

Tennessee Electric Vehicle Infrastructure (TEVI) 2023 Deployment Plan Update



1200 New Jersey Ave., SE Washington, DC 20590

September 29, 2023

In Reply Refer To: HEPN-30

Mr. Butch Eley Commissioner Tennessee Department of Transportation 505 Deaderick Street Nashville, TN 37243

Subject: Approval of Tennessee Electric Vehicle Infrastructure Deployment Plan

Dear Commissioner Eley:

The Federal Highway Administration (FHWA) has completed the review of the Tennessee Electric Vehicle Infrastructure Deployment Plan required under the National Electric Vehicle Infrastructure (NEVI) Formula Program.¹ Based on the review and the recommendations provided by the Joint Office of Energy and Transportation (Joint Office), FHWA has determined that the Tennessee Electric Vehicle Infrastructure Deployment Plan is approved for implementation. With this approval, Fiscal Year 2024 funds are now available to Tennessee for obligation.

The FHWA acknowledges there continues to be confusion regarding equity considerations for State Plans, as well as the regulatory requirement for the Community Engagement Outcomes Report under 23 Code of Federal Regulations (CFR) 680.112(d), which must be incorporated into State Plans. To clarify, all State Plans must include a Community Engagement Outcomes Report that discusses their most recently approved State Plan and should include a forward-looking discussion on public engagement, the results of which will provide the basis for the Community Engagement Outcomes Report included in next year's State Plans. Your plan included both of these components. The FHWA and the Joint Office are committed to ensuring equitable benefits under the NEVI Formula Program and intend to provide additional outreach and training on these topics over the upcoming months, and well in advance of the development of next year's State Plans.

The FHWA and the Joint Office will follow up with States on specific opportunities for improvement in future year plans and will continue to provide technical assistance and guidance as States continue implementation.

¹ The NEVI program is authorized under the Bipartisan Infrastructure Law, enacted as the Infrastructure Investment and Jobs Act (IIJA), (Pub. L. 117-58)

A publicly accessible version of the Tennessee Electric Vehicle Infrastructure Deployment Plan should be posted to the Tennessee Department of Transportation's website. This approval letter will be available on the FHWA website at

https://www.fhwa.dot.gov/environment/nevi/ev_deployment_plans/ along with a link to the Plan on the State website.

Thank you for putting the United States on a path to a nationwide network of EV chargers that can ensure a convenient, affordable, reliable, and equitable charging experience for all users.

Sincerely,

Emily Biondi

Emily Biondi Associate Administrator Office of Planning, Environment and Realty

cc: FHWA: HOA, HCC, HPL, HCF, Tennessee Division Office Joint Office Director: Gabe Klein Deputy Director: Rachael Nealer



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BUTCH ELEY

DEPUTY GOVERNOR & COMMISSIONER OF TRANSPORTATION

BILL LEE GOVERNOR

July 31, 2023

Secretary Pete Buttigieg U.S. Department of Transportation 1200 New Jersey Ave, SE Washington, DC 20590

Secretary Jennifer Granholm U.S. Department of Energy 1000 Independence Ave. SW Washington, DC 20585

RE: Tennessee's Electric Vehicle Infrastructure Plan Update for 2023

Mr. Buttigieg and Ms. Granholm,

On behalf of the State of Tennessee, I am providing you with a copy of the State's Electric Vehicle Infrastructure Plan Update for 2023. This Plan Update was jointly developed between the Tennessee Department of Transportation's Long Range Planning Division, and the Tennessee Department of Environment and Conservation's Office of Energy Programs.

Tennessee has completed one year of implementation of the Tennessee Electric Vehicle Infrastructure (TEVI) Program funding by the Program. With the release of the State's Notice of Intent (NOI) in March and the release of the Notice of Funding Opportunity in August 2023, Tennessee is well positioned to continue administration and implementation of NEVI funding to build out the State's electrified alternative fuel corridor (AFC), connecting EV travelers with a reliable and dependable network of EV charging infrastructure.

We look forward to continuing to utilize NEVI funds in Tennessee and continue to build the TEVI Program. Thank you again for this opportunity. If you have any questions, please feel free to contact me.

Sincerely,

Matthew Meservy, PE, TDM-CP Director, Long Range Planning Division Tennessee Department of Transportation



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List of Abbreviations and Acronyms

Abbreviation	Meaning
AADT	Annual Average Daily Traffic
ADA	Americans with Disabilities Act
AFC	Alternative Fuel Corridors
ARC	Appalachian Regional Commission
BIL	Bipartisan Infrastructure Law
ccs	Combined charging system
CISA	Cybersecurity and Infrastructure Security Agency
CNG	Compressed Natural Gas
СҮ	Calendar Year
DACs	Disadvantaged communities
DBE	Disadvantaged Business Enterprise
DCFC	Direct current fast charging
DET	Drive Electric Tennessee
DOE	U.S. Department of Energy
DOT	U.S. Department of Transportation
EJ	Environmental Justice
EMC	Electric Membership Corporation
EV	Electric vehicle
EVITP	Electric Vehicle Infrastructure Training Program
FAQs	Frequently Asked Questions
FAST Act	Fixing America's Surface Transportation Act
FFY	Federal Fiscal Year



FHWA	Federal Highway Administration		
IAC	Interagency Consultation Committee		
IIJA	Infrastructure Investment and Jobs Act		
ITS	Intelligent transportation system		
kWh	Kilowatt-hour		
LEP	Limited English Proficiency		
LPC	Local power company		
ММ	Mile marker		
МРО	Metropolitan Planning Organization		
NACS	North American Charging Standard		
NEVI	National Electric Vehicle Infrastructure		
O&M	Operations and maintenance		
ОМВ	Office of Management and Budget		
RFI	Request for Information		
RPO	Rural Planning Organization		
SBE	Small Business Enterprise		
SE REVI	Southeast Regional Electric Vehicle Information Exchange		
TCAT	Tennessee College of Applied Technology		
TDEC OEP	Tennessee Department of Environment and Conservation's Office of Energy Programs		
TDOT	Tennessee Department of Transportation		
TEVI	Tennessee Electric Vehicle Infrastructure		
TMCs	Transportation Management Centers		
TVA	Tennessee Valley Authority		
UT	University of Tennessee		



1. Introduction

In November 2021, the Infrastructure Investment and Jobs Act (IIJA), also known as the Bipartisan Infrastructure Law (BIL), was signed into law. This law includes \$7.5 billion in dedicated funding to help make electric vehicle (EV) charging infrastructure accessible to all Americans for local and long-distance trips. This funding includes a \$5 billion National Electric Vehicle Infrastructure (NEVI) Formula Program to help states create a network of EV charging infrastructure along nationally designated Alternative Fuel Corridors (AFCs). The Tennessee Department of Transportation (TDOT) expects to receive approximately \$88.3 million over 5 years (FY2022-2026).

Initial NEVI Formula Program funds are directed to Federal Highway Administration (FHWA) designated AFCs for EVs to support the build out of a national network, particularly along the Interstate Highway System. The Fixing America's Surface Transportation (FAST) Act, passed in 2015, called on states to nominate AFCs along their major roadways for fuels including electricity, hydrogen, propane, and natural gas. Through previous nomination rounds, all major interstates, and a portion of US-64 in Tennessee have been designated as EV AFCs and are eligible for NEVI Program investments.

On September 14, 2022, FHWA approved Tennessee's 2022 Tennessee Electric Vehicle Infrastructure (TEVI) Program Plan.¹ The TEVI Plan outlines Tennessee's approach to planning, procuring, deploying, and administering NEVI Formula Program funding to fill EV charging infrastructure gaps and fully build out Tennessee's EV AFCs to support a statewide network of safe, reliable, and equitable EV charging infrastructure.

Tennessee has prepared the 2023 TEVI Plan to fulfill the necessary obligations for the annual plan update mandated by the NEVI Formula Program. To secure the annual funds allocated by the NEVI Formula Program, Tennessee must submit an updated TEVI Plan each year and obtain approval from FHWA for the release of the State's formula funds for the upcoming fiscal year. The 2023 TEVI Plan adheres to the NEVI plan update template provided by the Joint Office of Energy and Transportation (Joint Office) on June 2, 2023.

Tennessee is in the process of administering its FY22-FY23 NEVI Formula Program funds through a competitive Notice of Funding Opportunity (NOFO) process, with the anticipated public NOFO release date set for late summer or early fall 2023. Through the competitive NOFO process, TDOT will receive, evaluate, and score projects within evaluation zones along Tennessee's AFC network statewide to ultimately award NEVI Formula Program funding.

Throughout 2022 and 2023, Tennessee has made significant progress in line with expectations outlined in the approved 2022 TEVI Plan. **Table 1** summarizes updates and modifications made to the TEVI Plan and its approach between 2022 and 2023.

