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Contracting for Public DC Fast Charging

Lessons learned from projects to date

Prepared by: Zachary Strauss, Nicole Lepre, and Lucy McKenzie (Atlas Public Policy)



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This report details lessons learned in developing requests for proposals (RFPs) and contracts for the deployment of public fast charging for electric vehicles. In addition to drawing from published literature, Atlas Public Policy conducted 16 interviews with state agencies, electric utilities, EV charging service providers, and automakers who have been involved in contracting with electric vehicle service providers (EVSPs) for the provision of public DC fast charging.

6/27/2023

This study was completed by Atlas Public Policy

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Executive Summary

Building out a robust public electric vehicle (EV) fast charging network is critical for the United States to meet its electric transportation goals and serve its ever-increasing population of EV drivers. The federal government is in the process of rolling out the historic \$5 billion National Electric Vehicle Infrastructure (NEVI) program, under which each state Department of Transportation (DOT) has been allocated funding to deploy public fast charging stations across major highway corridors. As DOTs move forward, thoughtful solicitation processes and well-crafted contract language will be key to establishing a reliable, geographically complete charging network that centers drivers' needs.

This report details lessons learned in developing requests for proposals (RFPs) and contracts for public fast charging for EVs. In addition to drawing from published literature, Atlas Public Policy conducted 16 interviews with state agencies, electric utilities, EV charging service providers, and automakers who have been involved in contracting with electric vehicle service providers (EVSPs) for the provision of public DC fast charging. While these lessons learned provide a solid foundation, the EV charging policy and market landscape is developing rapidly, and best practices for public fast charging will continue to evolve as the charging ecosystem grows.

Findings are organized under fifteen key contracting elements. Table 1 below provides a summary of key recommendations. The sections that follow provide additional recommendations and discussion. These recommendations have been developed using cited literature and interviews, but their applicability in each state will depend on local conditions and context.

Table 1: Key Recommendations

Contracting Element	Key Recommendations
Issuing Contracts Vs. Grants	Contract model often chosen to provide agencies with greater control and oversight.
Roles & Responsibilities	Most interviewees seek turnkey service providers to manage almost all aspects of the charging value chain.
Operations & Maintenance Plans	Mandate that applicants provide detailed operations and maintenance plans as part of RFP submittal.
Attracting Qualified Applicants	Attract qualified applicants by providing clear, unambiguous requirements in RFPs. Request that applicants demonstrate past success at similar projects.
Ensuring Geographic Coverage Across the Network	Approaches may include 1) issuing bids for whole charging corridors, 2) offering additional incentives for sites in low-utilization areas, and/or 3) packaging low- and high-utilization sites in one solicitation.
Disadvantaged Business Enterprise & Local Workforce Priorities	The federal Disadvantaged Business Enterprise (DBE) program does not apply to NEVI Formula Funds. However, many states have interpreted this to mean they may prioritize supplier diversity as part of their scoring rubrics and within their own applicant evaluation process.

Site Host Engagement	Ask applicants to provide site host “letter of intent/interest” and/or ask for demonstration of experience securing site host agreements.
Utility Engagement	Consult with local utilities to create feasible application requirements related to utility cost and timeline estimates and to evaluate potential sites for available electrical capacity.
Encouraging Vendor Compliance	Common compliance mechanisms include: withholding a certain percentage of payment until milestones or maintenance standards are met and levying a breach-of-contract fee (liquidated damages) on contracted parties. Claw back mechanisms should generally only be invoked as a last resort.
Site Access & Amenities	Require basic features, especially safe, 24/7 site access and access to a restroom.
Pricing & Revenue	Most agencies are not intending to collect charging revenue or intervene in setting charging rates.
Payment Mechanisms & Milestones	Milestone-based payment mechanisms are administratively easier to manage than other mechanisms. However, program funders should be wary of tying milestones and payment disbursement to strict, pre-established timelines and should instead build flexibility into project schedules.
Administrative Burden	Provide transparent scoring rubrics in the RFP, support applicants with federal permitting, conduct pre-application workshops and webinars, and streamline the data reporting process.
Contract Duration	Include vendor plans/intentions to maintain and operate chargers after the five-year minimum NEVI requirement in RFP scoring criteria.
Other Considerations	Consult with neighboring states on site selection to ensure gaps between fast chargers are not too wide. Engage with state highway administrations.

Introduction

As a growing number of plug-in EVs hit the road every year, fast chargers must be deployed to meet rising demand and driver needs. Several previous efforts, such as the West Coast Electric Highway and the Volkswagen Settlement Trust, have successfully expanded public fast charging opportunities regionally and nationwide, and electric utilities, automakers, and charging providers have also been investing resources in the public fast charging network [1, 2, 3]. However, the U.S. charging network will need to multiply several times over to achieve established climate goals, such as the Biden Administration's goal to have 50 percent of all new vehicle sales be electric by 2030, or EPA's proposed vehicle emission standards [4, 5]. To address this challenge, the Biden Administration is working to install 500,000 public chargers across the country by 2030 and has recently released guidance for the \$5 billion National Electric Vehicle Infrastructure Program (NEVI), an initiative borne from the Infrastructure Investment and Jobs Act to deploy public fast charging along major corridors.

