



# All charged up

The National Electric Vehicle Infrastructure Formula Program is driving the expansion of the U.S. highway EV charging network. Here's how public and private sectors can best balance federal requirements with commercial practicality to optimize their participation.

# Sizing the opportunity

As electric vehicles (EVs) gain traction among consumers, the need for widely available and reliable charging stations along the country's interstate highway system will become increasingly important. To incentivize the creation of new charging stations, the federal government has established the National Electric Vehicle Infrastructure (NEVI) Formula Program as part of the Infrastructure Investment Jobs Act (IIJA), Bipartisan Infrastructure Law (BIL) of 2021. With \$5 billion in funding dedicated to the strategic deployment of Level 3 direct-current fast charging (DCFC) stations, the program aims to create a national network that facilitates charging access and reliability and expands the network of EV charging infrastructure along Alternative Fuel Corridors (AFCs) as designated by the Federal Highway Administration (FHWA).

While the NEVI program presents opportunities for both states and private enterprises, its regulatory and compliance requirements pose a significant challenge to participants. There is a substantial gap in the number of EVs on the road and the current number of available charging stations, which is more acute in rural areas of the country. This highlights the urgent need to expand the charging infrastructure with significant OEM commitments alongside growing consumer demand, which may shift production volumes to EVs.

The significant increase in EVs sales expected in the coming years means that the number of public charging stations must increase dramatically—from about 135,000 individual public chargers to an estimated 817,000 chargers by 2030<sup>1</sup>—to meet the growing demand. In response, FHWA has designed one alternative fuel station every 50 miles along designated Alternative Fuel Corridors (AFCs), but additional efforts and coordination will be needed to meet expected demand.

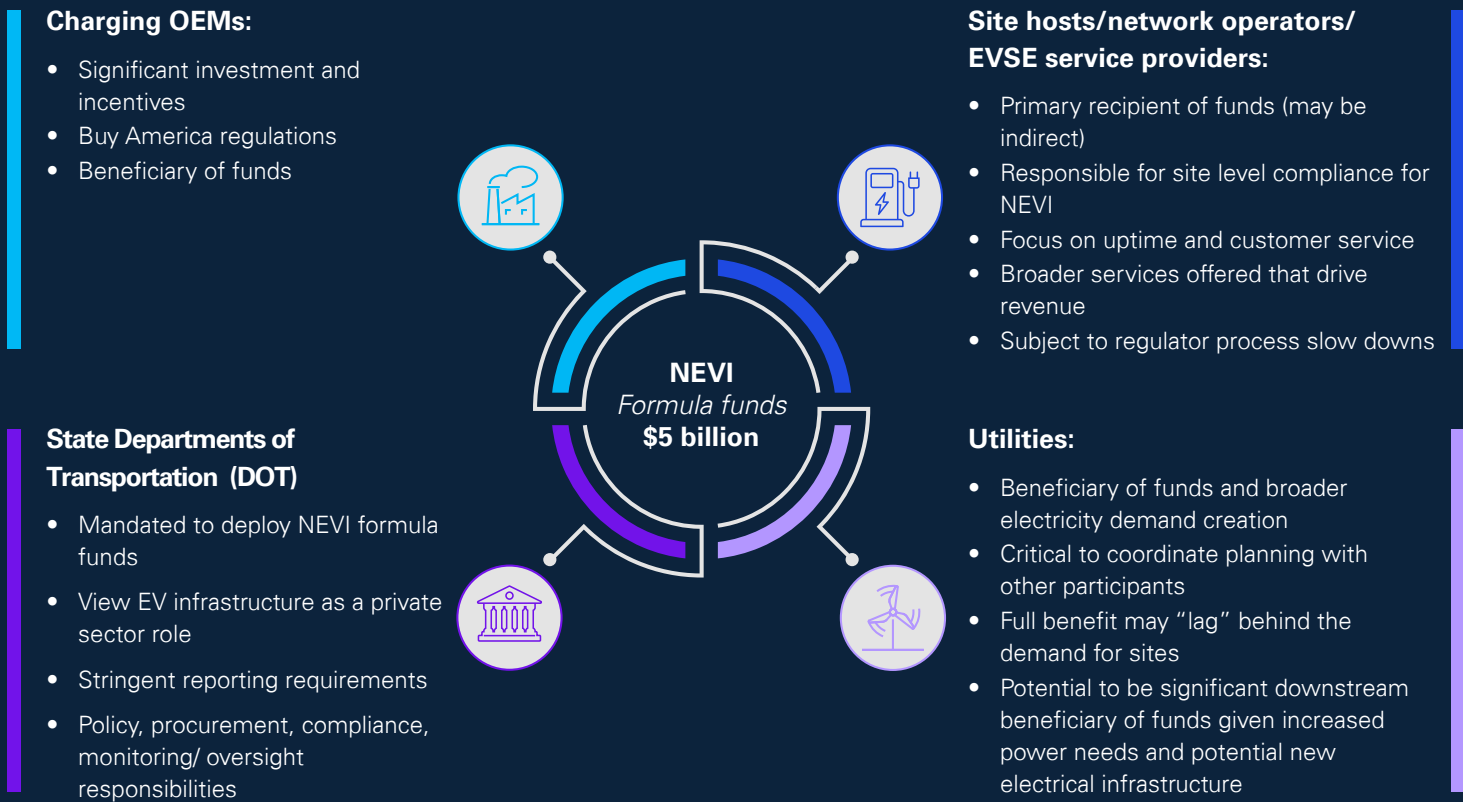
The NEVI program will provide funding for up to 80 percent of eligible project costs, with the remaining 20 percent covered by state or private sector funds.<sup>2</sup> Figure 1 summarizes the key stakeholders who will be directly and indirectly affected by these funds.