¹ <u>https://www.fhwa.dot.gov/environment/nevi/ev_deployment_plans/tn_nevi_plan.pdf</u>



Table 1: 2023 Plan Update Outline

Number	Chapter	2023 Plan Update Summary
1.	Introduction	Summary of 2023 TEVI Plan section updates
2.	State Agency Coordination	No significant change
3.	Public Engagement	Community Engagement Outcomes Report added per 2023 NEVI Plan Template
4.	Plan Vision and Goals	No significant change
5.	Contracting	Addition of information on TEVI Program NOFO and planned contracting strategy
6.	Civil Rights	Updated to confirm TEVI Program compliance with 23 CFR 680
7.	Existing and Future Condition Analysis	Summarized information on existing conditions, updates to Tennessee AFCs, and existing NEVI complaint infrastructure
8.	EV Charing Infrastructure Deployment	Addition of information on how the TEVI Program will deploy EV charging infrastructure to achieve the fully built out designation from FHWA
9.	Implementation	Updated to include information on Program-wide compliance under 23 CFR 680
10.	Equity Considerations	Updated based on expanded equity approach, additional surveys, and data analysis
11.	Labor and Workforce Considerations	Additional information added about the Tennessee EV Charging Infrastructure Workforce Development Working Group
12.	Physical Security & Cybersecurity	Updated to include information on physical and cybersecurity compliance through State and 23 CFR 680 requirements
13.	Program Evaluation	No significant change
14.	Discretionary Exceptions	No significant change
15.	Appendix A: Supporting Materials	Updated table of existing NEVI compliant EV charging infrastructure in Tennessee and description of details as requested in 6/2/23 NEVI Plan Template



2. State Agency Coordination

Following the release of the NEVI Program Guidance in February 2022, TDOT and the Tennessee Department of Environment and Conservation (TDEC) formed an interagency Working Group to collaborate on the TEVI Deployment Plan. The group met on a weekly basis to develop and implement a public engagement strategy (i.e., stakeholder survey and public information sessions), as well as develop the processes for the implementation and administration of NEVI Formula Program Funds. The Working Group built off the efforts and lessons learned from the Fast Charge TN Network Grant Program, a comprehensive infrastructure deployment effort that will result in approximately 40 new direct current fast charging (DCFC) sites, strategically placed along Tennessee's major highways.

Beginning in 2023, the Working Group officially formed the TEVI Working Group, which has met at least weekly since the beginning of the year to continue Tennessee's deployment of EV charging infrastructure throughout the state.

Maximizing Opportunities to Utilize U.S.-made EV Supply Equipment

The Tennessee Valley Authority (TVA) released a Request for Information (RFI) on April 7, 2021, to establish minimum technical specifications for equipment and operations under forthcoming EV fast charging funding solicitations. Responses to the RFI were used to create a list of providers offering DCFC supply equipment; operating network back-end options; and related Program support services. Future subrecipients and/or contractors of the Fast Charge TN Network and TEVI Programs will be able to reference this list of providers when building a DCFC network along major travel corridors over the next several years. The RFI was also used to try to identify FHWA Buy America compliant DCFC infrastructure.

Following the passage of the IIJA, a number of EV charging infrastructure vendors have made public announcements regarding plans to manufacture FHWA Buy America compliant equipment within the U.S. In February 2022, the White House issued a Fact Sheet, which highlighted a new EV charger manufacturing facility in Tennessee that is projected to manufacture 30,000 Buy America-compliant DCFCs annually. Under the NEVI Program, the Working Group will support project compliance with all applicable Buy America requirements and will maximize opportunities to utilize U.S.-made EV charging infrastructure equipment.

Memoranda of Understanding (MOU) with Other Agencies

Tennessee does not have formal MOUs with its peer state agencies, however, the TEVI Working Group represents a continuing partnership between TDOT and TDEC on NEVI planning, implementation, and administration processes. TDOT also continues to collaborate with its neighboring state DOTs on coordination and placement of NEVI compliant EV charging infrastructure.



Interagency Working Group(s)

TDOT and TDEC have worked collectively and collaboratively via the TEVI Working Group since the approval of the 2022 TEVI Plan, meeting at least weekly to share information, facilitate decision making, and ultimately implement the Program.

3. Public Engagement

The TEVI Plan developed in 2022 served as a model for the public engagement approach for the TEVI Working Group. Over the last year, Tennessee has engaged with the public, planning organizations, community groups, educational institutions, utilities, and industry partners to inform the development and deployment of the TEVI Program.

Community Engagement Outcomes Report

The TEVI Program has worked to comply with the community engagement outcomes report requirement outlined in 23 CFR 680.112 by strategically conducting a series of public-facing meetings, calls, surveys, and events throughout the state of Tennessee to engage with a diverse group of stakeholders and decision makers to develop an inclusive Program. The information gathered from the community engagement activities has helped further refine the TEVI Program and shape the development of the TEVI NOFO.

Metropolitan Planning Organization (MPO) and Rural Planning Organization (RPO) Convenings

Throughout 2023, TDOT has presented at both MPO and RPO meetings throughout Tennessee to share information about the TEVI Program and gather feedback from stakeholders, community members, MPO/RPO staff, and local officials. In total, TDOT traveled to 23 meetings across the state and has been able to incorporate feedback throughout the development of the TEVI Program. **Table 2** details the in-person MPO and RPO meetings attended since the approval of the 2022 TEVI Plan.

Date	Location	Туре	Attendees	Group(s) Reached
3/3/23	Pickwick State Park	RPO Annual Conference	48	RPO coordinators
5/3/23	Paris Landing State Park	MPO Annual Conference	96	MPO Coordinators and key staff
5/9/23	Chattanooga	MTPO Technical Committee	18	Mayors, stakeholders, community members, MPO Staff
5/17/23	Cleveland	Metropolitan Planning Meeting	12	Mayors, stakeholders, community members, MPO Staff

Table 2: MPO and RPO Meetings with TEVI Participation



5/10/23	Morristown	Metropolitan Planning Meeting	9	Mayors, stakeholders, community members, MPO Staff
5/11/23	Kingsport	Metropolitan Planning Meeting	10	Mayors, stakeholders, community members, MPO Staff
5/11/23	Bristol	Metropolitan Planning Meeting	11	Mayors, stakeholders, community members, MPO Staff
5/11/23	Dale Hollow	Rural Planning Org, Spring Meeting	36	Mayors, stakeholders, community members, RPO and Development District Staff
5/11/23	Center Hill	Rural Planning Org, Spring Meeting	34	Mayors, stakeholders, community members, RPO and Development District Staff
5/17/23	Chattanooga	Rural Planning Org, Spring Meeting	10	Mayors, stakeholders, community members, RPO and Development District Staff
5/17/23	Jackson	Rural Planning Org, Spring Meeting	12	Mayors, stakeholders, community members, RPO and Development District Staff
5/18/23	Knoxville	Rural Planning Org, Spring Meeting	18	Mayors, stakeholders, community members, RPO and Development District Staff
5/18/23	Martin	Rural Planning Org, Spring Meeting	9	Mayors, stakeholders, community members, RPO and Development District Staff
5/25/23	Memphis	Metropolitan Planning Meeting	22	Mayors, stakeholders, community members, MPO Staff
5/31/23	Summerville	Rural Planning Org, Spring Meeting	12	Mayors, stakeholders, community members, RPO and Development District Staff
6/1/23	Johnson City	Rural Planning Org, Spring Meeting	17	Mayors, stakeholders, community members, RPO and Development District Staff
6/1/23	Mount Pleasant	Rural Planning Org, Spring Meeting	20	Mayors, stakeholders, community members, RPO and Development District Staff
6/6/23	Dickson	Rural Planning Org, Spring Meeting	15	Mayors, stakeholders, community members, RPO and Development District Staff
6/8/23	Morristown	Metropolitan Planning Meeting	11	Mayors, stakeholders, community members, MPO Staff
6/8/23	Fayetteville	Rural Planning Org, Spring Meeting	30	Mayors, stakeholders, community members, RPO and Development District Staff





6/8/23	Jackson	Metropolitan Planning Meeting	15	Mayors, stakeholders, community members, MPO Staff
6/13/23	Knoxville	Metropolitan Planning Meeting	26	Mayors, stakeholders, community members, MPO Staff
6/14/23	Johnson City	Metropolitan Planning Meeting	18	Mayors, stakeholders, community members, MPO Staff

A map of the statewide meeting coverage is outlined in Figure 1.

Figure 1: MPO and RPO Meetings TEVI Interactive Meeting Coverage Map



Outcome: TDOT utilized community, planning organization, and local leader feedback to help inform TEVI AFC evaluation zone assignments, NOFO information inclusion, and Program coordination efforts. General feedback confirmed that TDOT's mapping efforts accurately reflected the regional needs of planning organizations and local leaders.

Stakeholder Engagement

Throughout the latter half of 2022 and early 2023, the TEVI Working Group shared information about the TEVI Program at stakeholder events throughout the state. The events served to educate and engage with community and industry stakeholders. **Table 3** details the community and industry stakeholders.

