DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

GRANT APPLICATION SUMMARY SHEET

Grant Name:	Charging and Fueling Infrastructure Discretionary Program 24-28
Department:	NDOT
Grantor:	U.S. DEPARTMENT OF TRANSPORTATION
Pass-Through Grantor (If applicable):	TENN. DEPT. OF TRANS.
Total Applied For	$4,694,080.00
Metro Cash Match:	$1,173,520.00
Department Contact:	Casey Hopkins 8801676
Status:	NEW

Program Description:

NDOT and General Services is jointly pursiuing the Charging and Fueling Infrastrucuture (CFI) Grant program for rip-and-replace, rip-and-upgrade, and new installation of EV charging stations throughout the county.

Plan for continuation of services upon grant expiration:

METRO NDOT and General Services plan to continue providing EV charging services following the expiry date of the grant.

APPROVED AS TO AVAILABILITY OF FUNDS:

Kelly Flannery 6/12/2023 | 9:18 AM CDT
Director of Finance RW AP **Date**

APPROVED AS TO FORM AND LEGALITY:

Courtney Mohan 6/12/2023 | 3:
Metropolitan Attorney **Date**

APPROVED AS TO RISK AND INSURANCE:

Balogun Cobb 6/12/2023 | 9:33 AM CDT
Director of Risk Management Services **Date**

John Cooper
Metropolitan Mayor **Date** KW
(This application is contingent upon approval of the application by the Metropolitan Council.)

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

Grants Tracking Form

Part One

Pre-Application ○ Application ◉ Award Acceptance ○ Contract Amendment ○

Department	Dept. No.	Contact	Phone	Fax
NDOT		Casey Hopkins	8801676	

Grant Name:	Charging and Fueling Infrastructure Discretionary Program 24-28		
Grantor:	U.S. DEPARTMENT OF TRANSPORTATION	**Other:**	
Grant Period From:	10/01/23	(applications only) **Anticipated Application Date:**	06/09/23
Grant Period To:	10/01/28	(applications only) **Application Deadline:**	06/13/23
Funding Type:	FED PASS THRU	**Multi-Department Grant** ☑ → **If yes, list below.**	NDOT and General Services
Pass-Thru:	TENN. DEPT. OF TRANS.	**Outside Consultant Project:** ☐	
Award Type:	COMPETITIVE	**Total Award:**	$4,694,080.00
Status:	NEW	**Metro Cash Match:**	$1,173,520.00
Metro Category:	New Initiative	**Metro In-Kind Match:**	$0.00
CFDA #	20.205	**Is Council approval required?** ☑	
Project Description:		**Applic. Submitted Electronically?** ☑	

NDOT and General Services is jointly pursiuing the Charging and Fueling Infrastrucuture (CFI) Grant program for rip-and-replace, rip-and-upgrade, and new installation of EV charging stations throughout the county. NDOT $302,920.00 + General Services $870,600.00

Plan for continuation of service after expiration of grant/Budgetary Impact:

METRO NDOT and General Services plan to continue providing EV charging services following the expiry date of the grant.

How is Match Determined?

Fixed Amount of $		**or**	20.0%	**% of Grant**	**Other:** ☐

Explanation for "Other" means of determining match:

For this Metro FY, how much of the required local Metro cash match:

Is already in department budget?	$1,133,611.49	**Fund** 42021, 10101	**Business Unit** ,10170100, 10103280, 10103210,
Is not budgeted?		**Proposed Source of Match:**	1 CSP and FY24-29 Operating Bu
(Indicate Match Amount & Source for Remaining Grant Years in Budget Below)			Cost Distributed over 5 yrs

Other:

Number of FTEs the grant will fund:	0.00	**Actual number of positions added:**	0.00	
Departmental Indirect Cost Rate	18.83%	**Indirect Cost of Grant to Metro:**	$883,895.26	**NDOT - In Budget**
***Indirect Costs allowed?** ○ Yes ◉ No **% Allow.**	0.00%	**Ind. Cost Requested from Grantor:**	$0.00	**GS - in budget**

*(If "No", please attach documentation from the grantor that indirect costs are not allowable. See Instructions)

Draw down allowable? ☐

Metro or Community-based Partners:

General Services

Part Two

Grant Budget

Budget Year	Metro Fiscal Year	Federal Grantor	State Grantor	Other Grantor	Local Match Cash	Match Source (Fund, BU)	Local Match In-Kind	Total Grant Each Year	Indirect Cost to Metro	Ind. Cost Neg. from Grantor
Yr 1	FY24	$2,336,712.40	$0.00	$0.00	$584,178.10	0, 10103210, 10103210		$2,920,890.50	$550,003.68	$0.00
Yr 2	FY25	$641,355.73	$0.00	$0.00	$160,338.93	0, 10103210, 10103210		$801,694.66	$150,959.10	$0.00
Yr 3	FY26	$596,126.32	$0.00	$0.00	$149,031.58	0, 10103210, 10103210		$745,157.90	$140,313.23	$0.00
Yr 4	FY27	$596,126.31	$0.00	$0.00	$149,031.58	0, 10103210, 10103210		$745,157.89	$140,313.23	$0.00
Yr 5	FY28	$523,759.24	$0.00	$0.00	$130,939.81	0, 10103210, 10103210		$654,699.05	$123,279.83	$0.00
Total		**$4,694,080.00**	$0.00	$0.00	**$1,173,520.00**	0, 10103210, 10103210		**$5,867,600.00**	$1,104,869.08	**$0.00**

Date Awarded:		**Tot. Awarded:**	**Contract#:**
(or) **Date Denied:**		**Reason:**	
(or) **Date Withdrawn:**		**Reason:**	

Contact: juanita.paulsen@nashville.gov
vaughn.wilson@nashville.gov

Rev. 5/13/13
5658

GCP Rec'd 06/09/23

GCP Approved 06/12/23

VW

OMB Number: 4040-0004
Expiration Date: 11/30/2025

Application for Federal Assistance SF-424

* 1. Type of Submission:
- [ ] Preapplication
- [x] Application
- [ ] Changed/Corrected Application

* 2. Type of Application:
- [x] New
- [ ] Continuation
- [ ] Revision

* If Revision, select appropriate letter(s):

* Other (Specify):

* 3. Date Received: Completed by Grants.gov upon submission.

4. Applicant Identifier:

5a. Federal Entity Identifier:

5b. Federal Award Identifier:

State Use Only:

6. Date Received by State:

7. State Application Identifier:

8. APPLICANT INFORMATION:

* a. Legal Name: Metropolitan Government of Nashville-Davidson County

* b. Employer/Taxpayer Identification Number (EIN/TIN): 62-0694743

* c. UEI: LGZLHP6ZHM55

d. Address:

* Street1: 1 Public Square
Street2:
* City: Nashville
County/Parish:
* State: TN: Tennessee
Province:
* Country: USA: UNITED STATES
* Zip / Postal Code: 37201-5007

e. Organizational Unit:

Department Name:

Division Name:

f. Name and contact information of person to be contacted on matters involving this application:

Prefix:
* First Name: Casey
Middle Name:
* Last Name: Hopkins
Suffix:

Title:

Organizational Affiliation:

* Telephone Number: 615-880-1676
Fax Number:

* Email: casey.hopkins@nashville.gov

Application for Federal Assistance SF-424

*** 9. Type of Applicant 1: Select Applicant Type:**

C: City or Township Government

Type of Applicant 2: Select Applicant Type:

Type of Applicant 3: Select Applicant Type:

* Other (specify):

*** 10. Name of Federal Agency:**

DOT Federal Highway Administration

11. Catalog of Federal Domestic Assistance Number:

20.205

CFDA Title:

Highway Planning and Construction

*** 12. Funding Opportunity Number:**

693JJ323NF00004

* Title:

Charging and Fueling Infrastructure (CFI) Discretionary Grant Program

13. Competition Identification Number:

Title:

14. Areas Affected by Project (Cities, Counties, States, etc.):

Add Attachment | Delete Attachment | View Attachment

*** 15. Descriptive Title of Applicant's Project:**

Electrify MUSIC City: Municipality Upgrades for Stations and Integrated Charging

Attach supporting documents as specified in agency instructions.

Add Attachments | Delete Attachments | View Attachments

Application for Federal Assistance SF-424

16. Congressional Districts Of:

* a. Applicant: TN-006 * b. Program/Project: TN-006

Attach an additional list of Program/Project Congressional Districts if needed.

Nashville-Davidson County Congressional Di | Add Attachment | Delete Attachment | View Attachment

17. Proposed Project:

* a. Start Date: 10/01/2023 * b. End Date: 10/01/2028

18. Estimated Funding ($):

* a. Federal	4,694,080.00
* b. Applicant	1,173,520.00
* c. State	0.00
* d. Local	0.00
* e. Other	0.00
* f. Program Income	0.00
* g. TOTAL	5,867,600.00

*** 19. Is Application Subject to Review By State Under Executive Order 12372 Process?**

☐ a. This application was made available to the State under the Executive Order 12372 Process for review on .

☐ b. Program is subject to E.O. 12372 but has not been selected by the State for review.

☒ c. Program is not covered by E.O. 12372.

*** 20. Is the Applicant Delinquent On Any Federal Debt? (If "Yes," provide explanation in attachment.)**

☐ Yes ☒ No

If "Yes", provide explanation and attach

Add Attachment | Delete Attachment | View Attachment

21. *By signing this application, I certify (1) to the statements contained in the list of certifications and (2) that the statements herein are true, complete and accurate to the best of my knowledge. I also provide the required assurances** and agree to comply with any resulting terms if I accept an award. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 18, Section 1001)**

☒ ** I AGREE

** The list of certifications and assurances, or an internet site where you may obtain this list, is contained in the announcement or agency specific instructions.

Authorized Representative:

Prefix: * First Name: Casey

Middle Name:

* Last Name: Hopkins

Suffix:

* Title: Grants Coordinator

* Telephone Number: 6158801676 Fax Number:

* Email: casey.hopkins@nashville.gov

* Signature of Authorized Representative: Completed by Grants.gov upon submission. * Date Signed: Completed by Grants.gov upon submission.

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

The following attachment is not included in the view since it is not a read-only PDF file.

Upon submission, this file will be transmitted to the Grantor without any data loss.

Nashville-Davidson County Congressional Districts.docx

OMB Number: 4040-0019
Expiration Date: 02/28/2025

Project Abstract Summary

This Project Abstract Summary form must be submitted or the application will be considered incomplete. Ensure the Project Abstract field succinctly describes the project in plain language that the public can understand and use without the full proposal. Use 4,000 characters or less. Do not include personally identifiable, sensitive or proprietary information. Refer to Agency instructions for any additional Project Abstract field requirements. If the application is funded, your project abstract information (as submitted) will be made available to public websites and/or databases including USAspending.gov.

Funding Opportunity Number

693JJ323NF00004

CFDA(s)

20.205

Applicant Name

Metropolitan Government of Nashville-Davidson County

Descriptive Title of Applicant's Project

Electrify MUSIC City: Municipality Upgrades for Stations and Integrated Charging

Project Abstract

The Electrify MUSIC City Project features 34 locations throughout the Nashville-Davison County area where new and replacement National Electric Vehicle Infrastructure Program (NEVI)-compliant Level 2 or Direct Current Fast Charging (DCFC) EV charging stations are proposed. The project was initiated to address the upcoming expiring contracts and historical uptime issues with Nashville's existing electric vehicle charging infrastructure (EVCI). The projects included in this application fall under three categories: rip-and-replace, rip-and-upgrade, and new installation. Several site locations have plans that fall under more than one category.

Rip-and-replace projects can be described as a "like for like" swap. These projects replace an existing, expired, dual-port Level 2 charging station with a new dual-port Level 2 charger of the same power level that is fully compliant with the NEVI Program's final rule requirements. There are 21 planned Level 2 rip-and-replace stations.

Rip-and-upgrade projects replace an existing single-port Level 2 charging station with a fully NEVI-compliant, dual-port Level 2 charger. There are 9 planned Level 2 rip-and-upgrade stations.

New installation projects are new locations and will not replace an existing station. All newly installed EVCI will be fully compliant with the NEVI Program's final requirements. There are 38 planned Level 2 charging stations classified as new installation projects. The project also proposes 5 new dual-port, 750-volt DCFC stations at the following locations: the Bellevue Community Center, the Public Square Parking Garage, the Fulton Campus parking garage, the Hermitage park and ride lot, and the Donelson park and ride lot. Additionally, Metro intends to use the CFI grant funding to install 5 new installation on-street Level 2 charging stations near multi-unit dwellings.

ATTACHMENTS FORM

Instructions: On this form, you will attach the various files that make up your grant application. Please consult with the appropriate Agency Guidelines for more information about each needed file. Please remember that any files you attach must be in the document format and named as specified in the Guidelines.

Important: Please attach your files in the proper sequence. See the appropriate Agency Guidelines for details.

1) Please attach Attachment 1		Add Attachment	Delete Attachment	View Attachment
2) Please attach Attachment 2		Add Attachment	Delete Attachment	View Attachment
3) Please attach Attachment 3		Add Attachment	Delete Attachment	View Attachment
4) Please attach Attachment 4		Add Attachment	Delete Attachment	View Attachment
5) Please attach Attachment 5		Add Attachment	Delete Attachment	View Attachment
6) Please attach Attachment 6		Add Attachment	Delete Attachment	View Attachment
7) Please attach Attachment 7		Add Attachment	Delete Attachment	View Attachment
8) Please attach Attachment 8		Add Attachment	Delete Attachment	View Attachment
9) Please attach Attachment 9		Add Attachment	Delete Attachment	View Attachment
10) Please attach Attachment 10		Add Attachment	Delete Attachment	View Attachment
11) Please attach Attachment 11		Add Attachment	Delete Attachment	View Attachment
12) Please attach Attachment 12		Add Attachment	Delete Attachment	View Attachment
13) Please attach Attachment 13		Add Attachment	Delete Attachment	View Attachment
14) Please attach Attachment 14		Add Attachment	Delete Attachment	View Attachment
15) Please attach Attachment 15		Add Attachment	Delete Attachment	View Attachment

CERTIFICATION REGARDING LOBBYING

Certification for Contracts, Grants, Loans, and Cooperative Agreements

The undersigned certifies, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure of Lobbying Activities," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

Statement for Loan Guarantees and Loan Insurance

The undersigned states, to the best of his or her knowledge and belief, that:

If any funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this commitment providing for the United States to insure or guarantee a loan, the undersigned shall complete and submit Standard Form-LLL, "Disclosure of Lobbying Activities," in accordance with its instructions. Submission of this statement is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required statement shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

* APPLICANT'S ORGANIZATION	Metropolitan Government of Nashville-Davidson County
* PRINTED NAME AND TITLE OF AUTHORIZED REPRESENTATIVE	
Prefix:	
* First Name:	Casey
Middle Name:	
* Last Name:	Hopkins
Suffix:	
* Title:	Grants Coordinator
* SIGNATURE:	Completed on submission to Grants.gov
* DATE:	Completed on submission to Grants.gov

DocuSign Envelope ID: E165D464-E088-4BA1-BCA8-121E5D6120F5

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

BUDGET INFORMATION - Non-Construction Programs

OMB Number: 4040-0006
Expiration Date: 02/28/2025

SECTION A - BUDGET SUMMARY

Grant Program Function or Activity (a)	Catalog of Federal Domestic Assistance Number (b)	Estimated Unobligated Funds		New or Revised Budget		
		Federal (c)	Non-Federal (d)	Federal (e)	Non-Federal (f)	Total (g)
1. Operations and Maintenance	20.205	$	$	$ 2,196,400.00	$ 986,200.00	$ 3,182,600.00
2. Planning and Development Costs	20.205			357,408.00	24,992.00	382,400.00
3. Educational Activity Costs	20.205			24,000.00	1,000.00	25,000.00
4.						
5. Totals		$	$	$ 2,577,808.00	$ 1,012,192.00	$ 3,590,000.00

DocuSign Envelope ID: E165D464-E088-4BA1-BCA8-121E5D6120F5

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

SECTION B - BUDGET CATEGORIES

6. Object Class Categories	GRANT PROGRAM, FUNCTION OR ACTIVITY				Total
	(1)	(2)	(3)	(4)	(5)
	Operations and Maintenance	Planning and Development Costs	Educational Activity Costs		
a. Personnel	$	$	$	$	$
b. Fringe Benefits					
c. Travel					
d. Equipment					
e. Supplies					
f. Contractual	3,182,600.00	382,400.00	25,000.00		3,590,000.00
g. Construction					
h. Other					
i. Total Direct Charges (sum of 6a-6h)	3,182,600.00	382,400.00	25,000.00		$ 3,590,000.00
j. Indirect Charges					$
k. TOTALS (sum of 6i and 6j)	$ 3,182,600.00	$ 382,400.00	$ 25,000.00	$	$ 3,590,000.00
7. Program Income	$	$	$	$	$

Authorized for Local Reproduction

Standard Form 424A (Rev. 7- 97)
Prescribed by OMB (Circular A -102) Page 1A

DocuSign Envelope ID: E165D464-E088-4BA1-BCA8-121E5D6120F5

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

SECTION C - NON-FEDERAL RESOURCES

(a) Grant Program	(b) Applicant	(c) State	(d) Other Sources	(e)TOTALS
8. Operations and Maintenance	$ 986,200.00	$ 0.00	$ 0.00	$ 986,200.00
9. Planning and Development Costs	24,992.00	0.00	0.00	24,992.00
10. Educational Activity Costs	1,000.00	0.00	0.00	1,000.00
11. N/A		0.00	0.00	0.00
12. TOTAL (sum of lines 8-11)	$ 1,012,192.00	$ 0.00	$ 0.00	$ 1,012,192.00

SECTION D - FORECASTED CASH NEEDS

	Total for 1st Year	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
13. Federal	$	$	$	$	$
14. Non-Federal	$				
15. TOTAL (sum of lines 13 and 14)	$	$	$	$	$

SECTION E - BUDGET ESTIMATES OF FEDERAL FUNDS NEEDED FOR BALANCE OF THE PROJECT

(a) Grant Program	FUTURE FUNDING PERIODS (YEARS) (b)First	(c) Second	(d) Third	(e) Fourth
16. Operations and Maintenance	$ 188,880.00	$ 641,280.00	$ 641,280.00	$ 724,960.00
17. Planning and Development Costs	300,000.00	19,136.00	19,136.00	19,136.00
18. Educational Activity Costs	6,000.00	6,000.00	6,000.00	6,000.00
19.				
20. TOTAL (sum of lines 16 - 19)	$ 494,880.00	$ 666,416.00	$ 666,416.00	$ 750,096.00

SECTION F - OTHER BUDGET INFORMATION

21. Direct Charges:

22. Indirect Charges:

23. Remarks: Please view Appendix A for an in depth break down of the project budget.

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

OMB Number: 4040-0007
Expiration Date: 02/28/2025

ASSURANCES - NON-CONSTRUCTION PROGRAMS

Public reporting burden for this collection of information is estimated to average 15 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0040), Washington, DC 20503.

PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE OFFICE OF MANAGEMENT AND BUDGET. SEND IT TO THE ADDRESS PROVIDED BY THE SPONSORING AGENCY.

NOTE: Certain of these assurances may not be applicable to your project or program. If you have questions, please contact the awarding agency. Further, certain Federal awarding agencies may require applicants to certify to additional assurances. If such is the case, you will be notified.

As the duly authorized representative of the applicant, I certify that the applicant:

1. Has the legal authority to apply for Federal assistance and the institutional, managerial and financial capability (including funds sufficient to pay the non-Federal share of project cost) to ensure proper planning, management and completion of the project described in this application.

2. Will give the awarding agency, the Comptroller General of the United States and, if appropriate, the State, through any authorized representative, access to and the right to examine all records, books, papers, or documents related to the award; and will establish a proper accounting system in accordance with generally accepted accounting standards or agency directives.

3. Will establish safeguards to prohibit employees from using their positions for a purpose that constitutes or presents the appearance of personal or organizational conflict of interest, or personal gain.

4. Will initiate and complete the work within the applicable time frame after receipt of approval of the awarding agency.

5. Will comply with the Intergovernmental Personnel Act of 1970 (42 U.S.C. §§4728-4763) relating to prescribed standards for merit systems for programs funded under one of the 19 statutes or regulations specified in Appendix A of OPM's Standards for a Merit System of Personnel Administration (5 C.F.R. 900, Subpart F).

