notice-funding-opportunities-2022>

This table does not include all programs or eligible entities, and there are additional notices not represented in this table. *MPO means a special purpose district or public authority with a designated service. *Recipient eligibility explained in greater detail on subsequent slides.



USDOT's Rural EV Infrastructure Toolkit



ROUTES: www.transportation.gov/rural

Toolkit: www.transportation.gov/rural/ev/toolkit

Feedback: www.transportation.gov/rural/ev/toolkit/feedback

Email: rural@dot.gov





Other Upcoming New Programs

- **Promoting Resilient Operations for Transformative, Efficient, and Cost-saving Transportation (PROTECT)**
 - Planning, resilience improvements, community resilience and evacuation routes, and at-risk coastal infrastructure
 - \$1.4B for FY22-26 discretionary grants (additional \$7.3B distributed to states via formula)
- **Wildlife Crossings Pilot Program**
 - Support projects that seek to reduce the number of wildlife-vehicle collisions, and improve habitat connectivity
 - \$350M for FY22-26, with at least 60% set-aside for rural areas
- **Rural & Tribal Infrastructure Advancement**
 - New technical assistance program for accessing TIFIA loans
- **Charging and Fueling Infrastructure**
 - EV charging and alternative fuel stations installation and operation
 - \$1.25B for communities (another \$1.25B for designated alt fuel corridors)



Equitable Deployment of EVI through NEVI Funding

MK Anderson, Sr. Policy Associate, Clean Transportation

Importance

- Big picture goal = Increase electric mobility, reduce transportation emissions
- Important step: Building out public charging station network
- Focus on areas with most transportation emissions
- Avoid redlining electric vehicle adoption and ownership



Engaging Stakeholders

- Understand broader community needs
- Stakeholders should include:
 - **Community Experts**
 - Community Group Leaders
 - Neighborhood Associations
 - **Housing Advocates**
 - Regional Transportation Planning Organizations



Station/Site Considerations

- How does this station plug into surrounding community?
 - **Multi-modal hub**
 - **Rideshare Charging Hub**
- What are the needs of this station?
 - More chargers?
 - **Priced to encourage/enable EV Adoption**





- MN Legislature adjourned without passing state match for the Infrastructure Investment and Jobs Act Funding
- \$7.3 Billion left on the table
- Record budget surplus
- **Unacceptable**
- **Take Action!**

Action Alert!

Thank you!

► Questions?

MK Anderson, Sr.
Policy Associate,
Clean
Transportation

anderson@fresh-energy.org



Fresh Energy

**How Minnesota Can Prepare
For and Use Federal EV Funds**

June 7, 2022

**Plug In
America[®]**



WE DRIVE ELECTRIC. YOU CAN TOO.

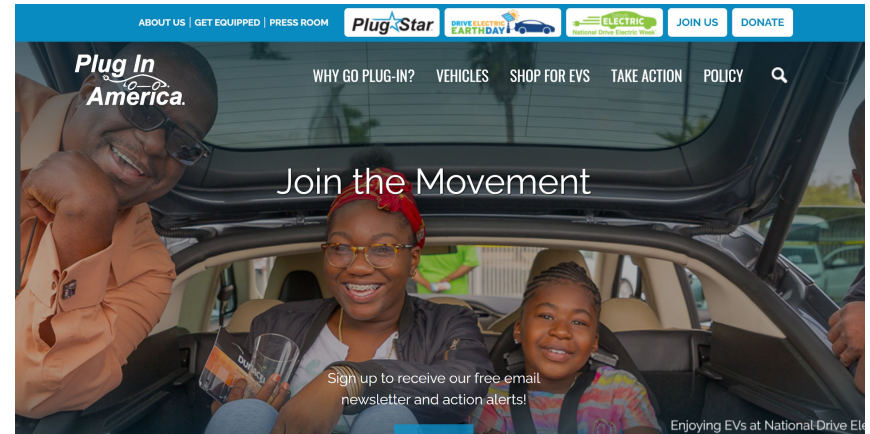
Corridor Charging Best Practices – Consumer Perspective

Dean Taylor, Senior Policy Advisor / Consultant

How MN EV Infrastructure Consumer Protections Can Be Among the Best

Best practices include:

- Stronger minimum requirements in upcoming RFPs than federal minimums
- Bonus points awarded in scoring applicant responses to RFPs to reward excellence
- Working groups with state, federal and other stakeholders to resolve issues and improve the charging experience



PIA Vision for Corridor and Community Charging Best Practices

Experience	Experience a national DC fast charge network along a primary US network without gaps
Clarity	Not be confused by multiple types of connectors for AC and DC charging
Reliability	Have an extremely reliable charging experience without wait times
Availability	See real-time availability of any networked public charging station
Pay	Easily pay anywhere there is paid charging
Achieve	Achieve load management benefits