<sup>1</sup> KPMG LLP, "Electric-vehicle charging gets a jump start," 2022

<sup>2</sup> Federal Highway Administration website: Bipartisan Infrastructure Law section, 2023

**Figure 1 — NEVI formula program stakeholders**



While state DOTs are responsible for deploying project funding from the NEVI program, the actual design, construction, operations, and maintenance of the charging stations will be carried out by the private sector. NEVI formula funding presents a promising solution for private companies to mitigate financial risk associated with charging station investments, given their high capital and operating expenses.

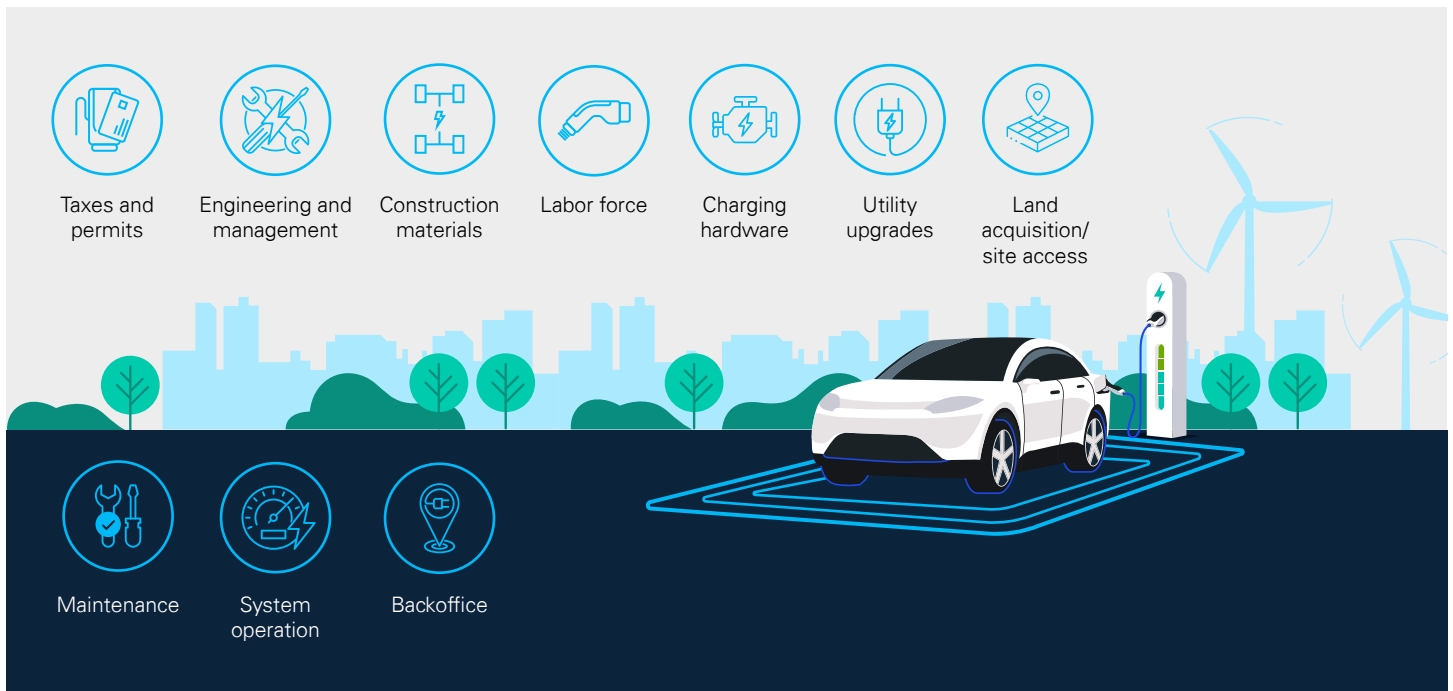
To put things in perspective, it costs between \$28,000 to \$140,000 to construct a single DCFC unit, depending on charging capacity<sup>3</sup>, and that cost is only the tip of the iceberg. Additional factors such as site characteristics and labor force could result in further increases. It’s no