6. Will comply with all Federal statutes relating to nondiscrimination. These include but are not limited to: (a) Title VI of the Civil Rights Act of 1964 (P.L. 88-352) which prohibits discrimination on the basis of race, color or national origin; (b) Title IX of the Education Amendments of 1972, as amended (20 U.S.C.§§1681-1683, and 1685-1686), which prohibits discrimination on the basis of sex; (c) Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. §794), which prohibits discrimination on the basis of handicaps; (d) the Age Discrimination Act of 1975, as amended (42 U.S.C. §§6101-6107), which prohibits discrimination on the basis of age; (e) the Drug Abuse Office and Treatment Act of 1972 (P.L. 92-255), as amended, relating to nondiscrimination on the basis of drug abuse; (f) the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970 (P.L. 91-616), as amended, relating to nondiscrimination on the basis of alcohol abuse or alcoholism; (g) §§523 and 527 of the Public Health Service Act of 1912 (42 U.S.C. §§290 dd-3 and 290 ee- 3), as amended, relating to confidentiality of alcohol and drug abuse patient records; (h) Title VIII of the Civil Rights Act of 1968 (42 U.S.C. §§3601 et seq.), as amended, relating to nondiscrimination in the sale, rental or financing of housing; (i) any other nondiscrimination provisions in the specific statute(s) under which application for Federal assistance is being made; and, (j) the requirements of any other nondiscrimination statute(s) which may apply to the application.

7. Will comply, or has already complied, with the requirements of Titles II and III of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P.L. 91-646) which provide for fair and equitable treatment of persons displaced or whose property is acquired as a result of Federal or federally-assisted programs. These requirements apply to all interests in real property acquired for project purposes regardless of Federal participation in purchases.

8. Will comply, as applicable, with provisions of the Hatch Act (5 U.S.C. §§1501-1508 and 7324-7328) which limit the political activities of employees whose principal employment activities are funded in whole or in part with Federal funds.

9. Will comply, as applicable, with the provisions of the Davis-Bacon Act (40 U.S.C. §§276a to 276a-7), the Copeland Act (40 U.S.C. §276c and 18 U.S.C. §874), and the Contract Work Hours and Safety Standards Act (40 U.S.C. §§327-333), regarding labor standards for federally-assisted construction subagreements.

10. Will comply, if applicable, with flood insurance purchase requirements of Section 102(a) of the Flood Disaster Protection Act of 1973 (P.L. 93-234) which requires recipients in a special flood hazard area to participate in the program and to purchase flood insurance if the total cost of insurable construction and acquisition is $10,000 or more.

11. Will comply with environmental standards which may be prescribed pursuant to the following: (a) institution of environmental quality control measures under the National Environmental Policy Act of 1969 (P.L. 91-190) and Executive Order (EO) 11514; (b) notification of violating facilities pursuant to EO 11738; (c) protection of wetlands pursuant to EO 11990; (d) evaluation of flood hazards in floodplains in accordance with EO 11988; (e) assurance of project consistency with the approved State management program developed under the Coastal Zone Management Act of 1972 (16 U.S.C. §§1451 et seq.); (f) conformity of Federal actions to State (Clean Air) Implementation Plans under Section 176(c) of the Clean Air Act of 1955, as amended (42 U.S.C. §§7401 et seq.); (g) protection of underground sources of drinking water under the Safe Drinking Water Act of 1974, as amended (P.L. 93-523); and, (h) protection of endangered species under the Endangered Species Act of 1973, as amended (P.L. 93-205).

12. Will comply with the Wild and Scenic Rivers Act of 1968 (16 U.S.C. §§1271 et seq.) related to protecting components or potential components of the national wild and scenic rivers system.

13. Will assist the awarding agency in assuring compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. §470), EO 11593(identification and protection of historic properties), and the Archaeological and Historic Preservation Act of 1974 (16 U.S.C. §§469a-1 et seq.).

14. Will comply with P.L. 93-348 regarding the protection of human subjects involved in research, development, and related activities supported by this award of assistance.

15. Will comply with the Laboratory Animal Welfare Act of 1966 (P.L. 89-544, as amended, 7 U.S.C. §§2131 et seq.) pertaining to the care, handling, and treatment of warm blooded animals held for research, teaching, or other activities supported by this award of assistance.

16. Will comply with the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. §§4801 et seq.) which prohibits the use of lead-based paint in construction or rehabilitation of residence structures.

17. Will cause to be performed the required financial and compliance audits in accordance with the Single Audit Act Amendments of 1996 and OMB Circular No. A-133, "Audits of States, Local Governments, and Non-Profit Organizations."

18. Will comply with all applicable requirements of all other Federal laws, executive orders, regulations, and policies governing this program.

19. Will comply with the requirements of Section 106(g) of the Trafficking Victims Protection Act (TVPA) of 2000, as amended (22 U.S.C. 7104) which prohibits grant award recipients or a sub-recipient from (1) Engaging in severe forms of trafficking in persons during the period of time that the award is in effect (2) Procuring a commercial sex act during the period of time that the award is in effect or (3) Using forced labor in the performance of the award or subawards under the award.

SIGNATURE OF AUTHORIZED CERTIFYING OFFICIAL	TITLE
Completed on submission to Grants.gov	Grants Coordinator
APPLICANT ORGANIZATION	DATE SUBMITTED
Metropolitan Government of Nashville-Davidson County	Completed on submission to Grants.gov

Standard Form 424B (Rev. 7-97) Back

DocuSign Envelope ID: E165D464-E088-4BA1-BCA8-121E5D6120F5

OMB Number: 4040-0008
Expiration Date: 02/28/2025

BUDGET INFORMATION - Construction Programs

NOTE: Certain Federal assistance programs require additional computations to arrive at the Federal share of project costs eligible for participation. If such is the case, you will be notified.

COST CLASSIFICATION	a. Total Cost	b. Costs Not Allowable for Participation	c. Total Allowable Costs (Columns a-b)
1. Administrative and legal expenses	$	$	$
2. Land, structures, rights-of-way, appraisals, etc.	$ 170,000.00	$	$ 170,000.00
3. Relocation expenses and payments	$	$	$
4. Architectural and engineering fees	$	$	$
5. Other architectural and engineering fees	$	$	$
6. Project inspection fees	$	$	$
7. Site work	$	$	$
8. Demolition and removal	$	$	$
9. Construction	$ 2,107,600.00	$	$ 2,107,600.00
10. Equipment	$	$	$
11. Miscellaneous	$	$	$
12. SUBTOTAL *(sum of lines 1-11)*	$ 2,277,600.00	$	$ 2,277,600.00
13. Contingencies	$	$	$
14. SUBTOTAL	$ 2,277,600.00	$	$ 2,277,600.00
15. Project (program) income	$	$	$
16. TOTAL PROJECT COSTS *(subtract #15 from #14)*	$ 2,277,600.00	$	$ 2,277,600.00

FEDERAL FUNDING

17. Federal assistance requested, calculate as follows: (Consult Federal agency for Federal percentage share.) Enter the resulting Federal share.	Enter eligible costs from line 16c Multiply X 80 %	$ 1,822,080.00

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

ASSURANCES - CONSTRUCTION PROGRAMS

OMB Number: 4040-0009
Expiration Date: 02/28/2025

Public reporting burden for this collection of information is estimated to average 15 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0042), Washington, DC 20503.

PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE OFFICE OF MANAGEMENT AND BUDGET. SEND IT TO THE ADDRESS PROVIDED BY THE SPONSORING AGENCY.

NOTE: Certain of these assurances may not be applicable to your project or program. If you have questions, please contact the Awarding Agency. Further, certain Federal assistance awarding agencies may require applicants to certify to additional assurances. If such is the case, you will be notified.

As the duly authorized representative of the applicant:, I certify that the applicant:

1. Has the legal authority to apply for Federal assistance, and the institutional, managerial and financial capability (including funds sufficient to pay the non-Federal share of project costs) to ensure proper planning, management and completion of project described in this application.
2. Will give the awarding agency, the Comptroller General of the United States and, if appropriate, the State, the right to examine all records, books, papers, or documents related to the assistance; and will establish a proper accounting system in accordance with generally accepted accounting standards or agency directives.
3. Will not dispose of, modify the use of, or change the terms of the real property title or other interest in the site and facilities without permission and instructions from the awarding agency. Will record the Federal awarding agency directives and will include a covenant in the title of real property acquired in whole or in part with Federal assistance funds to assure non-discrimination during the useful life of the project.
4. Will comply with the requirements of the assistance awarding agency with regard to the drafting, review and approval of construction plans and specifications.
5. Will provide and maintain competent and adequate engineering supervision at the construction site to ensure that the complete work conforms with the approved plans and specifications and will furnish progressive reports and such other information as may be required by the assistance awarding agency or State.
6. Will initiate and complete the work within the applicable time frame after receipt of approval of the awarding agency.
7. Will establish safeguards to prohibit employees from using their positions for a purpose that constitutes or presents the appearance of personal or organizational conflict of interest, or personal gain.
8. Will comply with the Intergovernmental Personnel Act of 1970 (42 U.S.C. §§4728-4763) relating to prescribed standards of merit systems for programs funded under one of the 19 statutes or regulations specified in Appendix A of OPM's Standards for a Merit System of Personnel Administration (5 C.F.R. 900, Subpart F).
9. Will comply with the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. §§4801 et seq.) which prohibits the use of lead-based paint in construction or rehabilitation of residence structures.
10. Will comply with all Federal statutes relating to non-discrimination. These include but are not limited to: (a) Title VI of the Civil Rights Act of 1964 (P.L. 88-352) which prohibits discrimination on the basis of race, color or national origin; (b) Title IX of the Education Amendments of 1972, as amended (20 U.S.C. §§1681 1683, and 1685-1686), which prohibits discrimination on the basis of sex; (c) Section 504 of the Rehabilitation Act of 1973, as amended (29) U.S.C. §794), which prohibits discrimination on the basis of handicaps; (d) the Age Discrimination Act of 1975, as amended (42 U.S.C. §§6101-6107), which prohibits discrimination on the basis of age; (e) the Drug Abuse Office and Treatment Act of 1972 (P.L. 92-255), as amended relating to nondiscrimination on the basis of drug abuse; (f) the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970 (P.L. 91-616), as amended, relating to nondiscrimination on the basis of alcohol abuse or alcoholism; (g) §§523 and 527 of the Public Health Service Act of 1912 (42 U.S.C. §§290 dd-3 and 290 ee 3), as amended, relating to confidentiality of alcohol and drug abuse patient records; (h) Title VIII of the Civil Rights Act of 1968 (42 U.S.C. §§3601 et seq.), as amended, relating to nondiscrimination in the sale, rental or financing of housing; (i) any other nondiscrimination provisions in the specific statue(s) under which application for Federal assistance is being made; and (j) the requirements of any other nondiscrimination statue(s) which may apply to the application.

11. Will comply, or has already complied, with the requirements of Titles II and III of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P.L. 91-646) which provide for fair and equitable treatment of persons displaced or whose property is acquired as a result of Federal and federally-assisted programs. These requirements apply to all interests in real property acquired for project purposes regardless of Federal participation in purchases.

12. Will comply with the provisions of the Hatch Act (5 U.S.C. §§1501-1508 and 7324-7328) which limit the political activities of employees whose principal employment activities are funded in whole or in part with Federal funds.

13. Will comply, as applicable, with the provisions of the Davis-Bacon Act (40 U.S.C. §§276a to 276a-7), the Copeland Act (40 U.S.C. §276c and 18 U.S.C. §874), and the Contract Work Hours and Safety Standards Act (40 U.S.C. §§327-333) regarding labor standards for federally-assisted construction subagreements.

14. Will comply with flood insurance purchase requirements of Section 102(a) of the Flood Disaster Protection Act of 1973 (P.L. 93-234) which requires recipients in a special flood hazard area to participate in the program and to purchase flood insurance if the total cost of insurable construction and acquisition is $10,000 or more.

15. Will comply with environmental standards which may be prescribed pursuant to the following: (a) institution of environmental quality control measures under the National Environmental Policy Act of 1969 (P.L. 91-190) and Executive Order (EO) 11514; (b) notification of violating facilities pursuant to EO 11738; (c) protection of wetlands pursuant to EO 11990; (d) evaluation of flood hazards in floodplains in accordance with EO 11988; (e) assurance of project consistency with the approved State management program developed under the Coastal Zone Management Act of 1972 (16 U.S.C. §§1451 et seq.); (f) conformity of Federal actions to State (Clean Air) implementation Plans under Section 176(c) of the Clean Air Act of 1955, as amended (42 U.S.C. §§7401 et seq.); (g) protection of underground sources of drinking water under the Safe Drinking Water Act of 1974, as amended (P.L. 93-523); and, (h) protection of endangered species under the Endangered Species Act of 1973, as amended (P.L. 93-205).

16. Will comply with the Wild and Scenic Rivers Act of 1968 (16 U.S.C. §§1271 et seq.) related to protecting components or potential components of the national wild and scenic rivers system.

17. Will assist the awarding agency in assuring compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. §470), EO 11593 (identification and protection of historic properties), and the Archaeological and Historic Preservation Act of 1974 (16 U.S.C. §§469a-1 et seq).

18. Will cause to be performed the required financial and compliance audits in accordance with the Single Audit Act Amendments of 1996 and OMB Circular No. A-133, "Audits of States, Local Governments, and Non-Profit Organizations."

19. Will comply with all applicable requirements of all other Federal laws, executive orders, regulations, and policies governing this program.

20. Will comply with the requirements of Section 106(g) of the Trafficking Victims Protection Act (TVPA) of 2000, as amended (22 U.S.C. 7104) which prohibits grant award recipients or a sub-recipient from (1) Engaging in severe forms of trafficking in persons during the period of time that the award is in effect (2) Procuring a commercial sex act during the period of time that the award is in effect or (3) Using forced labor in the performance of the award or subawards under the award.

SIGNATURE OF AUTHORIZED CERTIFYING OFFICIAL	TITLE
Completed on submission to Grants.gov	Grants Coordinator
APPLICANT ORGANIZATION	DATE SUBMITTED
Metropolitan Government of Nashville-Davidson County	Completed on submission to Grants.gov

SF-424D (Rev. 7-97) Back

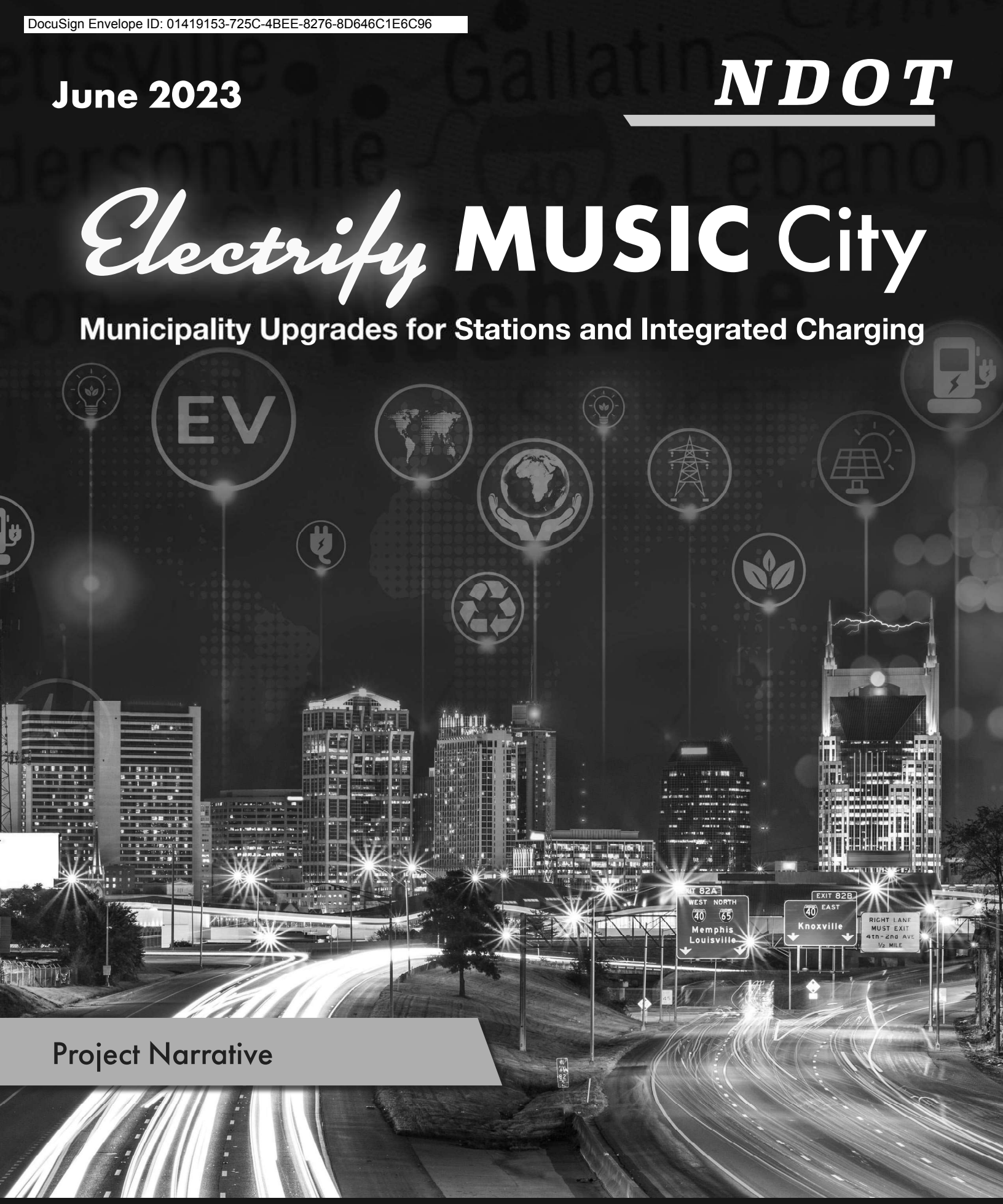
DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

June 2023

NDOT

Electrify MUSIC City

Municipality Upgrades for Stations and Integrated Charging



Project Narrative

ARCADIS

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

(I) Project Location, Safety, and ADA Compliance

The Project Narrative provides comprehensive information as required by the Charging and Fueling Infrastructure (CFI) Grant Notice of Funding Opportunity (NOFO) for the Electrify MUSIC City Project (Municipality Upgrades for Station and Integrated Charging). Metro's vision is to create a comprehensive multimodal transportation system that better connects neighborhoods, residents, and businesses in Nashville. To achieve this, the Electrify MUSIC City Project will establish an accessible and reliable Electric Vehicle Charging Infrastructure (EVCI) network that benefits the entire community, with a particular focus on disadvantaged areas, as over 63% of the projects target low-income, underserved, or disadvantaged communities. Throughout the selection process for the new and upgraded EVCI locations, priority has been given to disadvantaged communities, with a focus on safety, community engagement, and improving public transportation options, accessibility, and affordability in Nashville.

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

Project Location and Background

Nashville is the capital city of the state of Tennessee, located in the southeastern region of the United States. It is located in the north-central part of Tennessee, about 180 miles (290 kilometers) east of Memphis and 130 miles (210 kilometers) south of Louisville, Kentucky. Dubbed "The Music City" with music being an integral part of its culture and history, Nashville is the largest city in Tennessee with a population of approximately 683,622 people in the Nashville-Davidson metropolitan area. The city sees thousands of interstate and intrastate travelers every day, as it is the nexus of several major interstates, including I-24, I-40, I-65, and I-440, the home to an international airport, and positioned in the center of the country with significant amounts of freight and drivers passing through. Overall, Nashville's geospatial location and interconnectivity, combined with its diverse population and progressive culture, make it an ideal candidate for EVCI.

200,000
Electric Vehicles on Tennessee Roads by 2028

25,955
Electric Vehicles currently in Tennessee

1,196
Level 2 charging spots

294
EDCFC public charging spots

The City of Nashville is an active participant in the Drive Electric Tennessee (DET) program. This initiative brings together state agencies, universities, cities, utilities, EV manufacturers, advocacy groups, and private businesses to promote EV adoption in the state. Kendra Abkowitz, Chief Sustainability & Resilience Officer for the Office of Mayor John Cooper, serves as Co-Chair of the DET Policy & Programs Committee, which has focused on developing a local action plan that municipalities across the state can utilize. These state-level initiatives create a forum to facilitate communication regarding EVs among the entities of a given geographic area and serve as a foundation for implementing best practices for EV adoption in Nashville.

The Electrify MUSIC City Project features 34 locations throughout the Nashville-Davidson County area where new and replacement NEVI-compliant Level 2 chargers or Direct Current Fast Charging (DCFC) chargers are proposed. The project was initiated to address the upcoming expiring contracts and historical uptime issues with Nashville's existing EVCI. Between April 2018 and April 2023, the existing EVCI network's average annual uptime was approximately 85%, which does not meet the 97% uptime requirement established by the NEVI final regulations. Similarly, in September 2022, Metro General Services communicated an issue of having about 45% of Nashville's existing EVCI down or damaged. Figures 1 and 2 below depict an example of two damaged existing EV chargers at a Metro-owned site.