PIA Vision for Corridor and Community Charging Best Practices



Replaceable: Avoid charging stations being inoperable due to bankruptcy, supply chain issues or site host changing vendors



Avoid cybersecurity issues



See and compare charging prices



Benefit from a **robust data collection program** that leads to continuous improvement in the charging experience and a downward trend in prices for charging

Access Recommendation: Higher Min Requirements in RFPs by MN

- Improve definition of “fully built out primary charging corridor”
 - 6 charging chargers for DCFC at 150 kW, 2 DC fast chargers at 350 kW and 4 make-readies
 - Include all the federal interstates and major US highway corridors that have significant traffic volumes
 - Cold weather areas – charge plazas every 50 miles apart for rural and about 15 miles apart for urban
- Have bonus point system in scoring RFP responses by MnDOT (and other state DOTs)
 - Add more than 8 chargers per site (especially in existing sites or urban areas) or adding more make readies per site
 - Place charging sites closer to each other
 - Add higher kW for DCFC or adding 6.6 kW level 2.
 - Fund transformers, battery storage and /or solar
 - Letters of support

Reliability Recommendation: Higher Min Requirements in RFPs by MN

To qualify to bid, a project developer must show 95% uptime of its chargers at those sites for 90% of its existing sites

Over time, meet 97% uptime for all the chargers and EVSE at a site in years 1 and 2, more in later years.

Remote start capability + Minor repairs completed within 24 hours + **Major repairs completed within 48 hours**

If internet connection is not working, offer free charging + 1-800 number or website to report broken chargers

Meet a future USDOT “success rate” that measures the percentage of sessions initiated that are fully successful

Use the NE States for Coordinated Air Use Management (NESCAUM) contract language on maintenance and access.

Contractually commit to publish uptime and other related data above (for AFDC federal website)

Bonus points in scoring RFP responses: exceed above requirements or offer remote diagnostics and maintenance

Equity Recommendation: Higher Min Requirements on RFPs by MN

Minimum: Require applicants to have projects in low and high traffic/ utilization areas with same price for charging

Bonus points in scoring RFP responses: Methods to help priority communities – disadvantaged, tribal and rural areas

- Projects proposed along primary or secondary corridors or communities that are in disadvantaged, rural, or tribal areas
- Additional private sector match that is greater than 20% of total costs
- Letters of support from community organizations (but no form letters)

Cost Recommendation: Higher Min Requirements on RFPs by MN

Cap the amount paid for make-readies and chargers (dollar amount + percentage) and **for all on-going costs**

Require 2 DCFC chargers or EVSE per stub out

Require proposals to seek 30C tax credit and any other non-IIJA funds if eligible and available

Meet the other consumer protection requirements in this doc

Require posting of project developer's upfront costs, make ready costs and on-going costs to **allow easier shopping for anyone looking for a DCFC or L2 charger**

Fair and transparent pricing

Providing some type of receipt but do not require paper receipts

Bonus points in scoring RFP responses: see Appendix

VGI Recommendation: Higher Min Requirements on RFPs by MN

Vehicle Grid Integration (VGI)

- Require project developers to **present their VGI plans to either a state energy office or local utility**. There should be many acceptable options in a required plan To future proof **require IEEE 2030.5 standard for grid signals** from charging site or cloud aggregator to the distribution or bulk power grid.
- **Bonus points in scoring RFP responses: bidirectional charging** - especially in community charging



Future Proof Recommendation: Higher Min Requirements on RFPs by MN

Easily switching network providers and avoiding stranded chargers and software

- **Contract clause that hardware can be removed and replaced**
- Open Charge Point Interface (OCPI) installed
- **Open Charge Point Protocol (OCPP) 2.0 installed**
- Prohibition on chargers that can only use one software network
- Contractual requirement that chargers are technically capable of operating on multiple networks used by different charging providers and/or building energy management systems
- Within two years have OCPP 2.0 certified in each charging station by a national (or to an appropriate revision of the open standard.)
- **Bonus points in scoring RFP responses: bidirectional charging** - especially in community charging

Recommended Federal, State, Stakeholder Working Groups

Charging Connector, Interoperability , Weights and Measures and Other Standards Issues

Recommend that USDOE, USDOT, and NIST create a working group with stakeholders to examine the issues surrounding charging connection standards to not only make sure EVs and EVSE and chargers can connect and operate together, but to also expand this topic to include and update other standards (e.g., cybersecurity, NIST handbooks, payment, etc.)

How to Lower the Up-front and Operating Cost of Charging

Create USDOT- DOE- NIST working group on the topic of lowering cost and partner with experts in this field. RMI and EPRI have done studies, PIA, as the voice of the consumer, is also an expert. More best practices are needed.

