



The Worsening Urban-Rural Divide: The Role of Local Government in EV Charging Infrastructure

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Acknowledgements

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A press release is available at <https://www.civicpulse.org/in-the-news/ev-press-release>

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Executive Summary

Whether the transition to electric vehicles (EVs) in the United States is successful will depend on the integrity of the charging infrastructure system currently being built. However, significant inequities are emerging at the local level that compromise this system. In this report, we demonstrate the pervasive gap in access to charging infrastructure that falls along the urban-rural divide (Figure 1).

While this investment gap is a natural consequence of the private sector following the pattern of early adoption of EVs in urban areas, recent public sector investments run the risk of making this problem worse, not better. We see this pattern reflected in the first round of funding from the Federal Highway Administration's Charging and Fueling Infrastructure Discretionary Grant Program as well (Figure 2).

Why is public sector discretionary funding worsening rather than helping to solve this problem? The answer hinges on the role of local governments in the United States. Local governments play a critical role in both privately funded and publicly funded charging infrastructure. And despite their importance as the last-mile system of governance for transportation infrastructure, very little systematic data and analysis exists on the role of local government in the EV rollout. To address this gap, CivicPulse **fielded a nationally representative survey of local officials** in February 2023 to better understand the role that local governments have taken and intend to take in the future to develop EV infrastructure.

The pattern that emerges from the survey is revealing. When asking both about past actions as well as intent to act in the future, we find a pervasive gap along population and partisan lines. For example, **local governments from the largest population tercile were seven times more likely to have applied for funding than local governments from the smallest population tercile**. Likewise, local governments in the most liberal tercile (measured by 2020 Biden vote share) were five times more likely to have applied for funding for EV charging stations than those from the most conservative tercile (Figure 3).

Some of this divide is driven by the fact that there is historically more demand from constituents in high-population and more liberal areas for public charging infrastructure. However, our survey points to an additional explanation as well: path dependency. In particular, **local governments with existing charging stations are more likely to report an intent to take action in the future to procure additional stations** (Figure 7). This path dependency is due, at least in part, to the technical knowledge advantage that local governments that already have stations possess: **local governments without stations are twice as likely to cite lack of technical knowledge as a barrier** (Figure 8).

Consequently, if state and federal policy- and grant-making entities do not explicitly take corrective steps to mitigate these divides, **urban centers will outstrip rural areas in access to locally-supported charging infrastructure**. Such a future would present both technical and political challenges to the successful rollout of a nationwide EV charging infrastructure system.

I. Report Background

A variety of efforts are underway to ensure that electric vehicle (EV) drivers have reliable access to charging infrastructure across the United States. Those efforts are making headway as shown by our interactive map (Figure 1) where the data indicate that 1,920 out of 3,139 counties (61%) had installed at least one public charger by June 2024. Despite federal attention to the establishment of EV charging infrastructure, the largest investments in EV charging stations come from the private sector, which increased its allotment to EV charging from under \$200 million in 2017 to almost \$13 billion in early 2023 ([The White House, 2023](#); [Atlas Policy, 2023](#)).

Meanwhile, government spending on EV charging stations has ramped up since its genesis in 2009, particularly at the federal and state levels. For example, the 2021 Bipartisan Infrastructure Law provided \$7.5 billion in direct spending to create a nationwide network of EV charging stations. This includes \$5 billion going to stations along the interstate highway system, and \$2.5 billion allocated to discretionary funding for state and local governments. Plus, all 50 states have incorporated federal funding into the development of their EV charging infrastructure, with some creating their own incentives ([The Verge, 2021](#); [Edison Electric Institute, 2024](#)).

Yet despite their importance as the last-mile system of governance for these infrastructure investments, very little systematic data and analysis exists on the role of local government in the EV rollout. An important exception is the [National Conference of Mayors 2021 study](#), but this does not include smaller population areas in its data. A [2024 study by the Harvard Business School](#) illustrates the problem of charging deserts nicely, but does not focus on the role of local government, per se. To address this gap, CivicPulse fielded a nationally representative survey of 505 local officials to better understand the actions that local governments have taken and intend to take in the future in developing EV infrastructure.

The officials invited to participate in the survey were drawn randomly from a comprehensive list of all municipalities, townships, and counties with communities of 1,000 or more. The majority of respondents were elected officials, including governing board members and top elected officials (73%). The remaining 26% of the sample included top appointed executives (16%) and heads of planning, zoning, or building departments (10%). The sample was broadly representative of US local governments in terms of type, size, and region.