Figures 1 & 2: Vandalized Existing Charging Stations at Douglass Head Start – MAC Location

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

Improvements and additions to the present infrastructure are necessary to facilitate the anticipated adoption of electric vehicles; historical data has, in parallel, expressed and supported this need. Furthermore, Nashville's existing EVCI is proprietary and is not interoperable as defined by NEVI.

The current contracts for Nashville's existing EVCI expire in September 2023, and the city is currently pursuing a one year extension. In preparation for this expiration and in an effort to expand EVCI to other areas of the city, the Electrify MUSIC City Project brought forth by The Metropolitan Government of Nashville & Davidson County (Metro) proposes replacement of the existing contract with one that will ensure Nashville's EVCI network meets NEVI final regulations in terms of uptime and interoperability while providing a more consistent and safe user experience and promoting cleaner forms of transportation in the Nashville-Davidson County area.

The objective of this project is to enhance and expand the electric vehicle (EV) charging infrastructure in the Metro Nashville area. The plan involves upgrading the existing network, which currently consists of 17 locations across the Metropolitan area equipped with a total of 30 existing Level 2 chargers. Currently, there are 51 charging ports distributed among these locations, with nine having single-port chargers and 21 having double ports. The proposed project aims to replace the 30 existing Level 2 chargers with new, state-of-the-art National Electric Vehicle Infrastructure Program (NEVI)-compliant EVCI stations. In addition, 43 new Level 2 chargers and five DCFC chargers will be installed throughout the city, resulting in a total of 78 dual-port chargers across 34 locations (Figure 3). The projects included in this application fall under three categories: rip-and-replace, rip-and-upgrade, and new installation. Several site locations have plans that fall under more than one category.

- **Rip-and-replace** projects can be described as a "like for like" swap. These projects replace an existing, expired, dual-port Level 2 charger with a new dual-port Level 2 charger of the same power level that is fully compliant with the NEVI Program's final rule requirements. There are 21 planned Level 2 rip-and-replace stations.
- **Rip-and-upgrade** projects replace an existing single-port Level 2 charger with a fully NEVI-compliant, dual-port Level 2 charger. There are 9 planned Level 2 rip-and-upgrade chargers.
- **New installation** projects are new locations and will not replace an existing charger. All newly installed EVCI will be fully compliant with the NEVI Program's final requirements. There are 38 planned Level 2 chargers classified as new installation projects. The project also proposes five new dual-port, 750-volt DCFC chargers at the following locations: the Bellevue Community Center, the Public Square Parking Garage, the Fulton Campus Parking Garage, the Hermitage park-and-ride lot, and the Donelson park-and-ride lot. Additionally, Metro intends to use the CFI grant funding to install five new installation on-street Level 2 chargers near multi-unit dwellings, summing to a total of 43 new installation Level 2 chargers.

- The project provides close connections to Nashville's existing transportation infrastructure, including their public transit program WeGo, which provides public transportation throughout the Nashville metropolitan area (see Appendix B: Electrify MUSIC City EVCI on Nashville Public Transit MAP for more details). The project sites are located near several main interstate corridors and state highways, including interstates 24, 40, 65, and 440. Also, as displayed in Figure 3 below, the majority of installed EVCI is located in or near (within 1 mile) disadvantaged communities.

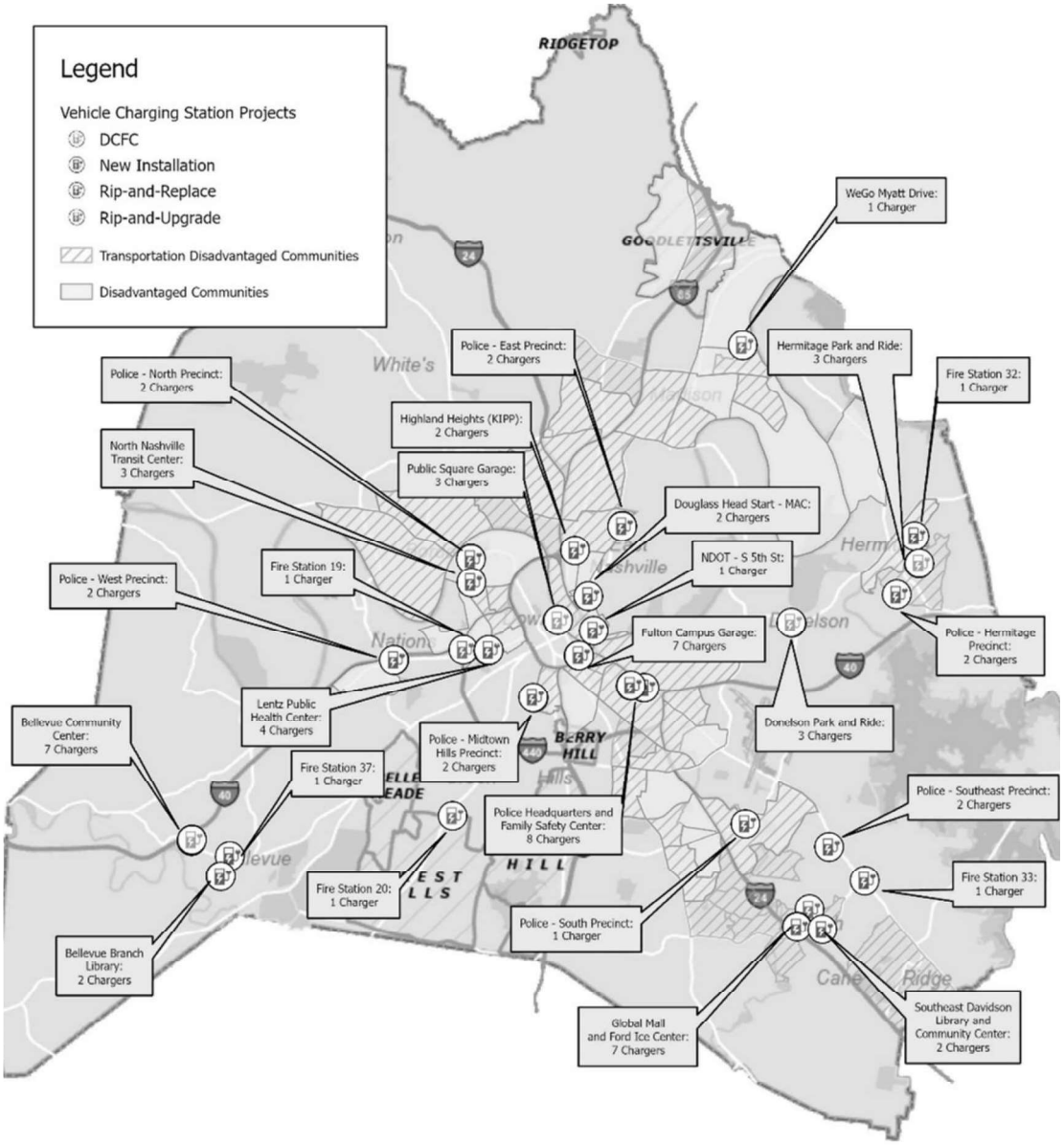


Figure 3: Proposed Electrify MUSIC City Project Area Metro GIS

Project Safety

In an effort to **address all safety considerations,** Metro plans to upgrade charging stations in areas that do not pose a safety risk to the **vehicles entering and leaving the sites**. Special consideration will be given to designing each charging station to provide safe vehicle access from the road, including plans to add EV charging locations on transit center signage to promote wayfinding to charging stations located at transit centers and ride-share locations. Additionally, Metro will consider implementing a comprehensive charging station management system

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

to monitor station usage, prevent overcrowding, and minimize wait times, thus reducing any potential safety risks associated with drivers queuing for charging stations. The impact of the charging stations on traffic patterns will be carefully evaluated, and adjustments will be made as needed to maintain safety.

Potential safety risks associated with operation, maintenance, and use of the proposed EVCI include impact on traffic patterns, user-related risks such as electrical hazards and equipment malfunctions, and availability and minimum uptime requirements of charging stations.

To minimize and/or prevent negative impacts to traffic patterns, Metro has proposed and developed a wide network of EVCI locations across the city, preventing one single location from attracting an unproportional volume of users. In anticipated high-use locations, Metro has proposed several dual-port chargers to avoid long queues that could pose traffic safety risks for vehicles entering or exiting the charging location or parking lot. Metro will also include adequate signage with directions to spots where appropriate, allowing for users to safely distinguish where EV chargers are located.

To ensure availability and minimum uptime requirements of charging stations, Metro plans to implement a comprehensive management system, including real-time monitoring, data analysis for optimizing station locations, and grid capacity expansions as needed. Strict adherence to safety standards during O&M duties, clear instructions and signage for EVCI users, and regular maintenance and monitoring will also be implemented to address user-related risks.

Additionally, potential project risks associated with user safety include cybersecurity, which will require measures to protect user data privacy as well as physical security, as required to promote the overall well-being of EV charging users and their vehicular property. To minimize safety risks to EVCI users, Metro will follow the NEVI Standards and Requirements to ensure cybersecurity and physical security. To increase the security of user data, Metro will support public key infrastructure (PKI), which serves as a foundational component of authentication, information integrity, data confidentiality, and data access control. In relation to physical security, for nearly all sites, luminous on-site lighting and video surveillance is utilized to discourage inappropriate activity.

Metro is committed to prioritizing safety in the design, construction, and operation of EV charging stations to ensure **no negative impacts to the overall safety of the travelling public**. This can be achieved through various measures such as working closely with traffic management authorities, adhering to safety standards, and evaluating the impact of the charging stations on traffic patterns. Priority is given to installing easily accessible charging stations at sites with robust physical security measures in place. Metro will also pursue lighting upgrades in circumstances where current lighting may be insufficient to ensure user safety. During construction and operation of the charging stations, Metro plans to work closely with all stakeholders to adhere to all relevant safety standards and guidelines to address any potential safety concerns.

The **National Roadway Safety Strategy (NRSS)** published in January 2022 states that the department will work to ensure the goal of reaching zero roadway fatalities and the principles of an **integrated Safe Systems Approach** are part of the implementation of all U.S. Department of Transportation (DOT) program activities that affect the Nation's roadways. Metro's Electrify MUSIC City project supports the principles incorporated into the Safe System Approach by ensuring all threats to human safety are mitigated through intentionally safe design.

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

Safe designs may include but is not limited to:

- Safeguarding consumer privacy and both state and national cybernetworks through cybersecurity.
- Assessing the effects of proposed designs, taking into consideration issues such as product safety durability, strength, and usefulness.
- Designing the EVCI with backup power that can at least provide the appropriate lighting required during a power outage.
- Installing easily accessible charging stations near interchanges, interstates, and commercial sites with robust physical security, distanced or physically separated from high-speed traffic.
- Incorporating strategies to ensure charging stations are fully functional during extreme weather disasters and power outages, such as clean alternative energy sources including but not limited to solar PV, battery storage and backup power.

Additional information about the project's safety considerations can be found in Merit Criterion #1 of the Merit Criteria Document.

In compliance with The Americans with Disabilities Act (ADA) of 1990, Metro will consider ways to meet ADA guidelines when developing contracts with third party vendors and EV equipment providers. Although the ADA does not provide specific requirements for EV charging station parking spaces at this time, Metro plans to take guidance from the Design Recommendations for Accessible Electric Vehicle Charging Stations provided by the U.S. Access Board in August of 2022 for accessible EV charging space wherever reasonably possible. Figure 4 is a diagram from the U.S Access Board with a suggested example of EV parking space that may be used.

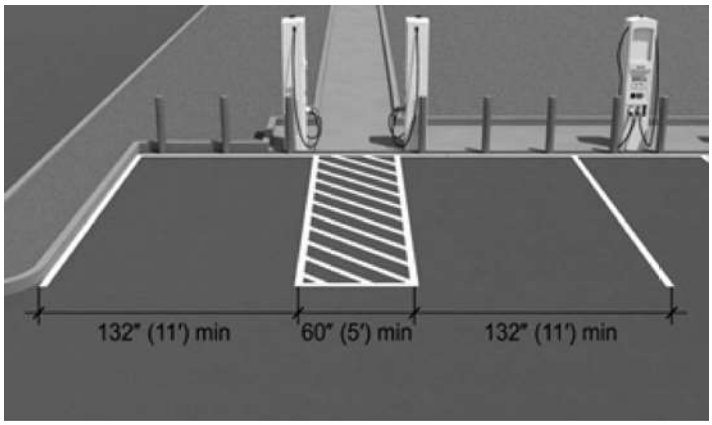


Figure 4: Accessible EV Charging Stations

(II) Filling Gaps to Publicly Available EV Charging Stations

The Electrify MUSIC City Project proposes 73 dual-port Level 2 chargers and five dual-port DCFC chargers at several community-based, publicly accessible locations across Nashville by strategically placing these chargers at locations such as community centers, police stations, libraries, park-and-ride facilities, and parking garages.

An EVCI Locate app was developed to identify a pipeline of EVCI opportunities for the NEVI CFI Grant Program funding. The web-based GIS app provides an evidence-based, strategic view of suitable sites for EVCI, based on scored parameters.

To identify and select optimal areas for priority locations for EVCI, a suitability assessment using GIS was undertaken and visualized within the EVCI Locate app. Through this process, the following sets of spatial data have been collected, and a set of scoring parameters was developed to identify and rank suitable sites.

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

Assessment Criteria - Methodology

GIS was used to identify gaps across the existing EVCI network and determine suitable locations for the installations of EVCI. The following spatial data has been used as parameters to develop a suitability analysis heat map:

- Existing EVCI Network (1-mile Buffer).
- Railway Stations.
- Highway Network: Controlled Access Highway & Secondary Highway or Major Connecting Road.
- Highway Network: Local Connecting Road & Local Road.
- Highway Network: All Roads.
- Points of Interest (Land Use and Amenities).
- Floodway and Floodplain.
- Disadvantaged Communities.
- Disadvantaged Communities (Transportation).
- Population Density.
- Median Income.

The suitability analysis was based on proximity/distance to the features in the layers listed above. The layers were assessed with a score between 1 (low) and 5 (high). Each layer is broken down into a 15ft-by 15ft, which is attributed a score based on distance from the cells in each of the layers.

For floodways and floodplains, the closer each cell is to the flood zone, the lower the score (e.g., a cell within 50ft of a flood zone would be given a score of 1). The further away from the flood zone, the higher the score (e.g., more than 200ft from a food zone the cell would be given a score of 5). However, for other layers such as Points of Interest (land use and amenities), a closer proximity to an amenity, the higher the score, and the further from a Point of Interest, the lower the score. The reclassification of boundaries based on distance and its attributed scoring is based on professional judgement. Once all the layers have been scored, a mean average is then extracted for each 15ft-by 15ft cell to generate the final heatmap.

Final Output

With the inclusion of the Point of Interest layer as a parameter, the final heatmap takes into consideration the proximity to amenities such as existing parking facilities, schools, and public parks. This correlates with the strong dark green region across the center of the City of Nashville, as shown below. The app also accounts for the social-economic demographics of the city, considering parameters such as median income, population density, disadvantaged communities, in addition to accessing transport modes within disadvantaged areas. It is key that the scoring for the EVCI app favored disadvantaged communities to ensure **public funding is being used where the private sector may deem investments as not commercially viable**. This is why the distribution of the EVCI network promotes equity for all. This is evidenced by the green regions across the northeast and southeast of the city region where disadvantaged communities (DACs) have been identified.

Emphasis has also been placed on assessing Controlled Access Highways and Secondary Highways or Major Connecting Roads. These road types are designed to cater to longer journeys and carry larger amounts of traffic flow. Level 3 EVCI would be ideal along these routes and is therefore scored individually. Local Connecting Roads and Local Roads have also been emphasized to ensure local charging sites in more residential areas have been considered.

The potential suitability scores fall in five ranges: Not Suitable (0-1), Poor (1-2), Acceptable (2-3), Good (3-4) and Excellent (4-5). The results of the suitability analysis show that all 73 of the chargers proposed under the Electrify MUSIC City project fall in the “Good” or “Excellent” suitability ranges. It can therefore be concluded that the charging stations, which will all be publicly available, fill gaps in access across the Nashville-Davidson County region by equitably expanding the deployment of publicly available EVCI.

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

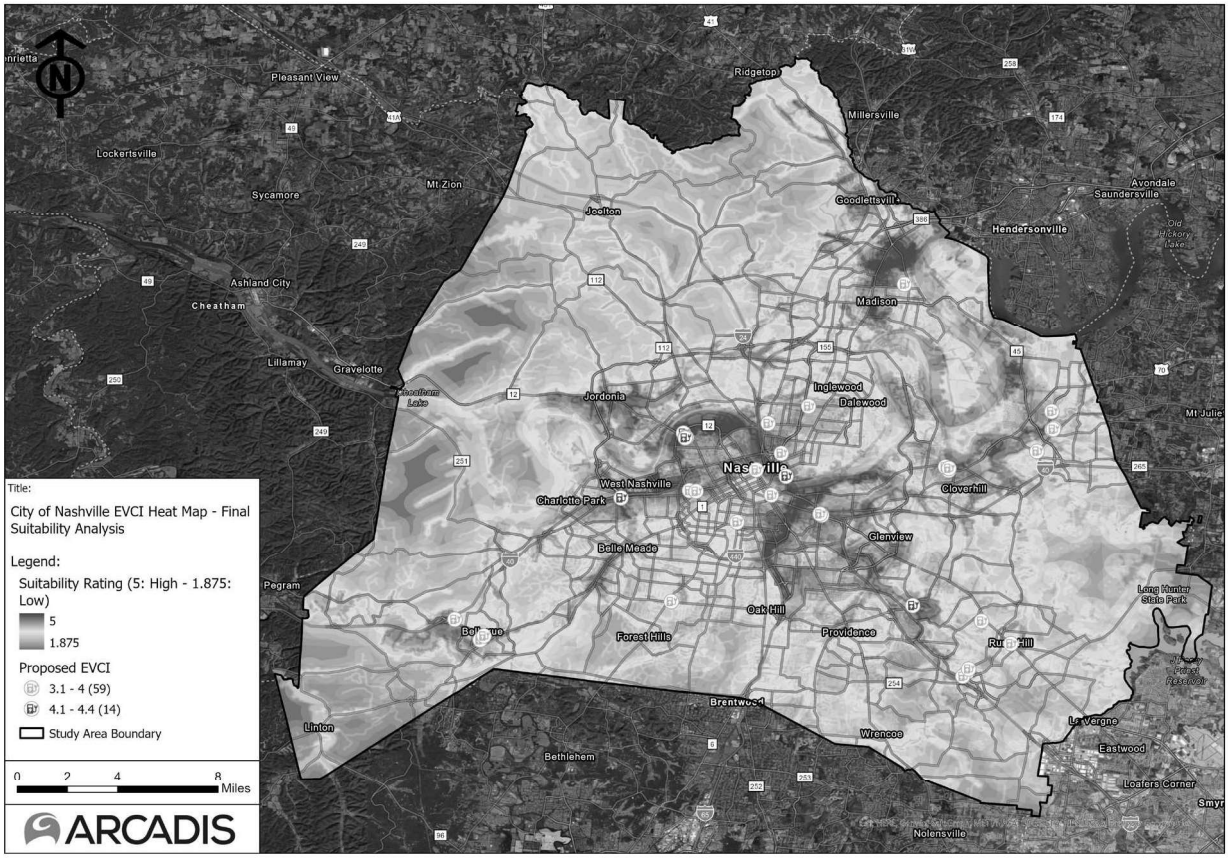


Figure 5: EVCI Heat Map-Final Suitability Analysis

(III) Description of Funds

Project Costs

The Electrify Music City Project significantly increases the amount of charging infrastructure in the Nashville area to equitably meet the goals of the community and future demand for EVCI. In doing so, project costs will include efforts in planning and development, potential ROW acquisition, installation, operations and maintenance, and educational activities. The total estimated project cost is approximately $5.87 million as shown in Table 1, below.

Table 1: Electrify MUSIC City Budget Summary

Project Costs	Amount
Planning and Development Costs	$ 382,400.00
ROW Acquisition	$ 170,000.00
Installation	$ 2,107,600.00
Operations and Maintenance	$ 3,182,600.00
Educational Activity Costs	$ 25,000.00
Total	**$ 5,867,600.00**

See the accompanying Budget Information document and Appendix A: Electrify MUSIC City Project Budget for more details.