Data Collection

Create USDOT and USDOT stakeholder working group to figure out the details on how many types of data need to be reported.

Bidirectional Technology Use Cases for the EV Charging Program

Create a working group with USDOT, USDOE, NIST, and industry stakeholders on bidirectional technology use cases for the IJJA funded charging stations. Build on the recent USDOE MOU with stakeholders.

Placement of Charging Sites in Hard-to-Serve Areas

Recommend that USDOT/USDOE lead a working group to assist utilities, especially in very rural areas, to determine how best to serve areas that are hard to reach.

Supply Chain Issues

USDOT, USDOE and NIST should establish a Working Group or conduct a report to better understand the supply chain for chips used by charging stations and other key components. (E.g., if only one supplier, or only one supplier that meets NIST cybersecurity standards.)

Appendix

Other recommendations and best practices

Including signage, data collection, payment systems, network requirements, pay-for-performance and other federal actions

Payment and Network Recommendation: Higher Min Requirements on RFPs by MN

- Use California Energy Commission minimum grant requirements for networking contracts (e.g., data collection, remote start, and payment via chip or tap for credit, debit and cash cards or phones)
 - Transition to tap as soon as unbanked and underbanked have access to tap cash cards
- Require ability for smart phones to see real-time availability and location
- Require minimum megabytes per second
- **bonus points when scoring RFP responses:** other functions such as remote repair, reservations, etc.



Pay for Performance Recommendation: Higher Min Requirements on RFPs by MN

Fast charge project developers and operators should be required to take a pay for performance approach in their contracts where **100% of the op-ex funds and 30% of cap-ex funds provided are not immediately** payable to the project developer but come in years 2 to 5 based on meeting the following. |

- 48 hours for major repairs
- Meet uptime requirements (see earlier)
- If internet connection is not working, offer free charging
- Offer 1-800 number to call to report broken chargers
- Payment requirements above
- Five years of operation (preferably more)
- Hours of operation - recommend 24-7
- Eventually need for certification that EVSE and chargers actually meet standards and work with each EV
- Cost caps detailed above
- Cybersecurity requirement – recommend NIST SP-800-161, NIST SP-800-53, NISTIR 7628 Revision 1 paragraph 6.5.1 and complying with White House's Executive Orders on cybersecurity

Bonus Points in Scoring RFP Responses: Ways to Further Reduce Costs

See Slide 8 for recommended Minimum Requirements

Bonus Points:

- More points proportional to the number of additional make readies (above the minimum required)
- Contractual commitments to low operating cost with documentation and subject to validation over time
- Proof that local utility has special rates that lower the demand charges for at least five years.
- More than the minimum cost share (proportional to additional cost share provided).
 - More DCFC (development and operation on primary or secondary corridors (nonfederal funds)
 - More public access DCFC or L2 charging sites (development and operation) on non-corridor locations such as workplaces, curbside, churches, parking garages, visitor parking, city parking lots (non-federal funds)
- Adding to existing sites including Tesla locations
- If the price charged to consumers is less than the price of gasoline in that state.
- Use of methods to reduce networking costs (e.g., use of kiosks, using existing load management system)

Recommended Best Practices for Signage

- Fund and launch a campaign for EV charging signage everywhere. Include “Brought to you by federal \$\$” signs.
- Signs that guide consumers every step of the way. (E.g., from the interstate exit, and every step of the way to get to the parking lot that has the charger.)
- Pay for the signs on highway corridors and, if needed, within parking lots.
- Shift from “gas/lodging/food” signs to “fuel/lodging/food” signs.
- Within a few years add new EV charging signs with details (e.g., 350 kW, 150 kW, 50 kW etc.)
No level 2 signs.

Recommended Best Practices on Data Collection

- Need federal regulations on data reporting for both input and output APIs to make data collection work. Federal reporting regs for inputs should start by using CARB EVSE reporting requirement and later add automaker reporting too. More data is better as long as costs are reasonable
- Improve the useability of the AFDC website to have APIs that can be duplicated by others such as automakers, charging network providers and third parties. Fund the AFDC website so it can quickly make updates (within two business days)
- Existing data collected (due to public funds) should be required to be released in as much detail as possible to help the utility and research communities (with appropriate safeguards for privacy and intellectual property)
- Do not allow any contracts with project developer that have NDAs that prevent federal or state sharing of information

Other Needed Federal Actions

- Revise the federal map so there are no gaps along interstates and turnpikes major US highways and secondary corridors in the nation.
- States without investment plans for corridor fast charging should not have to forfeit the funds. The forfeiture rule in IIJA is not mandatory and we recommend it should only apply to level 2 EVSE.
- Fund “Testathons” by national labs or other parties to help charging manufacturers, charging providers and EV manufacturers make sure that EVs, EVSEs, chargers, and charging network providers can actually work in practice. This is no longer a large issue for J1772 connectors, but is an on-going issue for CCS connectors