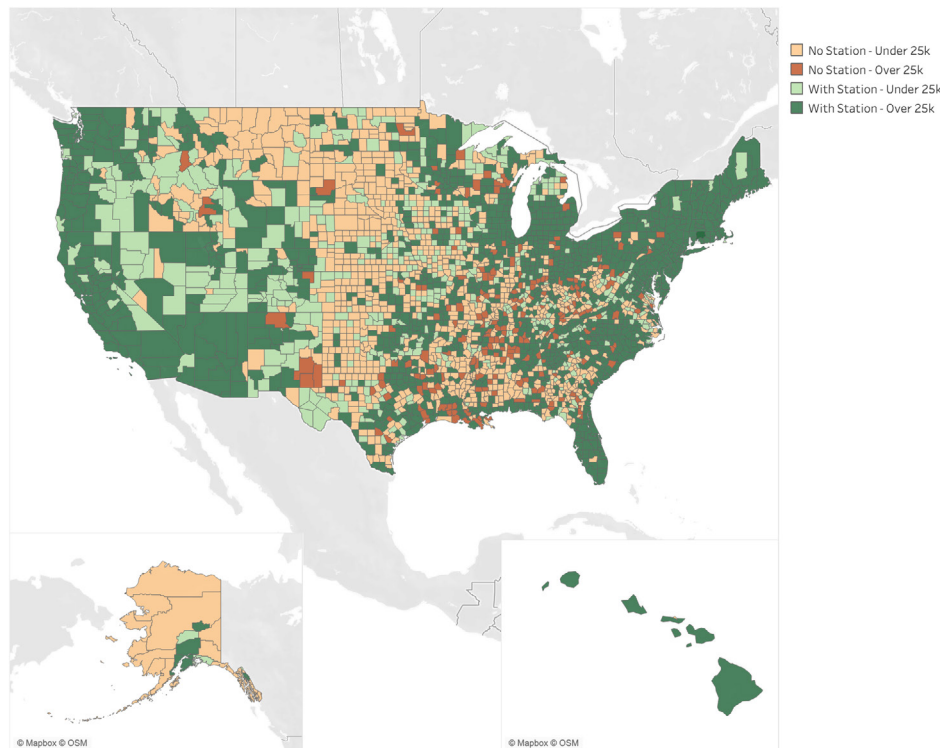
We asked questions regarding existing EV usage, actions regarding promotion of new EV charging infrastructure, and intent to act in the future. To ensure the local context was taken into consideration, we segmented the survey findings along several jurisdiction-level community characteristics from the U.S. Census, jurisdictional voter data, and existing charging station location data from the National Renewable Energy Laboratory (NREL).

The remainder of the report proceeds in five sections. The next section, “The Current State of America’s EV Charging Infrastructure,” provides an overview of the problem. First, we analyze the current location of public EV charger locations and their distribution by demographic characteristics. We also consider the demographic patterns of recent local government recipients of the first round of the Charging and Fueling Infrastructure Discretionary Grant Program. Next, in “Past Local Government Action,” we present findings from the survey about past actions local governments have taken to implement EV charging infrastructure in their communities. In the following section, “Prospective Local Government Action,” we present the findings from the survey about local leaders’ intention to act in the future with respect to the development of EV charging stations. Then, in “How Path Dependency Reinforces Inequity,” we illustrate the key role of path dependency in perpetuating unequal access to EV charging infrastructure in local communities. Finally, we finish with a conclusion that paints a picture of the broader problem and what can be done to fix it.

II. The Current State of America's EV Charging Infrastructure

To gain clear understanding of America's existing public EV charger system, we mapped counties by population size and presence of at least one public EV charger as of June 2024. Our interactive map indicates that 66% of counties with less than 25,000 residents – the median population of all counties – did not have a public charging station as of June 2024. Compare this to only 14% of high population counties lacking chargers and the discrepancy is clear: rural America has been left behind in the EV infrastructure rollout.