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

Planning and Development Costs

The planning and development costs include the development of a GIS based online tracking tool to provide the public with access to EVCI locations. This interactive map will allow the public to see the charging sites throughout the area and pinpoint where they see an increased need for charging infrastructure. This is also meant to support locating the five proposed on-street residential chargers that have not yet been assigned a specific location.

Additionally, this cost includes preparing for and conducting in-person engagement events in efforts to broaden public feedback. These workshops would also focus on educating disadvantaged community members and others about the upcoming EVCI projects, collecting feedback on site locations, and determining how to measure project benefits. Public engagement activities through workshops or other outreach efforts are therefore included in the costs to occur annually to continue the on-going education and evaluation process of the system.

Planning costs also include the potential for some environmental reviews and development of the appropriate documentation prior to the final planning and development cost for engineering services and design. Engineering services include electrical engineering design for new sites and sites requiring additional capacity. Civil Engineering site design including providing appropriate signage, markings, ADA elements, lighting, and other items that may be needed is accounted for in the cost as well.

In total, planning and development costs amount to about $382 thousand.

Right-of-Way (ROW) Acquisition

This cost includes any ROW that may be required. While the existing and planned sites are mostly on Metro ROW, a full design of the site and power requirements has not been conducted. This line item is for ROW that may be required to run additional utilities to power the sites that are being upgraded to meet NEVI requirements. Funds budgeted for ROW acquisition may also be used for new sites and associated utility requirements as well as the planned on-street parting sites. In total, ROW acquisition costs amount to about $170 thousand.

Installation

Installation includes costs to remove the existing equipment and install new chargers and related infrastructure. It includes the cost for concrete pads and pedestals, pull boxes, conduit, electrical elements, utility relocations, parking stops and other site elements such as signage, marking and lighting as noted in the Planning and Development costs and discussed in the Merit Criteria document. In total, installation costs amount to about $2.11 million.

Operations and Maintenance

Operations and maintenance costs include keeping the sites operable throughout the course of the project while meeting the NEVI requirements for uptime, reliability, and other standards as discussed throughout the Merit Criteria document. This includes costs for Metro grant administration activities such as required reporting activities and vendor coordination. Metro plans to utilize alternative contracting methods to operate and maintain the stations utilizing “charging as a service”, or a “hybrid-owned” solution. This line item also includes the charge station vendor/operator fees as well as utility costs which are based on historical usage/demand rates. There is some contingency included in this item as well as it is expected for demand rates to increase over the next 5 years. In total, operations and maintenance costs amount to about $3.18 million.

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

Educational Activity Costs

Educational Activities include coordinating with the local universities and providing materials on the EVCI. This also includes workforce development activities and training as discussed in the Merit Criteria section number 4. In total, educational activity costs amount to about $25 thousand.

Source and Amount of Funding

Metro is seeking $4,694,080 total in CFI grant funding which represents 80% of the total project cost. Metropolitan Government of Nashville and Davidson County will provide the remaining $1,173,520 local match, which represents 20% of the total project cost of $5,867,600.

Funding Source	Amount	Share
CFI Grant	$ 4,694,080.00	80%
Metropolitan Government of Nashville and Davidson County	$ 1,173,520.00	20%
Total	$ 5,867,600.00	100%

No operating subsidies will be sought or have been obtained for EV charging infrastructure.

(IV) Additional Project Narrative Information

Focus Area #1: Multi-Modal Hubs and Shared-Use Fleets and Services: Seek to connect or promote rental vehicle, taxi, carshare, ride-share, ride-hail, bicycle, micromobility, microtransit, and other electrified or alternative fuel multi passenger or active mobility options that provide alternatives to individual vehicle ownership. Projects may also seek to connect national freight corridors with local delivery providers and fleets, such as urban depot charging for light and medium-duty vehicles.

The Electrify MUSIC City Project **focuses on connecting and promoting multi-modal hubs and shared-use fleets and services.**

Metro plans to share the proposed new transformer at the Fulton Garage site with their fleet vehicles, furthering electrification efforts in and around Nashville, while also future proofing this location. The large transformer will supply both the requested public-facing Level 2 and DCFC as well as fleet EVSE being installed inside the garage at this location.

Beyond servicing the local community fleet vehicles, the project also has several sites supporting multi-modal hubs, as shown in Appendix B: Electrify MUSIC City EVCI on Nashville Public Transit MAP. All stations are within walking distance (1 mile) from public transit stops, and 27 out of 73 are within walking distance of public bike-share amenities. The Global Mall, for example, is intended to serve as a multi-use facility that includes government offices, businesses, retail, and residential elements. Located directly off I-24, the Metro-mall will incorporate tie-ins to public transit along with park-and-ride lots for commuters to utilize. The Master Plan for the Global Mall itself is set to be completed by the end of Summer 2023; after this, Metro anticipates releasing an RFQ for a master developer. The graphic on the next page details the current concept plans for the mall facility (Figure 6).

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

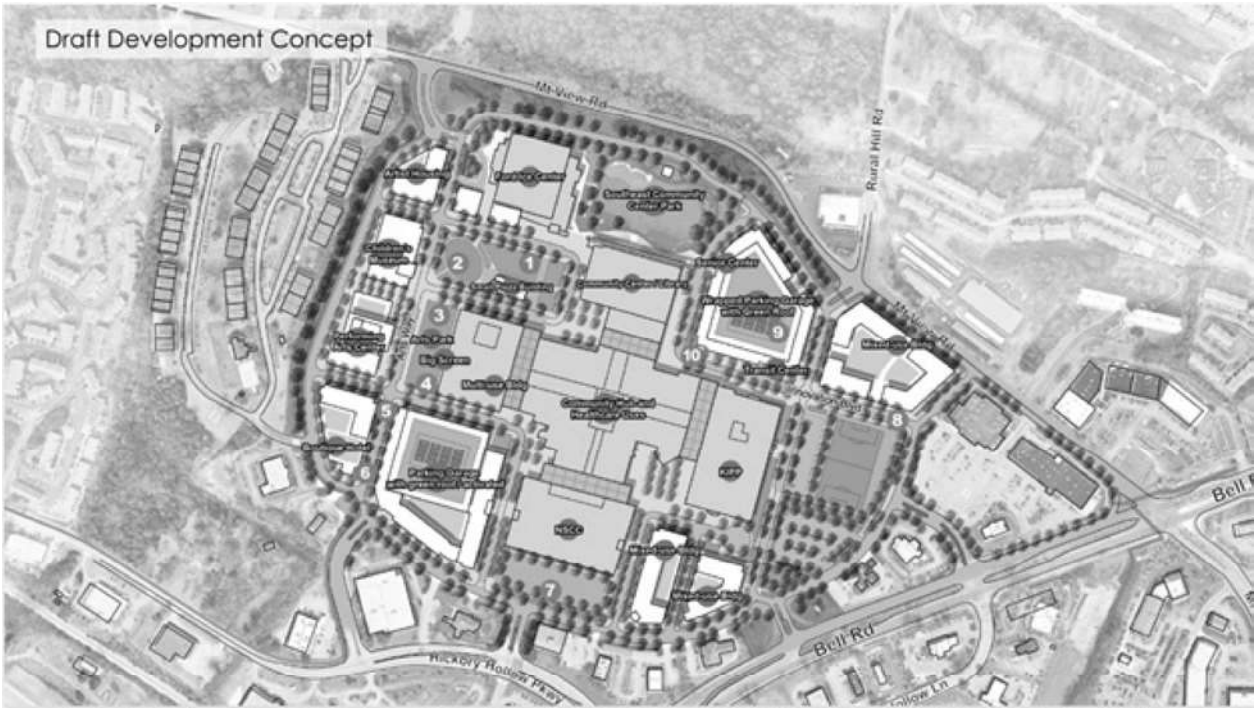


Figure 6: Draft Development Concept of Global Mall

The Electrify MUSIC City Project proposes seven Level 2 chargers at the Global Mall and Ford Ice Center location to connect and promote the multi-modal hub. By providing essential EVCI at this community hub, this funding will promote equitable public accessibility throughout the entire Nashville Metropolitan community as well as surrounding commuters and freight along I-24 through Nashville.

Furthermore, the WeGo Star is Middle Tennessee's only fixed guideway transit service, providing riders with reliable travel times along the 32-mile route between Lebanon (Wilson County) and Riverfront Station in Downtown Nashville. The WeGo Star is a service of the Regional Transportation Authority of Middle Tennessee (RTA), which also offers commuter bus service in six additional regional travel zones. In addition to its role in carrying the Downtown workforce, the Star is often deployed to serve large scale special events such as the New Year's Eve celebration downtown, 4th of July Fireworks, and Tennessee Titans home football games. These trains often "sell-out," carrying 400 to 700 people per trip. The attractiveness of the Star (despite its limited service) comes from two characteristics lacking in the regional bus corridors: (1) reliable travel time, since it does not operate in mixed traffic on the regional highway network as required of RTA Regional Buses, and (2) well-located "purpose-built" park-and-ride lots that provide a safe and convenient location for commuters to park and catch the train. To continue, the Donelson and Hermitage Stations serve as a park-and-ride area for transit customers to park free and either ride the WeGo 6, carpool, vanpool, or take the WeGo Star.

The Donelson and Hermitage park-and-ride locations, which offer free parking, two dual-port Level 2 chargers and one dual-port DCFC are located on the outskirts of the Nashville-Davidson County area in suburban

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

neighborhoods. Both locations are also served by Route 6 Lebanon Pike buses operated by WeGo Public Transit.

The Donelson Station is located at 2705 Lebanon Pike, directly north of the intersection of Donelson Pike and Bluefield Avenue. It is adjacent to Donelson Plaza, a revitalization of a historic shopping center, the Donelson Branch Library, and Fifty Forward with direct access to the park-and-ride lot from Donelson Pike. The station currently serves as the location of the Donelson Farmers Market, which brings many visitors on Friday afternoons. Approximately 230 parking spaces are provided. The Donelson station is approximately 11 miles from downtown Nashville, saving commuters an 18-minute drive in personal vehicles.

The Hermitage Station is located at 4121 Andrew Jackson Parkway, directly off of Andrew Jackson Parkway near Old Hickory Boulevard. Approximately 280 parking spaces are provided. The Hermitage station is approximately 16 miles from downtown Nashville, saving commuters a 22-minute drive in personal vehicles.

Installing EVCI at park-and-ride locations in suburban areas can be an effective way to encourage people to use the WeGo 6 and/or the WeGo Star when commuting into the city or downtown area. By offering a convenient place for EV drivers to park their vehicles and charge them while using public transit, it can reduce range anxiety and make it more appealing for individuals to choose public transportation over driving alone. This can help reduce traffic congestion and greenhouse gas emissions in the city center.

Moreover, offering EV chargers at park-and-ride locations can also encourage the use of other modern transportation options beyond public transit. For example, individuals may opt to use rental vehicles, taxis, car shares, ride shares, ride-hailing services, bicycles, or other electrified or alternative fuel multi-passenger or active mobility options once they arrive downtown, since their personal vehicle will be parked at the park-and-ride facility. This can provide greater flexibility and convenience to commuters, making it easier for them to get around the city without relying on personal vehicles.

Additionally, the Dr. Ernest Rip Patton, Jr. North Nashville Transit Center is a new WeGo development at 26th Avenue and Clarksville Highway. It will have an air-conditioned waiting room, restrooms, Wi-Fi, and multiple bus bays to connect several routes across town. It is part of an overall effort to increase access to public transit across Nashville while reducing the necessity of transferring Downtown at WeGo Central. A groundbreaking took place on November 10, 2022, and the opening is scheduled for Spring 2024. Three dual-port Level 2 chargers are proposed at the North Nashville Transit Center.

Furthermore, by promoting the use of public transit and other modern transportation options, the overall cost of transportation for individuals can also be reduced by saving parking fees and other expenses associated with driving their own vehicle into the city center. Overall, the proposed EV charging stations at the Donelson and Hermitage park-and-ride locations, as well as the chargers proposed at the North Nashville Transit Center, can be an effective strategy for promoting sustainable transportation and reducing the negative impacts of personal vehicle use in urban areas.

Focus Area #2: Urban/Suburban Area Charging and Fueling Solutions: Provide convenient, affordable access to charging and alternative fuel infrastructure in applications such as multi-unit dwellings and homes without driveways or garages. Projects should seek to advance lower cost and highest return charging solutions with light construction when possible (e.g., pole-based charging). Intersectional charging/mobility hubs that serve both inner-ring suburban and urban needs are also of interest. The EV charging projects should carefully articulate power levels required and demonstrate consideration of gaps to fill among existing charging and fueling infrastructure in order to provide an appropriate power delivery mix (e.g., avoid providing only high-power charging stations as the sole solution). Projects should address innovative ways to address challenges such as curb side access, reservation/convenient availability, reliability, and management of limited spaces. The DOT encourages collaboration between applicants and owners of the ROW during the application, installation, and maintenance of charging and fueling infrastructure.

In addition, the Electrify MUSIC City Project **focuses on providing convenient, affordable access to EVCI in applications such as multi-unit dwellings and homes without driveways or garages.**

One of Metro's most outstanding achievements in their affordable transportation efforts thus far has been offering EV chargers at no cost to the public since 2017. Although they intend to switch to paid chargers in the future, Metro will continue to prioritize this pattern of unprecedentedly affordable, sustainable transportation by ensuring very low costs for EV chargers under this project. Metro plans to explore various approaches to make the use of the EV-charging network affordable, including availability of charging vouchers for qualified users, offering the first 30 to 60 minutes as free charging, and more. If implemented, introducing vouchers as an alternative to credit cards or contactless payment methods allows individuals who are unbanked or underbanked to conveniently utilize the chargers without relying on traditional banking services. This approach would broaden the inclusivity of the charging network and ensure that individuals from all socio-economic backgrounds can benefit from the Electrify MUSIC City Project. These measures would aim to enhance accessibility to affordable and environmentally friendly transportation options for diverse populations, particularly those in historically neglected areas, communities with significant energy burdens, and areas of persistent poverty.

According to the US Census Bureau's 2021 American Community Survey, more than a third (about 39%) of occupied houses in the Nashville-Davidson Metropolitan government area are multi-unit dwellings, compared to the national average of 26%. (B25024 - Census Bureau Tables). With Nashville's homeownership rate 14.3% less than the statewide average, this project aims to remove roadblocks associated with at-home charging equipment for renters who want to make the switch to electric vehicles.

Metro will propose five on-street charging locations at location-efficient housing units and multi-unit dwellings without personal driveways or garages, allow EV-owning residents of multi-unit housing sites to charge their vehicles while parked on the street. The location of these five on-street chargers will be determined once Metro presents to and receives approval from the Traffic and Parking Commission, which would take place after receiving grant funds. However, Metro will ensure at least two of these locations will be within DACs, low- and moderate-income neighborhoods, and/or underserved or hard to reach communities where the private sector may not invest absent federal funding. The locations will be specifically selected to be in areas that are accessible and convenient for residents. An additional 29 public chargers are located within location-efficient housing unit zones, such as nearby streets or at public parking lots, further supplementing residents' access to public EVCI.

These benefits to residents of multi-unit dwellings and location efficient housing options simultaneously benefit lower income populations as the national median income of renters is about $30,000 less than homeowners according to the US Census Bureau's 2021 American Housing Survey. American Housing Survey (AHS) - AHS Table Creator (census.gov). Similarly, the survey shows that 22.5% of renters are considered impoverished, whereas only 9% of homeowners are at or below the poverty line.

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

Installing on-street EV chargers at urban multi-unit dwellings and homes without driveways or garages can present a few challenges, such as curb side access, reservation/convenient availability, reliability, and management of limited spaces. Metro will consider several applications to address these challenges, including the following:

1. Using retractable charging cords that can extend from the charger to the vehicle. This allows for more flexibility in the placement of the charger and eliminates the need for a cord to be draped across the sidewalk, preventing cable damage and increase uptime.
2. Implementing a program that allows residents to reserve a time slot in advance using a mobile app or a web portal. This would allow residents to plan their charging needs and ensure that the charging stations are used efficiently.
3. Using smart charging technology that can detect and respond to fluctuations in power demand to monitor and ensure that EV charging stations are reliable and available when needed, even during periods of high usage/ power demand.
4. Using pole-based charging for space-saving measures. This would lower cost and provide higher returns, avoid taking up valuable street space, and provide a more appealing curbside look.

The Electrify MUSIC City Project also proposes intersectional charging/mobility hubs that serve both inner-ring suburban and urban needs. Several suburban-leaning communities, such as Smyrna and Murfreesboro, use the I-24 corridor to enter into the city. The Global Mall/ Ford Ice Center location, as well as other locations throughout the Metropolitan area, will provide a great benefit to commuters where they can utilize various parking garages or community centers when entering the city – creating a further linkage between the urban and suburban need.

Additionally, as discussed previously, installing EVCI at park-and-ride locations in suburban areas such as the Donelson and Hermitage facilities can be an effective way to encourage people in suburban communities to use the WeGo 6 and/or the WeGo Star when commuting into the city or downtown area. By offering a convenient place for EV drivers to park their vehicles and charge them while using public transit, it can reduce range anxiety and make it more appealing for individuals to choose public transportation over driving alone when travelling into the urbanized parts of Nashville, strengthening the connection between urban and suburban communities.

Metro recognizes the importance of providing a balance of charging options to meet the needs of different types of EV drivers in terms of power level. After reviewing the existing charging and fueling infrastructure, assessing electric charging demands/needs, and coordinating with other local and state EVCI programs, Metro has determined the most appropriate mix of Level 2 and DCFC chargers at each proposed location and will mirror these considerations when selecting the five on-street charging locations for multi-unit dwellings.

(V) Innovative Payment Approaches

All charging stations proposed under this grant application will provide secure payment methods, accessible to persons with disabilities and will include RFID, Apple Pay, Google Wallet, and all major credit cards. All charging infrastructure will also provide either an automated toll-free phone number or a short message system that provides the EVCI customers with the option to initiate a charging session and submit payment. Metro's charging infrastructure will be fully compliant with the NEVI program's final regulations on payment methods and will not require a membership for use, nor delay, limit or curtail power flow to vehicles on the basis of payment method or membership and will provide access for users that are limited English proficient.

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

To ensure the charging stations are accessible to diverse populations, including the unbanked and underbanked, Metro plans to explore various approaches to make the use of the EV charging network affordable, including availability of charging vouchers for qualified users, offering the first 30-60 minutes as free charging, and more. If implemented, introducing vouchers as an alternative to credit cards or contactless payment methods allows individuals who are unbanked or underbanked to conveniently utilize the charging stations without relying on traditional banking services. This approach would broaden the inclusivity of the charging network and ensure that individuals from all socio-economic backgrounds can benefit from the charging stations in the Electrify MUSIC City Project. These measures would aim to enhance accessibility to affordable and environmentally friendly transportation options for diverse populations, particularly those in historically neglected areas, communities with significant energy burdens, and areas of persistent poverty.

The aforementioned criteria will be included in Metro's EVCI procurement solicitation and subsequent contracts.

(VI) Meeting Community Program Requirements

Eligible Projects

The Electrify MUSIC City Project is expected to reduce greenhouse gas emissions by allowing more vehicles to charge in the Nashville area. Currently 51% of the community's greenhouse gas emissions come from the transportation sector, indicating the EV adoption is an important action in climate mitigation. It is expected that the reduction in greenhouse emissions will be more than 2.5 times the amount currently saved because The Electrify MUSIC City Project scope calls for doubling the number of Level 2 chargers and installing an additional five DCFC chargers.

Metro will conduct a competitive procurement process to select the most qualified and cost-effective vendor to install, operate, liaise, and maintain the assets. The contract between the City and the vendor shall derive terms and conditions from U.S. DOT guidance, especially with respect to uptime, data collection and reporting, and cost sharing.

Eligible Project Costs

CFI grant funding for the Electrify MUSIC City Project will be used towards only the following activities:

- Anticipated acquisition and installation of eligible infrastructure and real estate, including construction and reconstruction, and potentially by a private entity,
- Development phase activities, including planning, feasibility analysis, revenue forecasting, environmental review, preliminary engineering and design work, and other preconstruction activities, which may be conducted by a private entity but overseen by Metro, and
- Contracting with a private entity for the acquisition, construction, installation, maintenance, or operation of eligible infrastructure included in the project.
- Communications with local entities and community stakeholder groups to develop relationships and awareness on using EV chargers, workforce development, and emergency awareness activities.