State departments of transportation (DOTs) are to be the direct recipients of federal NEVI funding, tasked with disbursing the funds and ensuring public fast chargers are installed every 50 miles along designated alternative fuel corridors. The federal government has issued minimum standards and requirements to which state governments must adhere as they deploy these funds. While the NEVI program serves as a historic opportunity to expand EV charging infrastructure across the country, many state DOTs are new to this technology and lack experience working with electric utilities, managing uptime requirements, and dealing with the complexities of public fast charging. Generally, state agencies have therefore chosen to partner with established private sector electric vehicle service providers (EVSPs) to design, install, and maintain DC fast charging stations. To make sure deployments and routine operations run smoothly and that a robust charging network develops across the country, funding agencies will need to craft strong, effective contracts with vendors and attract qualified applicants through well-drafted requests for proposal (RFPs). Contracting elements such as compliance, payment schedules, roles and responsibilities, and utility engagement must be taken into account to ensure that charging sites and networks are built, designed, and run well. Without proper contracting for public fast charging, funding entities risk missing the mark and lowering the quality, performance, and integrity of the network writ large.

This report offers a summary of lessons learned from public DC fast charging installations to date, which may guide public and private entities as they design RFPs and develop contracts with private sector suppliers. While these findings have broad applicability to public fast charging efforts, the primary audience for this report is state DOT staff charged with deploying NEVI funds and establishing a public fast charging network across their states. The remainder of this document details lessons learned across fifteen key contracting elements:

- Issuing Contracts Vs. Grants
- Roles & Responsibilities
- Operations & Maintenance Plans
- Attracting Qualified Applicants
- Ensuring Geographic Coverage Across the Network
- Disadvantaged Business Enterprise & Local Workforce Priorities
- Site Host Engagement
- Utility Engagement
- Encouraging Vendor Compliance
- Site Amenities
- Pricing & Revenue
- Payment Mechanisms & Milestones
- Administrative Burden

- Contract Duration
- Other Considerations

While the lessons learned described can be broadly applied to any contracting or RFP process for the provision of public fast charging services, this report makes particular reference where applicable to the NEVI program standards and requirements [6].

Methods & Acknowledgements

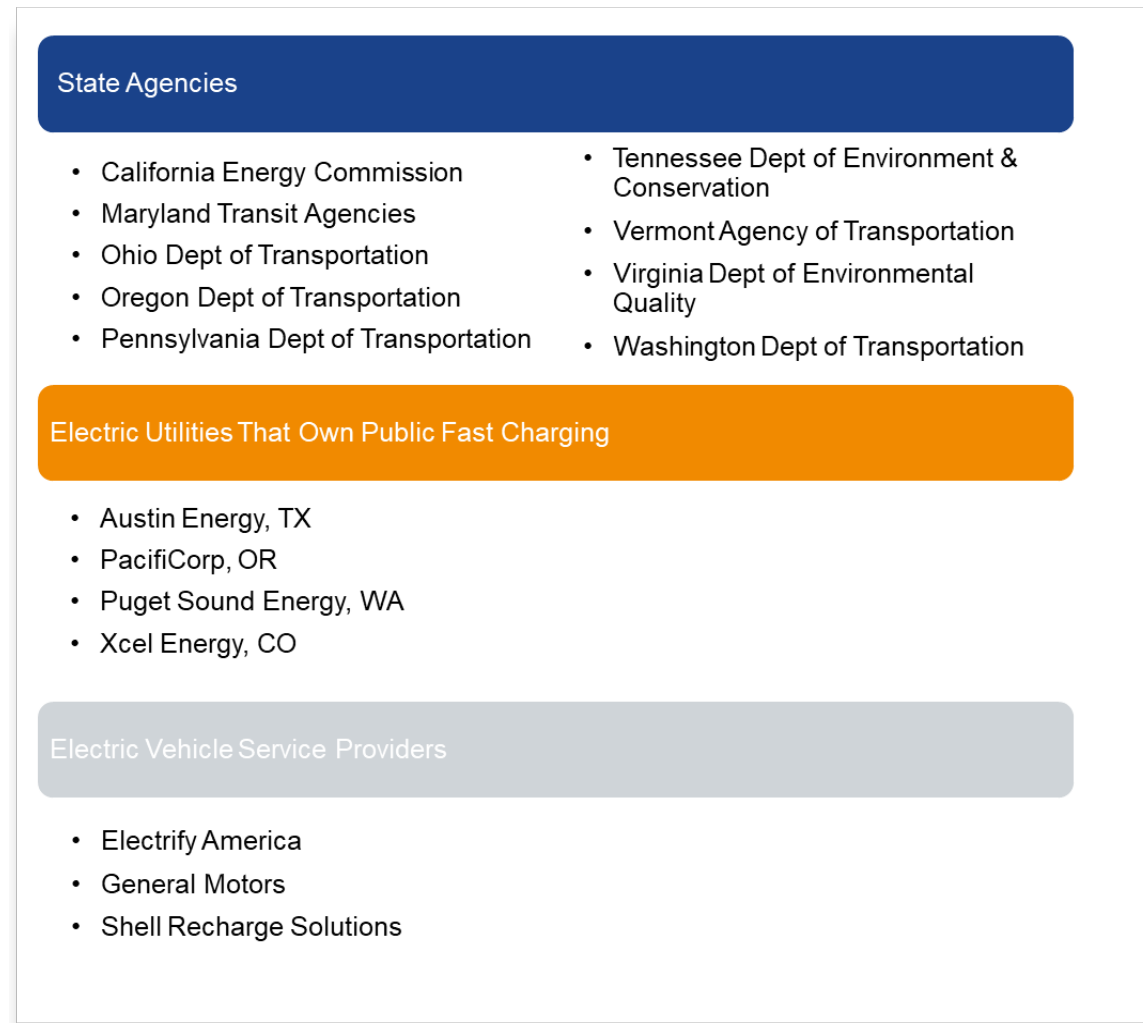
This report focuses specifically on contract design and the development of RFPs for the deployment and provision of public fast charging.