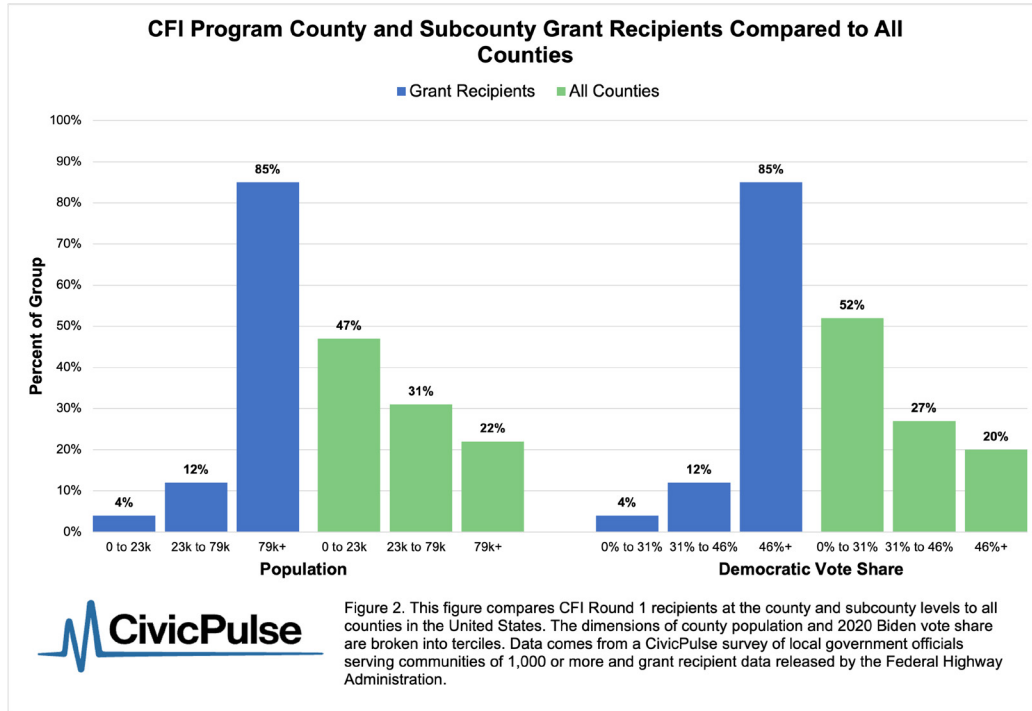
Figure 1. Image of CivicPulse's interactive map where counties can be filtered by presence/absence of at least one public charging station and above/below the median population size. The map clearly shows that EV charging deserts exist in America's rural counties. Public EV charger locations were gathered from the Department of Energy's [Alternative Fuels Data Center](#) in June 2024. Population data is based on US Census data. The median population for all US counties is around 25,000. The interactive version of the map can be viewed in the [online version of this report](#).



To determine if recent public investments are mitigating the EV charging deserts shown in our interactive map, we analyzed recipients of the first round of the Charging and Fueling Infrastructure Discretionary Grant Program (CFI Round 1). CFI Round 1 -- which was intended to ensure “federal dollars help disadvantaged communities join the EV revolution” -- concentrated local grants in America's most urban and liberal counties ([Joint Office of Energy and Transportation, 2024](#)).

This is no small matter. The grants, announced in January 2024, allocated \$623 million across 47 recipients ([FHWA, 2024](#)). Grants ranged from \$500,000 to \$70,000,000 for public projects aimed at building publicly accessible charging stations and alternative fuel infrastructure. Grant recipients included state, regional, county, and subcounty governments as well as two tribal nations and two universities.

To consider how these grant recipients fall along the urban-rural divide, we examined just the “local” recipients (excluding state and regional) in relation to the population and partisanship characteristics of the counties with which they are associated. 85% of the local CFI Round 1 recipients were from the top third tercile on the population distribution as well as the top third tercile in terms of Democratic vote share (see Figure 2). The most rural counties, which we’ve already shown are most in need of assistance, only received 4% of the grants.



Moving forward, local governments will need to take concerted actions to ensure that their decisions regarding EV infrastructure buildout do not hinder equitable access nationwide. To better explain how selective local government action could deter the establishment of a robust American EV network, we will first examine past local government action.