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

(VII) Merit Criteria Assessment

Merit Criterion #1

Metro's Electrify MUSIC City Project incorporates various strategies to ensure the safety of all users with a goal of creating a safe and sustainable EVCI throughout Nashville. Metro performed an in-depth location analysis that allowed prioritization of sites that promote safety, considering historical data, current infrastructure, and user feedback. Cybersecurity measures, including data encryption and identity verification, will be implemented to protect user data and prevent remote attacks. To support physical safety, Metro plans to improve visibility with lighting and install closed-circuit television (CCTV) cameras at select charging locations, if needed. The project also focuses on traffic safety and alleviating congestion by integrating EV charging stations with transit centers, minimizing wait times, and reducing potential safety risks associated with overcrowding. Additionally, Metro adheres to federal, state, and local design requirements, incorporates security measures to deter theft and vandalism, and aligns with the National Roadway Safety Strategy and Vision Zero Action Plan to achieve zero traffic deaths and injuries.

Merit Criterion #2

The Electrify MUSIC City EVCI will usher in a new age and better tomorrow for Nashville and its environs by combating climate change and enhancing the resiliency and sustainability of the city and its transportation infrastructure. The updated and accessible infrastructure network is expected to increase the greenhouse gas emissions savings from 185 tons per year to 487 tons – a 260% improvement. The change will not only improve the air quality in Nashville and reduce its carbon footprint but will take place in tandem with various concerted regional efforts to provide better extreme weather resiliency for the city via collaborations with state-level emergency response units during disaster. The proposed project not only prioritizes EVCI resiliency and robustness against extreme weather such as tornadoes, flooding, and extreme heat via aspects of the EVCI such as design, programming, and user experience, but also minimizes the risk to wildlife by ensuring the selected sites are in urbanized community locations that do not detract from natural habitats. Electrify MUSIC City aims to become an interwoven piece in disaster mitigation, response, and recovery, through underscoring the need for reliable and sustainable transportation.

Merit Criterion #3

The Electrify MUSIC City Project aims to address longstanding issues created by the transportation networks we all depend on each day, which continue to exacerbate inequalities and difficulties for low-income people, people of color, and people with disabilities to travel where they need to go, and can put them at greater risk. With 29 stations located in Transportation Disadvantaged Census Tracts, 28 stations located in Justice40 Climate and Economic Justice Screening Tool (CEJST) DACs, 25 stations located in MDHA's Nashville Promise Zones, 26 stations located in Opportunity Zones, 37 stations located in low and moderate household income census tracts, 40 stations located in census tracts with high minority populations, 29 stations located in "mixed use" or "multi-family" residential zones, and five on-street stations planned at location-efficient housing units, Electrify MUSIC City takes direct and intentional action to correct this pattern of inequality. Metro's focus on affordability, accessibility, and public engagement through the project's EVCI locations drives home the CFI program's concentration on Equity, Community Engagement, and Justice40.

Merit Criterion #4

Metro is committed to promoting good-paying jobs and labor standards that prioritize employee rights. Their labor policy ensures that employees have the freedom to join a union and engage in collective bargaining without fear of reprisal. Metro recognizes the importance of entrepreneurship in creating high-paying jobs and plans to

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

collaborate with universities and community colleges to help workers develop their skills and entrepreneurship abilities in the evolving electric vehicle industry. They also have programs in place to provide job training and recruitment opportunities for Nashville residents, particularly in EVCI-related projects. Metro prioritizes diversity and inclusion by implementing hiring policies that prioritize underrepresented populations, supporting employee resource groups, and providing diversity and inclusion training. They also aim to create opportunities for minority and women-owned businesses through procurement regulations and set a target goal of at least 15 percent for MWBE participation.

Merit Criterion #5

Metro's vision is to create a comprehensive multimodal transportation system that better connects neighborhoods, residents, and businesses in Nashville. To achieve this, the Electrify MUSIC City Project will establish an accessible and reliable EVCI network that benefits the entire community, with a particular focus on disadvantaged areas, as over 63% of the projects target low-income, underserved, or disadvantaged communities. The EVCI network will be strategically located at community centers, park-and-ride facilities, multimodal hubs, and other locations throughout the metropolitan area with the goal of promoting sustainable transportation, reducing congestion and greenhouse gas emissions, and increasing accessibility and affordability of transportation for all residents. Additionally, to address the focus areas listed in the CFI Grant NOFO, the Electrify MUSIC City Project will offer charging stations at park-and-ride locations and public transit hubs. Through this, Metro aims to encourage the use of public transit and other modern transportation options while providing convenient and affordable EV charging. Secondly, the project also meets the needs of renters and multi-unit dwellings by proposing 5 on-street charging stations and supplementary public charging stations in close proximity to these locations. Metro will implement innovative solutions to overcome challenges associated with on-street charging, ensuring curb side access, reservation systems, reliability, and space efficiency. Additionally, by creating intersectional charging/mobility hubs and providing a mix of Level 2 and DCFC stations, Metro aims to meet the diverse needs of EV drivers and strengthen the connection between urban and suburban communities. Overall, the Electrify MUSIC City Project strives to make clean and affordable transportation accessible to all, particularly in historically underinvested and disadvantaged areas.

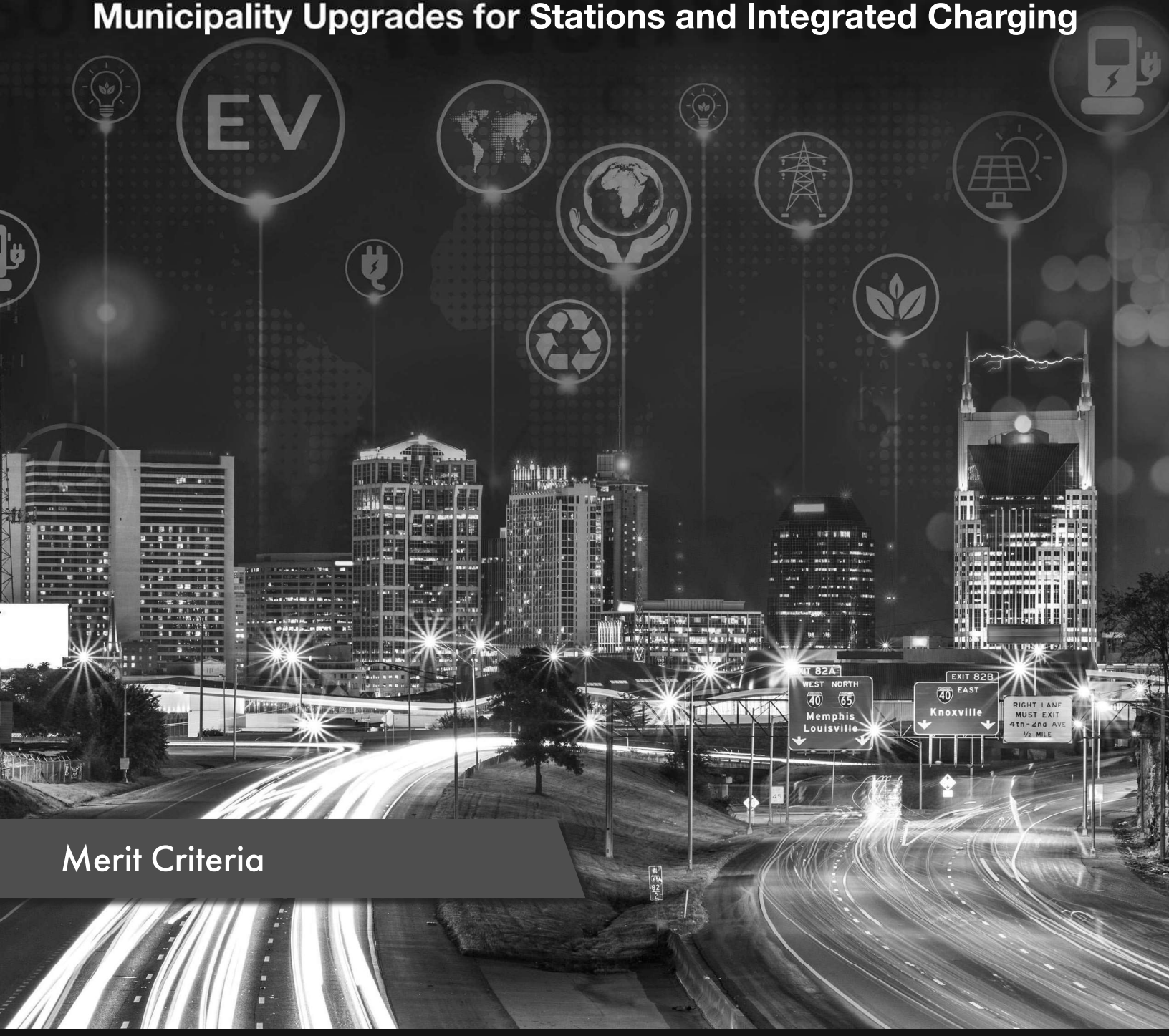
DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

June 2023

NDOT

Electrify MUSIC City

Municipality Upgrades for Stations and Integrated Charging



Merit Criteria

ARCADIS

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

The following document discusses how the Electrify MUSIC City Project (Municipality Upgrades for Station and Integrated Charging) meets the applicable eligibility requirements discussed in the Charging and Fueling Infrastructure (CFI) Grant Notice of Funding Opportunity (NOFO). The project will upgrade and augment the available electric vehicle (EV) charging stations in the Metro Nashville area to provide 73 Level 2 chargers and five direct current fast charging (DCFC) chargers (Figure 1). The existing electric vehicle charging infrastructure (EVCI) network to be upgraded under this project includes 30 chargers across the Metropolitan area, equipped with 240-volt and 40-amp connections capable of Level 2 charging. Nine chargers have a single-port, and 21 are set with double ports, summing to a total of 51 charging ports.

Existing Network	Proposed Network
17 Locations	34 Locations
30 Level 2 Chargers	73 dual-port Level 2 Chargers
51 Level 2 Ports	5 dual-port DCFC Chargers

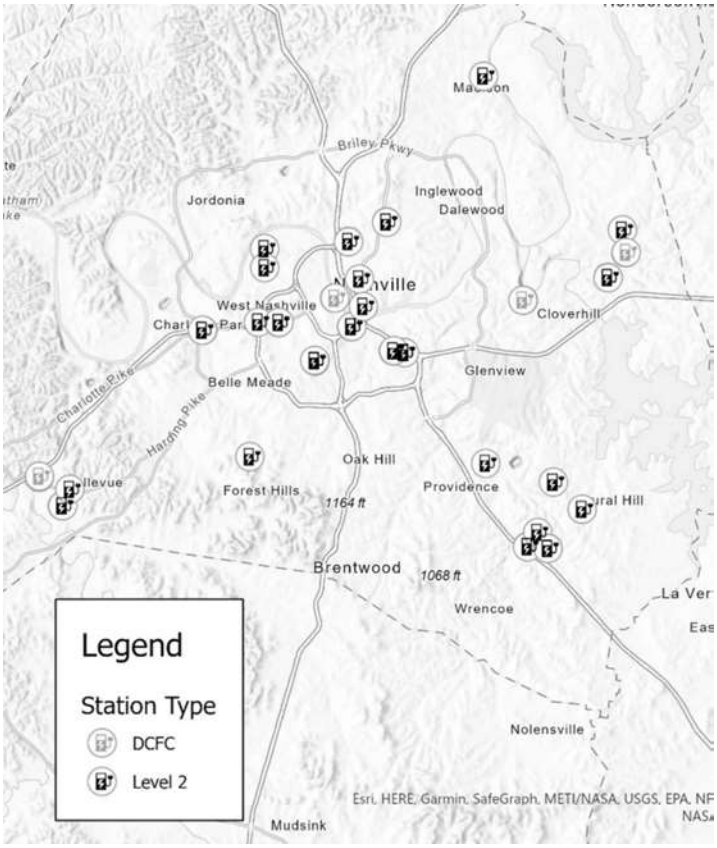


Figure 1: Electrify MUSIC City Project EVCI

Usage data collected from the existing EVCI network help tell the story of EV adoption and use in Nashville. Based on usage data collected from April 2022 through April 2023, the average EVCI utilization rate was about 22%, with the median at about 20% (Table 1). However, it should be noted that the range of utilization rates can vary widely. As outlined in Figure 2, utilization values can spread from 6% to 68%. High utilization is generally key to achieving network efficiency by realizing breakeven points for installation. In practice, it is reported that the charging infrastructure industry uses a 20% utilization rule of thumb for achieving efficiency and good service; but if a charger is utilized more than this 20% threshold, operators are likely to look to expand or add another site nearby.

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

Table 1: Utilization Rate Summary

Utilization Rate Item	Parameter Value
Average	21.9%
Median	19.6%
First Quartile (25%)	6.5%
Third Quartile (75%)	30.8%

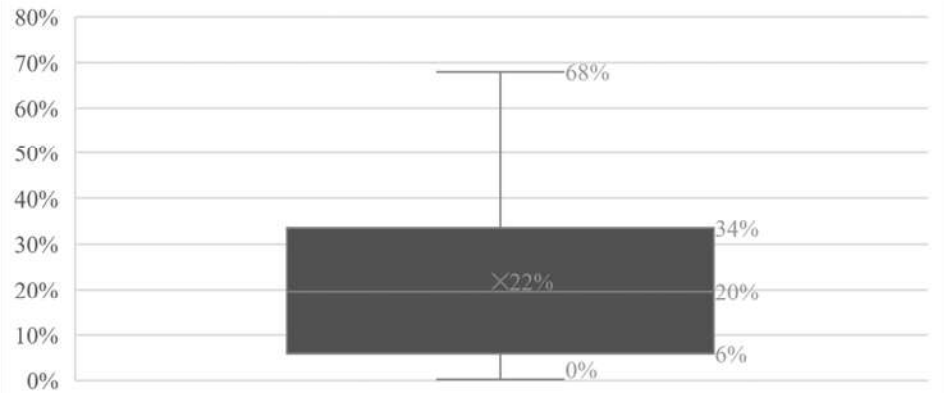


Figure 2: Current EVCI Utilization Rates in Nashville

Given the variance witnessed in Nashville's current EVCI network, where the third quartile utilization rate is 30.8% (exceeds the 20% rule of thumb) and for other chargers almost 70% utilization, it becomes evident that the current state of Nashville's EVCI network is inadequate for the rate of EV growth in the area. Improvements and additions to the present infrastructure are necessary to facilitate drivers' adoption of electric vehicles and historical data has, in parallel, expressed and supported this need.

As part of the City's 2021 Sustainability Advisory Committee Climate Action Plan (SACCAP), the Mayor's office released ambitious recommendations to increase EV adoption from 3% to 10% by 2025, which would be an effective tripling the number of EV registrations in 2021. This chasm in meeting the emerging goals and anticipated demand for EV adoption is where the Electrify MUSIC City Project realizes its place in shaping the grand context of Nashville's environmental and transportation future.

The project proposes replacing all 30 existing Level 2 chargers with upgraded National Electric Vehicle Infrastructure Program (NEVI)-compliant EVCI (see Project Readiness and Environmental Risk Report for requested design exceptions), including upgrading some single-port chargers to dual-port, coupled with an additional 43 Level 2 chargers and five DCFC charger stations proposed throughout Nashville. The final Electrify MUSIC City EVCI network will amount to 78 dual-port chargers across 34 locations. These new and upgraded EVCI locations were carefully selected to benefit disadvantaged communities, promote safety through design, enhance community engagement, and advance Nashville's public transportation options, accessibility, and affordability.

Community-Focused: Fulton Campus

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

Merit Criterion #1 – Safety

Public safety is paramount to the deployment and operation of EVCI and should be considered in all aspects of the user experience. The Metropolitan Government of Nashville and Davidson County (Metro) adopted a Vision Zero Action and Implementation Plan in 2022 and is committed to providing safe and equitable mobility opportunities for all. Metro is committed to providing positive safety benefits by following safety best practices during the design, implementation, operation, and maintenance processes. Through the conscientious selection of EV-charging locations, security strategies, traffic alleviation, multimodal opportunities encouragement, and safety best practices in operation and management approaches, Metro is ensuring the planned improvements maintain and enhance safety for all users.

Qualification (1) The project will provide positive safety benefits for all users.

EV-Charging Locations

To provide safety benefits for all users, Metro has completed an in-depth location analysis of each EV site. The geographical location, historical safety information, current infrastructure, and anecdotal evidence from users were used to determine sites that would promote safety. In looking at the past safety data, none of the sites were identified as having a high safety risk; however, sites promoting safety benefits were prioritized. Providing a better charging experience for all, including those with disabilities, was also considered. Table 1-1 provides a summary of the potential improvements that were identified - with a focus towards enhancing accessibility and safety benefits for all.

Table 1-1 Metro EV Site Safety Evaluations

Site Location	Noted potential improvements
Bellevue Branch Library	Replacement of the existing charger and installation of an additional charger, each with extra-long cords, will allow access to both ADA and non-ADA parking spaces.
Douglass Head Start - MAC	Possible safety crossing issues due to no striped-out crosswalk. Existing chargers were vandalized and both chargers will be replaced.
Parking – Fulton Campus Garage	Additional chargers will be accessible by existing ADA parking spaces.
Lentz Public Health Center	ADA pavement marking legends need to be re-painted - parking spaces as well.
Police - Midtown Hills Precinct	New charging station will include extra-long cords on both ports that will service the ADA space plus two non-ADA spaces.
Fire Station 20	New charging station will include extra-long cords on both ports that will service the ADA space plus two non-ADA spaces.
Fire Station 37	New charger will be moved two posts closer to ADA spaces and outfitted with extra-long cords on both ports to service the ADA space plus two non-ADA spaces.

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

In addition to the ADA enhancements, a review of each site location demonstrates that all of the EV chargers included in this project are located at or near publicly accessible sites that promote confidence in user safety. These "sustainable safe spaces" are locations where users can feel confident they will not be exposed to discrimination, harassment, or any other emotional or physical harm. These locations include the Family Safety Center, Lentz Public Health Center, several police department buildings, and Nashville fire stations (Nos. 19, 20, 32, 33, and 37). Metro recognizes that for the public to trust and use the EV-charging network, chargers must be located where motorists feel safe.

MNDP Headquarters

Cybersecurity Strategies

In the world of constant technology advancements, security concerns are inclusive of both physical and on-line threats. Cybersecurity issues must be considered as part of the "sustainable safe spaces" discussion in order to reach President Biden's goal of 500,000 EV chargers by 2030. In compliance with the NEVI Standards and Requirements, 23 CFR Part 68, all EV-charging stations in the Electrify MUSIC City Project will use a station provider with an up-to-date Open Charge Point Protocol (OCPP). Metro will work with the selected EVCI vendor(s) to ensure use of data encryption and compatibility with any charger management software. This measure deters attackers who could alter charging requests and gain access to the station remotely. Metro will also require the selected vendor to use other cybersecurity strategies that align with NEVI requirements including:

- User identity verifications and access management.
- Cryptographic agility and public key infrastructure (PKI).
- Customer data privacy to protect user data, monitoring and detection.
- Incident prevention and handling.
- Configuration, vulnerability, and software update management.
- Third-party cybersecurity testing and certification.
- Continuity of operations between the charger and charging network.

Management and Operations

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

In parallel to these cybersecurity measures, having the requisite workforce in place to manage and operate the EVCI promotes overall security and functionality. Metro will require that EVCI suppliers and subcontractors within the supply chain be certified to EVITP and the IT systems level required to protect private information and reduce hacking probability.

Additionally, Metro is aware and has analyzed current and projected future demand for charging spaces and how this may affect safety. While no adverse effects are expected, Metro has included measures for future-proofing the management and operations of these sites to minimize potential risks. Metro has and will continue to consider multiple operation and management approaches, including a charging access policy, registration and reservation systems, station sharing, and time-limit pricing to safeguard the users of the EV-charging network. Metro will also require periodical maintenance of each site, including parts inspection include inspecting parts periodically following industry preventative maintenance standards.

Qualification (2) The Project does not negatively impact safety for all users

Metro's awareness of security factors and commitment to delivering a safe, reliable EV-charging product to the public is exemplified through the proposed EV-charging infrastructure upgrades and plans to mitigate negative safety impacts for all users.

Physical Safety and Security Strategies

Physical security strategies in and around EV-charging stations improve the user's ability to maintain awareness of their surroundings and can discourage inappropriate activity. For example, Metro will consider visibility improvements at each charging location through luminous site lighting and CCTV surveillance camera installations at select EV-charging locations. 19 locations already have CCTV cameras that serve the facility's parking lot, and Metro plans to add CCTV surveillance cameras to 7 more locations as part of the Electrify MUSIC City Project. Combining these two strategies provides an added layer of security and ensures site locations do not negatively impact user safety. Other physical safety and security strategies under consideration include curb bollards, retractable cords, installation of emergency call boxes, fire prevention systems, charger locks, and strategies to prevent tampering and illegal surveillance of payment devices.

