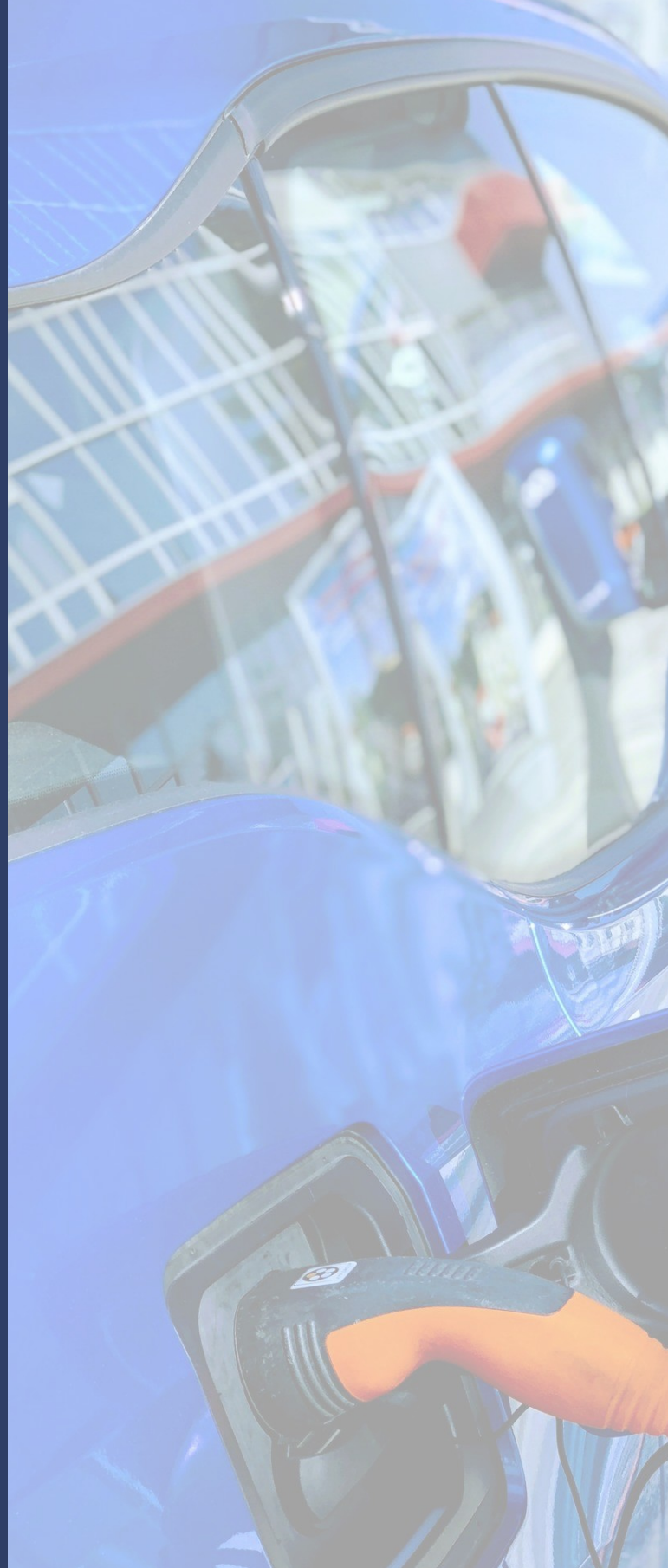


# Role of the Transportation Construction Industry in the Implementation of the National Electric Vehicle Infrastructure Program

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American Road  
& Transportation  
Builders Association

# Overview

The Infrastructure Investment and Jobs Act (IIJA) brought federal funding and emphasis to the construction of a nationwide electric vehicle (EV) charging network. Though EVs are a small percentage of the market, their numbers and usage are expected to escalate, with S&P estimating they will comprise 40 percent of new U.S. vehicle sales by 2030. To facilitate this transition, the federal government is investing \$5 billion in a new National Electric Charging Infrastructure (NEVI) formula program, as well as supplemental discretionary grant programs.

ARTBA members are involved in all phases of transportation design, construction and infrastructure maintenance, including the national buildout of an EV network, and encourage decisionmakers to consider the following core principles when assessing the NEVI's implementation.



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# Partnership with Federal & State Governments

*The IIJA's new EV charging infrastructure programs provide federal funds to states through a dedicated formula program, as well as a discretionary grant program for state and local entities. Following the model of other U.S. Department of Transportation (USDOT) formula programs, the NEVI program's formula funds are spent at the discretion of states, who had EV charging network plans approved by USDOT in 2022. The NEVI Program is intended to enable installation of 500,000 charging stations across the country's alternative fuel corridors (AFCs).*

## ***State Flexibility***

The NEVI Program outlines requirements for EV charging stations built with formula funds, including proximity to AFCs and number of available chargers, among others. Like other formula programs, states will execute the implementation of this federal-state vision, ensuring access to charging extends consistently across all states.