Other Needed Federal Actions

- Help set up certification processes regarding the above needed at a national lab or labs and fund it. This is analogous to the Federal Transit Administration program in Altoona Pennsylvania.
- Work with the Standards Development organizations (SDOs) to make the standards adaptive enough to address issues as they arise. Goal – over time make standards “bulletproof”
- Allow EV charging at rest stops as a permitted commercial activity
- Streamline the environmental review requirements
- Require two percent of charging grant funds be spent on education and outreach

Charging Station Implementation



ELECTRIC VEHICLE INFRASTRUCTURE PLAN

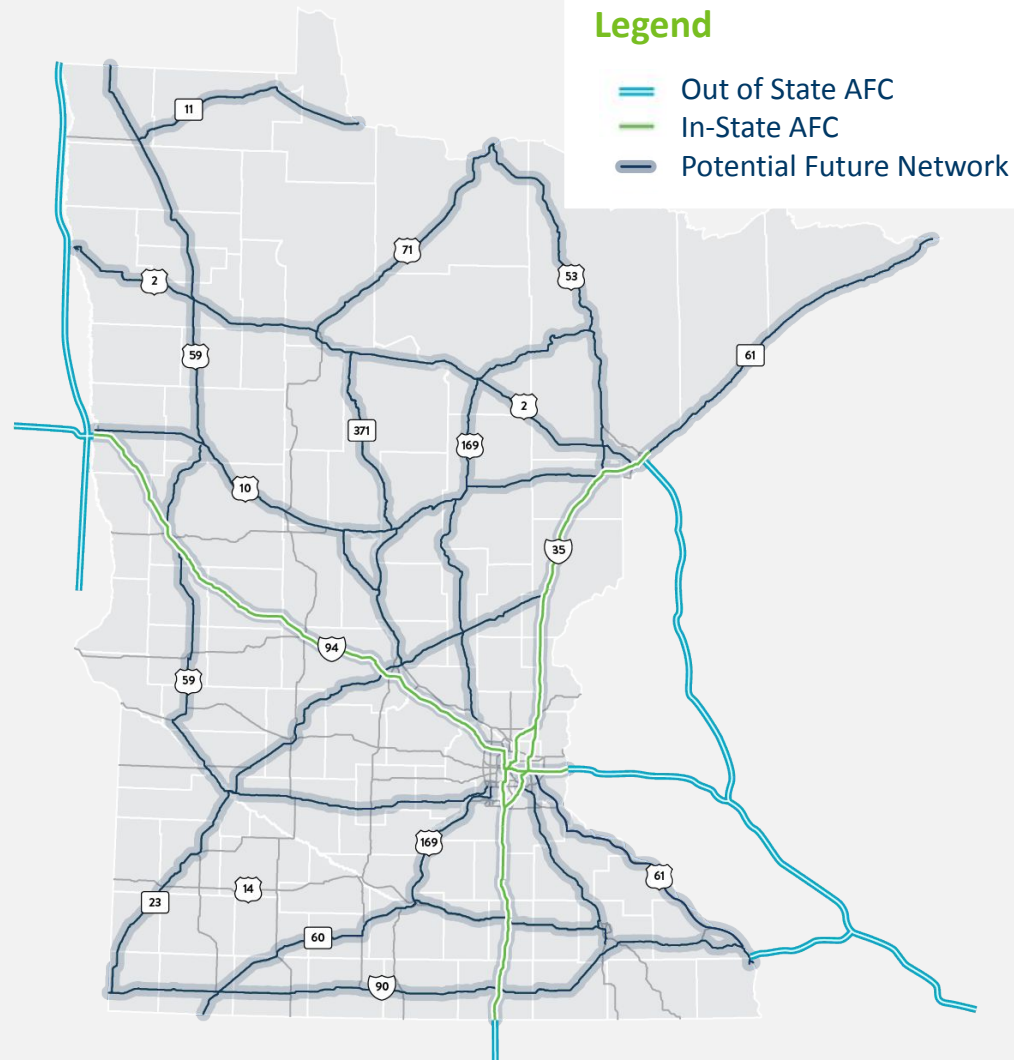
Siri Simons, Sustainability and Public Health

m DEPARTMENT OF
TRANSPORTATION

DRAFT EV Fast Charging Network

Includes all potential corridors for investment with the \$68 million of NEVI funds (FY 2022-2026)

- Promotes coverage across the state
- Prioritizes roadways that serve long distance travel
- Creates a network that connects to other networks
- Recognizes both rural and urban communities
- Serves current and future EV drivers