This is not the first study to provide recommendations focused on contracting for public fast charging, and other works published by the Northeast States for Coordinated Air Use Management (NESCAUM) [7], the European Investment Bank (EIB) [8], and Forth [9] serve as useful references. Funding entities are encouraged to consult these publications, and some key findings from these pieces have been incorporated into this report. However, this work is unique in its approach to this topic in that it takes into account the impact of the NEVI Program and federal electric vehicle infrastructure initiatives.

In addition to drawing from the existing literature, this report integrates data from 16 interviews completed in March/April 2023 by Atlas Public Policy (Atlas) staff. Atlas thanks these interviewees for their time and willingness to share their knowledge. In this interview process, Atlas spoke with entities that have previous experience with contracting for public fast charging and/or are currently in the process of developing contract and RFP language. All but two state agencies interviewed for this report had significant previous experience with contracting for public fast charging, gained either from their past work developing the West Coast Electric Highway, awarding Volkswagen Settlement funds, or through public-private partnerships with utilities.

Interviewees are listed in Figure 1 and include nine state agencies, four electric utilities, two private sector EVSPs, and one automaker. In order to encourage candid interviews, Atlas did not attribute comments to individual interviewees. In conducting these interviews, Atlas sought to identify the latest developments, challenges, solutions, and lessons learned in contracting for public fast charging, and to compile specific examples, anecdotes, and experiences from those doing the work on the ground. The recommendations included have been developed using data from cited literature and interviews, but their applicability in each state will depend on local conditions and context. Atlas would like to offer sincere thanks to all 16 interviewees who provided input to this work. While these interviews were critical to the development of this report, Atlas alone is responsible for its final recommendations and conclusions, which may not represent the viewpoints of all interviewees.

Figure 1. Entities Interviewed for This Report



Contracts vs Grants

Recommendation: Most interviewees who chose a contract model over grants did so because they sought greater oversight of projects and vendor activity. They also believed establishing contracts with vendors would help ensure that projects are fully and successfully executed.

As one of the first steps in designing an RFP for public fast charging, state agencies will need to decide whether to employ a grant or contract model. The majority of state agencies interviewed have opted to pursue contracts for disbursement of NEVI funds, and have done so because they felt a contract relationship with EVSPs would offer a greater level of oversight of funded projects, allow them to more strongly enforce requirements and terms, and better ensure project success. A few agencies mentioned that they believed full-corridor bids to be too large to be subdivided into site-based solicitations, and therefore chose contracts to accommodate that priority. According to one agency interviewee, “state governments should issue grants for projects they

hope will come to fruition, for those that they aspire to, but should develop a contract for those projects that must happen.” A number of state agencies are conducting either contract or grant processes based on internal inertia, leaning on what they have done in the past or frameworks already in place to develop their NEVI procurement process. It is important to note that even in instances where an agency chooses a grant mechanism instead of a contract, the lessons learned described in this report will often still apply.

Roles & Responsibilities

Recommendation: States have generally opted to not operate or maintain public fast chargers but rather contract with a singular turnkey service provider. This third-party vendor should manage all aspects of the charging value chain. Noted exceptions were federal permitting and regulatory processes for environmental review and public right-of-way. In some cases, agencies also took on responsibilities related to siting or site design.

In deploying public fast charging, state agencies have the option to design, install, operate and/or maintain the infrastructure for the duration of its lifetime, or alternatively, cede all or specific components of the charging value chain to contracted vendors. Nearly all utilities, state agencies, and automakers interviewed are looking for turnkey solutions and intend to contract with a single private sector entity to manage all aspects of the EV charging value chain at a given site. This would include negotiating site host agreements, hardware installation, utility connection, operations, maintenance, billing, customer service, and data reporting. According to several interviewees, contracting with one primary vendor minimizes confusion regarding project roles and responsibilities and reduces the number of external dependencies and finger pointing in the case a problem arises. As part of the NEVI RFP process, many state agencies will require applicants to provide organizational charts and delineate the roles and responsibilities of their staff and subcontractors across the project structure.