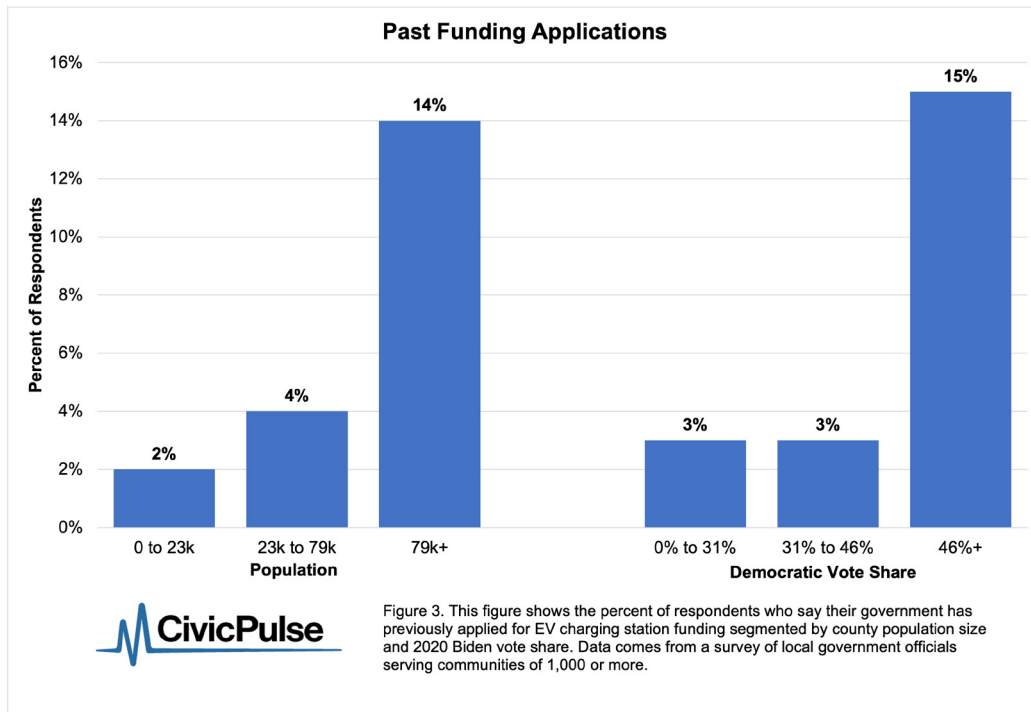
III. Past Local Government Action

Despite the enormous amount of attention and money that corporations and federal and state governments have placed on EV infrastructure development, relatively few local governments have taken steps to support EV infrastructure development in their communities. Only 18% of local governments have applied for funding – the most common action taken by proactive local governments out of the 5 actions listed on our survey – with nearly all of these funding applications submitted by governments representing the most liberal (15% of respondents) and most populous (14% of respondents) county terciles (see Figure 3).

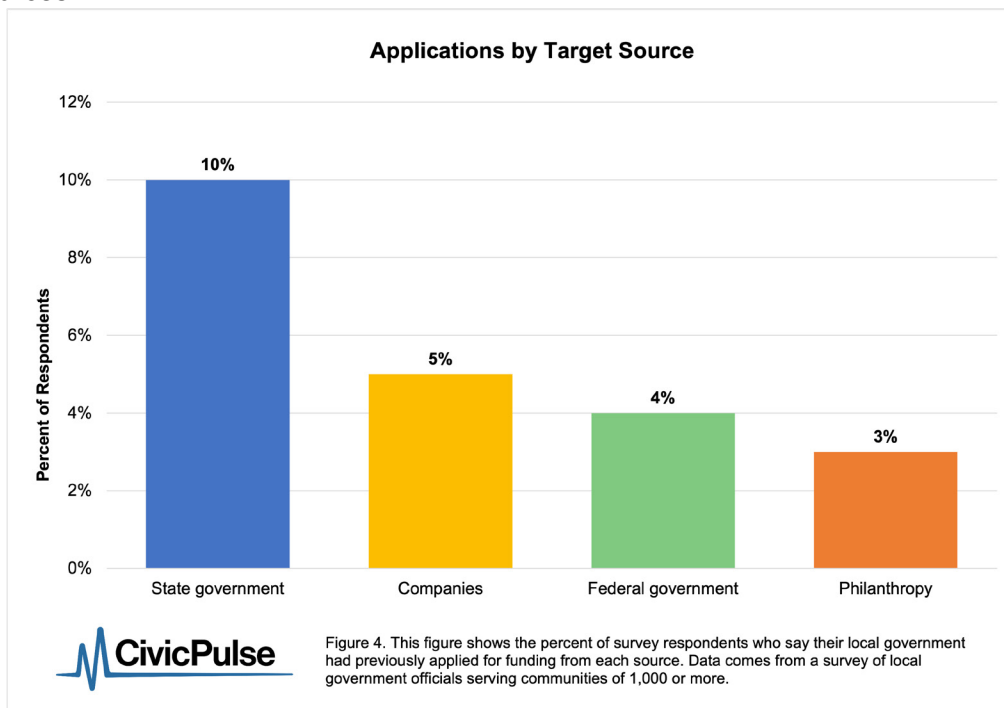
Table 1. Percent of local governments who have taken action, by action type.

Local Government Actions So Far	% Respondents
Applied for funding for stations	18%
Incorporated into long-term planning	16%
Streamlined permitting for charging stations	3%
Wiring requirements for new buildings	3%
Parking requirements for new buildings	3%

Consistently, we find that the local governments most likely to have applied for funding are the ones serving larger and more liberal communities. For example, local governments from the largest population tercile were seven times more likely to have applied for funding than local governments from the smallest population tercile. Likewise, local governments in the most liberal tercile (measured by 2020 Biden vote share) were five times more likely to have applied for funding for EV charging stations than those from the most conservative tercile (Figure 3).