surprise, then, that charging station operators, service providers, and retailers are positioning themselves for NEVI formula funding.

By leveraging NEVI formula funding, private companies can alleviate the high costs of charging infrastructure projects and also better position themselves in the evolving EV marketplace, helping to bridge the infrastructure gap and strengthen the accessibility of EV charging stations to drivers nation-wide. Successful collaboration between states and the private sector is an essential component to the fulfillment of the NEVI program and therefore, private enterprises play a significant role in helping achieve the nation’s ultimate electric transportation goals.

<sup>3</sup> The International Council on Clean Transportation, “Estimating Electric Vehicle Infrastructure Costs Across Major Metropolitan Areas,” August, 2019

**Figure 2 — Illustrative EV charging station cost categories**






It's crucial to recognize that the implementation of the NEVI program will not be a straightforward process—potential private participants must account for considerable variability in market conditions, geography, weather, and economic drivers across the nation, ranging from region to region. As a result, each state government and private entity will need to create a unique value proposition to secure successful funding and deployment of EV charging station projects while navigating the complex requirements that come with participating in the program.

This paper outlines what public and private entities need to know to participate in the NEVI program, and provides guidance on how they can balance federal requirements with commercial practicality to successfully deploy federal EV charging funds, thereby expanding the country's EV charging network. By creating a thorough understanding of the multifaceted nature of the industry, government entities and private enterprises can more effectively develop their respective charging station strategies that align with the NEVI program goals.

# What the public sector needs to consider

For most states, the responsibility for NEVI program implementation will fall to their DOT. As each agency start working to deploy NEVI-funded projects, they will need to consider three key themes:

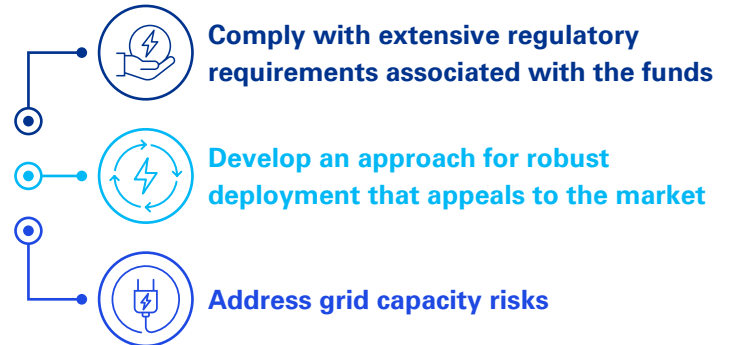
 <p><b>How to prepare?</b></p>	 <p><b>How to implement?</b></p>	 <p><b>How to monitor?</b></p>
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Careful consideration of these themes will assist in the creation of a program that meets the NEVI requirements and commercial practicality to deploy projects subsidized by NEVI funds.



# How to prepare

When it comes to deployment of NEVI funds, public agencies must consider multiple factors, including internal and external coordination efforts, state laws, and coordination of state and federal regulatory requirements that may impact their deployment strategy, and an approach to integrate state and federal requirements. To achieve the most effective deployment of NEVI funds, state agencies must engage in significant preparation that necessitates the resolution of three critical challenges:



## Extensive regulatory requirements associated with the funds

Projects funded under the NEVI formula program must comply with a plethora of regulatory requirements, which requires rigorous planning and consideration. The public sector must find ways to harmonize these federal requirements with existing state and local laws in a way that remains commercially practical.

Moreover, compliance isn't just about meeting federal requirements. State agencies must also develop transparent reporting processes to demonstrate compliance, which can present a unique challenge, particularly when it comes to the lesser-understood reporting requirements like Justice40. Launched in January 2021, Justice40 mandates that at least 40 percent of the benefits associated with certain federal programs flow on to disadvantaged communities.<sup>4</sup> To ensure compliance, state agencies must meticulously define both the direct and indirect benefits and carefully track, monitor, and report on the impacts of their investments.