While state agencies expect the service provider to support all aspects of the charging project, interviewees suggested that some exceptions will apply, such as management of the federal permitting and regulatory processes for both National Environmental Policy Act (NEPA) and public right-of-way. Additionally, certain agencies mentioned they will have a more involved role in site vetting and selection as part of the NEVI process to ensure charging sites are located every 50 miles and equity requirements are met. These agencies will conduct community outreach and solicit public feedback to learn where charger deployments can best meet local needs while complying with program parameters. Many state agency interviewees also mentioned that they will maintain oversight on every project and ensure vendor compliance with contract terms.

Furthermore, whereas most agencies will leave site design to the applicants, one state agency noted they would participate in establishing some of these types of site design specifications. Forth provides example language for doing so [9]. Some agencies communicated that, while they would not prescribe site design requirements, they would ask applicants to detail them in their applications and follow through on these specifications. The EIB suggests that public authorities should often include in contracts the right to review and approve the design of EV charging infrastructure (hardware and software) and reserve the right to approve any changes [8].

Operations & Maintenance Plans

Recommendation: Agencies should require applicants to provide detailed operations and maintenance plans as part of RFP submittal. Agencies should consider implementing the following requirements for vendors: 1) minimum response times, 2) 24/7 customer service, 3) inclement weather maintenance services, 3) regular inspection and maintenance schedules, 4) stock of spare parts, 5) hardware-software compatibility. Agencies should prioritize vendors with a local, on-the-ground presence. When not already required by federal law, agencies should stipulate explicit reliability expectations.

To guarantee a high level of charger performance and reliability, many agencies agreed that EVSPs should be held accountable and commit to specific action plans as part of their contract. Agencies should also establish explicit uptime and reliability requirements in both RFP and contract language. Federal law requires any chargers deployed with NEVI funding to comply with a minimum 97 percent uptime standard. The EIB notes that performance requirements could additionally be defined using 1) the available charging capacity across an area at any point in time, 2) number of service failures and timescales for responding to them, 3) timescales for dealing with user inquiries/complaints/calls for assistance, and/or 4) procedures and timescales for inspections, maintenance and repairs. They also note it is common for contracts to authorize the contracting agency to monitor and/or audit EVSPs' reporting [8].

Many interviewees and the literature strongly emphasized the importance of requiring applicants to provide detailed operations and maintenance plans as part of the application process. These plans would then be enshrined in the contract should the vendor be selected. Recommendations for what to require of applicants include:

- Provide 24/7 customer service support and inclement weather maintenance services, such as snow removal or weatherization [Two state agencies with extensive experience rolling out chargers].
- Require applicants to include minimum vendor response times in contracted operations and maintenance plans (e.g., within 24 hours) to ensure repairs, replacements, and restorations of service take place in a timely fashion. [Interviewee, NESCAUM [7]
- Incorporate in the RFP scoring rubric a “proposed maintenance, repair, and replacement schedule, including response times for malfunctioning EVSE (e.g., vendor’s proximity to the site and number of employees performing maintenance functions)” [Forth] [9].
- Contract with vendors who have a local, on-the-ground presence. Doing so will benefit overall project performance [Several state agencies].
- Require vendors to keep spare parts in stock to preempt supply chain disruptions and enable rapid repair [Utility].
- Include language to guarantee that charging software and hardware are compatible [Utility].

The ‘Encouraging Compliance’ section of this report provides recommendations to help ensure these commitments are met.

Attracting Qualified Applicants

Recommendation: Agencies can attract qualified applicants by 1) including clear, specific requirements, 2) requesting that applicants demonstrate past success at similar projects of similar scale 3) circulating a request for qualifications/information, 4) allowing EVSPs to serve as primary applicants, 5) publishing the full scoring rubric or a pre-qualification list in the RFP. Craft language in an unambiguous way to avoid a race to the bottom and do not jump at the lowest bid.

It is important that agencies develop a well-qualified EVSP pool from which to choose and collect information about vendors that will assist in the selection process. Funding entities can take steps to attract qualified vendors through RFP development and pre-launch engagements with prospective applicants.

One EVSP mentioned that allowing private service providers to participate as primary applicants would enable market actors with the necessary experience to lead a project, as opposed to working through a site host. Historically, under some (often smaller) programs state agencies or utilities have instead required site hosts, or entities with direct property control, to serve as the primary applicant for charger funding. These individuals often have little to no experience or knowledge of the EV charging landscape and are not well equipped to participate in RFPs, plan and oversee installation across multiple sites, or maintain infrastructure on an ongoing basis.

Several interviewees emphasized that issuing corridor-wide solicitations can help attract qualified bidders, since only vendors with adequate resources and know-how could realistically build out charging stations across an entire alternative fuel corridor. However, given the level of installation activity forecasted in response to NEVI, one interviewee suggested that agencies may find it difficult to attract enough qualified bidders who could successfully build out whole routes.

According to many of those interviewed, conducting a clear pre-qualification process saves the funder both time and money, as it limits the scope of potential applicants upfront to only those qualified for the job. Several interviewees relayed that they intend to send out a Request for Information or a Request for Qualifications in advance of formally launching an RFP to evaluate the prospective vendor landscape and remove unqualified providers from consideration early. Forth suggests asking applicants to list any public agencies that have chosen to cancel or not renew contracts with them during the last five years, and to provide a list of communities in which the provider has deployed and maintained chargers. In its scoring rubric template, Forth also includes criteria on 1) current and past vendor performance in similar contracts, and 2) demonstration of applicants' financial stability [9].