We also asked respondents who had applied for funding what entities they turned to for financial assistance. We found that state government was the most common funding source for which local governments applied (10% of local governments). This was followed by 5% of local governments having applied to funding directly from companies, 4% having applied directly to the federal government, and only 3% had pursued funding from philanthropy. Note that some respondents applied for multiple funding sources.



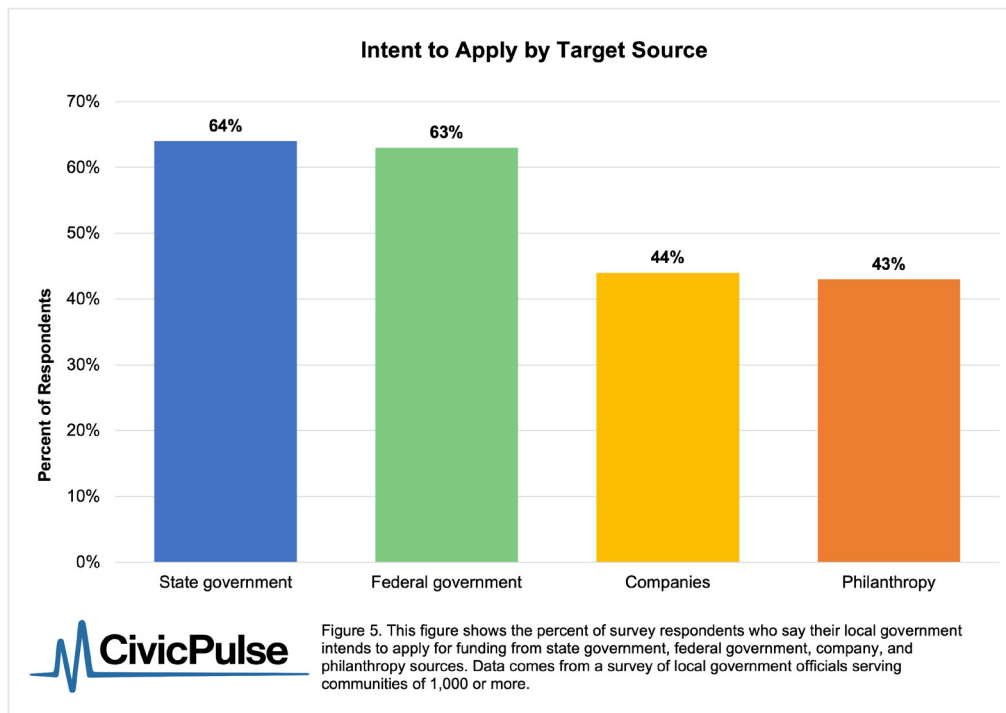
IV. Prospective Local Government Action

Asking local officials about their intent to act going forward suggests there is a great deal more ambition from local governments in the future than what has occurred in the past. Overall, 68% of local governments said they intended to apply for funding moving forward. Plus, 38% intended to streamline permitting, 24% intended to pass new requirements for wiring for new buildings, and 20% intended to pass new requirements for parking.

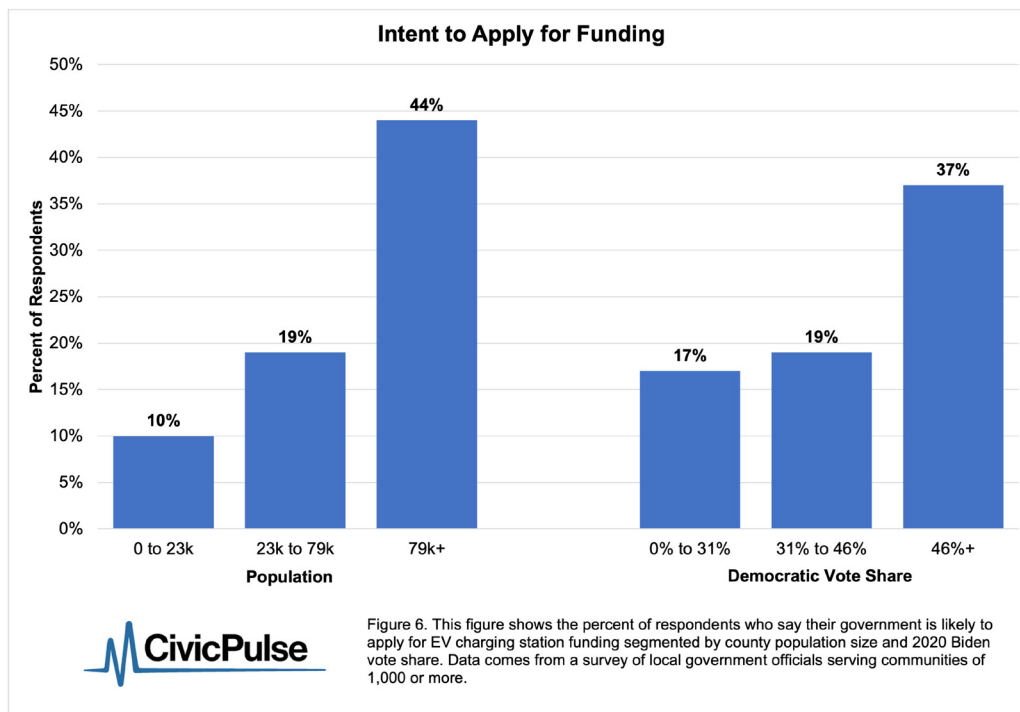
Table 2. Percent of local governments who intend to act, by action type.