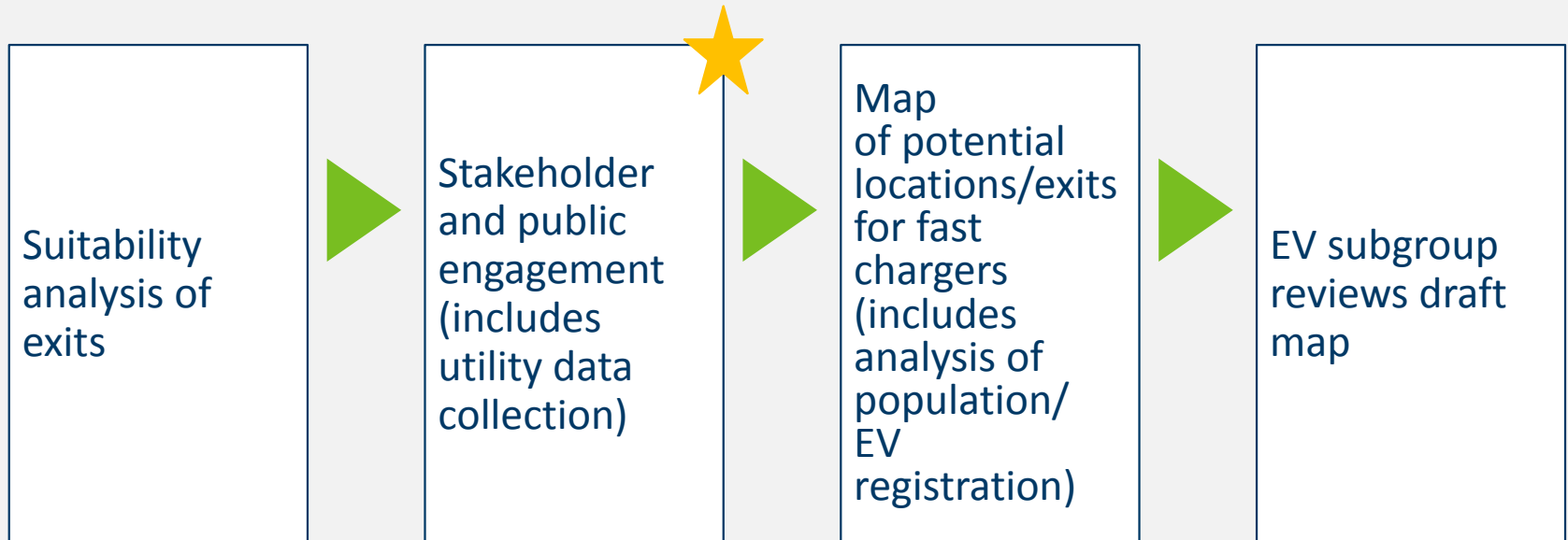


Suitability Analysis



Identifying Potential Fast Charger Locations (FY 2022)

We will invest the first year of NEVI funds along existing AFCs (I-94 and I-35)