In addition, many interviewees emphasized that to avoid a “race to the bottom,” funders must be both explicit and transparent in communicating requirements to prospective applicants. One state agency warned other funders to carefully evaluate the merits of each application and to not jump at the lowest bid. This can be a risk especially when agencies are comparing proposals for fast charging stations of different power levels. Higher-powered DC fast charging stations will be an important aspect of future-proofing as EVs' accepted charging power ratings continue to increase [10]. By allowing vehicles to charge at a faster rate and therefore complete their charging session sooner, higher-powered stations can also reduce congestion at charging sites and reduce the number of parking spaces that need to be dedicated to charging. Installing higher-powered

chargers can also help ensure that publicly-funded stations retain value and continue to be used and useful as drivers and private sector charging networks continue to prefer higher and higher power levels. And, while higher-powered (e.g. 350kW) fast charging stations are more expensive than lower-powered (e.g. 150kW) fast charging stations, higher-powered stations tend to be more cost effective on a per-kW basis [11] [12]. These benefits of higher-powered charging add to the importance of not jumping at the lowest cost bid.

Ensuring Geographic Coverage

Recommendation: Approaches to ensuring comprehensive geographic coverage may include 1) issuing RFPs for whole charging corridors, 2) offering additional incentives for sites in low utilization areas, and/or 3) packaging low and high-utilization sites in one solicitation.

In developing a charging network across the country, state agencies responsible for deploying public fast charging must ensure that infrastructure reaches all segments of their jurisdictions, not just those that are highly trafficked or well resourced. Both high-utilization and low-utilization sites across urban, suburban, and rural areas will need access to fast chargers to make sure the charging network successfully reduces range anxiety and equitably serves residents across the country. As state agencies stand up their NEVI programs, many are concerned that vendors may not bid on charging sites where opportunity for revenue generation is low.

To support broad geographic coverage for public fast charging under NEVI, some state agencies are issuing RFPs for entire alternative fuel corridors, requiring contracted vendors to build out all sites along the designated route. One EVSP mentioned that it would prefer to bid on an entire corridor as opposed to site-by-site projects and noted that such an approach would likely favor more well-resourced providers. One state agency specifically chose to issue site-by-site solicitations to increase the level of competition amongst applicants and to support bids from smaller, local companies.

One agency has further addressed the geographic coverage issue by providing additional financial incentives such as operations and maintenance support and funding for onsite solar to encourage applicants to build out sites in less desirable or more rural areas. An interviewee agreed with the sentiment that supplementary operations and maintenance incentives could attract bidders to build out lower-utilization sites. According to another state agency, even a small increase in funding for a certain area or segment effectively expanded the volume of bids for a group of projects. As a third option, one state agency mentioned it has packaged high-utilization sites with low-utilization sites within a singular solicitation to ensure the former would see development.

Many state agencies relayed that NEVI will be a priority-tiered, multi-phase process, and therefore all gaps do not need to be filled through this first tranche of funding. It is the prerogative of each state to prioritize certain segments and areas during each phase, and subsequent solicitation rounds can be designed to fill gaps in the charging system should they remain. As a positive sign, one NEVI first-mover noted that it has not had any difficulty securing interest in developing lower-utilization segments across its network in the first RFP round, even without offering additional incentives.

Disadvantaged Business Enterprises & Local Labor

Recommendation: According to the NEVI minimum standards and guidelines, the federal Disadvantaged Business Enterprise (DBE) program does not apply to the NEVI program. However, several states have interpreted this to mean they can prioritize supplier diversity and local labor force in their own scoring rubrics and applicant evaluation process.

As established in the NEVI program minimum requirements, the federal “Disadvantaged Business Enterprise (DBE) program does not apply to the NEVI Formula Funds.” State agencies have interpreted this to mean that they cannot obtain credit in the federal DBE program for firms participating in NEVI, nor can they set NEVI-specific DBE goals. However, many state agencies have understood the NEVI minimum standards to mean that they can incorporate their own state-based supplier diversity criteria and priorities into their scoring rubric and applicant evaluation process. Furthermore, The Joint Office of Energy and Transportation states on its NEVI FAQ, “State DOTs should continue to work with small and disadvantaged businesses on NEVI-funded work [13].”

Many state agencies mentioned that they have prioritized supplier diversity and applicant engagement with disadvantaged businesses (Women, Veteran, and Minority-owned businesses) in their NEVI scoring rubrics. One agency mentioned that previously they have allowed state supplier diversity requirements to be met with subcontractors.

With regard to labor requirements, all NEVI funding recipients and projects must abide by federal Davis-Bacon prevailing wage laws. State agencies are free to incorporate priority scoring criteria supporting local or state-based companies, or entities that have a proven track record of engaging or working with local labor. One state agency specifically mentioned this was a priority and that it is including scoring criteria to attract and support bids from local companies.

Site Host Engagement

Recommendation: In designing an RFP, state agencies should not require applicants to secure a site host agreement as part of the application process. Rather, agencies should ask applicants to furnish a site host “Letter of Intent/Interest” and/or evaluate previous applicant experience in securing site host agreements.