Date	Location	Туре	Attendees	Group(s) Reached
10/26/22	Kingsport	TN Environmental Conference	100	Environmental professionals, local leaders, and decision-makers
11/7/22	Knoxville	Drive Electric Tennessee Momentum Summit Conference	200	Local governments, electric utilities, stakeholders, universities, industry leaders, non-profits
4/26/23	Nashville	Tennessee Fuel and Convenience Store Association Spring Meeting	75	Tennessee fueling and convenience store owners

Table 3: TEVI Stakeholder Engagement



5/10/23	Chattanooga	Co.Lab Mobility Summit	100	Academia, mobility startups and private companies, local governments, non-profits
5/10/23	Chattanooga	Tennessee Environmental Network Show of the South	35	Local governments, business and industry consultants, non-profits
5/25/23	Memphis	Driving EV Leadership Meeting	35	Electric utilities, local governments, stakeholders
6/22/23	Morristown	Driving EV Leadership Meeting	25	Electric utilities, local governments, stakeholders
7/19/23	Pulaski	Driving EV Leadership Meeting	22	Electric utilities, local governments, stakeholders

Outcome: The TEVI Working Group was able to educate stakeholders about EV charging infrastructure and inform participants about the TEVI Program and other funding opportunities in Tennessee. Stakeholders generally confirmed TDOT's evaluation zone locations as relevant and emphasized the need for the EV charging infrastructure locations to be sited in accessible, safe areas, with convenient amenities. TDOT has reflected this input in the development of the requirements and evaluation criteria in the TEVI NOFO to ensure any EV charging infrastructure funded best reflects NEVI Program requirements, TDOT goals, and stakeholder needs.

Website Engagement

TDOT, with support from the TEVI Working Group, established a publicly accessible website² to provide up-to-date information on the TEVI Program and drive public outreach efforts. The website includes background information about the NEVI Formula Program, a map of Tennessee's designated AFCs, and key stakeholders involved in transportation electrification in Tennessee.

The TEVI website is also home to a partnering form for entities and individuals interested in participating in the build out of EV infrastructure along TDOT's designated AFCs as a part of the TEVI Program. Both the form and results are published on the website, enabling community involvement and interaction around EV charging infrastructure in Tennessee.

On March 20, 2023, TDOT posted a Notice of Intent (NOI) describing major details and requirements of the TEVI NOFO. This NOI was designed to give prospective applicants advanced information to allow planning and preparation prior to the release of the formal NOFO. TDOT's NOFO will be published on the TEVI website, along with the NOFO application packet, and a TEVI Program Guidance Document, a resource intended to be used as a supplemental resource to applicants as they apply for funding under the TEVI Program.

² <u>Tennessee Electric Vehicle Infrastructure (TEVI) (tn.gov)</u>



Outcome: The general TEVI website received 1,098 page views between June and mid-July 2023, confirming the approach has helped support engagement, partnering interactions, and preparation for prospective TEVI Program applicants. In addition, the TEVI Deployment Plan Stakeholder Engagement Session Webinar, hosted on the website, has been viewed more than 750 times. As a result of the partnering survey posted on the TEVI site, As of July 2023, 73 entities have indicated interest in providing services and 59 entities indicated the need for service providers to support EV charging infrastructure projects.

Listserv Engagement

TDEC established a listserv to connect interested entities with real-time updates to the TEVI Program. The listserv provides access to Program information releases, updates, and progress toward implementation.

Outcome: The listserv currently has 849 subscribers, reaching communities across the state and serving as a communication channel to provide up-to-date news and TEVI Program updates to interested entities. The TEVI Program listserv will continue to provide a strong communications channel for all Program activities, including serving as a main platform to announce the NOFO release as well as to spread information and recruit attendees for all future Program events.

Media Engagement

Following the approval of the TEVI Program Plan in September 2022, Tennessee received recognition from local, state, and national media sources, providing visibility to the Program. **Table 4** details the TEVI Program news coverage to-date.

Date	Channel	TEVI Program Media Coverage
9/13/2022	The Center Square Tennessee	Tennessee plans to distribute \$88M in federal funds to build electric vehicle charging stations
9/14/2022	Transport Topics	States Get Early Green Light to Spend federal EV Funds
9/14/2022	Automotive news	U.S. approved 35 EV charging infrastructure plans ahead of schedule
9/15/2022	WPSD6	Kentucky, Tennessee getting millions of federal dollars to create electric vehicle charging infrastructure
9/15/2022	FOX Chattanooga	Biden-Harris Administration announce approval of Tennessee's plan for EV charging
3/8/2023	Forbes	Building A Statewide Charging Network: Q&A With Officials From The Volunteer State (Part 1)
3/8/2023	KCI	Alternative Fuel Study Drives the Southeast to a Sustainable Future

Table 4: TEVI Program Media Coverage



3/16/2023	Forbes	Building a Statewide Charging Network: Q&A With Officials From The Volunteer State (Part 2)
3/22/2023	WKRN	State of EVs in Tennessee and funding for charging stations
3/24/2023	JDSUPRA	Privacy and Cybersecurity Standards for NEVI Funded EV Charging Station Projects

Outcome: National, state, and local media coverage has resulted in a greater understanding from communities, locals, industry partners, and the general public, providing TEVI Program awareness, public engagement, and relationship and partnership building opportunities.

Survey Engagement

Tennessee's EV Charging Infrastructure Workforce Development Working Group, comprised of Tennessee technical colleges and TDOT/TDEC representatives, issued a survey to gather information from electricians and contractors to inform ways in which Tennessee can support the EV workforce, including engaging with minority populations and disadvantaged communities.

Outcome: The workforce development survey was issued to 8,872 electricians and contractors throughout the state of Tennessee and has resulted in 276 completed surveys. Data from the surveys will help inform TDOT, Chattanooga State College, and Tennessee's Technical Colleges (TCATs) with an understanding of what is needed to ensure Tennessee has the workforce to install and maintain the infrastructure throughout the TEVI Program and to fuel EVs into the future.

Tribal Engagement

Tennessee does not currently have federally recognized Native American tribes within its state boundaries. As a result, no Tribal engagement has taken place.

Utility Engagement

The TEVI Program has continued to coordinate and engage with electric utility providers throughout the state of Tennessee. TDOT and TDEC hosted convenings with electric utility providers in an effort to ensure sufficient information is gathered to inform a strategic design and roll-out of EV charging infrastructure along Tennessee's AFCs.

Following the approval of the TEVI Plan, the TEVI Working Group hosted meetings with local electric utility providers and gathered information important to developing strong and coordinated site applications for EV charging in the state. **Table 5** details TEVI Program utility engagement and coordination meetings since the 2022 Plan approval.

Date	Participants	Topics Covered
1/5/23	TDOT, TDEC, Local Power Companies	NEVI Q&A with Local Power Companies
3/1/23	TDOT, TDEC, Middle Tennessee Electric	Coordination for TEVI Program applicants

Table 5: Utility Engagement and Coordination Meetings

Outcome: The feedback and information gathered from Tennessee electric utility providers has informed the development of a "utility coordination form" that has been incorporated into the TEVI Program Application Packet. The form allows for proper coordination and planning with site-specific utilities throughout the state. Utility feedback helped to refine the information within the form to ensure it was efficient for utility partners to provide the most helpful information for application evaluation.

Site Specific Public Engagement

The TEVI Working Group determined a need to group eligible exits in order to score applications against competing locations within gap areas. This ensures a more equitable approach to application competitiveness. Through the assignment of the evaluation zones, the Working Group developed an interactive map for potential applicants of the TEVI Program NOFO to access information about eligible exits for placement of EV charging infrastructure, and the applicable utility contact for the site. **Figure 2** outlines the TEVI Program evaluation zones.

AFC	Evaluation Zone	A	В	с	D	E	F	G	н	I	J	к
<u>l-24</u>	Eligible Interstate Exits	19, 21, 31, 35	64, 66, 70, 76, 78, 80, 81, 84, 89, 97	152, 155, 158, 161		I	I	I	1			1
<u>l-26</u>	Eligible Interstate Exits	1, 3, 4, 6, 10, 13, 17, 19, 20, 22, 23, 24, 27	34, 36, 37, 40, 43, 46, 50									
<u>I-40</u>	Eligible Interstate Exits	42, 47, 52	108, 126	133, 137, 143, 148, 152	172, 182	188, 192, 196, 199, 201, 204, 205, 207, 209	216, 221, 226, 232, 236, 238	239, 245, 254	311, 317, 320, 322	329	350, 352, 355, 356	432, 435, 440, 447, 451
<u>I-65</u>	Eligible Interstate Exits	22, 27, 32	104, 108, 112									
<u>I-75</u>	Eligible Interstate Exits	49, 52, 56, 60	122, 128, 129, 134, 141, 144									
<u>I-81</u>	Eligible Interstate Exits	15, 23	36, 44, 50									
<u>US-</u> <u>64</u>	County Designation Points	Shelby 8.69 – Fayette 17.47	Fayette 17.47 – Hardeman 15.88	Hardeman 15.88 – McNairy 16.07	McNairy 16.07 – Hardin 13.42	Hardin 13.42 – Wayne 16.34	Wayne 16.34 – Lawrence 15.89	Lawrence 15.89 – Giles 15.32	Giles 15.32 – Lincoln 15.29	Lincoln 15.29 – Franklin 6.62	Franklin 6.62 – Grundy 0.36	

Figure 2	2: TEVI	Program	Evaluation	Zone Map





Outcome: Following the development of Tennessee's EV charging infrastructure interactive evaluation zone map, interested applicants can access information regarding site specific eligibility and connect with the corresponding electric utility provider, allowing for thoughtful preparation ahead of a formal application submission.