Suitability Scoring Criteria

Justice40

- < 0.5 mi: 10
- 0.5 – 1 mi: 8
- 1 -2 mi: 5
- 2 – 5 mi: 3

Intersections with other Corridors

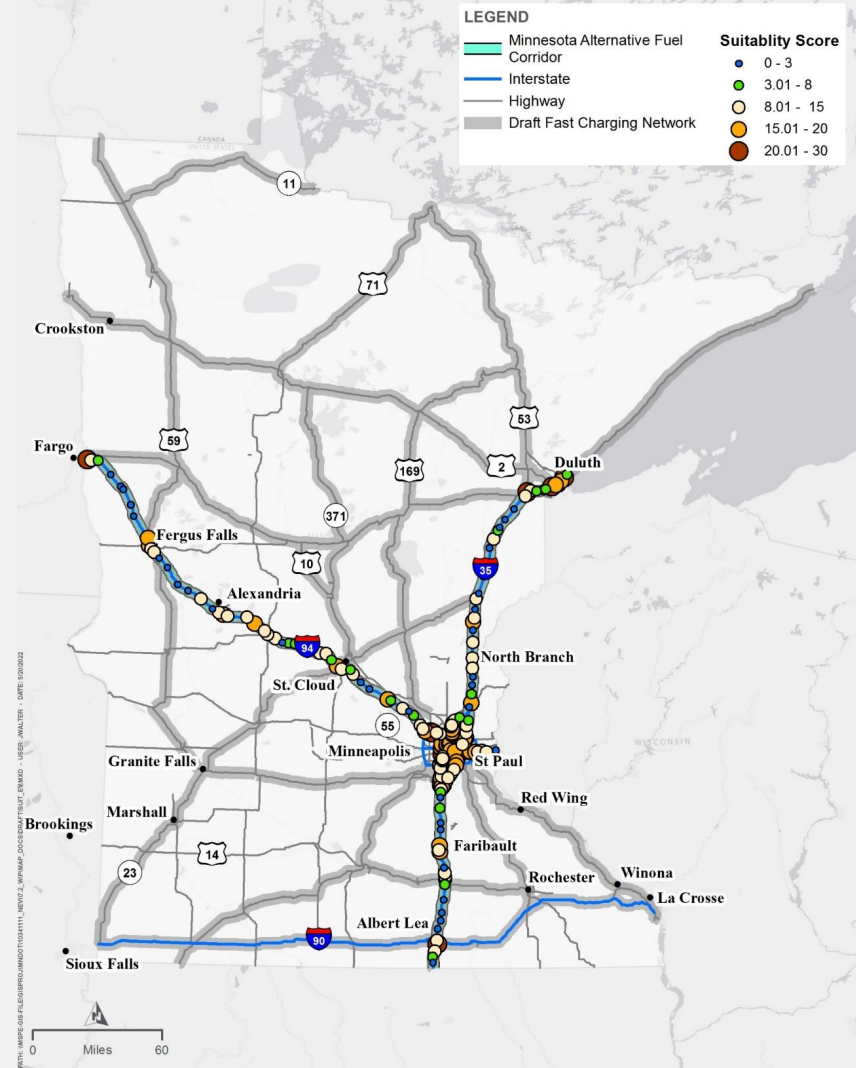
- Yes: 10
- No: 0

Proximity to Substations

- < 0.5 mi: 10
- 0.5 – 1 mi: 5
- 1 – 2 mi: 3

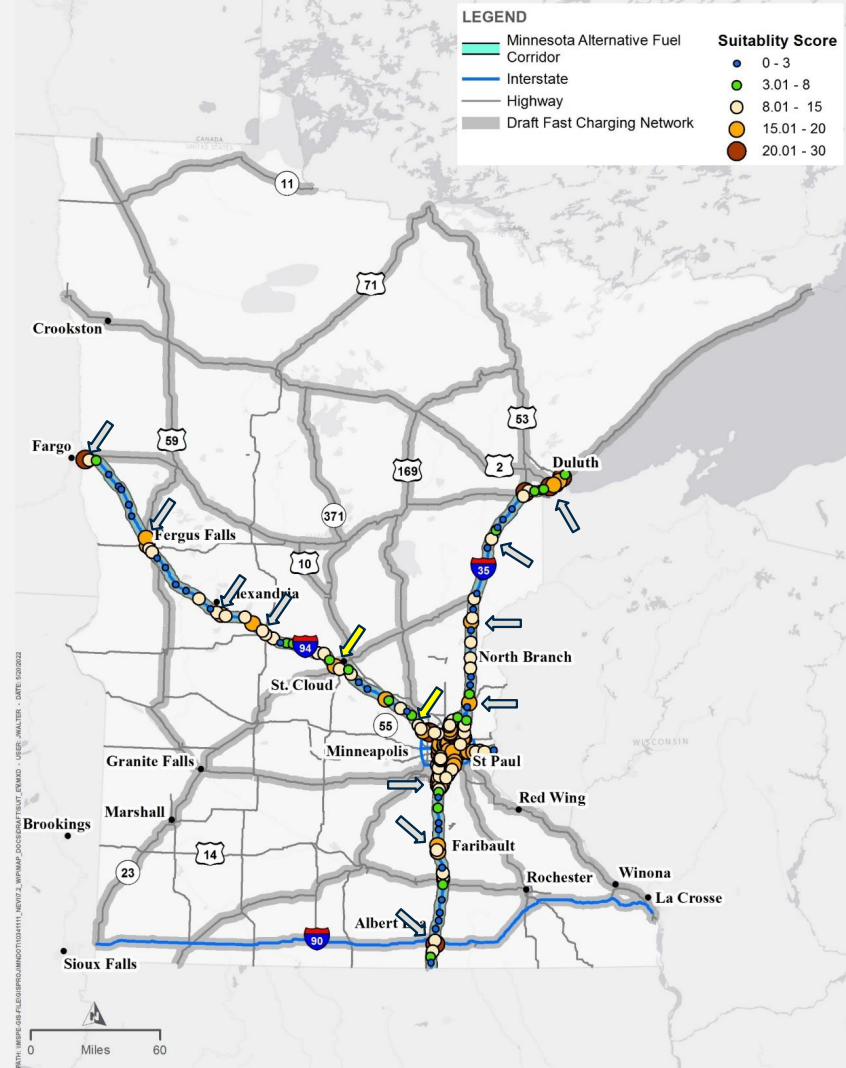
Proximity to Existing DCFC

- Yes: 10
- No: 0



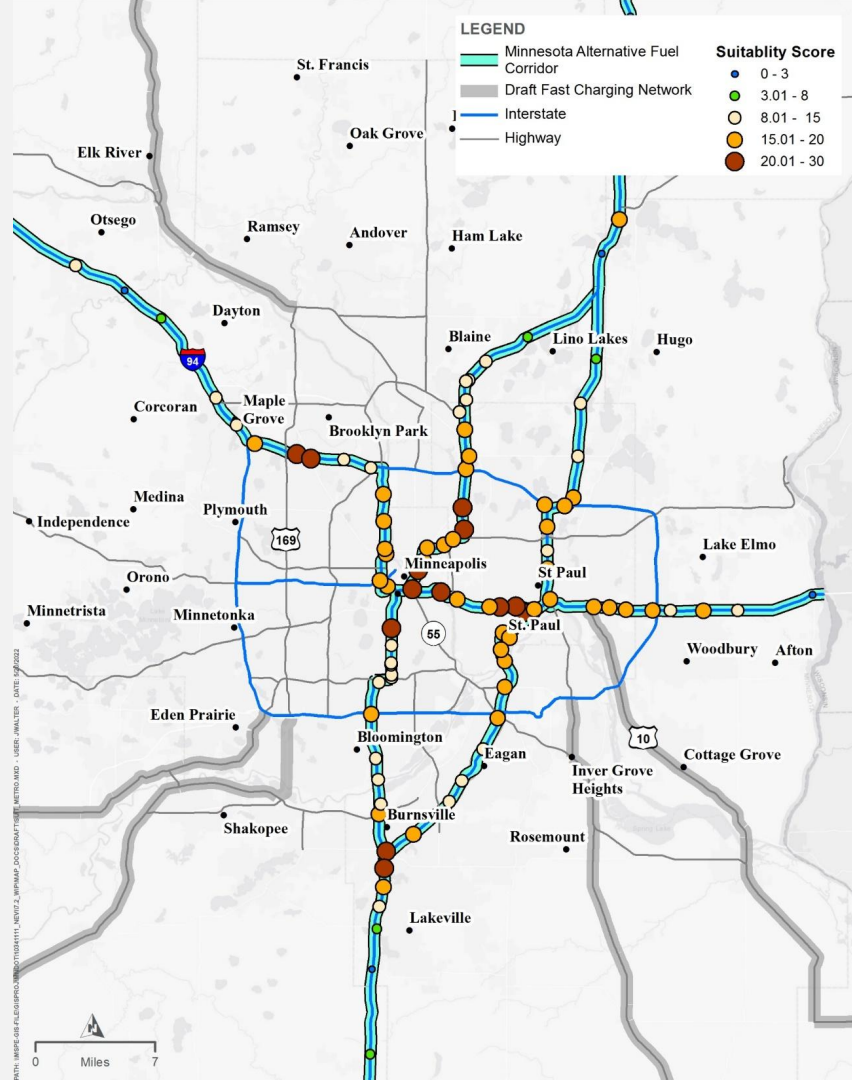
Exit Suitability

Initial set of potential NEVI-funded fast charger locations (statewide)



Exit Suitability

Exit suitability scores (Twin Cities Metro)



Utility Coordination

- Power Systems Engineering developed a survey to gather input from Minnesota Cooperatives about candidate exits along I-94 and I-35:
 - Is there 3-phase power at this exit?
 - What's the capacity of your distribution system at this exit?
 - More than 600 kW, Less than 600 kW, Unknown/engineering needed
 - Is there a potential site host near the power?
- MnDOT adopted the survey and questions to gather input from municipalities and IOUs
- Data will be incorporated into the analysis of potential fast charger locations

Next Steps

- Update suitability analysis map based on additional information:
 - Utility data
 - Population/EV registration data
 - Long distance trip data
 - Cost assumptions
 - Public and stakeholder input from virtual and in-person engagement
 - Ease of access to exits
- EV sub-group and MnDOT leadership will review and refine map
- Map will be incorporated into plan

Deploying EV Infrastructure: Clean Transportation Pilot



Clean Transportation Pilot

- \$2 million of federal surface transportation funds distributed annually for 3 years
- Evenly split between Greater Minnesota and Twin Cities area
- Individual grants ranging from \$25,000 to \$500,000
- Broad range of eligible activities related to clean transportation implementation
- Nine projects selected in March 2020, including EV charging station projects

Lessons Learned

- Federal aid requirements are new to the EV industry, but must be met for projects to be authorized (e.g. Buy America, NEPA, competitive solicitation requirements)
- Partners may not have technical expertise or capacity to meet federal aid requirements
- Contracting process can take 6 – 12 months
- Supply chain issues can cause additional delays
- More research needed to identify appropriate contracting mechanism

Electric Vehicle Programs and Provisions in the Infrastructure Investment and Jobs Act —M. Moaz Uddin



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Overview of EV and charging related programs: Infrastructure Investment and Jobs Act

Category	Funding
Dedicated to ZEVs	\$8.75 billion
Grid and Batteries	\$10.3 billion
Clean Vehicle Eligible	\$101.8 billion
Total funds	\$120.8 billion



National Electric Vehicle Infrastructure Formula Program

How much?