As part of the RFP process, EVSPs should be required to demonstrate engagement with prospective public fast charger site hosts. However, nearly all interviewees agreed that it would prove infeasible for applicants to secure signed site host agreements as part of the application process, and that such a requirement would levy undue administrative burden on applicants and potential site hosts. Interviewees felt that site hosts would likely be hesitant to formally sign onto any project prior to securing funding. One state agency initially provided applicants with a site

host commitment letter template, but later backed away from this approach to provide both applicants and site hosts with greater flexibility and to avoid the perception of offering legal advice.

Further, some sites, especially particularly attractive or strategic sites (for example due to location or driver amenities), may be approached by a number of different vendors all vying for the same location. This high level of interest from different parties could overwhelm site hosts and place them in a difficult position should they be forced to commit to one EVSP or project before funding has been awarded.

As a solution, several interviewees agreed that state agencies should ask applicants to provide a “Letter of Support/Interest” from potential site hosts, which would demonstrate evidence of site host engagement while maintaining an important level of flexibility. One utility mentioned they required a site host “Letter of Support” when contracting for public charger deployments as part of the Volkswagen Settlement. Several agencies relayed that they would prioritize applicants who submit site host Letters of Intent in their scoring rubrics, while one agency explained that it would instead evaluate previous applicant experience with securing site host agreements as its key metric in this area.

Utility Engagement

Recommendation: Some level of demonstrated utility engagement should be required for RFP applicants. Views are mixed as to whether applicants should be obligated to secure project cost and timeline estimates from utilities in order to apply. State agencies should consult with local utilities to ensure the companies have the resources and capacity to effectively and efficiently support RFP requirements and to identify which areas within state-designated charging gaps have available electrical capacity.

Electric utilities are critical stakeholders in the deployment of public fast charging, responsible for upgrading electrical infrastructure, facilitating connection with the grid, and serving power to the site. Without effective engagement with the utility, charging projects may face long delays or require costly unforeseen electrical upgrades. As such, state agencies should require applicants to demonstrate some level of engagement with the utility as part of any public fast charging RFP process. This could take the form of a letter from the utility outlining applicant outreach, an introductory meeting with relevant utility staff, or an electrical capacity viability check at a given site.

Interviewees held mixed opinions as to whether applicants should be required to secure a project cost and timeline estimate from the utility for each site as part of the RFP process. Certain utilities believed it would be both feasible and critical to provide applicants with this information, while others did not find this requirement to be something they could realistically support.

Views were equally divided among state agencies as to whether they believed such a requirement should be incorporated into RFP language. One agency noted that if state governments are going to require applicants to provide this information, they must build that into the RFP process and provide applicants with enough time to reasonably solicit and receive that data from the utility. On the other hand, several interviewees did not believe utilities in their states could furnish that level of information at such an early stage and felt that this requirement would place a third-party external dependency at the center of the application process. Rather, one EVSP recommended

that applicants be able to provide cost ranges based on similar, previous work, or generate and submit their own cost estimates.

One of the first public agencies to launch its NEVI RFP, initially had applicants provide utility cost and time estimates. However, they walked that requirement back shortly thereafter because they found that prospective applicants were unable to meet it, and/or it caused lengthy delays in the RFP submittal process.

To mitigate these and other challenges, state agencies should consult directly with utilities as they develop their RFP requirements to ensure the companies have the staff resources and capacity to assist applicants in meeting the desired level of obligation. Likewise, agencies should work directly with the utility to try to identify which sites are viable on an electrical capacity basis to inform their site selections. For those service territories in which the utility offers capacity hosting maps, agencies could use these, or direct applicants to use them, to scan for sites with sufficient electrical distribution capacity to lower costs [14] [15]. Some states require that utilities provide such capacity hosting maps [16].¹

Encouraging Compliance

Recommendation: Common compliance mechanisms include withholding a certain percentage of payment until milestones or maintenance standards are met or levying a breach of contract fee (liquidated damages) on contracted parties. Claw back mechanisms should be invoked only as a last resort.

When developing contract language for public fast charging, it is vital that funding entities incorporate strong language that incentivizes and encourages vendor compliance with established terms. The EIB notes that, in contracts, public authorities typically maintain the right to monitor project progress and compliance with technical specifications and requirements [8].

In addition, compliance mechanisms can help ensure that vendors make good on their uptime, repair, and replacement obligations, and will be an important means to guarantee effective operation and maintenance of the national charging network beyond states' initial funding investment. All state agencies and utilities explained that they have previously incorporated compliance language into their vendor contracts, and that they intend to do so again as part of the NEVI program. Interviewees relayed the following mechanisms to incentivize vendor compliance with contract terms, listed in order with most common responses first:

- Withhold a certain percentage of payment (e.g. 10 percent) until certain milestones are reached or O&M requirements are met (based on vendor performance). As part of NEVI, one agency is retaining 10 percent of payment over the five-year agreement, to be disbursed to the vendor in 1/5 increments after each year of satisfactory reporting.
- Exact liquidated damages, or levy a breach-of contract fee, on vendors who fail to meet their contractual obligations.