Ongoing Stakeholder Engagement

TDOT looks forward to ongoing public engagement on a variety of topics, including future AFC designations, upcoming NOFO rounds, and regional and local EV charging needs and priorities related to equity, public transportation, freight, and other supply chain needs. Annual updates to the TEVI Plan will continue to feature Community Engagement Outcome reports and plans for the next fiscal year's engagement.

4. Plan Vision and Goals

The Vision and Goals for the TEVI Program have largely remained unchanged since the approval of the Plan in September 2022. The TEVI Deployment Plan outlines a multi-year infrastructure development strategy that will enable current and future drivers of EVs to confidently travel from one end of the state to the other.

TEVI Program Vision

The vision for the TEVI Program is to develop a safe, convenient, accessible, reliable, and equitable EV charging network that promotes the state's economic vitality and environmental stewardship while improving EV "range confidence" and supporting EV adoption throughout Tennessee. Greater adoption of EVs, which have zero tailpipe emissions and leverage TVA's clean electricity generation mix,³ will provide many benefits for Tennesseans as they can play a significant role in reducing transportation-related emissions, improving air quality, and increasing transportation sector efficiency and resiliency. The development of a NEVI-compliant statewide EV charging network will expand accessibility of critical light-duty EV charging for all Tennesseans

³ TVA provides electricity to 99.7% of the service territory in Tennessee: <u>https://www.tva.com/</u>



and regional travelers. These fast chargers will be available from high density markets in urban areas to underserved markets in rural or economically distressed areas.

High Level Goals

A detailed summary of TEVI Program high level goals is outlined in **Table 6**.

Table	6:	TEVI	Program	Goals
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Goal	Description
Complement existing/planned infrastructure	NEVI-funded infrastructure will complement existing and planned infrastructure, minimizing duplication but adding redundancy where needed for higher EV charger utilization.
Upgrade existing infrastructure to maximize NEVI funding impact	Evaluate and upgrade existing EV charging sites to meet NEVI specifications, prioritizing designated corridors for efficient build out and unlocking remaining funds for alternate sites.
Future-proof infrastructure sites	Develop charging infrastructure sites with future expansion in mind to minimize costs, including electrical distribution equipment and support for higher-powered charging in the future.
Accommodate multiple vehicle types/sizes	Design charging infrastructure sites to accommodate various vehicle types, including medium and heavy-duty vehicles, and consider pull-through spaces for larger vehicles or trailers.
Promote multimodal accessibility	Select or develop locations that encourage easy access to amenities and promote multimodal transportation alternatives like walking, biking, and transit use.
Standardization	Provide consistent charging experience across the network with adequate lighting, signage, and reporting instructions. Consider cable length to accommodate diverse EV charge port locations.
Contribute to a cohesive regional network	Coordinate with neighboring states to ensure infrastructure near state lines complements existing or planned infrastructure along the same corridor.
Ensure ongoing operation and maintenance	Incorporate infrastructure operation and maintenance obligations into contracts, monitor compliance, and ensure chargers meet demand from travelers.
Maximize job creation and workforce development opportunities	Engage labor and workforce entities to implement strategies that expand job opportunities, improve labor standards, and develop an equitable and diverse workforce.
Drive awareness through education and outreach	Develop engagement materials, signage, and campaigns to educate the public on charger locations, good charging habits, and equipment capability. Leverage social media and workshops to gather feedback and improve the network.
Evaluation of utilization data for future development	Gather charger utilization data to inform adjustments and future expansion of the infrastructure network, benefiting stakeholders in the EV charging infrastructure space.
Minimize cybersecurity risks	Require subrecipients to comply with cybersecurity requirements, protecting consumer data and personally identifiable information.



Timeline

Since the approval of the TEVI Plan in September of 2022, TDOT and TDEC have made progress through the implementation phases of the Program. This includes significant, continued stakeholder engagement, Working Group meetings to plan Program implementation, and a multifaceted effort to develop an effective and efficient NOFO process to solicit applications for NEVI Formula Program funding and ultimately award funding for EV charging infrastructure deployment.

The TEVI Program will continue to make progress towards its ultimate goals of achieving fully built out certification for Tennessee's AFCs from USDOT as well as building an EV charging network that is safe, convenient, accessible, reliable, and equitable for EV motorists and fleets across the state. **Figure 3** outlines the Program timeline over the next fiscal year.

Figure 3: TEVI Program FY22-FY24 Timeline



Outcome-Oriented Goal with Quantified Target

- TEVI Phase I Awards issued, with Award Agreements fully executed by the end of FY24.
- 100% of Tennessee EV AFCs fully built out to NEVI Formula Program requirements by 2026.

5. Contracting

Since the approval of the 2022 TEVI Plan, one of the primary areas of focus for the TEVI Working Group has included the development of a competitive application process for TEVI Program funding. Multiple contracting models exist to expand charging infrastructure including site host ownership, local government ownership, local power company ownership, and third-party/commercial ownership. Tennessee will primarily work with experienced third parties, including EV charging vendors and industry professionals to deploy EV charging infrastructure. Through a competitive application process, subrecipients must prove their qualifications, including experience with real estate, site design, construction, etc. This approach offers flexibility to develop NEVI-compliant infrastructure. As the State-awarded subrecipients complete NEVI-compliant infrastructure on designated AFCs, additional contracting opportunities may arise. For instance, once the AFCs are fully built out, additional funds may be set aside to increase EV



charging infrastructure density in high demand areas or to solve for community needs off of the AFCs.

Status of Contracting Process

TDOT developed the TEVI NOFO to solicit applications for grant funding under the NEVI-funded TEVI Program. Awardees will purchase, install, own, operate, maintain, and report on Program-funded EV charging infrastructure throughout the state of Tennessee.

Applicants are required to complete an Application Packet for each proposed site within an identified gap area along an AFC. There is no restriction on the number of project sites that an applicant can propose in response to the solicitation. Along the seven (7) EV AFCs, there are a total of 32 evaluation zones within which applicants should identify locations for proposed EV charging infrastructure installation. These zones are detailed in **Figure 2** above, as well as further discussed in the Deployment section of this plan. **Table 7** details the Program NOFO timeline.

Table 7: TEVI Program NOFO Timeline

TEVI Program NOFO Timeline	Date
TEVI Program Open for Application Submission	August 2023
Informational Webinar for Interested Applicants	August 2023
Deadline for Application Submission	November 2023
Application Review Period	November – December 2023
Anticipated Notification of Selection	January 2024

Awarded Contracts

To date, TDOT has not awarded any contracts under the TEVI Program. TDOT anticipates the issuance of awards for its first phase in Spring 2024.

Scoring Methodologies Utilized

TDOT established a fair and consistent application evaluation process for this competitive grant Program, ensuring compliance with relevant Federal and State laws. All applications must successfully move through each of the following three steps in the Application evaluation process.

- Application Completeness Review (step 1)
- Application Minimum Requirements Pass/Fail Assessment (step 2)
- Application passes step 1 and step 2, it is scored in step 3

The TEVI Program NOFO's step 3 application evaluation includes an analysis of each application's responsiveness to a Program-specific category. Applications that include the following items will receive a higher rating per category. TDOT's NOFO also includes a TEVI



Guidance Document that provides recommendations on how to develop a highly competitive TEVI application. **Table 8** outlines the TEVI Program NOFO evaluation and scoring criteria.

Category	Responsiveness Criteria
Amenities	Includes amenities for users of EV charging infrastructure including, but not limited to, 24/7 public restrooms, dine-in restaurants, and convenience stores.
Committed Cost-Share Contribution	Application exceeds the minimum non-federal cost share requirement and covers a higher percentage of eligible project expenses.
Detailed Budget Information	Application includes a fully completed, detailed budget form.
Future Proofing	Designed to accommodate future expansion with minimal cost. Future proofing can include, but is not limited to, pull-through charging design (for larger vehicles), higher power level per port, higher number of ports, and conduit for additional, future EV charging infrastructure locations.
Justice40	Located in a Federally defined disadvantaged community (DAC) ⁴ or that clearly outlines plans for including and/or benefitting DACs as defined by the Justice40 Program.
Long-Term Stewardship	Application includes a detailed and thorough 5-year operations and maintenance (O&M) plan.
Project Site Readiness	Low environmental impact, ready availability or low efforts required for sufficient electric power service, pre-planning work underway with local jurisdictions, and sites with existing EV charging infrastructure (only requiring an upgrade).
Project Team Experience	Lead applicant has administered Federal projects, site host has experience operating and maintaining EV charging infrastructure, and contractor has installed EV charging infrastructure
Safety (physical and cyber security)	Application includes a detailed plan for addressing physical safety at the site, a clearly defined cybersecurity approach, and a cybersecurity plan framework.
Workforce Development	Application includes a strategic, narrativized, approach for workforce development support around EV charging infrastructure deployment in Tennessee.