Traffic Alleviation

Since 1973, the Metropolitan Transit Authority, now since rebranded to WeGo Public Transit est. 2018, has provided public transportation throughout the Nashville Metropolitan area. In accordance with WeGo Transit Design Guidelines, Metro plans to include EV-charging locations on transit center signage to promote wayfinding to charging stations located at transit centers and ride-share locations. This measure also promotes transit usage and traffic alleviation. In addition, following the NEVI guidance, Metro will coordinate with the selected vendor to implement a charging station management system to monitor station usage and track uptime and other KPIs to prevent overcrowding and minimize wait times. This will reduce any potential safety risks associated with drivers queuing for chargers. The impact of the charging stations on traffic patterns will be carefully evaluated, and adjustments will be made as needed to maintain safety.

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

Nashville has a Transportation Demand Management (TDM) program, which supports traffic alleviation across the city. Funded by a Congestion Mitigation Air Quality (CMAQ) grant, the Nashville Connector was established in 2018 through a partnership with Nashville Department of Transportation (NDOT), Metro Nashville Planning Department and WeGo Public Transit. Nashville Connector serves as Metro's TDM program, wherein the Electrify MUSIC City Project will be integrated.

By implementing traffic mitigation strategies, the EVCI project aims to create a safe and efficient transportation network in Nashville. This initiative will encourage the adoption of electric vehicles across the entire community, resulting in an increase in the proportion of vehicles on the road that feature advanced safety technologies such as forward collision warning, lane departure warning, pedestrian collision warning, blind spot monitoring, automatic braking, speed limit indication, and lane keep assist. By integrating these cutting-edge technologies into Nashville's transportation system, traffic flow and safety can be improved, providing a better travel experience for all.

Qualification (3) The project promotes safety through design

In the final site design, Metro will require its vendor to comply with all recommended federal, state and local design requirements and EVCI design best practices. This will include the spacing of chargers, retractable cords, curb bollards, pull-through capacity, fire protection systems, battery storage to ensure minimum lighting during power outage, accessibility for all vehicles, including commercial vehicles where warranted, and pavement markings and signage to allow for quick identification of EV bays.

The global EVCI industry has witnessed a recent uptick in the theft of electrical conductors and vandalization of EVCI. Current best practices and standards recommend additional security measures be implemented at the site to improve safety and reliability. Methods of crime mitigation considered by Metro and its selected vendor could include ensuring adequate lighting is provided in the charging areas along with installation of CCTV and on-site staff to monitor the camera systems. Incorporating alarm systems in the equipment could act as a deterrent to theft and destruction of assets. In addition, many of the sites already include CCTV security cameras.

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

The project will consider the NRSS when addressing how the projects will support the goal of achieving zero roadway deaths through a Safe Systems Approach

The National Roadway Safety Strategy (NRSS), implemented by the U.S. Department of Transportation, emphasizes the crisis of rising traffic fatalities throughout the U.S. in recent years. In relation to the state of Tennessee, the January 2022 edition of the NRSS highlights 2019 Roadway Fatalities by state in Figure 1-1, sourced from the Fatality Analysis Reporting System (FARS). Tennessee was among the highest 25% in roadway fatalities with 1,135 total fatalities.

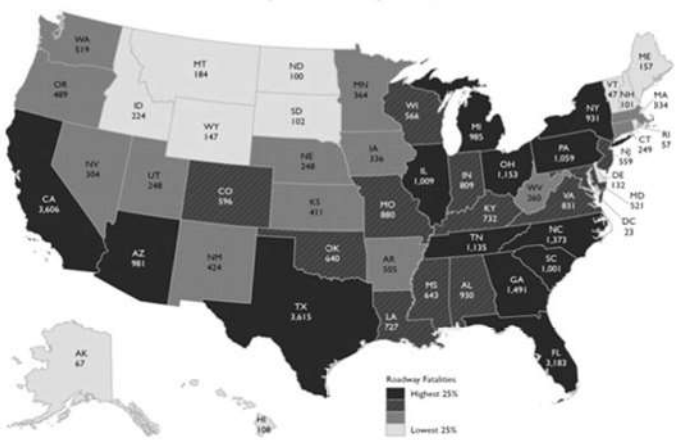


Figure 1-1: 2019 Roadway Fatalities by State sourced by FARS

More specifically, the FARS database highlights a 31 percent increase in traffic fatalities in Nashville/ Davidson County from 1994 to 2020. As shown in Figure 1-2, this recent uptick in traffic fatalities indicates there is more work to be done to achieve the goal of zero roadway deaths.

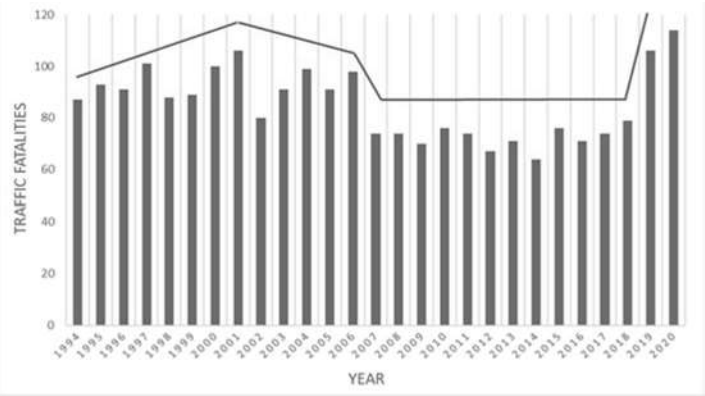


Figure 1-2: 1994-2020 Davidson County Traffic Fatalities

In parallel to the U.S. Department of Transportation and its National Roadway Safety Strategy, Metro adopted the Vision Zero Action Plan in 2022, pledging to support the Metropolitan Government's efforts to achieve zero traffic deaths and avoid serious injuries on Nashville's roadways. Vision Zero provides a comprehensive strategy to eliminate all traffic fatalities and severe injuries while increasing safe, healthy, and equitable mobility options for all users. The Vision Zero Action Plan includes five themes, one of which highlights promoting a culture of safety throughout the Nashville transportation network through creating safe, connected, and comfortable physical infrastructure for all modes of transportation, similar to those included in the Electrify MUSIC City Project. This plan mirrors the same values and strategies outlined by the NRSS and its Safe System Approach. Additionally, the proposed project will abide by the five Safe System Approach objectives of safer people, safer roads, safer vehicles, safer speeds, and post-crash care outlined by the NRSS throughout the design, implementation, operation and maintenance processes. Metro recognizes that death and serious injuries are unacceptable, and while users of EV-charging infrastructure are vulnerable and can make mistakes, the responsibility is shared to provide crucial redundancy of risk reduction throughout the entire design process to provide positive safety benefits and alleviation of future negative safety impacts for all users.

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

Merit Criterion #2 – Climate Change, Resilience, Sustainability

Nashville is facing increasing challenges related to climate change and resiliency, from more frequent and severe weather events to growing demand for resources and infrastructure.

Frequent local natural disasters represent salient instances of Nashville's intimate experiences with climate change, as extreme weather events are occurring more frequently in the region. It is estimated that between 2025 and 2035, Nashville will face a myriad of climate risks, including an increased number of intense storms, tornadoes, flooding, and extreme heat days per year. The increased frequency and severity of extreme weather events underscores the importance of taking actions that can help the City both mitigate and adapt to climate change impacts. The Music City is known for perseverance and strength in times of trouble and is a community striving for a better tomorrow. That better tomorrow includes battling climate change with concerted regional efforts towards vehicle electrification and a commitment to providing the public with an accessible and up-to-date charging infrastructure network. The ambitious Electrify MUSIC City Project will serve a rapidly growing population; census data showed a 21% increase between 1980 and 2018 in the urban and neighboring Metropolitan areas. Nashville is eager to support transportation modes that are cleaner for our environment and future.

Qualification (1) The Project significantly reduces greenhouse gas emissions in the transportation sector

Nashville's transportation sector produces significant greenhouse gas (GHG) emissions that contribute to climate change. According to Nashville's 2019 Greenhouse Gas Emissions Inventory, community emissions totaled roughly 11.25 million metric tons – with roughly half derived from the transportation sector alone. Through the Electrify MUSIC City Project, Nashvillians will be further encouraged to drive electric vehicles rather than internal combustion engine (ICE) vehicles via the improved, accessible, and augmented EVCI network in the Metropolitan area.

Nashville needs access to sustainable transportation and has established a foundation to support the pursuit of sustainable transportation projects. In February 2022, Metro adopted a resolution to reduce GHG emissions by 80 percent in 2050 from 2014 levels (RS2022-1358) and provided a comprehensive set of strategies and actions to meet the 2050 goal. The Electrify MUSIC City Project specifically touches upon the emissions associated with personal vehicles and fleets across the Metro Nashville area and aims to significantly reduce GHG emissions in the transportation sector by increasing the reliability, accessibility, and efficiency of the EV-charging infrastructure network.

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

Proposed Electrify MUSIC City Project & GHG Reductions

The Electrify MUSIC City Project will enhance the existing EVCI network by increasing the number of charging ports from 51 to 156 (excluding all public and private EVCI that will not be upgraded under this project). This effort more than triples the number of available EVCI ports for drivers and aligns with SACCAP's ambitious three-fold EV growth in the Metro area.

What are the implications of tripling the number of publicly accessible charging ports on GHG emissions and the community? Based on Table 2-1 and the current network's utilization rate of about 20% (Table 1), roughly 47 cars can be charged each day across the existing 51 ports with 0.93 cars being charged at each. In the updated network, 136 cars can be charged with Level 2 and 116 cars with DCFC, assuming the same average utilization rate, totaling 252 EVs per day. The updated network scenarios increase EV-charging capacity more than 5 times the existing capacity.

Table 2-1: Utilization Rates for EV Charging

Utilization Rate	Number of EVs charged on Level 2 Charger, per day	Number of EVs charged on DCFC Charger, per day
10%	0.47	5.82
20%	0.93	11.63
25%	1.16	14.54
30%	1.40	17.45
60%	2.79	34.89
80%	3.72	46.52

Values based on approximately 50 kWh battery capacities. The analysis assigns 240 Volt, 40 Amp connections for Level 2 charging and 750 Volt, 160 Amp DCFC.

Following this methodology, the Electrify MUSIC City Project will help Nashville reduce CO2e by an additional 135 to 176 tons per year. These values were calculated using the nationwide average of different energy sources, the Department of Energy (DOE) found that EV create 3,932 lbs. of carbon dioxide equivalent (CO2e), compared to 5,772 lbs. CO2e for plug-in hybrids, 6,258 lbs. CO2e for typical hybrids, and 11,435 lbs. CO2e for gasoline vehicles.

Table 2-2: Summary of Project Scenario Comparisons

Current Electrify MUSIC City Network	Electrify MUSIC City Enhanced Network
• Average utilization 21.9% • Charges about 47 cars a day based on current utilization • Cuts about 92 tons CO2e per year	• Assuming 20% utilization: potential for 252 cars charged • Assuming 30% utilization: potential for 379 cars charged • Eliminate an estimated 228-269 tons CO2e per year

A separate emissions reductions estimate was conducted by using the AFLEET tool provided by USDOT to check values for the order of magnitude. Based on utilization data collected from the charging infrastructure, the 30 existing locations were broken into low, moderate, or high utilization: 4 chargers, 7 chargers, and 19 chargers, respectively. This yielded GHG emissions reductions of about 185.3 short tons. Given that GHG includes a slew of compounds (including methane, nitrous oxide, hydrochlorofluorocarbons (HCFCs), hydrofluorocarbons (HFCs) and ozone), the CO2e values previously calculated in Table 2-2 are within reason. It should be noted that one existing Level 2 charger was missing utilization data, so it was assumed to be under the moderate utilization category.

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

In the proposed scenario used with the AFLEET tool, with DCFC charging and an augmented Level 2 network, four Level 2 chargers were considered low utilization, 50 Level 2 chargers and 5 DCFC chargers were considered moderate, and 19 Level 2 chargers were considered high. In total, about 487.5 tons of GHG can be saved, and the difference is more than 2.5 times the existing conditions (Table 2-3). It should be noted that all additional sites were conservatively placed under the moderate utilization category, although the existing data suggests most chargers would qualify as high utilization.

Table 2-3: AFLEET CFI Emissions Tool Results

ANNUAL CFI TOOL - EXISTING NETWORK - EMISSIONS REDUCTIONS

AFV Fueling Infrastructure	GHGs (short tons)	CO (lb)	NOx (lb)	PM10 (lb)	PM2.5 (lb)	VOC (lb)	SOx (lb)	Fuel Dispensed (fuel unit)	Fuel Unit
Level 2 EVSE	185.3	1949.1	46.1	4.8	4.2	190.0	0.8	244000.0	kWh
DCFC EVSE									kWh
Hydrogen									kg
Propane									gal
CNG									GGE
LNG									gal
Fueling Infrastructure Total	185.3	1949.1	46.1	4.8	4.2	190.0	0.8		

ANNUAL CFI TOOL - PROPOSED NETWORK - EMISSIONS REDUCTIONS

AFV Fueling Infrastructure	GHGs (short tons)	CO (lb)	NOx (lb)	PM10 (lb)	PM2.5 (lb)	VOC (lb)	SOx (lb)	Fuel Dispensed (fuel unit)	Fuel Unit
Level 2 EVSE	381.2	4,009.9	99.0	9.8	8.7	391.0	1.7	502,000	kWh
DCFC EVSE	106.3	1,118.3	27.6	2.7	2.4	109.0	0.5	140,000	kWh
Hydrogen									kg
Propane									gal
CNG									GGE
LNG									gal
Fueling Infrastructure Total	487.5	5,128.3	126.6	12.6	11.1	500.0	2.2		

ANNUAL CFI TOOL - EMISSIONS REDUCTIONS DIFFERENCE BETWEEN EXISTING AND PROPOSED CONDITIONS

AFV Fueling Infrastructure	GHGs (short tons)	CO (lb)	NOx (lb)	PM10 (lb)	PM2.5 (lb)	VOC (lb)	SOx (lb)	Fuel Dispensed (fuel unit)	Fuel Unit
Level 2 EVSE	195.9	2,060.9	50.9	5.0	4.4	200.9	0.9	258,000.0	kWh
DCFC EVSE	106.3	1,118.3	27.6	2.7	2.4	109.0	0.5	140,000.0	kWh
Hydrogen									kg
Propane									gal
CNG									GGE
LNG									gal
Fueling Infrastructure Total	302.2	3,179.2	78.5	7.8	6.9	310.0	1.4		

Reductions will be further enhanced by the eight General Services locations that have or will have solar photovoltaic (PV) systems that contribute to powering the facilities' existing and planned EV-charging stations. In total, Nashville currently has a solar PV capacity of 595 kW (or 0.6 MW) for the participating buildings (Table 2-4).

Table 2-4: Solar PV System Generation

Facility	Solar PV Size (kW)	Utilization	Solar Generation (kWh)*
Existing Solar PV Systems			
Bellevue Community Center	150	Behind-the-Meter (building)	206,456
Family Safety Center**	302.4	Behind-the-Meter (building)	408,815
Police-Headquarters**	see Family Safety Center	Behind-the-Meter (building)	see Family Safety Center
Fire Station #19	33.8	Behind-the-Meter (building)	45,330
Fire Station #32	50.4	Behind-the-Meter (building)	69,839
Fire Station #33	7.9	Front-of-the-Meter (grid)	11,064
Fire Station #37	50.4	Behind-the-Meter (building)	73,685
Design/Build Solar PV System			
Police-wwSoutheast Precinct***	33	Behind-the-Meter (building)	43,453
Total	**692**	**N/A**	**858,642**

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

With the exception of Fire Station No. 33, the sites included in the CFI proposal feature solar PV systems are configured to be behind-the-meter, meaning they are supplying power to the building for consumption. Since the EV-charging stations are tied to building electrical panels at these sites, solar electricity, in part, is powering the EV-charging stations. Metro Nashville is examining additional buildings to implement solar PV and increasing total renewable capacity, which will help to drive down carbon emissions in energy consumption and production.

It should be noted that location "Police – Southeast Precinct" is still in design phase and will possibly add another 33 kW, raising the total capacity to 628 kW.

Qualification (2) The Project incorporates evidence-based climate resilience measures or features, and addresses the Federal Flood Risk Mitigation Standard as updated by E.O. 13690, as appropriate

The importance of weather resiliency for EV chargers cannot be overstated. Without adequate protection and preparation, these critical pieces of infrastructure are at risk of damage, disruption, and potential safety hazards. In this context, it is essential to the Electrify MUSIC City Project's mission to understand the risks associated with floods and weather events and to implement strategies to enhance the resilience of EVCI. Protecting charging infrastructure from flood, heat, and other weather risks is essential to ensure their continuous operation, support the adoption of electric vehicles, and maintain reliable transportation options in the face of a changing climate.


Source: homechargingstations.com

Flood Risks

The history of the city is tied to its waterways from the Cumberland River extending to the river's distributing streams. As business and economic development have followed waterways, the proposed EVCI as part of the Electrify MUSIC City Project are situated in varying distances from potential flood zones (Figure 2-1), which shows the Federal Emergency Management Agency (FEMA) published flood maps overlaid with EVCI locations.

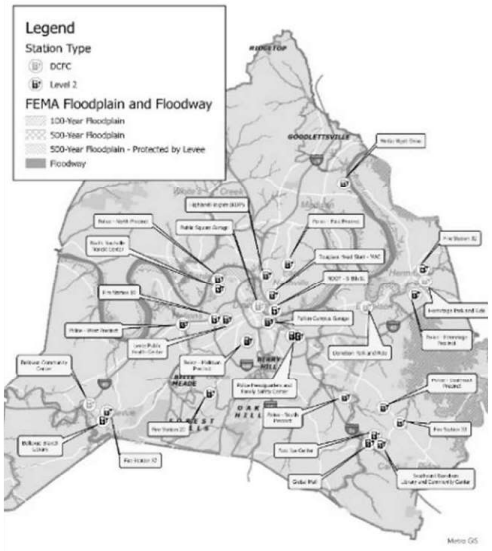


Figure 2-1: Electrify MUSIC City EVCI on FEMA Floodplain and Floodway Map

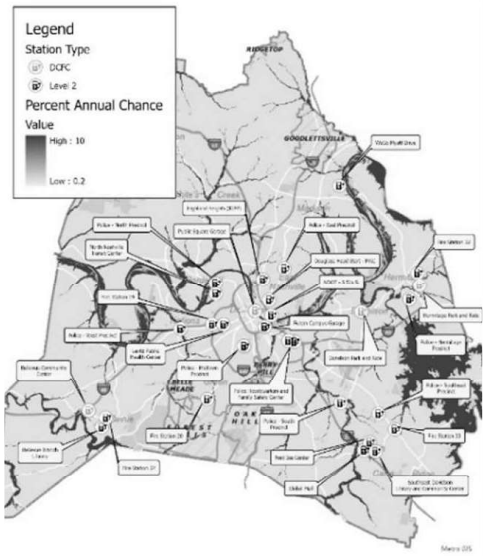


Figure 2-2: Electrify MUSIC City EVCI on FEMA Percent Annual Chance of Flood Map

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

The City used the latest available data on geography, flood maps, and demographic distribution to assess the level of risk the installations would face during operations from weathering. The overarching strategy and guiding principle of the project was driven by hazard mitigation, which per the Federal Flood Risk Mitigation Standard (FFRMS), maintains the avoidance of building infrastructure in potentially flood-prone zones. This was possible for 70 of the 73 chargers with known locations as part of the program. The remaining five on-street charger locations are to be determined and will aim to avoid flood-prone zones.

The FFRMS, as updated by Executive Order 13690, was reviewed to aid the City in decision-making for flood mitigation measures for the remaining 3 chargers in a 500-year floodplain (annual flood probability of 0.2%). No chargers are located in a 100-year (annual flood probability of 1%). See Figure 2-2 for details.

Table 2-5: Electrify MUSIC City EVCI Locations' Flood Risk

Location	Percent Annual Chance Flood
NDOT-750 S. - Level 2 Charger	0.2 % Chance
Police - West Precinct- Level 2 Charger	<1% Chance
Police - West Precinct- Level 2 Charger	0.8% Chance

The EV chargers within the 500-year floodplain are primarily protected by Nashville's levee system and floodwater management practices implemented by Nashville Metropolitan Water Services. These locations were chosen because the goal of the Electrify MUSIC City Project is to provide the public with sustainable infrastructure. As such, evidence-based and data-informed floodproofing methods, standards, and procedures will be employed to protect the resiliency of the infrastructure, including:

Designing with elevation in mind: Installing EV chargers on raised platforms or pedestals above the potential flood level with minimum 2 feet of board. This method ensures that the critical electrical components and connections are kept above the water level.