Thus, state agencies must strike a balance between meeting the necessary federal requirements, ensuring the commercial practicality of their efforts, and successfully reporting on their compliance obligations under Justice40. Careful planning and preparation will be critical to successfully navigating the regulatory landscape and fulfilling the potential that the NEVI program can offer.

State agencies should strive to strike a balance between meeting the necessary federal requirements, ensuring the commercial practicality of their efforts, and successfully reporting on their compliance obligations.

<sup>4</sup>The White House website, "Executive Order 14008 – Tackling the Climate Crisis at Home and Abroad," January 27, 2021

# Development of a robust deployment strategy that is attractive to the market

In addition to addressing regulatory issues, public sector entities must focus on achieving their commercial and financial goals. However, applying program income, defining a reasonable rate of return on investment for private sector participants, and developing a strategy for payments during operations and maintenance has proved to be challenging for many state agencies due to ambiguity and flexibility in NEVI requirements.

As states define what a “reasonable” rate of return is, some may opt to cap payments to the private sector after a specified return on investment is reached, while other states may tie payments to a set charging station utilization threshold. For example, Kentucky has chosen to allow for the termination of operational payments if annual average EVSE utilization meets or exceeds 50 percent for an individual NEVI project.

When determining how to account for private sector return on investment, it is crucial that states consider the impact on the commercial attractiveness of the state NEVI program. Additionally, states may decide to structure NEVI fund payments in a manner that incentivizes the long-term stewardship of charging sites throughout the five-year operations and maintenance period and beyond. For example, payments may be tied to the completion of varying project milestones throughout the entire seven-year NEVI period, with a heavier weighting toward milestones occurring during the operations and maintenance period. It is important for state agencies to consider their potential private sector clients when making these decisions, as varying financial structures can impact subrecipient cash flows and, ultimately, the private sector’s interest in the state NEVI program.

An additional consideration for DOTs looking to build a successful NEVI program is determining the security mechanism that best balances their department’s interests with private sector appetite in their state NEVI program. For example, more security becomes less attractive, more onerous, and expensive for the private sector, but provides more protection for state DOTs to recover funds in the case of contractor underperformance (abandoned assets, non-operational sites, USDOT clawbacks, etc.). By comparison, less security may create a more attractive opportunity and provide more flexibility to the private sector, but it offers less protection to state DOTs.

As states develop a robust deployment strategy, difficult and complex decisions must be made on these key considerations. State DOTs should evaluate the advantages and disadvantages of each, while also balancing their program’s objectives and priorities to create a successful NEVI program.



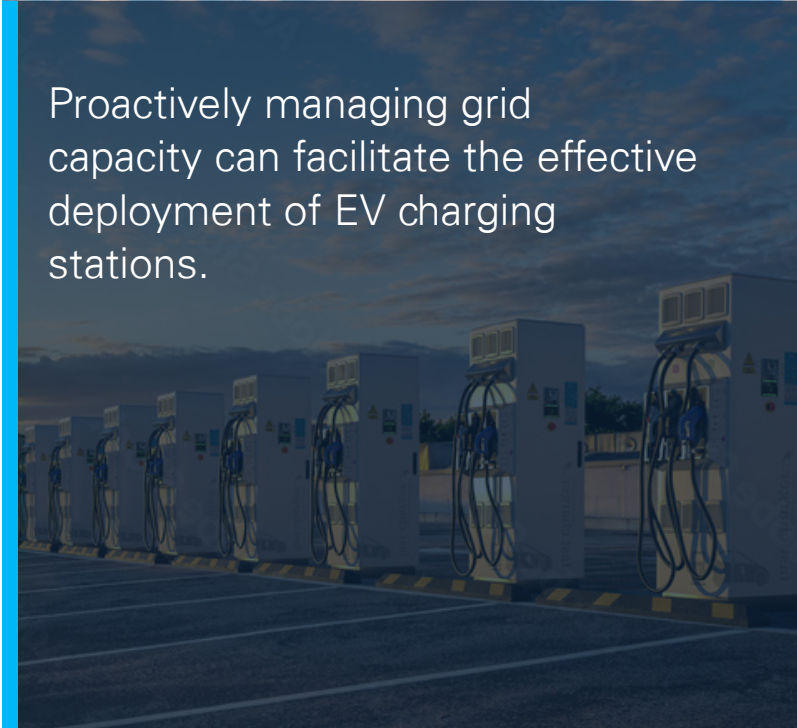
## How to assess and address grid capacity risks

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Adding EV charging stations throughout a region raises concerns about potential project delays and increased costs due to the additional demands made on an electricity grid with inadequate capacity. To optimize charger locations, it is important to consider grid capacity and identify areas that require proactive upgrades.