Fable 8: TEVI	Program	NOFO	Evaluation	and	Scoring	Criteria
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Plan for Compliance with Federal Requirements

The TEVI Program supports adherence to compliance requirements and implements review processes at every stage of Program administration. This encompasses proposal submissions, agency evaluations, contractual obligations for Awardees, pre-construction and procurement reviews, installation phase assessments, and ongoing maintenance, including invoicing, data

⁴ <u>https://www.federalregister.gov/d/2023-03500/p-343</u>



management, and reporting obligations. **Table 9** details the TEVI Program's approach for compliance.

The TEVI Program has incorporated compliance all throughout its process including compliance with 1) Federal law; 2) NEVI Final Rule (23 CFR 680); 3) Tennessee State law; and 4) additional TEVI Program Requirements as detailed in **Table 9**.

Compliance Classification	Approach for Compliance					
Federal Law Compliance (23 U.S.C. and all applicable requirements of 2 CFR 200)	Expertise from TDOT's Planning, Procurement, Legal, and Environmental Division staff was utilized in developing and reviewing the NOFO documents to ensure compliance. Additionally, FHWA-TN staff actively participated in weekly calls with the Working Group and verified compliance.					
NEVI Final Rule (23 CFR 680)	The TEVI Program has incorporated by reference 23 CFR 680 in its NOFO, TEVI Guidance Document, and TEVI Application Packet.					
Tennessee State Law	The TEVI Program NOFO and Award Agreement to be issued to all contracted Awardees utilizes TDOT's standard and State-approved contractual language. Additionally, TDOT Legal was involved throughout the TEVI Program document development and review period(s).					
Additional TEVI Program Requirements	The TEVI Program requirements include stipulations that build upon NEVI Program requirements. TEVI Program requirements will be included in Award Agreements signed by each selected Awardee.					

Table 9: TEVI Program Compliance Approach

6. Civil Rights

As recipients of Federal funding, TDOT and TDEC are required to comply with the rules, laws, and regulations of Title VI. Title VI compliance requirements will be passed down to subrecipients that are awarded through the TEVI NOFO process.

TDOT and TDEC both maintain Title VI Programs that outline specific requirements for grantees and subrecipients. Subrecipients are required to complete the appropriate Title VI training, maintain a certificate of training completion, and submit to annual compliance reviews or other certifications as outlined by the granting agency.

In accordance with the NEVI Final Rule, all Awardees of funding under the TEVI Program will be required to comply with all sections of 23 CFR 680. TDOT's Award Agreements will incorporate by reference and flow down all sections of 23 CFR 680. **Table 10** outlines TDOT's compliance approach for TEVI Program implementation.



Table 10: TEVI Federal and Civil Rights Compliance Approach

TE\/I Drogra	m Endoral Laws ar	nd Civil Pights Com	nlianco Annroach 8690 14	10
IEVI FIUgia	in rederal Laws al	IL CIVIL RIGHTS COM	pliance Apploach S680.11	10

Compliance Requirement	The American with Disabilities Act of 1990 (ADA)	Title VI of the Civil Rights Act of 1964	Title VIII of the Civil Rights Act of 1968 (Fair Housing Act)	The Uniform Relocation Assistance and Real Property Acquisition Act
NOFO	Reference to 23 CFR 680	Reference to 23 CFR 680	Reference to 23 CFR 680	Reference to 23 CFR 680
Application Evaluation, Scoring	Scoring criteria for ADA compliance	TDOT will follow 23 CFR 680 in review and scoring	TDOT will follow 23 CFR 680 in review and scoring	TDOT will follow 23 CFR 680 in review and scoring
Awardee Contracting	23 CFR 680 flow down, incorporated by reference	23 CFR 680 flow down, incorporated by reference	23 CFR 680 flow down, incorporated by reference	23 CFR 680 flow down, incorporated by reference
EV Charging Infrastructure Construction	Awardees are required to follow ADA guidelines	Awardees are required to follow 23 CFR 680	Awardees are required to follow 23 CFR 680	Awardees are required to follow 23 CFR 680
O&M Period	Awardees are required to maintain ADA compliance throughout five years	Awardees are required to follow 23 CFR 680	Awardees are required to follow 23 CFR 680	Awardees are required to follow 23 CFR 680

7. Existing and Future Conditions Analysis

TDOT performed a detailed analysis of existing and future conditions for the 2022 TEVI Plan. This 2023 TEVI Plan update was also developed based on analyses of the existing and future conditions in Tennessee, including the state's geography, terrain, climate, and land use patterns, as summarized in **Table 11**.

Table 11: TN Geography, Terrain, Climate, Land use, and Population Conditions Condition Description

Geography	Tennessee covers approximately 42,143 square miles, with 2.2% of this area being water. The state is divided into three culturally distinct Grand Divisions: East, Middle, and West, often referred to as "The Three Tennessees." Tennessee shares its borders with eight states, tying with Missouri for the most bordering states. The state's eastern boundary aligns with the Blue Ridge Mountains' highest crests, while the Mississippi
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	River forms its western boundary. The boundary between Eastern and Central Time Zones runs through the Cumberland Plateau.
Terrain	Tennessee's terrain is diverse, featuring six principal physiographic provinces, part of three larger regions: the Blue Ridge Mountains, the Ridge-and-Valley Appalachians, and the Cumberland Plateau; the Highland Rim and Nashville Basin; and the East Gulf Coastal Plain. The state's highest point is Clingmans Dome, at 6,643 feet above sea level, the third-highest peak east of the Mississippi River. The lowest point, at 178 feet, is on the Mississippi River in Memphis. Notably, Tennessee houses over 10,000 documented caves, the most in the U.S.
Climate	Tennessee's climate is primarily humid subtropical, with cooler temperatures in the higher Appalachians. Influenced by the Gulf of Mexico, the state experiences hot, humid summers and mild to cool winters, with an average annual precipitation of 50 inches. Extreme weather events, including severe thunderstorms, flooding, tornadoes, droughts, heat and cold waves, and winter storms, are common. Tennessee averages about 50 thunderstorm days and 15 tornadoes annually. The state is projected to experience unprecedented warming this century, potentially intensifying droughts, and extreme weather events.
Precipitation and Flooding	Tennessee experiences severe weather events like thunderstorms and flooding. Tennessee has received 33 major disaster declarations since 2000 due to severe storms and flooding.
Land Use	Tennessee has experienced significant recent growth in urban and rural areas. Population rose by 47% (55% urban vs. 33% rural) from 1980 to 2018, equating to over 1% sustained annual growth. The four major urban counties (Davidson, Shelby, Hamilton, and Knox) saw at least a 21% population increase during this period. Tennessee witnessed remarkable employment growth from 1980 to 2018, with statewide employment increasing by 80% (1.6% annually). The majority of this growth occurred in the same four urban counties. Non-basic sectors drove employment expansion, but manufacturing, including EV-related developments like Ford's Blue Oval City, may be the key driver of future employment growth.
Population	The 2020 United States census reported Tennessee's population at 6,910,840, an increase of 564,735 since the 2010 United States census, or an 8.90% increase.

 Table 12 details Tennessee's existing highway system and travel patterns.

Table 12. In Existing Ingilway System and Travel I atterns	Table 12: TN	Existing	Highway	System	and Travel	Patterns
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Condition	Description
Tennessee Highway System	Tennessee currently has 96,187 total highway miles, with 14,462 State maintained highway miles, including 1,201 interstate miles, 19 interstate rest areas, 16 interstate welcome centers, and 9 truck weigh stations.
Passenger Travel Patterns	According to the USDOT Bureau of Transportation Statistics, Tennessee residents take an average of 3.36 trips per person per day, slightly lower than the national average of 3.37 trips per person per day. However, Tennessee residents average 42.8 miles of vehicle travel per person per day, which falls above the U.S. national average of 36 miles per person per day. Driving alone also accounts for 83.1% of work commutes, which is higher than the national average of 76.3%, with carpooling in Tennessee tying the national average at 9% and public transit usage falling significantly below the national average of 4.9% at 0.6% in Tennessee.



Tennessee has public transit service in all 95 counties, supported by 28 transit agencies. TDOT provides financial support and technical assistance, facilitating over 16 million annual trips. Transitioning to electric transit vehicles is feasible due to shorter delivery times, infrastructure development, and vehicle incentives. The TEVI Program aims to Transit collaborate with transit agencies, establish EV charging infrastructure, and explore public-private partnerships. This presents an opportunity for improved public transportation, particularly in rural areas, with AFCs located near transit service territories.

Tennessee's interstates experience high volumes of truck traffic, making trucking the primary mode for freight transportation. As more trucks transition to run on electricity, the State will support the design of EV charging infrastructure locations along major interstates to accommodate medium- and heavy-duty trucks. The charging infrastructure should be easily accessible and offer amenities like showers, safe parking, and restaurants to cater to truck drivers. Interstate 40, covering 440 miles, is a crucial coastto-coast connector, warranting investment in freight charging infrastructure. Other Freight interstates like I-65, I-24, and I-75 are also prime corridors for freight electrification. Although freight operators are expected to primarily develop charging infrastructure on privately-owned property, NEVI-funded infrastructure and other State-support charging infrastructure can complement these private networks. Locations near distribution centers, intermodal facilities, and freight hubs can be ideal for charging infrastructure that can support medium- and heavy-duty use cases. The TEVI Program will monitor EV freight developments and adjust the TEVI Deployment Plan based on FHWA guidance and freight corridor designations.