Planned Government Actions	% Respondents Likely to Take Action
Apply for funding for stations	68%
Streamline permitting for stations	38%
Wiring requirements for new buildings	24%
Parking requirements for new buildings	20%

Likewise, local governments showed increased interest in applying for funding across all four target sources, with intention to apply for state and federal funding now nearly equal (see Figure 5). This makes sense, given the new direct federal funding opportunities that are becoming available.



However, the same urban-rural divide in past action is reflected in future action. Compared with 10% in the lowest population tercile, 44% of local government in the highest population tercile report an intent to apply for funding. And compared to 17% in the most conservative tercile, 37% of local governments in the most liberal tercile report an intent to apply for funding.



V. How Path Dependency Reinforces Inequity

What explains this consistent disparity? The most obvious explanation is asymmetric demand. There is a significant partisan discrepancy in demand for electric vehicles. A 2023 poll found that 68% of Democrats were likely to consider buying an EV as compared to 20% of Republicans (Pew, 2023). Another explanation for this pattern is the unique barriers faced by local governments in rural America. For example, one respondent from a municipality in Minnesota explained, “our community at this point doesn’t have any dealer that would be able to service an electric vehicle. There are also many miles before the next charging station which would make it very inconvenient for charging.”

But regardless of the initial reasons that larger, more liberal local governments took proactive action on encouraging the construction of EV charging stations, this initial pattern will perpetuate itself without corrective action due to something known as *path dependency*. For example, a lack of demand for electric vehicles undermines the cases for chargers, but a lack of chargers makes buying EVs less attractive. Likewise, local governments who invested technical expertise in pursuing pro-EV policies or applications for funding will find it easier to do it again.

This path dependency is borne out in the data. In particular, local governments serving communities that already have at least one charging station are much more likely to take additional action than local governments serving communities that don’t have existing stations (Figure 7). For example, 86% of respondents from communities that have at least one publicly accessible charging station stated that they were likely to apply for funding for additional EV infrastructure, compared with 60% of respondents from localities with no existing chargers.