Utilizing adequate sealings, enclosures, and good cable management: Employing watertight and weather-rated enclosures specifically designed for outdoor and flood-prone environments will protect EVCI from water intrusion and keep the public and equipment safe. These enclosures should have proper seals, gaskets, and vents to maintain waterproofing. Good cable management will prove crucial to prevent water infiltration through cable entry points and waterproof connectors help minimize risk of water damage.

Adequate drainage and site planning: As the Electrify MUSIC City Project progresses, site planning will be important to direct floodwaters away from the charging infrastructure. The project will seek to incorporate effective drainage systems, such as channels or trenches, which can help divert water and prevent accumulation around EVCI. Alignment with Root Nashville to plant 50,000 additional trees in the Metro area will act as a passive stormwater management system and mitigate stormwater runoff, reducing the risk of flooding and overwhelmed drainage systems around EV chargers.

Maintaining regular upkeep and inspection: Regular maintenance and inspection of EVCI are essential to identify and address any potential vulnerabilities or water damage. This includes checking seals, cleaning drainage systems, and ensuring all components are functioning properly.

Qualification (3): The project considers climate change, resilience, and environmental justice in project planning and delivery

Extreme Heat

Metro is focused on understanding and responding to urban heat. In Nashville, climate change is predicted to

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

worsen extreme heat more than any other weather threat. In the summer of 2022, citizen scientists mapped heat and humidity across 100 square miles of the city to identify discrepancies in measurements across neighborhoods (Figure 2-3).

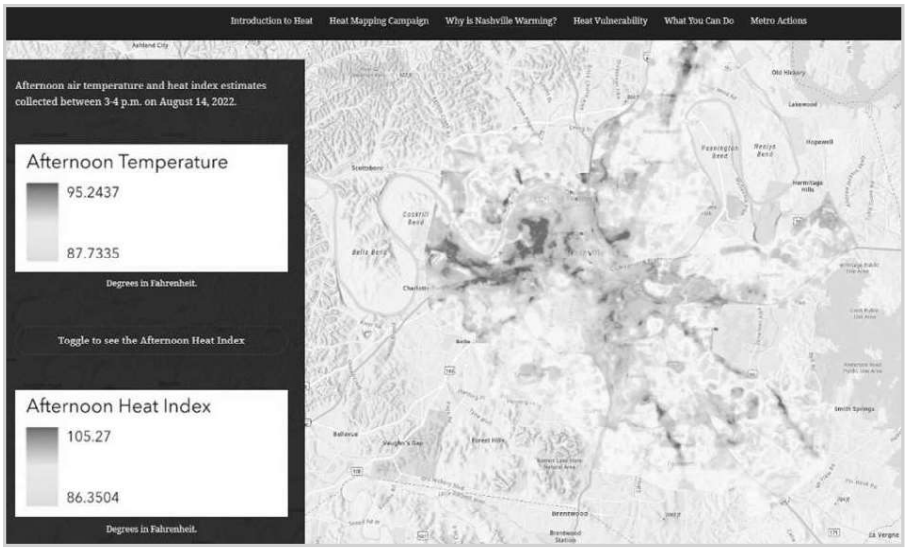
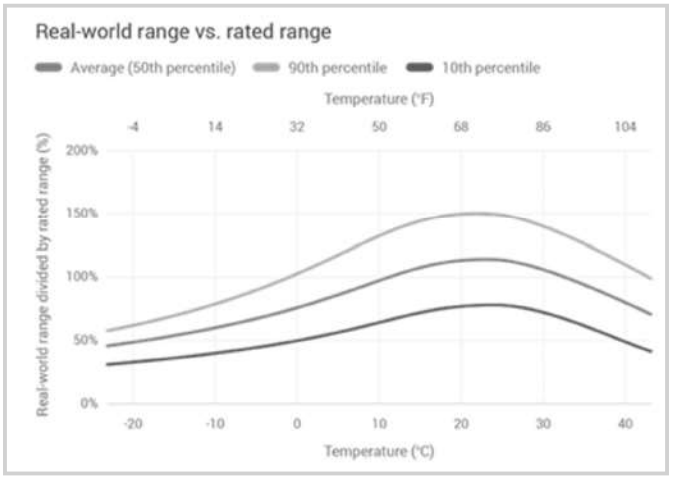


Figure 2-3: Extreme Heat Map of Nashville

While EVCI are designed to withstand variability in temperature, there are differences in charging efficiencies when ambient temperatures are in flux (Figure 2-4). Prolonged exposure to extreme heat can lead to increased internal temperatures, potentially causing components to operate less efficiently or experience reduced lifespan. Thermal management systems of EVCI are responsible for dissipating heat generated during charging operations. In extreme heat conditions, the ability of the charger's cooling mechanisms to maintain optimal operating temperatures may be compromised, potentially resulting in overheating or reduced charging speeds.

Figure 2-4: Impact of Ambient Temperature on EV Driving Range



The Electrify MUSIC City Project has identified the following measures and initiatives to mitigate against extreme temperature risk:

- **Root Nashville:** Metro's public-private tree planting program aims to plant 500,000 trees on properties across the county by 2050. It is a partnership between Metro Nashville and the Cumberland River Compact and includes residential plantings and plantings for businesses, places of worship, and nonprofits. Planting trees around EV-charging stations enhance shade and temperature regulation of equipment, thereby maintaining optimal operating temperature and preserving longevity of components.
- **Designing chargers with heat-resistant materials and components** can help withstand higher temperatures and prevent degradation or performance issues.

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

Wind Impacts

Tornadoes are a consistent weather threat in Nashville, with intensities ranging from 0 to 3 as rated by the National Weather Service. For instance, on the evening of March 2nd, 2020, a series of tornadoes touched down across Tennessee, including a National Weather Service-rated EF3 storm that landed northeast of Pegram, TN. Over the course of an hour, the storm cut a gash across Davidson County from Bells Bend to Hermitage, wreaking destruction in its wake. The storm killed two Nashvillians, injured 150 others, destroyed nearly 200 buildings, and left a record-breaking 50,000 without electricity. A week later, with tornado recovery blazing forward, the COVID-19 pandemic arrived. Two months later, Nashville was devastated by a derecho. Since 2000, Nashville and the surrounding Davidson County area have received 14 major disaster declarations, with six of them happening in the last 3 years. Figure 2-5 shows historical tornado paths and intensities in Nashville from 1950-2022 as well as the proposed Electrify MUSIC City Project EVCI locations.

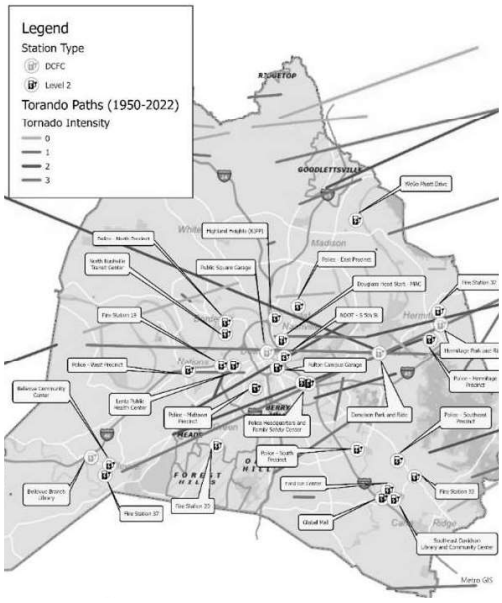


Figure 2-5: Electrify MUSIC City EVCI on Tornado Paths and Intensities between 1950 and 2022

Metro Nashville will work with vendor and designers to mitigate harm and damage to EVCIs from high wind conditions. Some mitigation techniques that Metro will explore include:

- **Charging cable management:** Strong winds can cause charging cables to sway, tangle, or become dislodged. Nashville will work with the vendor to recommend designs that focus on robust cable management systems for securing cables to minimize the risk of damage or interference during windy conditions.
- **Minimal debris generation:** Strong winds may cause debris or airborne particles to accumulate on charging equipment, requiring additional maintenance or cleaning protocols. Nashville will work with vendors to ensure proper maintenance is conducted, and that the EVCI components itself are secured such that they will not add to potential debris during storm events.

Qualification (4) The project addresses the extent to which the project avoids adverse environmental impacts to air or water quality, wetlands, and endangered species, as well as addresses disproportionate negative impacts of climate change and pollution on disadvantaged communities, including natural disasters, with a focus on prevention, response, and recovery.

The Electrify MUSIC City Project proposes EVCI sites be located in highly urbanized areas where community businesses and buildings already exist. As such, the proposed EVCI network will have no adverse environmental impacts on natural resources including air or water quality, wetlands, and endangered species. There is also low risk of ground disturbance since the project locations would be breaking existing concrete, thereby preventing land use reallocation (i.e., avoiding activities that would take greenfields to brownfields). Each environmental facet and EVCI impacts are further addressed below:

Impact on Water Quality and Endangered Marine Life

Installation and maintenance work associated with the Electrify MUSIC City Project are not expected to affect water quality and aquatic life; EVCI will be designed with a focus on maximizing pervious surfaces as a crucial step to mitigating project impacts to water quality. By prioritizing pervious surfaces, rainfall may infiltrate into the ground rather than becoming runoff that carries pollutants into nearby water bodies, such as the river. Through methods of avoidance and strategic implementation of sustainable materials and strategies, the project mitigates local, upstream, and downstream effects of EVCI installation and operation.

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

These actions and proactive solutions would help further protect important local species that reside in the Cumberland River, such as the endangered mussels known as the Cumberland Monkeyface and the Nashville crayfish. While these species are not located in Nashville's part of the Cumberland River, these actions further mitigate the risk of water contamination and instead can help alleviate water pollution from urban activities.

Impact on Air Quality, Land Quality, and Endangered Land Life

The Electrify MUSIC City Project will be executed in tandem with various City initiatives to maximize positive impacts on the local air and land quality and mitigate any adverse impact to natural resources. The 78 project chargers are sited in previously developed areas, such as community centers and transit centers, so activities such as land disturbance or reallocation of greenfields to brownfields is expected to have little to no adverse impact on air and land quality (Table 2-6).

Table 2-6: Electrify MUSIC City EVCI by Location Type

Location Item	EVCI Location Category	Charger Count
1	Community Centers (recreational, library, safety centers, etc.)	27
2	Schools	4
3	Police and Fire Stations	21
4	Parking Garages	10
5	Park and Rides / Transit Centers / Highway exit	11
6	On-Street	5

Beyond its little to no adverse impact, the application of EV chargers to these areas will instead enhance local air quality by encouraging EV adoption, therefore reducing GHG emissions. Although Nashville and the greater Davidson County have not been determined to be in a nonattainment area as per the Environmental Protection Agency (Figure 2-6), it remains imperative to the city to maintain and improve air quality throughout the county to benefit the community, especially in context of Nashville's projected population growth and density that could later affect air quality due to more transportation or GHG emissions-inducing activities.

Nashville is committed to increasing the production of renewable energy. Nashville procures its electricity from Nashville Electric Service (NES), which purchases its power from the Tennessee Valley Authority (TVA). TVA has issued a commitment to be net zero by 2050 and its current generation mix is 41% nuclear, 28% gas, 16% coal, 12% hydro, 3% wind and solar. Outside of Metro's purchases from NES, Nashville has plans for solar photovoltaic generation for a total of 5.01 MW in the following categories: 2.26 MW installed onsite, 0.06 MW Community Generation, 2.69 MW to be commissioned by the end of 2024. Metro Nashville is in active negotiations regarding its 100 MW Green Invest plan that was approved by Metro Council. Metro Nashville also sells 0.2 MW back to the grid.

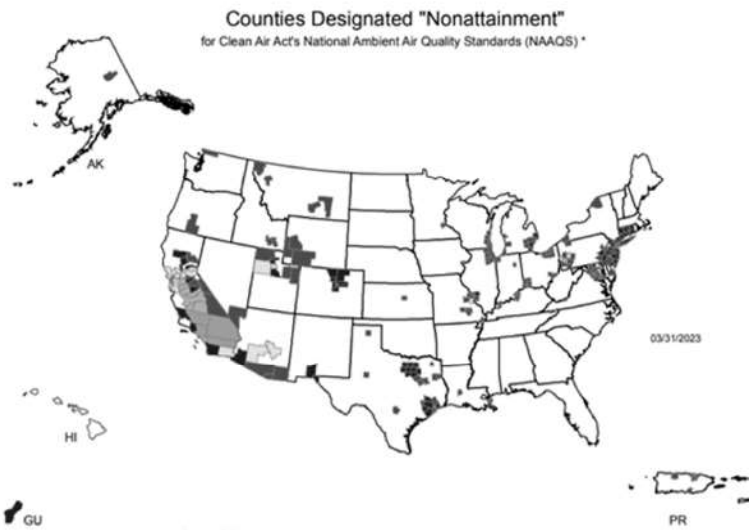


Figure 2-6: National Nonattainment Map

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

Ground disturbance activities are not expected to be significant, as the project will entail breaking existing pavements and concrete. In turn, the urbanized nature of the project means that related EVCI installation and operation activities are located far away from endangered vegetation and land wildlife, so potential adverse impacts are thereby mitigated. The project also circumvents state terrestrial habitat priorities as designated by the Tennessee Wildlife Resources Agency and The Nature Conservancy in Tennessee (Figure 2-7) by locating in areas with existing human activities. The addition of EV chargers and potential increase in human activity traffic is expected but will not further disturb the greater surrounding environment as the projects are not in areas of high/ very high designation.

Figure 2-7: Tennessee Wildlife Resources Agency and The Nature Conservancy in Tennessee Terrestrial Habitat Priorities Map

Disproportional Effects of Climate Change and Pollution on Disadvantaged Communities

A significant portion of Nashville is constituted within bounds of a disadvantaged community (DAC), as shown in Figure 3-1 of Merit Criterion #3, where climate change and pollution have showcased disproportionate effects in these areas in destructive and harmful ways, some of which include long-term health and economic impacts. Areas such as North Nashville and the East Bank area fall within these designations and have suffered through multiple natural disasters due to climate change, from the historical inundation in May 2010 (See Figure 2-8) to the tornadoes of 2020. Since then, recovery efforts have taken place, but the area remains home to some of Nashville's most underserved neighborhoods.

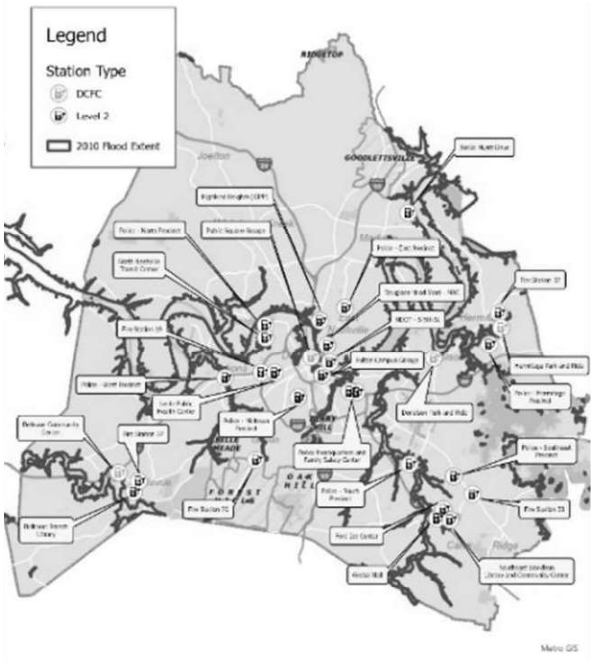


Figure 2-8: Electrify MUSIC City EVCI on 2010 Flood Extent Map

Per FEMA flood maps of Davidson County, North Nashville (including East Bank areas) lies within the 100- or 500-year floodplains, making these areas susceptible to water damage. Climate change and its effects on Nashvillians has been apparent: hundreds of Nashville homes were added to the 100-year FEMA floodplain maps in early 2022. See Figures 2-1 and 2-2 for details.

Tornadoes are also a weather threat in Nashville with the historical tornado season between March – May and October – November. Most notably in recent news, an EF-3 touched down in Nashville in March 2020, with winds topping 165 miles per hour. The tornado and its related storms bore through Nashville, left 50,000 residents without power at peak outage, and was the sixth-costliest tornado outbreak in United States history. News outlets report that East Nashville and South Nashville are still recovering in 2023. See Figure 2-5 for historic details about tornados in Nashville.

The Electrify MUSIC City Project rides parallel to various City plans to improve access to transportation in these disadvantaged communities by building complete streets that include multimodal options connecting to transportation hubs. The project builds on these transportation options by (1) improving the choices of

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

automobiles that are viable options for the public by providing an accessible charging network, and (2) allowing ease of transportation for EVs in any situation – and especially during times of emergency.

Natural Disaster Prevention, Response, and Recovery

EVCI will play an important role in weather and other disaster alerts, responses, and recovery in Nashville. Sustainability and reliability of EVCI is especially paramount to members of Nashville's DACs, who are historically more affected by natural disasters. The Electrify MUSIC City Project serves the community to operate as a network in times of disaster. Features of the resilient Electrify MUSIC City Project network as they relate to climate and emergencies include:

- **Network connection via Wi-Fi and to a cloud-based system, where notifications of weather and other states of emergencies that endanger public welfare may be dispatched.** Location-based alerts can be dispatched to specific EVCI that are within the domain of an event and displayed on the screen as a warning message. This feature would prove powerful in allowing citizens to get to shelter and take the necessary precautions to protect their lives. Further analysis of EVCI capabilities to send notifications to nearby devices could be explored for future integration, as this feature would impact a greater portion of the community. With the increase in the number of chargers proposed in Nashville, a larger area can be covered in getting notifications out to the public and potentially save lives.
- **Under response and recovery during and after disasters, EV chargers will be critical to the public as a means of transportation and potential backup power resource.** The Electrify MUSIC City EVCI can provide a source of power for EVs that are being used to transport people away from danger in critical situations. In other instances when there is the possibility of fuel shortages, EVCI could be used as a power resource instead. The City is keenly aware and interested in the benefits of leverage EVCI as backup generators and batteries to serve the community during times of disaster. The City aims to explore options for bi-directional charging infrastructure and future incorporations of battery storage, which would allow EVs to discharge their batteries to provide power to the grid or to buildings that need electricity. By installing community EV chargers in strategic locations, communities can build resilience and preparedness for future disasters. These features will be discussed and coordinated with vendors and local power utilities to maximize sustainability and resiliency.
- **Weather resiliency is prioritized.** EVCI hardware will be required to account for seasonality and harsh weather conditions, which will be addressed by mandating the use of equipment that is certified to operate outdoors in extreme weather conditions and by following codes and standards set forth for moisture and weatherproofing infrastructure, such as National Electrical Code, International Electrotechnical Commission standards, and Underwriters Laboratories (UL) standards.

It must not be overlooked that simply having these features is not enough, as community members will need to learn how to leverage EVCI for their safety. This will focus on stakeholder engagement efforts with sites and other local agencies to help educate the Nashville constituents on options for critical resources and support.

Overall, the EVCI network can provide Nashville with information, support, and the potential backup power to facilitate through critical situations. The Electrify MUSIC City Project will help build resilience and disaster preparedness for the Nashville community.

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

Merit Criterion #3 – Equity, Community Engagement, and Justice40

As detailed in the Metro Nashville Transportation Plan December 2020, Metro recognizes that the transportation networks we all depend on each day have created and continue to exacerbate inequalities that make it more difficult for low-income people, people of color, and people with disabilities to get where they need to go, and can put them at greater risk. Metro is committed to taking intentional action to correct this pattern of inequality in all projects, including the Electrify MUSIC City Project under CFI Grant funding. The project meets all of the qualifiers under merit criterion #3 for Equity, Community Engagement, and Justice40 in the following ways:

Qualification (1) The project will include an equity analysis which evaluates whether a project will create proportional impacts and remove transportation related disparities to all populations in a project area.

Throughout project development, Metro has and will continue to ensure outcomes target at least 40% of benefits towards low-income communities, disadvantaged communities, communities underserved by affordable transportation, or overburdened communities. To reduce vulnerabilities and minimize disparities, this project prioritizes investments in low-income and underserved areas, helping Nashville become a more just and equitable city.

An equity analysis of the proposed locations was performed for Transportation Disadvantaged Census Tracts, Justice40 Climate and Economic Justice Screening Tool (CEJST) DACs, Metropolitan Development and Housing Agency's (MDHA's) Nashville Promise Zone (NPZ), Opportunity Zones, low- and moderate-income areas, and areas with high populations of minorities in the Nashville-Davidson Metropolitan government area.