Table 13 details Tennessee's existing electric utilities, grid, and capacity.

Condition		Description		
TN Electric Distribution System	The power grid in Tennessee is an interconnected system comprised of power generation stations, high voltage transmission systems, and lower voltage distribution systems. TVA manages generation and transmission for 99.7% of the state, while local power companies (LPCs) handle distribution and retail sale of electricity. EV adoption forecasts are considered in short-term and long-term planning processes. The goal is to have 200,000 light-duty EVs on Tennessee roads by 2028. Analysis shows that most EV charging occurs at residences with lower power levels, which is manageable for the grid during off-peak hours. Higher power charging infrastructure will supplement charging needs in commercial and highway areas, utilizing common three-phase power delivery.			
Utilities, Local Power Companies, and Membership	Tennessee Electric Cooperative Association	Tennessee Municipal Electric Power Association	Tennessee Valley Authority	
	Tennessee Valley Public Power Association	Appalachian Electric Cooperative	Athens Utility Board	
	Benton County Electric System	Bolivar Energy Authority	Carroll County	
Associations	Chickasaw Electric Cooperative	City of Bristol	City of Clarksville	
Tennessee	City of Cleveland	City of Clinton	City of Cookeville	
AFCs	City of Dickson	City of Elizabethton	City of Fayetteville	
	City of Harriman	City of Jackson	City of Jellico	

Table 13: TN Electric Service Utilities, Grid Capacity, Electricity Uses, and Pricing



	City of Johnson City	City of Lafollette	City of Lawrenceburg	
	City of Lenoir	City of Lexington	City of Murfreesboro	
	City of Newport	City of Pulaski	City of Rockwood	
	City of Sweetwater	City of Winchester	Columbia Power and Water System	
	Cumberland Electric Membership Corporation (EMC)	Duck River EMC	EPB of Chattanooga	
	Greeneville Light & Power	Holston Electric Coop, Inc.	Kingsport Power Company	
	Knoxville Utilities Board	Loudon Utilities Board	Memphis Light, Gas and Water	
	Meriwether Lewis Electric Cooperative	Middle Tennessee EMC	Nashville Electric Service	
	Pickwick Electric Cooperative	Sequatchie Valley Electric Cooperative	Southwest Tennessee EMC	
	Tennessee Valley Electric Cooperative	Town of Erwin	Upper Cumberland EMC	
	Volunteer Electric Cooperative			
Electric Generation and Grid Capacity	According to the U.S. Energy Information Administration (EIA) ⁵ , Tennessee's total electric power generation for 2022 was 79,986,519 MWh., with nuclear providing 43% of the generation capacity, coal providing 22%, and natural gas providing 18%. Hydroelectric power contributed 16% of the state's generation, and other renewables provided the remaining net generation.			
Electricity Use by Sector	According to U.S. EIA, despite its many TVA generating facilities, Tennessee is a net importer of electricity. Tennessee is among the top 15 states in both residential sector electricity and total electricity sales. The average electricity price in Tennessee is below the national average, and the average price of electricity for the residential sector is among the lowest in the country (Tennessee ranks 9 th out of 50 states). About 6 out of 10 households in Tennessee use electricity as their primary energy source for home heating.			
Electricity Pricing and Costs	Tennessee's statewide 2022 av state's average annual retail p 12.82¢/kWh over the past two de	erage retail price for elec price for electricity has f ecades.	tricity was 10.19¢/kWh. The luctuated from 5.9¢/kWh -	

Table 14 details information and analysis on EV registration and related considerations.

Table 14: TN Electric Vehicle Registration, Market Growth, and Distribution Condition Description

Condition	Description
EV Registrations	In Tennessee, light-duty EV sales and market share have increased substantially since 2011. While some quarters saw slight dips from the previous quarter, the overall trend is a significant increase, with EV sales in each quarter substantially exceeding quarterly sales during the same quarter of the prior year and annual EV sales growing by 223% from June 2019 to June 2023. As of June 2023, Tennessee has 30,704 EVs registered in the State.
EV Registrations	since 2011. While some quarters saw slight dips from the previous quarter, the over trend is a significant increase, with EV sales in each quarter substantially exceed quarterly sales during the same quarter of the prior year and annual EV sales grow by 223% from June 2019 to June 2023. As of June 2023, Tennessee has 30,704 registered in the State.

⁵ Electric Power Monthly - U.S. Energy Information Administration (EIA)



EV AFCs & Existing NEVI-Compliant EV Charging Infrastructure

Figure 4 documents FHWA-designated EV AFCs in Tennessee and existing NEVI-compliant EV charging infrastructure. There has been no change in the total number of AFCs or NEVI-compliant EV charging infrastructure since 2022. TDOT understands that these locations are currently compliant with NEVI standards and are eligible to count toward the state's creditable EV charging infrastructure requirements. TDOT will work with the owners of these EV charging infrastructure sites in an effort to credit them towards full EV AFC build out, should the EV charging infrastructure owners be willing to opt-in to NEVI and TEVI requirements.





Existing EV Charging Infrastructure Sites on Tennessee EV AFCs Eligible for Potential Upgrades with NEVI Funds

The list of Tennessee's existing EV charging infrastructure locations eligible to be upgraded to be creditable toward full build out status in Tennessee is available in **Appendix A** of this Plan. **Figure 5** shows the locations of existing, public DC fast charging infrastructure that is within a mile of an AFC and open 24/7 in Tennessee as of June 2023. This map demonstrates the current EV charging infrastructure density (e.g., number of EV charging infrastructure sites per mile) and highlights the extent to which a vast majority of fast charging infrastructure currently falls along AFCs and the Interstate Highway System.



Figure 5: Upgradeable EV Charging Infrastructure on Tennessee AFCs



Tennessee EV AFC Termini and Border Regions

On June 2, 2023, FHWA released updated NEVI Formula Program guidance, which provided additional information for defining fully built out AFC criteria, defining AFC termini, and requiring all AFC termini to have an EV charging infrastructure located within 25 miles of the terminus. All AFCs with a terminus within the state of Tennessee have a NEVI compliant EV charger located within 25-miles of the terminus, except for the I-81 terminus at I-40. This TEVI Plan meets new guidance by adding an evaluation zone on I-81 within 25 miles of the start of that route. With this evaluation zone, Tennessee is making the 25-mile Termini rule part of its NOFO and will achieve compliance by incorporating a site at a compliant distance.

Tennessee EV Charging Infrastructure Known Risks & Challenges

TDOT acknowledges there will be key risks and challenges in deploying the TEVI Program. **Table 15** below details the high-level known risks and challenges TDOT is tracking. TDOT continues to monitor risks and challenges in administering the NEVI Formula Program and will collaboratively document and address risks and challenges as administration of the Program moves forward.

Risk/Challenge	Description
Operations and Maintenance of Infrastructure	Network reliability is crucial for the TEVI Program's success. Infrastructure risks, if not promptly addressed, can jeopardize the network's viability and user experience. Monitoring will ensure operational chargers can meet traveler demand.
Lack of Willing and Available Site Hosts	Finding willing site hosts for EV charging infrastructure in close proximity to the corridors can be challenging in rural areas. Host participation will depend on an understanding of the benefits and challenges, as well as an assessment of future benefits and opportunity costs.
Required Electrical Upgrades	In rural areas with limited development, the associated electrical upgrade costs may be too expensive for many site hosts or infrastructure owners/operators, making it cost prohibitive for them to provide the required cost share.
Supply Chain Disruptions	Timelines for successful implementation of the NEVI Formula Program may face delays due to various factors, such as semiconductor availability, port congestion, strained steel supplies, availability of FHWA-Buy America compliant hardware, and labor shortages. These challenges could potentially impact the timely execution of the Program.
Equipment Specifications	Following the announcement of major vehicle manufacturers' transition to the standardization of the North American Charging Standard (NACS) port for vehicles, determining equipment specifications requirements may pose a challenge to the Program.
Evolving Market Conditions and Program Guidance	TDOT and its TEVI Program partners continue to monitor the evolving market conditions in the state of Tennessee, including grid and electricity supply challenges that may arise, challenges with changing market conditions such as the EV industry transition to additional port standards, and other risks.

Table 15: Known	EV Charging Infrastructure Risks and Challenges
Risk/Challenge	Description



8. EV Charging Infrastructure Deployment

Tennessee will receive approximately \$88.3 million in NEVI formula funding over 5 years (FY2022-2026) to support its EV charging infrastructure deployment. Initial funding is designated for AFCs to support the build out of a national EV charging network, particularly along the Interstate Highway System. **Table 16** outlines the approximate TEVI Program funding by year.