¹ According to Schwartz (2022), utilities are required to provide hosting electrical capacity maps in ten states: California, Colorado, Hawaii, Massachusetts, Michigan, Minnesota, Nevada, New Hampshire, New York, and Oregon.

- Withhold future awards or exclude the vendor from future RFPs and projects.
- Enter the charging site and bill the noncompliant vendor for services rendered. One agency mentioned that, in response to poor performance and uptime at certain charging sites, it will take over the site and invoice the contracted party for the work conducted.
- Enforce a service-level agreement in which the funding agency levies a daily fee for every day the vendor is out of compliance (e.g., charger is down). One utility has required noncompliant vendors to pay \$100 per day for as many days the charger remains down.
- Claw back mechanisms were identified by all interviewees to be a last resort measure. It is difficult to claw back funds already awarded, and such a process may be lengthy, complex, and require legal action.

Site Amenities and Access

Recommendation: Require basic site features such as safety, 24/7 access, and access to a restroom.

Amenities and access play an important role in ensuring a positive, safe driver experience at public fast charging sites. Twenty-four hour/seven days per week (24/7) access, restrooms, good lighting, restaurants, and more draw EV drivers to a charging site and help create a safe and attractive stop-over environment.² As such, funding entities should prioritize projects and applicants that include these amenities in their site designs. Many interviewees, utilities, automakers, and state agencies agreed that amenities are important factors to consider. These interviewees relayed that they had prioritized amenities as part of the scoring rubric in the past or planned to do so as part of the NEVI procurement process. One of the state agencies with the longest history of charging installations mentioned that it will require applicants to include certain amenities or features in site design such as restrooms, water fountains, and 24/7 access in order to qualify. An interviewee concurred with this approach, explaining that 24/7 access and restroom access should be considered “must-haves” for any public corridor fast charging project, while others should be considered as priorities. While it can be challenging to define specific features that make individuals feel safe, agencies should also seek to require or prioritize site selection and design elements that create a safe physical environment. This can be a particular concern for historically underserved groups and in less populated areas [17].

In order to ensure applicants can be compared on an apples-to-apples basis, one EVSP noted that state agencies should clearly define amenity requirements. Doing so would help to minimize ambiguity or otherwise vague RFP responses and allow for a more successful evaluation of applicant amenity plans.

² Currently, 24/7 access to charging sites is a requirement in the NEVI minimum standards.

Pricing & Revenue

Recommendation: No state agencies interviewed for this project demonstrated interest in collecting revenue from public chargers funded under the NEVI program at the time of interview, opting to cede proceeds to the contracted vendor. Agencies interviewed also were not planning to intervene to directly set charging prices for vendors, but may ask applicants to outline their pricing mechanism as part of the application or offer basic guidance.

All nine state governments interviewed for this project explained that they did not intend to be the final recipient of charging revenue under NEVI, opting to cede the proceeds to the contracted vendor. Many state agencies explained that their main objective is to serve the public by deploying as many chargers across their states as possible, not to profit from the sale of electricity or charger sessions. However, state agencies may choose to collect charging revenue from customers in the form of a tax or fee applies on a kilowatt hour (kWh) basis as a way to shore up transportation funding as more vehicles electrify. Alternative strategies that state legislatures are considering include annual EV registration fees and mileage-based usage fees. According to tracking by The Eastern Transportation Coalition, as of May 2023 there are seven states that have enacted legislation to collect kWh tax fees, most of which will take effect in 2023 and 2024. Six additional states have introduced similar legislation in 2023. The details vary among states, but most of them will be applied to publicly available EV charging stations. Atlas notes that fees on public charging could disproportionately impact those without access to home charging, who tend to be more commonly lower-income and/or historically underserved groups.

State agencies interviewed were disinterested in setting charging prices for vendors or intervening to establish any specific pricing regime. One state agency did note that they would provide basic guidelines for price setting, such as market electricity rates in the state. Under NEVI guidance, charger operators are allowed to make what is described as a “reasonable rate of return.” In addition to that benchmark, certain state agencies relayed that they will ask applicants to outline their pricing mechanisms as part of the RFP process and will hold them to whatever standard they submit in their applications.

Price transparency for drivers (including unit of sale, price per unit, and associated fees) is required by the NEVI guidance and by a number of existing state programs, and is also recommended by NESCAUM [7]. With regard to pricing transparency, the EIB notes that contracts could also specify: the degree to which EVSPs may use differential pricing models (for example by differentiating between subscribers and ad hoc users); requirements for user connection fees and payment plans; and any permissions or restrictions on generating revenues from advertising space on chargers [8].

Payment Mechanisms & Milestones

Recommendation: Milestone-based payment mechanisms were identified as easiest to manage. However, program funders should integrate a level of flexibility into the project schedule; much exists outside contracted entities' control.

When an EVSP is selected, funders must establish how and when the contracted entity will be paid. Interviewees provided a number of different potential payment mechanisms. Many interviewees explained that milestone-based payments were likely the easiest to manage from an administrative point of view. Payments would be disbursed when major elements of the project, which would be clearly defined in the contract, were completed. These milestones may include, for example, site design, site construction, inspection, and energization. Many interviewees across sectors emphasized that milestones should not be tied to strict, pre-established timelines, as too much is outside of contracted entities' control. For example, supply chain disruptions may cause delays in the procurement and installation of make-ready electrical infrastructure, or the utility may be slow to facilitate site connection to the grid. As such, funding entities should build a level of flexibility into project timelines and try to avoid penalizing contracted parties for project components outside of their control.