To address grid capacity risk, infrastructure upgrades and innovative solutions (such as smart-managed charging technology and flexible electricity pricing structures) are required upfront. Given their size and position in the market, public agencies should spearhead coordination with utility providers to prepare the grid.

In the growing EV market, both public and private sectors need strategic planning that considers the impact on the grid. Recognizing the ongoing NEVI cycle, there's an opportunity for collaborative solutions across public, private, and utility sectors. Proactively managing grid capacity can facilitate the effective deployment of EV charging stations.



Proactively managing grid capacity can facilitate the effective deployment of EV charging stations.

## How to implement

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While the information obtained during preparation will inform the state's implementation of NEVI projects, soliciting feedback from industry experts can provide valuable insight into the commercial viability of the program, which can be used to further refine policy decisions. It's important to ensure transparency during the solicitation process, and that private sector expectations align with program requirements. Additionally, state agencies should bear in mind that other states may employ different approaches to meet NEVI requirements.

Lastly, the private sector often uses timing as an important metric when assessing a state's readiness for investment. Therefore, public entities should make every effort to adhere to their projected timeframes and avoid causing unnecessary delays. By doing so, they can contribute to a more stable and predictable investment environment, which is essential for the program's long-term success.



# How to monitor

Ongoing monitoring of NEVI funded projects will be divided into two categories. The public sector will conduct 1) compliance monitoring to ensure that all requirements are being met and 2) performance monitoring to improve processes to meet public and private preferences where needed.



## Compliance monitoring

Due to the large number of federal requirements associated with NEVI funding, state agencies must design robust controls to monitor and report on these requirements effectively. The public sector must individually identify and plan for each monitoring requirement, and then communicate these requirements to the private sector. The additional levels of reporting required—such as collecting documentation associated with the Buy America requirements, completing certified payroll in accordance with Davis Bacon requirements<sup>5</sup>, and meeting all audit requirements detailed in 2 CFR 200 (which vary depending on if NEVI funds are disbursed through a grant or procurement)—may be new to the private sector, so state agencies must demonstrate effective processes to ensure correct documentation is collected and monitored.



## Performance monitoring

As state agencies release their NEVI funds, they should monitor private sector performance in areas to ensure:

- Operational charging stations that are available to the public 97 percent of the time
- Program income (revenue generated by the EV charging station)
- The reasonable rate of return on the private sector's investment in the EV chargers.

Monitoring of the EV chargers will be vital because it will provide both the public and private sectors feedback on the success of the project. This feedback can be used on future EV charging station deployments and provide valuable insights on lessons learned.

## Key takeaways:

- State DOTs must balance state, federal requirements, and commercial practicality for deployment of policy decisions unique to each state.
- Many private sector NEVI participants may be new to working with the public sector and the strings attached to federal funding, so clear and transparent requirements are paramount.
- Ongoing monitoring of NEVI funded EV charging stations will be critical to the future success of the state program.

<sup>5</sup> Federal Register website, "National Electric Vehicle Infrastructure Standards and Requirements," February 28, 2023