Tennessee NEVI Program Appropriations by Year					
Actual FY 2022	Estimated FY 2023	Estimated FY 2024	Estimated FY 2025	Estimated FY 2026	Estimated Total
\$13,074,884	\$18,814,906	\$18,815,036	\$18,815,052	\$18,815,091	\$88,334,969

Table 16: Approximate TEVI Program Funding by Fiscal Year

The TEVI competitive grant Program requires applicants to identify non-federal funding sources to match the awarded NEVI Formula funding with a minimum requirement of 20% non-federal cost-share. **Table 17** details the estimated annual uses and sources of NEVI funds.

Table 17: Tennessee Annual NEVI Funding Sources and Uses

Federal Fiscal Year & Funding Use	Federal	Non-Federal	Total
FY 22–24; Phase I: Full Build Out of EV AFCs & Interstates	\$50,704,826	\$10,140,965	\$60,845,791
FY 25–26; Phase II: Additional Tennessee EV Charging Infrastructure Priorities	\$37,630,143	\$7,526,029	\$45,156,172
Total Tennessee NEVI Formula Funds	\$88,334,969	\$17,666,994	\$106,001,963

Planned EV Charging Infrastructure

There are currently no planned EV charging infrastructure sites, as the TEVI Program solicitation has not yet been released and awards have not yet been made.

Planning Towards a Fully Built Out Determination

Tennessee designed an evaluation zone map (**Figure 2** of this Plan) for applicants to determine specific placement of EV charging infrastructure along Tennessee's designated AFCs. Applications will be scored against other submissions within specific evaluation zones. Along the seven (7) Tennessee EV AFCs, there are a total of 32 evaluation zones, within which EV charging infrastructure sites will be identified for Tennessee to achieve full build out status. Tennessee anticipates achieving a fully built out status by 2026. **Table 18** details the TEVI Program evaluation zones along each designated Tennessee AFC route.

Table 18: Tennessee AFC Route and Evaluation Zone Summary

Route	Number of Evaluation Zones		
I-24	3		
I-26	2		



Route	Number of Evaluation Zones
I-40	11
I-65	2
I-75	2
I-81	2
US-64	10
Total	32

9. Implementation

The TEVI Program has been carefully designed to ensure compliance with all Federal, State, and Program requirements. Compliance requirements have been integrated throughout the TEVI Program process, outlined in **Table 19**.

Stage	Compliance Process and Approach			
	Equipment Specifications & Design	Labor, Safety, & Installation Standards	Installation, Operation, & Maintenance	Interoperability, Data Collection, & Reporting
NOFO Application & Submission	23 CFR 680 incorporated by reference and required	23 CFR 680 incorporated by reference, with a specific call out of Electric Vehicle Infrastructure Training Program (EVITP) requirements	Applications must include a detailed operations and maintenance plan	23 CFR 680 incorporated by reference
TEVI Program Application Review and Scoring	TDOT reviews for compliance	TDOT reviews for compliance	TDOT reviews for compliance	TDOT reviews for compliance
Program Award Agreement Issuance	Award Agreement will include State requirements and 23 CFR flow-down	Award Agreement will include State requirements and 23 CFR flow-down	Award Agreement will include State requirements and 23 CFR flow-down	Award Agreement will include State requirements and 23 CFR flow- down
Awardee Program Planning Stage	TDOT to lead and review: NEPA and NTP	Awardee certifies compliance with 23 CFR 680 labor requirements	O&M compliance plans updated annually	TDOT monitors and reviews submission of data requirements

Table 19: TEVI Program Implementation Compliance Approach



Awardee Program Purchasing & Construction Stage	TDOT reviews BABA compliance	TDOT reviews compliance	TDOT inspects and issues notice of acceptance	TDOT initiates 5- year O&M for each Awardee
Operations and Maintenance Stage	Awardee reports on submission, TDOT confirms conformity	Awardee reports on submission, TDOT confirms conformity	Awardee reports on submission, TDOT confirms conformity	Awardee reports on submission, TDOT confirms conformity

10. Equity Considerations

The initial TEVI Plan was developed through engagement with rural, underserved, and disadvantaged communities. Since the approval of the initial Plan in September 2022, Tennessee has continued its commitment to supporting goals outlined in Executive Order 14008 directed toward Justice40 initiatives by ensuring 40% of the benefits of Tennessee's NEVI Formula funding flow to DACs. Throughout the TEVI Program implementation, TDOT and TDEC have supported Justice40 goals through the following engagement methods:

- Public Meetings: As outlined in the Community Engagement Outcomes Report section, TDOT traveled throughout the state of Tennessee to engage with stakeholders, local leadership, planning organizations, and the general public. During these meetings, TDOT shared Program updates, plans for upcoming engagement opportunities, and Program implementation information.
- **Partnering Survey**: TDOT and TDEC developed a partnering form for entities and individuals interested in partnering and participating in the build out of EV charging infrastructure along TDOT's designated AFCs as a part of the TEVI Program. The form was designed to serve as a resource to connect industry partners, community members, local leaders, and individuals in need of support around EV charging infrastructure deployment throughout the State.
- Workforce Development Survey: In December 2022, TDOT established an EV Infrastructure Workforce Development Working Group. TDOT, TDEC, the Tennessee Board of Regents, Chattanooga State Community College, and Tennessee's Colleges of Applied Technology (TCATs) have partnered to ensure Tennessee's workforce has the appropriate skills and training needed to install and maintain EV charging infrastructure. On June 15, 2023, the working group issued a survey that was sent out to a listserv of certified electricians, resulting in 276 responses. Insights gained from the survey results include that 84 respondents said they are currently involved with installing or maintaining EV charging infrastructure, and an additional 41 respondents said they do not currently install EV charging infrastructure, but plan to in the future. Additionally, when asked about top training priorities, respondents indicated that training new electricians ranked as the



top priority. Respondents also indicated that budget for workforce development should be prioritized first with the quality of training offered, followed closely by covering the cost of the training for the electricians. The survey was designed to identify workforce needs and gaps in Tennessee, and results from the survey will support decision making and planning for future workforce development initiatives in the state. At present, the EVITP Contractor network in Tennessee includes nineteen different contractors who utilize EVITP trained and certified electricians to perform EV work. In order to meet federal requirements, TDOT, Chattanooga State Community College, and the TCATs are working to raise awareness around and lower barriers to training access. The Working Group will pursue workforce related grants and funding opportunities to support availability of EV charging infrastructure workforce training, including potential coordination and approval from FHWA for use of NEVI funds to support EV charging infrastructure workforce projects.

Identification and Outreach to Disadvantaged Communities

TDOT and TDEC will continue to engage with and support Tennessee's Justice40 initiatives by prioritizing coordination with residents of rural and disadvantaged communities in addition to relevant groups and agencies throughout Tennessee. Organization types engaged are outlined in **Table 20**.

Justice Organizations	Education and Training	Government	Local Organizations	
Environmental Justice Organizations	Local Workforce Development Organizations	Government Agencies	Tennessee Clean Cities Coalitions	
Economic Justice Organizations	Technical Colleges	Metropolitan Planning Organizations	Drive Electric Tennessee	
	Local Training Centers	Rural Planning Organizations	Service Organizations	
	Certification Centers	County Governments	Volunteer Centers	

Table 20: Equity Engagement

Identifying, Quantifying, & Measuring Benefits to Disadvantaged Communities

TDOT used the Argonne EV Charging Justice40 Map Tool, CEJST Tool, and the Appalachian Regional Commission (ARC) definitions of "Distressed, At-Risk, Transitional, and Competitive/Attainment Counties" to assist in identifying, quantifying, and measuring NEVI benefits to DACs. **Figure 7** outlines Tennessee's Federally Recognized Disadvantaged Communities.



Figure 7: Tennessee Federally Recognized Disadvantaged Communities



Based on the mapping process above, TDOT has developed the initial quantifications shown in Table 21 as a starting point for quantifying how NEVI Formula Program funding will benefit DACs.

Table 21: Initial Analysis of TEVI Program DAC Coverage Land Area AFC Miles Miles Percentage of Sq Mi Percentage of the State AFC Miles Argonne DAC 7,357 17 285 CEJST DAC 25,754 61 642 ARC "At-Risk" 13,971 33 240

and "Distressed"

Based on the final sites awarded in the 2023 TEVI NOFO process, as well as data reported by awarded parties throughout the operation and maintenance of funded EV charging infrastructure, TDOT anticipates additional benefits guantifications, including but not limited to those detailed in Table 22.

Benefit Description Quantification Methodology Improve clean transportation access Analyze location of chargers in relation to DACs and through the location of chargers in DACs. transportation equity data in Tennessee. Analyze total kilowatts of energy used at all NEVI funded Reduced transportation energy cost EV charging infrastructure sites, against price paid, burden by enabling reliable access to affordable charging. calculating savings against avoided petroleum use. Analyze total kilowatts of energy used at all NEVI funded Reduced exposure to transportation EV charging infrastructure sites, calculating emissions emissions. reduced through use of electricity versus petroleum as a fuel. Increase the EV charging infrastructure Determine Disadvantage Business Enterprise participation job pipeline and workforce creation in in TEVI Program funded projects; determine the number of

Table 22: Additional Justice40 Benefits Calculations from TEVI Funded Projects

22

50

19



disadvantaged communities

DAC members that participate in State-supported EVITP or other related training programs; tally the number of businesses in or from DACs that are selected to serve as site hosts for TEVI Program funded infrastructure.