The federal government estimates more than a million public chargers will be needed to support the projected EV fleet by 2030. For those chargers constructed without the use of NEVI formula funds, states should have the flexibility to build them in the manner and location of their choosing.

## ***Public-Private Partnerships***

Private investment has the potential to play a vital role in constructing and administering the national EV charging network. Federal and state transportation agencies should have the flexibility to develop and fund proposals for appropriate projects using a public-private partnership (P3) approach to designing, constructing, improving and operating EV charging infrastructure.

State participation in public-private partnerships should be optional, and non-participation should not adversely affect federal EV program funding.

Numerous opportunities for P3s should be considered and include:

- Construction of charging networks across vehicle classes;
- Light, medium and heavy-duty fleet conversions;
- Installation/conversion of EV maintenance and/or charging facilities;
- Financing, operation and maintenance of public charging facilities;
- Revenue generation/sharing with governmental entities.

## ***Ownership***

Ownership and the responsibility for ongoing maintenance and management of state charging networks should be determined by states. States may opt to contract with private sector entities for ongoing maintenance. As states assess NEVI network needs, those chargers installed and maintained with NEVI funds should be prioritized to maintain functionality of a nationwide system.

# Revenue

*Widespread EV adoption offers a two-fold challenge. First, owners of EVs should be required to support the maintenance and improvement of the roads they use, like other vehicle owners who pay federal user fees. Second, the service provided by a public charging network offers the potential to generate revenue, which can help ensure viability of a public charging network over the long-term.*

## ***Electric Vehicles and User Fees***

ARTBA believes the cost of building and maintaining highway infrastructure should be primarily paid for by users of the system. Any user fee, mechanism or strategy should be sustainable, consistent, adjusted for inflation, and deliver dedicated, recurring revenues sufficient to meet the need for capital improvements to the nation's highway and transit system. This responsibility extends to EVs, which should be equitably taxed to pay for system improvements. Given the heavier weight of EVs, ensuring they pay a fee for the wear and tear on roads is particularly important.

While 36 states have enacted fees on EVs as of the beginning of 2024, there is currently no federal mechanism for revenue collection from EVs. Most states charge an annual registration fee ranging between \$50 to \$200. Other states are taking innovative approaches to charging kilowatt hour fees at public charging stations or implementing fees based on vehicle miles traveled (VMT). The IIJA also directs USDOT to develop a national VMT pilot program for all vehicles.

ARTBA supports a federal EV fee to ensure all users of roads and bridges are supporting the maintenance and upkeep of these systems. EV revenue, like all existing highway user fee revenue, should be invested specifically in surface transportation system improvements and not other purposes.

## ***Maintaining a Public Charging Network***

EV charging infrastructure will require ongoing maintenance for repairs and upgrades to keep the network in working order. Because NEVI funds are intended to be a stimulus--and must be reauthorized after five years--there is no guarantee of continued federal support for ongoing maintenance and upkeep of the charging network.

Ensuring the network remains functional and up-to-date will require ongoing funds. States should have flexibility to raise revenue to support federally-funded charging infrastructure. Options may include user fees, public-private partnerships, and/or bond measures.

# Building the Network

*Creating a national network of charging stations requires a federal vision and state flexibility. Given the magnitude of this undertaking, significant planning and design work will be required before construction begins, and engagement with the transportation construction industry will be necessary to ensure ongoing functionality.*

## ***Utilities***

Utility relocation is a routine part of transportation construction, and partnership between contractors and utilities on installation sites will be critical to timely completion of a national charging network. Collaborating with utility owners and providers on installation schedules, associated load permits and evaluating existing power distribution systems will enable safe and timely construction of a national network.

As more Americans transition to EVs, feeder demands are an important consideration. In urban areas, widespread adoption could require significant upgrades to existing infrastructure, and in rural areas where communities may be served by electric cooperatives, significant investments may be required to ensure reliable power is available.

## ***Contracting Model***

The low-bid system of procurement has historically succeeded in achieving a competitive, open, cost-effective, efficient and fair method of selecting a contractor, and the application of this procurement method should be strongly considered for NEVI projects.

In seeking to expedite project delivery, while still achieving the highest quality of transportation improvements, a number of transportation agencies have implemented alternate delivery methods encompassing various combinations of procurement, financing and construction practices. Ideally, public agencies will collaborate with industry to determine the best contracting method for the project in question, as well as the parameters for those methods to keep costs and risk aligned.