Likelihood of taking action

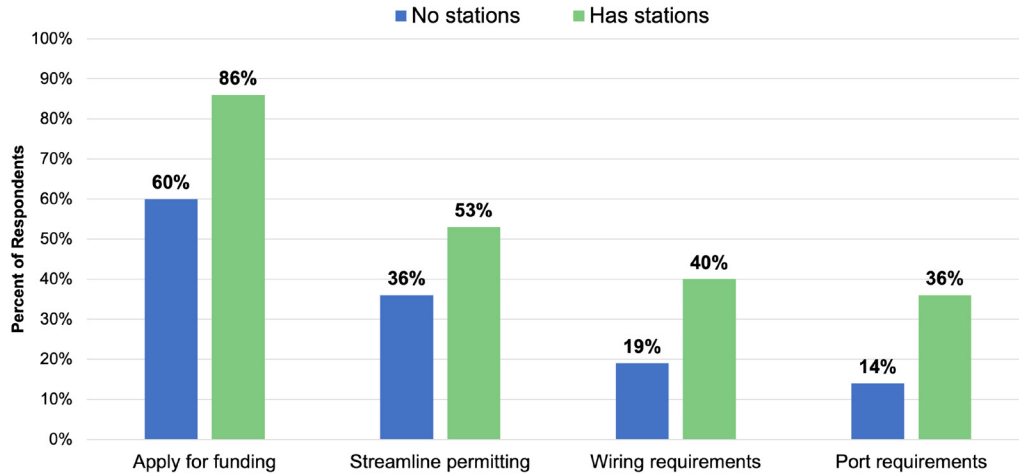


Figure 7. This figure displays the percentage of respondents who reported their local government was "Somewhat", "Very", or "Extremely" likely to streamline the permitting process, require new commercial builds to have EV-compatible wiring, or require new commercial builds to have a certain number of EV charging ports in the future. Funding application likeliness was determined based on a yes/no grid asking respondents whether their government was likely to apply to certain sources. Results are segmented by the presence of EV charging stations in a respondent's jurisdiction. Data comes from a CivicPulse survey of local government officials serving communities of 1,000 or more in the United States.

To better understand this pattern, we asked officials about the barriers their community faced when it comes to installing EV charging stations. Overall, officials serving communities that do not already have an EV station were more likely to say that they faced challenges to EV station deployment than officials who represent communities with EV stations. Breaking down these responses to look at specific barriers, one of the most notable differences was access to technical expertise, with 30% of officials whose communities do not have an EV charging station selecting this as a barrier while only 14% of those that have at least one station face this obstacle (see Figure 8). Interestingly, local governments with charging stations are more likely to acknowledge the permitting process and parking regulations as obstacles, perhaps reflecting learned experiences.

Barriers to EV Charging Station Deployment

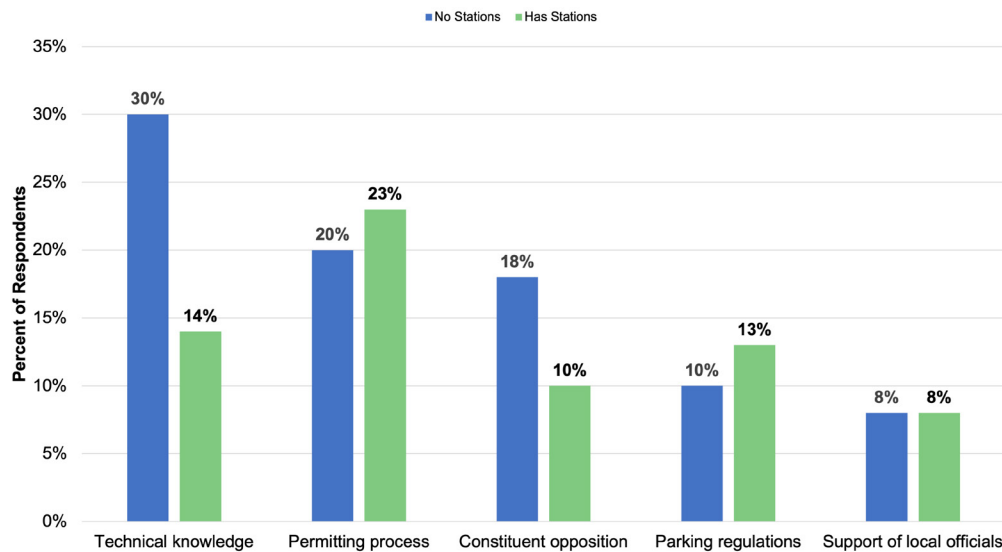


Figure 8. This figure displays the percentage of respondents who answered that each of the five factors above was likely to pose challenges to the successful deployment of new EV charging stations in their community. Data comes from a CivicPulse survey of local government officials serving communities of 1,000 or more.

VI. Conclusion

Our report on America's EV Charging Network was motivated by an interest in what role local governments play in EV charger distribution. Unfortunately, our results – based on analyses of location data, federal funding recipients, and survey responses – indicate that an urban-rural divide in access to public EV chargers exists and is being exacerbated by selective local government action.

In numerous places in this report, we have documented how both past and future local government actions are unevenly distributed along the urban-rural divide. In particular, local governments representing higher population and more liberal areas are far more likely to be taking steps to facilitate the development of EV charging infrastructure.

In fact, the majority of municipal and county recipients of federal discretionary money to date represent the high-population areas that are most likely to already have charging stations. This is not necessarily the fault of grant-making entities, like the Federal Highway Agency's CFI Program. After all, it is highly likely that the applicant pool has disproportionately come from these very communities (Figure 2).

Grant-making entities could be forgiven for assuming the reason such local governments are not applying for funds is because their constituents simply "aren't interested." To be sure, constituent opposition to EVs can be a barrier for rural local governments in EV deployment, but it ranks third *behind* having the requisite technical knowledge and the appropriate permitting process (see Figure 8).