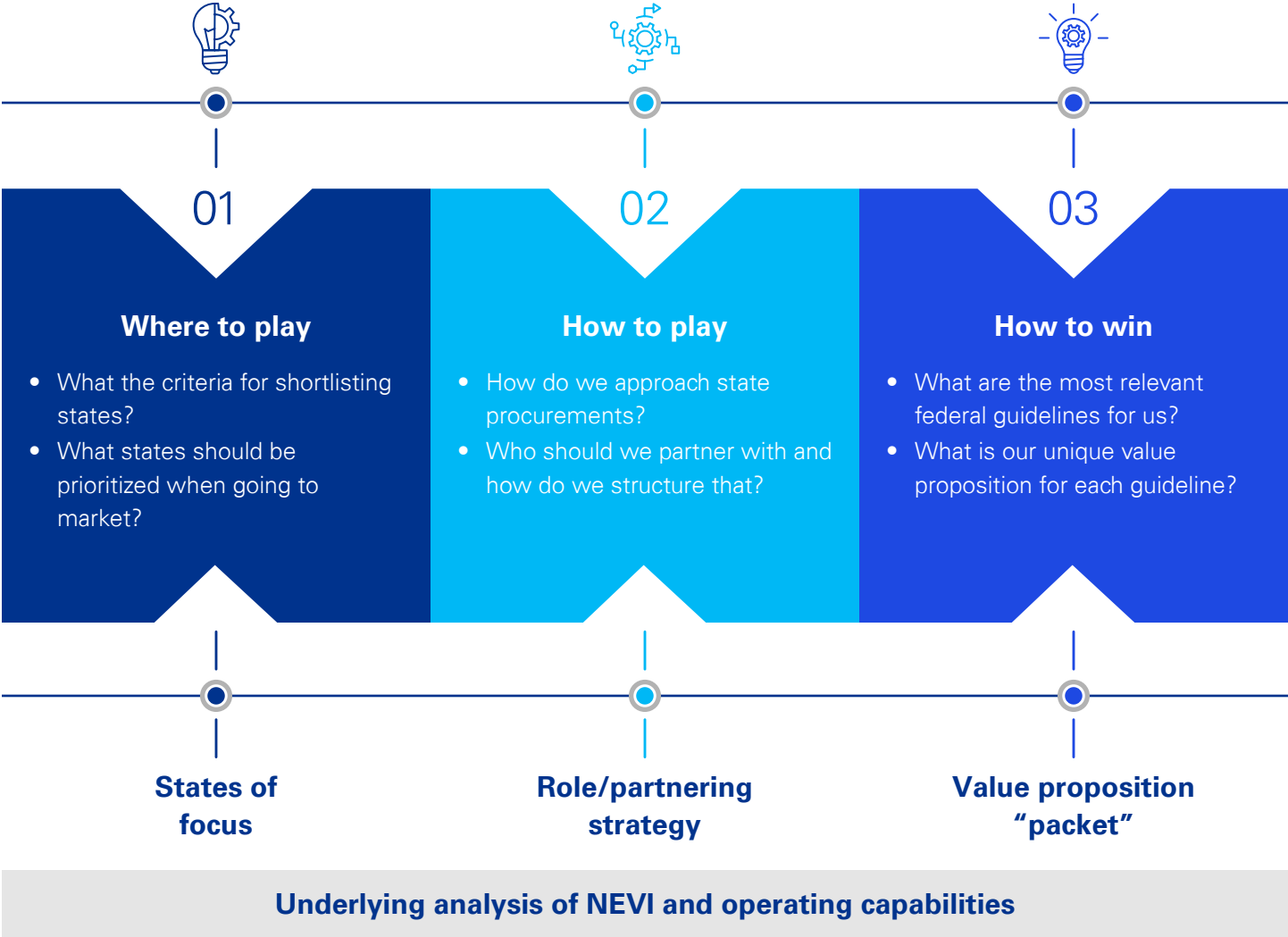
# What private companies need to know

NEVI funding presents a unique chance for the private sector to mitigate the significant financial risk associated with pursuing market entry, expansion, and growth opportunities in EV charging space. This funding is not limited to established charging operators but extends to other smaller enterprises like gas stations, truck stops, convenience stores, and real estate owners within one mile of a state’s AFC.

Indirect beneficiaries of the program extend to manufacturers of charge stations, utilities, and services companies that provide design, installation, and maintenance.

Similar to public agencies, the private sector should take a disciplined approach to NEVI funding. Figure 5 (see page 12) outlines this approach.