Two agencies stated they would instead reimburse contracted vendors for eligible expenses as they arise, while one utility has paid vendors only after full site energization and commissioning. EVgo suggests allowing applicants to “build at risk” to speed up deployment, by allowing them to move forward with developing proposed sites at their own expense and then reimbursing them for eligible costs if those sites are subsequently awarded NEVI funds [19]. Following site commissioning, funders will need to establish payment regimes for ongoing operations and maintenance work, with performance-based disbursement the common choice. See the “Encouraging Compliance” section for details on how funders can ensure vendors make good on these obligations.

Administrative Burden

Recommendation: Minimize administrative burden on the applicant/contracted entity as much as possible, both in the RFP process as well as in data reporting requirements. Provide transparent scoring rubrics in the RFP, support applicants with federal permitting, conduct pre-application workshops and webinars, and streamline the data reporting process.

Minimizing the administrative burden on applicants and contracted parties should be a priority for any agency responsible for deploying public fast chargers. Unnecessary red tape or opacity in the procurement process can deter vendors from applying, lead to longer submission timelines for otherwise qualified applicants, and result in higher reporting costs for contracted entities, among other issues. These challenges will be particularly pronounced for smaller programs where administrative costs can become a higher share of total possible funding.

One EVSP emphasized the need to reduce administrative burden in the RFP process, recommending state agencies and utilities provide their full scoring rubric upfront in the RFP. With that level of transparency, bidders will know how to best allocate their resources and attention in the application process. In the same vein, several interviewees, particularly public agencies, highlighted the importance of pre-application outreach and educational webinars and workshops. As a best practice, funding entities should conduct a public outreach and education campaign for prospective applicants to clearly outline and detail the program and application rules, requirements, and deadlines. In doing so, bidders will be well informed and better equipped to submit quality projects and complete applications.

Likewise, many interviewees mentioned that state agencies should support applicants with any federal permitting requirements, particularly as it pertains to the NEVI program. As a federal program, applicants for NEVI funding will be required to engage in environmental and public right-of-way regulatory processes, which most bidders will not have experience with. To minimize the administrative burden that accompanies federal permitting, some interviewees stated they would provide applicants with assistance. The EIB further suggests that to the extent public agencies are able, ensuring their own permitting processes support the installation of EV charging can reduce burden and help attract more applicants [8].

Data reporting requirements can prove onerous for EVSPs. One ESVP, for example, bemoaned a state agency that required it provide historical uptime data for its entire network, regardless of certain equipment's pertinence to the program, in order to apply for its NEVI solicitation. Likewise, nearly all interviewees mentioned a desire for a standardized federal reporting regime to help mitigate the burden on applicants of navigating 50 different state reporting requirements, while also providing states the level of detail needed to assess uptime requirements, utilization, and other factors.

Contract Duration

Recommendation: Include applicant intentions to maintain and operate chargers after the five-year NEVI minimum requirement in RFP scoring criteria.

According to the NEVI minimum standards and requirements, “states or other direct recipients must ensure that chargers are maintained ... for a period of not less than 5 years from the initial date of operation.” State agencies interviewed are generally planning to enact a five-year contract duration for NEVI-funded projects. To create a robust national charging network, state agencies should try to ensure longer-term stewardship of chargers beyond this five-year period. This is especially true for sites that are likely to see lower usage or revenue potential, as EVSPs may be less incentivized to keep these sites operational once the NEVI funds sunset. Certain state agencies plan to ask applicants to outline their plans to operate the funded chargers beyond the minimum five-year contract duration, while others intend to incorporate vendors' established intent to serve sites after the five years as part of their scoring criteria.

In addition to the above findings, interviewees noted two final lessons learned that should be taken into account as part of the contracting process:

- Given the need for a national charging network that will straddle state borders, public agencies should collaborate with counterparts in their neighboring states to ensure that gaps between fast chargers are not too wide. Per NEVI guidelines, charging stations along alternative fuel corridors must be placed at least every 50 miles; in developing their statewide

networks, agencies should work with their direct neighbors to ensure stations on routes that straddle borders are not too far from each other.

- As corridor fast charging often requires engagement with highway right-of-way permitting requirements and easements, state agencies responsible for charger deployment should engage with their relevant highway administrations in developing their network plan, vendor RFPs, and contracting language.

Conclusion

A robust, reliable public fast charging network is necessary to enable the United States to meet its electric transportation goals and effectively serve drivers. Those responsible for deploying fast charging must ensure that private sector vendors successfully and efficiently execute projects, adequately maintain networks, and provide timely customer service. To do so, they should pay close attention to procurement processes and contract language, and incorporate best practices and industry experience to preemptively mitigate as many issues as possible. The lessons learned detailed in this report expose key issues and offer guiding principles that help keep EV drivers' needs front and center and make the most of limited charging infrastructure investment.

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