In short, the bigger issue is path dependency. Existing charging stations have gone to more urban communities where EV use has been higher. Local governments in those communities are then more likely to take advantage of newly available public funding, partly *because* they have more in-house knowledge of EV charging stations. Conversely, it's the rural EV deserts that are the least likely to be able to leverage in-house technical expertise that would benefit most from public funding to kickstart their EV infrastructure.

The upshot is that more must be done to recruit applicants from rural local governments to redress this discrepancy. This divide, if it is allowed to continue, could undermine the national transition to EVs both in the private sector and in the public sector. In the private sector, local charging deserts will undermine consumer confidence in buying EVs. In the public sector, the perception that discretionary grants for EV charging stations are primarily benefiting liberal, higher-population areas could undermine bipartisan support for the continuation of such grants. Focus on building EV chargers in rural areas and communities without public EV chargers will help alleviate these problems.

Appendix: Methodology

National Representative Survey of Local Leaders

The survey began on February 3, 2023 and was closed on March 2, 2023. There were a total of 505 respondents. The sample of respondents consisted of elected policymakers and civil service leaders that were randomly drawn from all township, municipality, and county governments serving populations of 1,000 residents or more. Elected policymakers include top elected officials (e.g., Mayor, County Executive) and governing board members (e.g., Council Member, County Legislator), and civil service leaders include heads of building, planning, and zoning departments as well as top appointed executives (e.g., City Manager).

Table A1: Respondents by Government Type

Government Type	Respondents
County	78
Municipality	301
Township	126
All	505

Table A2: Respondents by Role

Role	Respondents
Elected Policymaker	371
Head of Buildings	36
Head of Planning/Zoning	15
Top Appointed Executive	83
All	505

Survey Questionnaire

Has your local government *applied* for funds from any of the following sources for the deployment of charging stations in your community? Select all that apply.

- Federal government
- State government
- Foundations/philanthropy
- Private companies
- Other (Please specify.)
- We have not applied for any funds for deploying charging stations.
- I do not know

Has your local government *received* funds from any of the following sources for the deployment of charging stations in your community? Select all that apply.

- Federal government
- State government
- Foundations/philanthropy
- Private companies
- Other (Please specify.)
- We have not applied for any funds for deploying charging stations.
- I do not know

Considering the future deployment of charging stations, how likely is it that your local government would apply for funds from each of the following sources?

Response options: Extremely likely, Very likely, Not very likely, Not at all likely

- Federal government
- State government
- Foundations/philanthropy
- Private companies

Does your local government mention electric vehicle charging infrastructure in its land use plan, transportation plan, or other planning documents?

- Yes
- No
- I do not know

Which of the following factors would be most likely to pose challenges to the successful deployment of new charging stations in your community? Select all that apply.

- Financial resources
- Constituent opposition
- Existing parking regulations
- Permitting process
- Lack of support from local elected officials
- Lack of technical knowledge in local government
- Other (Please specify.)

Besides directly investing in EV infrastructure, local governments can encourage the development of EV infrastructure in a variety of other ways. For each of the following actions, please select whether your local government has taken this action in the past, or how likely it is that it would take this action in the future.

Response options: Action already taken, Extremely likely, Very likely, Somewhat likely, Not very likely, Not at all likely, I don't know

- Streamlining the permitting process for charging stations
- Requiring new commercial builds to have electrical wiring that is compatible with EVs
- Requiring new commercial builds to have a certain number of EV charging ports

NREL Data

In addition, we conducted a location analysis of existing charging stations based on data from the National Renewable Energy Laboratory (NREL) coupled with U.S. Census data and voter data. The NREL data, which is compiled from various sources including trade media, public reports, and network data from EV operators, provides detailed information on electric vehicle (EV) charging stations across the United States. CivicPulse processed this data by cross-referencing station locations with U.S. Census FIPS county codes using cartographic boundary files and the latitude and longitude of each station. This allowed for the integration of additional county-level Census and voting data into our analyses.

CFI Data

We examined the list of grant recipients from the Charging and Fuel Infrastructure Discretionary Grant Program (CFI Program) that is led by the Department of Transportation with implementation support from the Joint Office of Energy and Transportation. To determine whether grants were to be implemented at the county or subcounty levels, we reviewed project name, lead applicant, and project description information. Given the geographic scope of this report, we excluded the one grant to Puerto Rico from our overall count of grant recipients. CivicPulse geographically linked this data by cross-referencing grant recipients with U.S. Census FIPS county codes.

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For replication data or questions about our methodology, please email info@civicpulse.org.