**Figure 3 — Private sector NEVI approach**



# Where to play

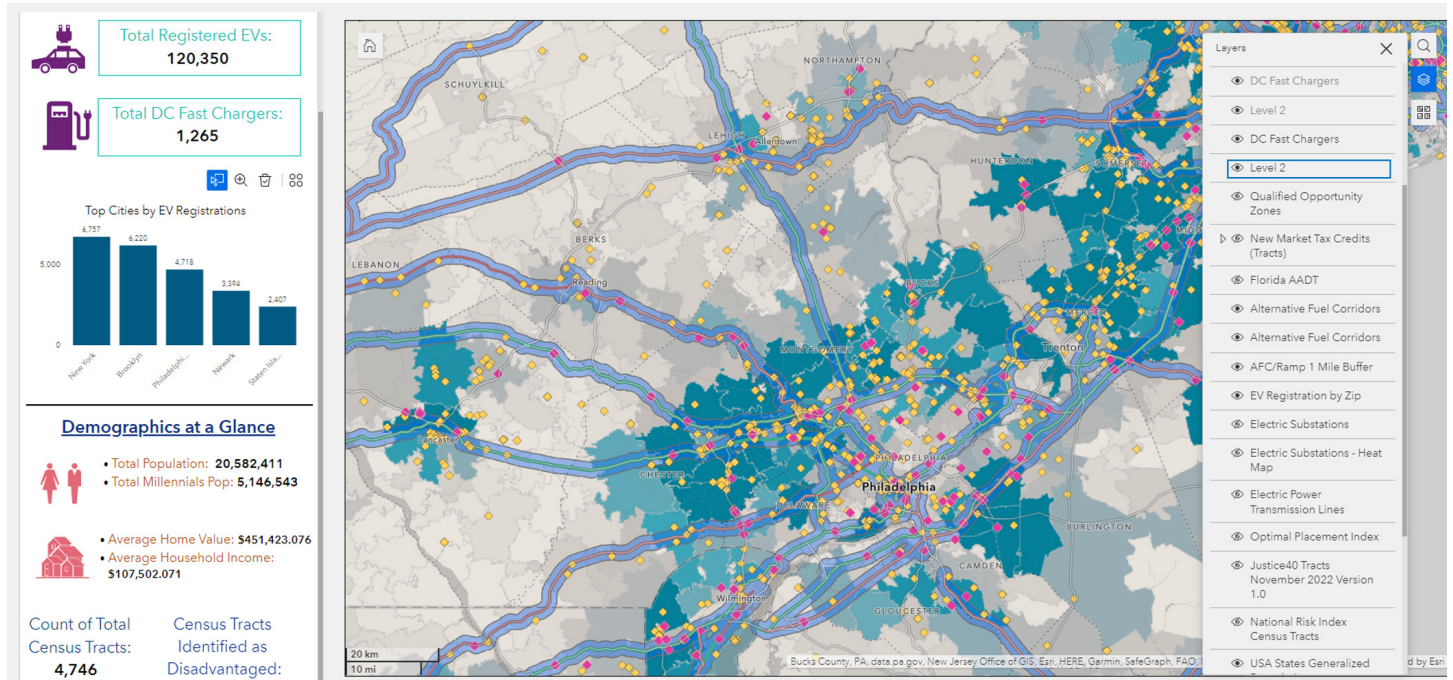
Private companies must prioritize the states where they intend to go to market—their first step is to evaluate their geographic operating footprint and their potential market share of EV charging facilities, as well as strength of their relationships within each state.

Private companies should use data to make informed decisions about where and how to invest in electric vehicle infrastructure. KPMG has developed a dynamic geospatial analytics tool that we use to support holistic, programmatic planning for clients who want to fund or deploy EV charging infrastructure. The tool overlays a diverse range of geospatial data, including future EV charging demand, built-in indexes (such as Justice40), and proprietary datasets including retailer and amenity

locations, to provide analysis to client specific priorities. By prioritizing investments based on data, private companies can increase the likelihood of successful EV charging infrastructure deployments and a profitable return on investment.



**Figure 4 — Location analytics tool used by KPMG**



It is crucial for private companies to evaluate how different parts of the public sector approach the NEVI program given the unique challenges and opportunities present in each state. For example, the decision by state DOTs to award contracts for service or grant awards can impact the private sector’s compliance obligations and requirements. By assessing each state’s EV deployment priorities, private

companies can define their value proposition and highlight their competitive advantage as they engage with state agencies. This approach will enable private companies to position their solutions more effectively, demonstrate their commitment to the state’s goals, and ultimately maximize their chances of success in a rapidly evolving market.

**Figure 5 — Difference by state for key NEVI requirements**

<p><b>Different delivery methods by state</b></p>	<ul style="list-style-type: none"> <li>• Traditional procurements, public-private partnerships (P3), or grants</li> <li>• Responsibilities, risks, and compliance requirements depend on delivery method</li> <li>• Policies and laws will frame each approach and program</li> </ul>
<p><b>Project oversight</b></p>	<ul style="list-style-type: none"> <li>• Delivery methods may determine the level of oversight</li> <li>• Results driven oversight versus hands-on oversight</li> <li>• Reporting, site visits, and audits may be used as oversight tools</li> </ul>
<p><b>Cost reimbursement and treatment of program income</b></p>	<ul style="list-style-type: none"> <li>• Non-federal match towards NEVI funds of at least 20 percent</li> <li>• Installation and O&amp;M payments structured differently</li> <li>• Program income reduces NEVI funds used for O&amp;M and considers a reasonable rate of return defined by the state</li> </ul>
<p><b>Cost eligibility requirements</b></p>	<ul style="list-style-type: none"> <li>• Cost eligibility among states</li> <li>• Different approaches on the cost validation process (i.e. reviewing actual invoices to document costs, or some other means)</li> </ul>
<p><b>Program regulatory compliance</b></p>	<ul style="list-style-type: none"> <li>• Four different sets of regulatory requirements: 2 CFR 200, NEVI minimum standards, title 23, and individual state requirements</li> <li>• Dictates operation standards, Buy America provisions, prevailing wage laws, environmental (NEPA), and qualified technician requirements</li> <li>• Establishes oversight and reporting requirements</li> </ul>


Once companies have weighed these factors, they can better determine the states that best fit their market offering.