- Total: \$5 billion
- Minnesota share: \$68 million

What will it do?

- Deploy publicly accessible electric vehicle charging infrastructure

Who is eligible?

- State and local governments
- MPOs
- Other public-sector entities

Who will administer the funds?

- **Lead agency:** Department of Transportation
- **Supporting Agency:** Department of Energy



Charging and Refueling Infrastructure Grant Program

How much?

- \$2.5 billion

(Two programs worth \$1.25 billion each)

What will it do?

- Deploy publicly accessible alternative fuel vehicle fueling infrastructure

Who is eligible?

- State and local governments
- MPOs
- Other public-sector entities

Who will administer the funds?

- **Lead agency:** Department of Transportation
- **Supporting Agency:** Department of Energy



Clean School Bus Program

How much?

- \$5 billion

(Two programs worth \$2.5 billion each)

What will it do?

- Deploy clean and zero-emission school buses

Who is eligible?

- State and local governments
- Eligible contractors
- Non-profit school transportation associations

Who will administer the funds?

- **Lead agency:** Environmental Protection Agency



Electric or Low-Emitting Ferry Pilot Program

How much?

- \$250 million

What will it do?

- Deploy low-emission and electric ferries

Who is eligible?

- Unclear

Who will administer the funds?

- **Lead Agency:** Department of Transportation



Other programs that have EV and charging provisions



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	Chargers	Grid Upgrades	EV Supply Chain Investments
Surface Transportation Block Grant Program (\$72 billion)	✓	✓	
Congestion Mitigation and Air Quality Improvement Program (\$13.2 billion)	✓		
Grants for Buses and Bus Facilities Formula Program(\$10.25 billion)	✓		
Strengthening Mobility and Revolutionizing Transportation Grant Program (SMART)(\$500 million)			✓
Battery Material Processing Grant program and Battery Manufacturing and Recycling Grants (\$6 billion)			✓
Advanced Energy Manufacturing And Recycling Grant Program (\$750 million)	✓	✓	✓
Deployment of Technologies to Enhance Grid Flexibility (\$3 billion)		✓	
Carbon Reduction Program (\$6.4 billion)	✓		



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Infrastructure Buildout

	Light-duty	Medium-duty	Heavy-duty
Congestion Mitigation and Air Quality Improvement Program (\$13.2 billion)		✓	✓
Reducing Truck Emissions at Ports (\$250 million)		✓	✓
Grants for Buses and Bus Facilities Formula Program (\$10.25 billion)		✓	✓
Carbon Reduction Program (\$6.4 billion)		✓	✓



Open Programs 2022

•Department of Energy Funding Opportunity Announcements (\$3.16 billion)

•FOA - 2678: Battery Materials and Battery Manufacturing (\$3.1 billion).

- Deadlines: Letter of Intent on 5/27/22, Full Application on 7/1/22.

- What does it cover?

- Battery Material Processing, as defined in Sec.40207(b).

- Battery Manufacturing and Recycling, as defined in Sec.40207(c).

- Who is eligible?

- Institutions of higher education, for-profit entities, non-profit entities, and state, local, and tribal nations.

•FOA - 2680: Electric Drive Battery Recycling and Second Life Applications (\$60 million)

- Deadlines: Concept Paper on 5/31/22, Full Application on 7/19/22

- What does it cover?

- Advanced Materials Separation, Scale-Up, and Reintegration for Lithium-Ion Battery Recycling for the Battery Supply Chain

- Second Use Scale-Up Demonstration Projects

- Who is eligible?

- Institutions of higher education, for-profit entities, non-profit entities, and state, local, and tribal nations.



Open Programs 2022

- **Environmental Protection Agency Clean School Bus Rebates (\$500 million)**

- Applications open soon and are expected to stay open May 20, 2022 – August 19, 2022.
- Eligible applicants:
 - State and local government entities that provide bus service
 - Eligible contractors
 - Nonprofit school transportation associations
 - Tribal organizations
- More info at: [School Bus Rebates: Clean School Bus Program | US EPA](#)



Other Programs

- Low or No Emission Grant Program and Grants for Buses and Bus Facilities Competitive Program (\$1.47 billion)
 - Deadline: 5/31/22



Thank you!

Please contact us with any questions or feedback at amartineau@pluginamerica.org

Recording will be posted on Plug In America's website: www.pluginamerica.org