Equity Commitment

In a July 2023 report⁶ titled "Charging Toward Justice" released by Evergreen Collaborative, Atlas Public Policy, GreenLatinos, and EVHybridNoire, Tennessee was highlighted as a model for other states with its equity-focused approach to NEVI implementation through targeted social media campaigns, newspaper ads, thoughtful in-person meeting locations and logistics, and the State's development of educational materials. the TEVI Working Group is committed to ensuring equity is a focus of the TEVI Program throughout its administration and will continue to share lessons learned and best practices with its peers and stakeholders.

11. Labor and Workforce Considerations

With the release of the workforce development survey, the TEVI Working Group prioritized labor and workforce strategies to prepare the state of Tennessee for the influx of EV charging infrastructure projects and the need for certified electricians. The Tennessee EV Charging Infrastructure Workforce Development Working Group was established to address considerations and needs to support EV workforce advancements throughout the state of Tennessee. The Tennessee EV Charging Infrastructure Workforce Development Working Group meets monthly to discuss and address statewide workforce needs.

Tennessee remains the top state in the Southeast for EV manufacturing, claiming nearly 40% of the region's EV manufacturing jobs and investment. According to the Tennessee Department of Economic and Community Development, nearly \$12 billion in capital investment has been accrued in the state since 2017 in the EV sector alone.⁷ This reflects the four major automotive manufacturers that currently or will soon produce EVs and associated battery technologies in Tennessee (Ford, Volkswagen, GM, and Nissan), as well as other vehicle, parts, battery, and EV charging infrastructure producers that have set up shop across the state.

Disadvantaged Business Enterprise & Small Business Enterprise Programs Tennessee strongly supports investments that expand good paying jobs, increase job access, improve job quality, provide strong labor standards, strengthen local/regional economies, and develop an equitable and diverse workforce in building EV charging infrastructure. Tennessee has several programs through the Tennessee Department of Labor and Workforce Development to promote a highly skilled and diverse workforce. TDOT also administers a Small Business

⁶ <u>https://collaborative.evergreenaction.com/policy-hub/charging-toward-justice-</u>

nevi?utm source=blog&utm medium=website&utm campaign=ira&utm content=blog-07112023

⁷ Economic & Community Development (ECD) (tn.gov)

Development Program that includes the Disadvantaged Business Enterprise (DBE) and Small Business Enterprise (SBE) Programs. The SBE Program's primary goal is to increase the number of minority and female businesses in the highway and bridge construction industry.

Although the Federal NEVI Program is not subject to DBE Program requirements, eligible providers or subcontractors completing work under the TEVI Program will be encouraged to become a TDOT-certified DBE and support ongoing DBE efforts in the State of Tennessee.

TDOT and TDEC will continue to engage the appropriate labor and workforce entities to identify strategies for successful implementation of the TEVI Program. The TEVI Program will seek to grow and diversify the local workforce, and will leverage geographic, economic, or other hiring preferences to maximize job creation and economic benefits.

Qualified Technicians, Electricians, and EV Charging Infrastructure Installers

Tennessee requires all electricians to be licensed, ensuring all electricians working in the field have proper credentials, knowledge, and safety training to work on high voltage electrical systems. Though electrical contractor licensing is administered by the <u>Tennessee Department of Commerce and Insurance</u>, individual cities and counties may have additional rules and local licensing requirements.

Tennessee also has licensed electricians who have proactively sought and received additional EV charging infrastructure training and certification through the EVITP. The EVITP curriculum is an 18-hour course (available in-person or online) that provides training and certification for electricians installing EV charging infrastructure. Tennessee currently has 19 electrical contracting companies throughout the state with electricians on staff that are EVITP-certified. This number can scale up quickly through the online EVITP course (<u>https://evitp.org/tennessee</u>) to meet the State's growing demand for EV charging infrastructure-trained electricians. The TEVI Program will follow all certification and training requirements as stipulated under 23 CFR 680.106 (j).

12. Physical Security & Cybersecurity

Tennessee is committed to both physical and cybersecurity initiatives in the TEVI Program, protecting equipment users, stakeholders, and the State.

Physical Safety and Security

Through the development of the TEVI Guidance Document, TDOT and TDEC have outlined a definition for highly responsive projects for funding under the Program. Competitive applications will demonstrate thoughtful measures that prioritize user safety during the charging experience. Including features such as overhead lighting, on-site monitoring, video surveillance, emergency call buttons, and proximity to the road will provide users with assurances of a safer charging environment.



Cybersecurity

TDOT remains committed to ensuring that the statewide EV charging infrastructure network developed under the Program will not pose a cybersecurity risk. EV charging infrastructure provides direct connections to a vehicle's onboard system as well as to the EV charging service provider's network. The infrastructure further provides an indirect connection to the driver's smart phone if the charge is paid for with an app, to banking information if a credit card is utilized, to telecommunications providers, and to the electric grid. The connection between non-State-owned assets and State-owned intelligent transportation system (ITS) infrastructure represents an elevated security concern to TDOT and the motorist. This connection creates bi-directional risk as well as a possible liability for theft of personal information, payment/ transaction information, or vehicle information and location data.

The current ITS infrastructure is not connected to the State's network and therefore provides minimal risk of data breach between the State office network and the EV charging infrastructure network. However, if TDOT chose to manage network services internally, there would be an increased potential for exposure of the Transportation Management Centers (TMCs). In addition, there would be a connection to the statewide power grid. TDOT is not aware of Federal mandates that may exist with regard to securing this network but there are generally heightened guidelines for access to public utility networks.

Subrecipients will own, operate, and maintain the EV charging infrastructure as well as the data produced. They will be required to provide TDOT with anonymized data on a recurring basis. Subrecipients will also be required to publish infrastructure location, power ratings, and costs to the various websites and apps that track publicly accessible EV charging infrastructure, including the U.S. Department of Energy's Alternative Fuels Data Center Station Locator.

As part of the contract, prior to issuance of the award or other funding, the subrecipient will be required to provide a cybersecurity plan that demonstrates compliance with applicable State and federal cybersecurity requirements. The plan must also demonstrate how the recipient will maintain and improve cybersecurity throughout the life of the project. This will include requirements to maintain compliance with current and future cybersecurity requirements as well as alerting TDOT and the Cybersecurity and Infrastructure Security Agency (CISA) of any known or suspected network or system compromises.

13. Program Evaluation

TDOT will gather and report on data in accordance with and following all requirements in 23 CFR 680.112 throughout the life of the Program, which is inclusive of quarterly, annual, and one-time data submittals, as well as the community engagement outcomes report within each annual plan update. Data collected will include information on EV charging infrastructure use, reliability, maintenance, and installation cost information and annual data on organizations operating,

maintaining, or installing EV charging infrastructure as well as information on certifications of these entities through State or local business opportunity certification programs.

In addition to meeting all requirements under 23 CFR 680.112, TDOT will require monthly desktop compliance checks, which will help ensure sites are meeting the 97% uptime required under 23 CFR 680.

The goal will be to facilitate efficient and valuable data collection, evaluation, and reporting in order to ensure a reliable and consistent charging experience throughout Tennessee. This will include the monitoring of charging infrastructure development, examination of utilization data from installed equipment, and working with planning partners to develop new locations and/or make necessary adjustments to existing locations. Data will be evaluated and analyzed on an ongoing basis to inform annual updates to the TEVI Program and to assist TDOT in monitoring and reporting progress.

14. Discretionary Exceptions

Tennessee's goal for the first phase of the TEVI Program is to complete the full build out of the State's designated EV AFC network. At this time, Tennessee has not requested any exceptions.



Appendix A: Existing NEVI Compliant EV Charging Infrastructure in Tennessee

Table 23 outlines existing NEVI compliant EV charging infrastructure in Tennessee in terms of number of ports, power levels, port types, and locations. TDOT will work with the owners of these EV charging infrastructure sites in an effort to credit them towards full EV AFC build out, should the EV charging infrastructure owners be willing to opt-in to NEVI and TEVI requirements.

Unique ID*	Charger Level	Route	Location	Number of Ports	EV Network	Meets 23 CFR 680	Credit Towards Full Build out
121811	DCFC	I-40	Jackson	8	Electrify America	Yes	Yes
121800	DCFC	I-24	Clarksville	8	Electrify America	Yes	Yes
121804	DCFC	I-24	Nashville	18	Electrify America	Yes	Yes
146949	DCFC	I-65	Franklin	8	Electrify America	Yes	Yes
121813	DCFC	I-24	Manchester	8	Electrify America	Yes	Yes
121803	DCFC	I-40	Cookeville	8	Electrify America	Yes	Yes
121818	DCFC	I-75	Ooltewah	16	Electrify America	Yes	Yes
121808	DCFC	I-75 / I-40	Knoxville	8	Electrify America	Yes	Yes
186722	DCFC	I-40	Kodak	8	Electrify America	Yes	Yes
121816	DCFC	1-40	Memphis	4	Electrify America	Yes	Yes

Table 23: Existing NEVI Compliant EV Charging Infrastructure in Tennessee