# How to play

Once private companies have identified their target markets, they need to move fast and effectively to seize opportunities. This entails prioritizing potential NEVI sites based site criteria and operating footprint, and building partnerships to support funding pursuits if necessary.

It is critical for private companies to have a comprehensive understanding of the specific requirements associated with accepting federal funding before committing to an agreement. These obligations are likely to be more extensive than what the private sector is familiar with, and in most cases will require significant work that will continue for an extended period of five years.

With transparent procurement guidelines established by the public sector, potential private sector companies are empowered to scrutinize selection criteria and present the most compelling bid proposal that aligns with their business needs and strategy.



It is crucial that private companies have a thorough understanding of all requirements and reporting obligations associated with accepting federal funding.

# How to win

Private companies that can quickly adapt or scale their operating model to meet NEVI and state requirements will have a clear advantage. Adaptation can take place internally, incorporating NEVI funding requirements such as Buy America and National Environmental Policy Act into existing expertise, or externally through the formation of key partnerships with electric vehicle players to help

increase the company's credibility as an active participant in electrification. To win in their chosen market, private companies should align their relevant experience and differentiators to the state-specific programs. The private sector should research the public agency's specific goals, and tailor their proposal and approach to demonstrate how their expertise and solutions match those goals.

## Key takeaways:

- Data analytics and understanding of state and local requirements are key factors for private companies to consider as they determine the optimal markets for investment.
- Understanding the requirements, obligations, and commitments associated with NEVI agreements will be key for private players in the EV market.
- A tailored value proposition and a nuanced deployment approach aligned to the state's goals can help private companies win in their chosen market.

# Final thoughts

Unprecedented levels of funding and investment in the EV landscape present opportunities for both the public and private sector to collaborate. With the availability of the NEVI funds, uncertainty around the installation of EV charging infrastructure can be alleviated, making it easier

for stakeholders to support EV adoption. By working together, public and private sectors can address one of the principal challenges that limit EV adoption and foster the development of a thriving EV charging market.

## How KPMG can help

KPMG has the knowledge, skills, and resources to help states and private companies with their efforts around NEVI funding.



For the public sector, KPMG provides a program management office (PMO) that can be rapidly mobilized to complement our client's existing IIJA organizational response across the lifecycle of new grants and incentives.

We provide a mature and robust approach to coordinating, delivering, managing, and monitoring funding programs through P3-related programs and other innovative means.



For the private sector, KPMG has a structured highway charging go-to-market playbook that applies our deep insights on the complexities of state-level public sector procurement processes. We combine this with a 360-degree view of the EV market from our work with

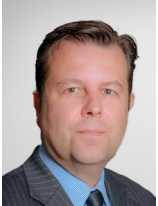
automotive OEMs and charge station manufacturers, EV service providers, site hosts, and utilities. KPMG also has strong roots in the audit and compliance world. We design robust controls to help keep our clients compliant.



Both public and private sector client engagements are underpinned by data and a robust suite of analytical tools and accelerators such as the KPMG location analytics

tool, which gives our project teams the ability to rapidly overlay and join data layers and enables us to tailor advanced analytics to specific client priorities.

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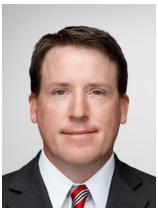
Guy leads the government sector for the KPMG Infrastructure Capital and Climate practice. With more than 20 years of experience advising on complex and transformational infrastructure programs, he provides strategic and commercial advice to C-suite clients in the transportation and government sectors, helping them take programs from planning and strategy through to implementation. Guy has extensive experience developing business cases for approval, securing local and federal funding and financing, developing financial and commercial structures and attracting developers/equity to deliver programs.



## **Ted Hamer**

*Managing Director*

Ted is a recognized leader in future mobility and helps clients proactively manage and respond to the transformative technologies impacting transportation, logistics, and transit including autonomous and connected vehicles, electrification, and mobility as a service (MaaS). He has worked with over 25 state and local governments and higher education institutions during his 22+ years at KPMG. He also brings experience working with OEMs and technology providers on the electric transformation taking place.



## **Michael Stacey**

*Director*

Michael is the National ZEV campaign leader for the KPMG Infrastructure practice. He develops strategies for the private and public sectors exploring opportunities in electric vehicle infrastructure and rolling stock. Given the significant federal stimulus including NEVI, he has recently led a number of engagements in strategy development, infrastructure demand modeling, market sounding, and EV charging value chain analysis.

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