## ***Supply Chain***

Materials associated with transportation infrastructure construction, including electric mobility, continue to be constrained, which means consistency and standardization will be critical to controlling costs. This is true of key electricity grid components as well, which could also become a bottleneck if supply chain constraints are faced.

Delays from supply chain issues could conflict with the NEVI installation timelines, therefore states should assiduously commit NEVI funds to projects to ensure their use before IIJA's expiration.

# Building the Network (cont'd.)

## ***Workforce***

The availability of a trained workforce is a significant challenge facing the entire transportation construction industry, including those building the national EV charging network. Federal regulations require new skills and certifications to ensure proper, safe installation of an EV charging network. Identifying and training a workforce with required certifications will take time.

Federal funding should allow for state flexibility to require either Electric Vehicle Infrastructure Training Program (EVITP) certification or a state-based equivalent.

## ***Operations and Maintenance***

The focus of the NEVI Program is on building a national network to meet the needs of a changing vehicle fleet. During the installation, forward-thinking measures to promote diagnostic and transmission capabilities, and technologies to support grid capacity and resilience should be included to enhance long-term reliability.

The consistency afforded by the NEVI program's federal regulations will help meet required performance metrics, uptime and reliability standards across jurisdictions. In addition, federal and state engagement—beyond the five-year NEVI program—must continue to ensure a national network is maintained. This will be particularly critical in rural areas, where the business case for the private sector to maintain an EV charging network may not be prominent.

Where the private sector is unable to maintain NEVI-funded charging stations, public sector resources may be necessary to maintain connectivity of the network.

Direct current (DC) fast chargers require more significant maintenance than level 1 or 2 chargers, and trained professionals must be enlisted when maintenance or upgrades are required.

## ***Buy America***

ARTBA supports a common sense interpretation of the Buy America rule so that the burden of compliance does not lead to the likelihood of project cost increases and delays. Programs, like NEVI, should utilize appropriate nationwide waivers to exempt products that could unnecessarily delay implementation—like vehicle chargers and related components—while domestic production ramps up in the longer term.

Further, the NEVI program must not place the burden of certifying Buy America compliance on contractors.

## ***Permitting***

The buildout of a national EV charging network should proceed without cumbersome permitting delays or uncertainty in the regulatory environment. The National Environmental Policy Act (NEPA) establishes important natural resource safeguards but can also cause significant delays or enable frivolous litigation during the planning and construction processes. ARTBA supports the decision to issue a categorical exclusion (CE) for the installation, modification, operation, and removal of EV charging stations.

# Innovation and Technology

*The market for EVs is advancing, as is the technology to power them. Ensuring that the network constructed over the next 5 years remains functional and current will require assessment of future system needs while the buildout is underway. The following factors should be evaluated as the NEVI program is implemented to assure the long-term viability of the network and its promotion of EVs.*

## ***Inductive and dynamic charging***

The federal focus for an EV charging network should be the construction of public charging stations, rather than on inductive/dynamic charging opportunities, where the public benefit is less apparent. Significant advancements in light-duty vehicle technology must happen before inductive charging is viable for the general public, and pilot programs currently exist to support this development.

Applications for truck fleets and other transit options could be more worthwhile to prove the technology in the near-term. As the private sector or other parties explore inductive and dynamic charging options, impacts on pavement design and road maintenance must be considered.

## ***Bi-directional power capabilities***

Bi-directional power capabilities, where power is off-loaded back to the grid from a charged vehicle, could have viable applications for managing off-peak demand. Static fleets, like school buses and postal vehicles, could be used as successful applications. However, significant work on monetization and engagement with utilities is needed.

## ***Electric Construction Equipment***

The use of electric construction equipment is in early stages of development and is one of several sustainable construction methods that can help reduce job site emissions. However, additional research into charging, battery life, equipment longevity and cost-benefit analysis is needed to assess widespread viability. Electric equipment poses a particular challenge on work sites where power is not available or where equipment does not return to the same location each night for charging. The use of portable power stations could assist in these applications.

## ***Freight, Transit and Municipal Fleets***

The build-out of a national network, both NEVI-funded and private, will be accomplished in multiple phases. The federal government, which has focused its EV charging network efforts on light-duty/passenger vehicle adoption, should consider future federal support for medium- and heavy-duty EV charging infrastructure, which will offer unique challenges and opportunities.

Design considerations made at the outset can enhance freight electrification. For example, freight facilities, like e-ports or other intermodal centers, require certain considerations when adapting to electrification. Similarly, designing NEVI public charging stations in a way that can accommodate medium- and heavy-duty vehicles, like pull-through stalls, can be helpful in accelerating adoption.

Similarly, fixed routes used often by school buses, bus rapid transit lines or for delivery fleets, offer opportunities to explore en route charging. To the extent that NEVI stations can be designed to also accommodate these needs, federal support options should be considered.