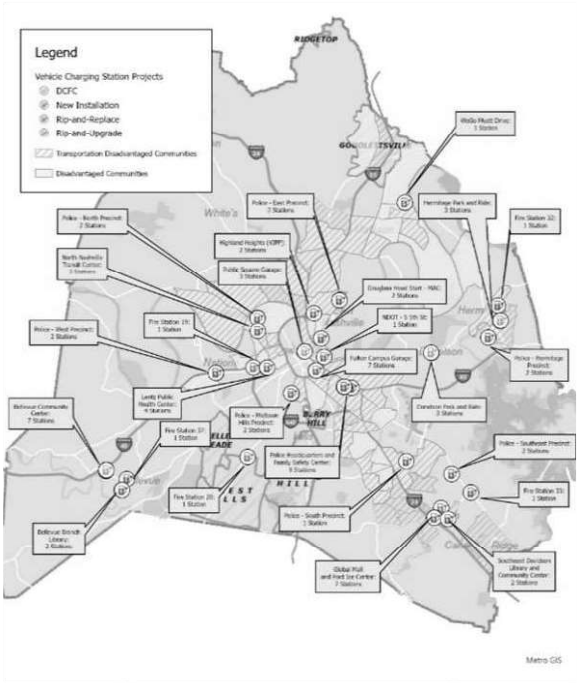


Figure 3-1: Electrify MUSIC City EVCI on Transportation Disadvantaged Census Tracts and the Justice40 CEJST DACs

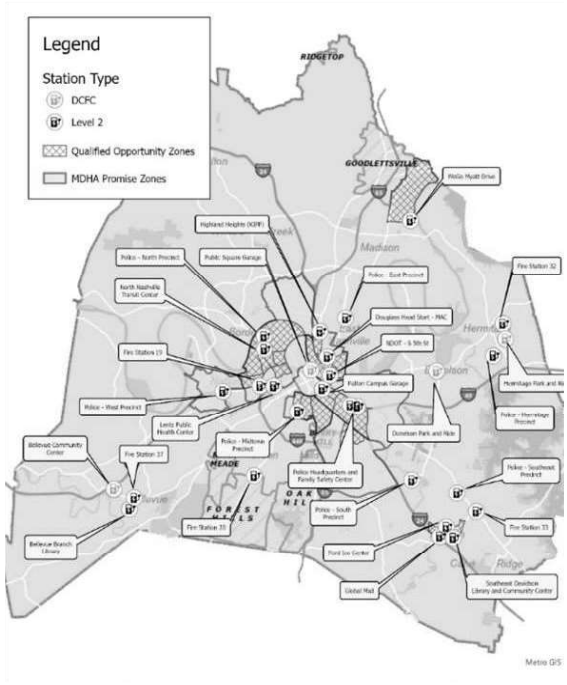


Figure 3-2: Electrify MUSIC City EVCI on MDHA's NPZ Promise Zones and Opportunity Zones

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

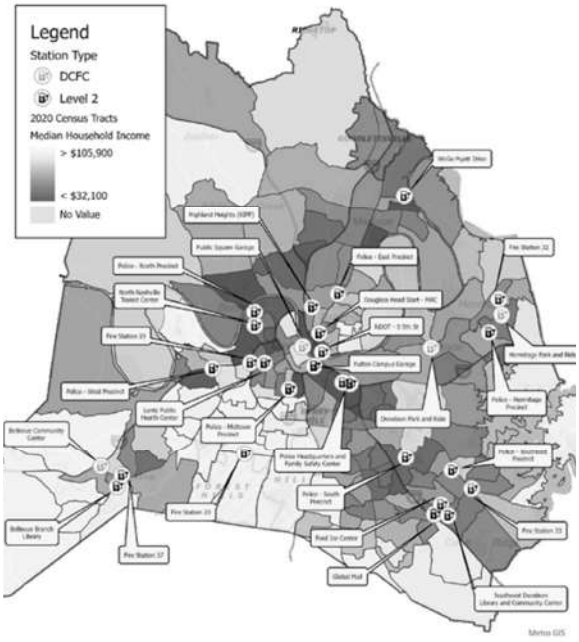


Figure 3-3: Electrify MUSIC City EVCI on Median Household Income by Census Tracts

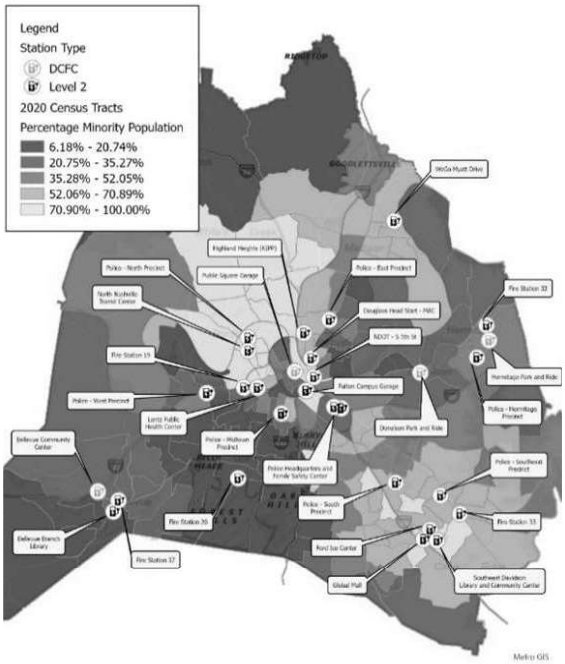


Figure 3-4: Electrify MUSIC City EVCI on Minority Population by Census Tract

The U.S. DOT defines a Transportation Disadvantaged Census Tract if it exceeds the 50th percentile (75th for resilience) in at least four of the following six transportation disadvantage indicators: Transportation access disadvantage, Health disadvantage, Environmental disadvantage, Economic disadvantage, Resilience disadvantage, Equity disadvantage. The equity analysis showed that 40% (29) of the EVCI chargers under the Electrify MUSIC City Project are located within Transportation Disadvantaged Census Tracts, and an additional 30 chargers are located within 1 mile of a Transportation Disadvantaged Census Tract.

The CEJST was used to identify DACs falling under the Justice40 Initiative. The Council on Environmental Quality (CEQ) was ordered to develop the CEJST after the issuance of Executive Order 14008. The tool has an interactive map and uses datasets that are indicators of community burdens in eight categories: climate change, energy, health, housing, legacy pollution, transportation, water and wastewater, and workforce development.

Figure 3-1 is a map of Nashville's Transportation Disadvantaged Census Tracts and the Justice40 CEJST DACs overlaid by the proposed project locations.

The NPZ comprises 46-square miles, including the neighborhoods just south, east, and north of Nashville's central business district (9.67% of Metropolitan Nashville, Davidson County). The NPZ represents a quarter of the County's overall violent crimes, including nearly half of its homicides and a third of its robberies. The Promise Zone's lead organization, the MDHA, has public housing developments throughout the NPZ. In several of these developments, more than half of households report zero income, and overall the NPZ reports a poverty rate of 37.61%. NPZ residents face low post-secondary education levels and road congestion that make upward mobility, affordable housing and employment more difficult to obtain. Investing EVCI in NPZ promise zones furthers the mission of minimizing transportation related disparities in underserved and low-income communities.

Similarly, an Opportunity Zone is a designated area that is identified as being economically distressed and in need of investment. These zones experience hardships disproportionately higher than the national average, including:

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

1. Life expectancy 3 years shorter than the national average.
2. Family income 37% lower than the state median.
3. Homeownership rates 15% lower than the national average.
4. Unemployment rates 1.6 times higher than the national average.

Opportunity Zones were established to encourage private investment in low-income communities by providing tax incentives to invest in these areas. The goal of the Opportunity Zone program is to stimulate economic growth, create jobs, and revitalize distressed communities by attracting new investment capital. To be eligible for the program, the area must meet certain economic criteria, such as a poverty rate of at least 20% or a median family income below 80% of the area's median income.

Figure 3-2 provides a map of MDHA's NPZ Promise Zones and Opportunity Zones overlaid by proposed EVCI locations.

The ranges for low- and moderate-income neighborhoods were set to 50% of the area median income (AMI) for low income households, and between 50% and 80% AMI for moderate income neighborhoods. With Nashville's median household income of $65,565, the threshold income for low-income neighborhoods was up to $32,782, and up to $52,452 for medium-income neighborhoods. Figure 3-3 provides a map of median household income by census tracts overlaid by proposed EVCI locations.

According to U.S. Census Bureau QuickFacts: Nashville-Davidson Metropolitan government (balance), Tennessee' 2022 estimate, 40% of Nashville's population is considered a racial minority. For the purposes of this application, any charging station in the Electrify MUSIC City Project is considered to be in an area with higher populations of minorities if the community's racial minority population is 41% or more. Figure 3-4 shows the distribution of EVCI locations regarding percentage minority population per census tract.

The results of the equity analysis showed:

Underserved Community Designation	Located Directly Within		Located Within a 1-mile Radius	
	Number of Chargers	Percent of all Chargers	Number of Chargers	Percent of all Chargers
Transportation Disadvantaged Census Tracts	29	40%	30	41%
Justice40 CEJST DACs	28	38%	22	30%
MDHA's Nashville Promise Zones	25	34%	13	18%
Opportunity Zones	26	36%	21	29%
Low and Moderate Household Income Census Tracts	37	51%		
High Minority Population Census Tracts	40	55%		
At least one underserved community	46	63%		

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

Adding or expanding EV-charging stations directly in or near underserved communities removes transportation related disparities by ensuring convenient and affordable access to EVCI. Furthermore, installing EVCI in disadvantaged communities brings several direct benefits to the members of those communities, even if they do not own an electric vehicle themselves in terms of environmental sustainability, economic opportunities, technological access, and overall community development.

1. Installing EVCI in disadvantaged and underserved communities promotes overall EV adoption, thereby reducing local air pollution and improving air quality. This benefit directly contributes to the overall well-being and health of community members.

2. EVCI in disadvantaged communities provides an opportunity to build awareness about sustainable transportation options in community members. This knowledge can empower disadvantaged and underserved community members to make informed decisions about future vehicle purchases, energy consumption, and environmental impact.

3. Installing EVCI in disadvantaged and underserved communities can create job opportunities within these communities. Residents can be trained and employed in good paying roles related to the installation, maintenance, and operation of charging infrastructure, which in-turn can contribute to the economic growth and stability of the community.

4. While EV use and ownership rates may be lower in underserved communities today, as the adoption of EVs continues to increase and price continues to decrease, having EVCI in place prepares disadvantaged communities for the future by ensuring the necessary infrastructure is available when residents do transition to electric vehicles, reducing barriers to entry and enabling a smoother transition to electric transportation.

Qualification (2) The project will include meaningful public engagement throughout a project's life cycle and to the extent possible, projects that target at least 40 percent of benefits towards low-income communities, disadvantaged communities, communities underserved by affordable transportation, or overburdened communities.

With 46 of 73 chargers (in which the location has been determined) in the Electrify MUSIC City Project located in at least one underserved community (Transportation Disadvantaged Census Tracts, Justice40 DACs, MDHA's Nashville Promise Zones, Opportunity Zones, low- and moderate-income areas, or areas with high populations of minorities), these considerations demonstrate that at least 63% of the project targets benefits towards low-income communities, disadvantaged communities, communities underserved by affordable transportation, or overburdened communities in terms of proximity and accessibility to EVCI- well exceeding the required 40% by Justice40.

To ensure the ongoing achievement of Justice40 goals beyond the project's implementation, Metro is committed to actively monitoring the usage data of each charger location to ensure EVCI chargers in disadvantaged and underserved communities represent at least 40% of the overall site usage. If usage rates in these areas are found to be low, Metro will take intentional steps to boost engagement and usage at EVCI locations in disadvantaged or underserved communities. To increase usage rates and promote equity in electric vehicle charging accessibility, Metro will hold targeted public outreach and engagement initiatives, which will focus on raising awareness, educating community members, and addressing any potential barriers or misconceptions surrounding EVCI and clean transportation. Furthermore, Metro may also reduce charging rates to make it more affordable for residents of disadvantaged communities as well as attract usage in disadvantaged communities promoting the economy in these areas. In addition, Metro will consider providing vouchers for free charging sessions that can serve as an effective strategy to remove financial barriers and promote usage of EVCI among underserved community members.

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

Equity By Design

Equity By Design is an explicit equity lens on infrastructure that was developed in Metro's Transportation Plan. Using Equity By Design, Metro is sharpening their aim toward a performance-driven transportation system that is efficient, effective, and accountable in planning, design, and implementation. This tool questions how a project meets certain equitable criteria concerning accessibility, connectivity, populations of varying age, safety, outreach, and environmental/sustainability throughout project design and implementation. This tool is intended to be broad, comprehensive, and open ended so that the design of each project will fully describe how that metric is being met. Metro's Equity By Design tool further demonstrates how Metro prioritizes equity and inclusion in all areas of work, including the Electrify Music City Project.

Meaningful Public Engagement

Throughout the project's life cycle, Metro has and will continue to lean on procedural equity measures to include meaningful public engagement. Procedural equity in transportation planning involves identifying and engaging communities that are most burdened by an unbalanced transportation system. These frontline communities, who have historically been underinvested in and most affected, should have decision-making power regarding transportation planning. To advance procedural equity, potential steps include forming advisory committees, using the equity-by-design screening tool, defining equity metrics and objectives, and conducting community engagement with a focus on underserved or vulnerable communities.

The Tennessee Department of Transportation's (TDOT's) Environmental Mitigation Office, in conjunction with the Tennessee Department of Environment and Conservation (TDEC), have held several public engagement listening sessions as part of the NEVI program and their 2021 Climate Change Mitigation Action Plan, which Metro will use to help guide the preliminary plans of the project. One of these items included a Climate Action Plan Survey, which allowed respondents to share their priorities on key sustainability categories. The results of this survey indicate that installing more electric vehicle chargers is the public's No. 1 preferred action to mitigate GHG emissions from the transportation sector. The survey showed that the people of Nashville are eager for EVs and support taking necessary actions to promote electric transportation adoption throughout the city.

Moving forward, Metro plans to hold additional public engagement events and outreach efforts to gain more targeted feedback about the charging stations under the Electrify MUSIC City Project. For example, regarding the five proposed on-street residential chargers that have not yet been assigned a specific location, Metro plans to develop an interactive GIS map on which the public would be able to pinpoint where they see an increased need for charging infrastructure. This idea could be implemented at in-person public engagement sessions and be embedded into an online platform to broaden public feedback. By utilizing a GIS map, individuals attending public engagement sessions could physically mark locations on the map where they believe charging infrastructure should be prioritized. Alternatively, the online platform would ensure that a wider range of voices can contribute to the process by allowing people to provide feedback remotely and conveniently.

In all public engagement efforts, Metro intends to take specific measures to ensure low-income communities, disadvantaged communities, communities underserved by affordable transportation, or overburdened communities are actively engaged in these outreach discussions. Such measures include developing a short "fact sheet" summarizing key information of the project to be used in public engagement activities and to provide to stakeholders to get support from community leaders. Metro will use DOT's Promising Practices for Meaningful Public Involvement in Transportation Decision-Making Report to help guide their outreach and public involvement efforts. Metro plans to take necessary steps to ensure participation from members of DACs and Nashville's most prominent equity experts and advocacy groups, including: IMF, One Nashville, NOAH,

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

Music City Riders United, The Equity Alliance, the Mayor's Youth Council / WeGo Youth Council, Nashville Rising, MDHA, Metro Social Services, and members of the Latino, Kurdish, Muslim, and African immigrant communities.

Additionally, Metro has and will continue to take intentional steps to ensure the project is consistent with EO 13985, Advancing Racial Equity and Support for Underserved Communities Through the Federal Government (86 FR 7009), (1) prioritizing DBE/MWBE involvement efforts throughout the procurement process and (2) by upgrading or installing 40 chargers (55%) across 19 locations in areas with higher populations of minorities.

Qualification (3) The project increases affordable transportation options, improves safety, connects Americans to good-paying jobs, fights climate change, and improves access to resources and quality of life.

One of Metro's most outstanding achievements in their **affordable transportation** efforts thus far has been offering EV chargers at no cost to the public since 2017. Although they intend to switch to paid chargers in the future, Metro will continue to prioritize this pattern of unprecedentedly affordable, sustainable transportation by ensuring very low costs for EV chargers under this project. Metro plans to explore various approaches to make the use of the EV-charging network affordable, including availability of charging vouchers for qualified users, offering the first 30 to 60 minutes as free charging, and more. If implemented, introducing vouchers as an alternative to credit cards or contactless payment methods allows individuals who are unbanked or underbanked to conveniently utilize the chargers without relying on traditional banking services. This approach would broaden the inclusivity of the charging network and ensure that individuals from all socio-economic backgrounds can benefit from the Electrify MUSIC City Project. These measures would aim to enhance accessibility to affordable and environmentally friendly transportation options for diverse populations, particularly those in historically neglected areas, communities with significant energy burdens, and areas of persistent poverty.

Metro is committed to **improving safety for all users** in the proposed EV-charging infrastructure network. Safety considerations include an analysis of each EVCI site, as well as strategies to promote physical security and cybersecurity, management approaches, and traffic alleviation. To promote public safety, most of the EV chargers are located at or near publicly acclaimed safe sites where users can feel confident that they will not be exposed to discrimination, harassment, or any other emotional or physical harm. Cybersecurity strategies include data encryption, user identity and access management, cryptographic agility, customer data privacy, and incident prevention and handling. Management and operations approaches include charging access policy, registration and reservation systems, station sharing, time-limit pricing, and enforcement through on-site security. Physical security strategies include luminous site lighting, surveillance cameras, emergency call boxes, and charger locks. Traffic alleviation strategies include placing EV-charging locations on transit center signage, implementing a comprehensive charging station management system, and carefully evaluating the impact of the charging stations on traffic patterns. EVCI design will consider all recommended federal, state, and local design requirements to promote safety through design. More information about the project's safety considerations can be found in Merit Criterion #1 of the Merit Criteria Document.

Additionally, the project **connects Americans to good paying jobs** by contracting with private agencies for the operation and maintenance of the new charging stations. Facilitating the implementation of EVCI throughout Nashville will help create a community of highly trained workers to perform operation and maintenance tasks, thereby creating good paying job opportunities. Metro plans to boost and support these jobs in the EV-industry by engaging with local universities and community colleges to encourage EV-related skills and learning, providing good benefits packages to workers to increase employee retention and reduce turnover, and strategizing ways to improve EV-related workforce development and wealth creation. More information about connecting Americans to good-paying jobs can be found in Merit Criterion #4 of the Merit Criteria Document.

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

The project reflects Metro's long-standing goal of **combatting climate change** by promoting adoption of electric-powered transportation options, which will significantly reduce the city's GHG emissions. Additionally, Metro has identified DACs in Nashville, which have historically suffered from environmental pollution and limited resources. These DACs are more vulnerable to the negative impacts of climate change and pollution, such as respiratory problems, heart disease, extreme weather events, and long-term health and economic impacts. These communities often have less political power to demand changes and adapt to the impacts of climate change and pollution. The city aims to address these issues through this Nashville charging infrastructure project through the installation or renovation of 28 EVCI chargers in DACs, which aims to decrease local CO2 emissions and encourage public transport use

Installing EVCI in various locations throughout the city, including disadvantaged communities, can have several benefits that **improve access to resources and quality of life** for all members of Nashville. Some of these benefits include:

- **Increased access to transportation:** Electric vehicles are becoming increasingly popular due to their environmental benefits and lower operating costs. By installing widespread charging infrastructure, it becomes easier for people to own and use electric vehicles. This can provide people with more reliable and affordable transportation options, which can improve access to jobs, healthcare, education, and other resources.
- **Improved air quality:** Electric vehicles emit fewer pollutants and greenhouse gases than traditional gas-powered vehicles. By encouraging the use of electric vehicles, the project can help reduce air pollution and mitigate the effects of climate change. This can lead to improved health outcomes and a cleaner environment for everyone in the city, but especially those in disadvantaged communities who may be more susceptible to the negative impacts of climate change and pollution, such as respiratory problems, heart disease, extreme weather events, and long-term health and economic impacts.
- **Economic benefits:** The project can help support local businesses and create job opportunities in the installation and maintenance of the charging infrastructure. Additionally, electric vehicles are often cheaper to operate and maintain than gas-powered vehicles, which can save individuals and families money in the long run. EV chargers are also considered an attractive amenity, which can increase property values, and attract new businesses and investment to the area.
- **Community empowerment:** By focusing on distributing the EVCI equitably, the project can help reduce disparities in access to resources and transportation options among low-income neighborhoods and other underserved communities. This can improve the overall quality of life for all members of the city by promoting greater social equity and inclusion.

Qualification (4) The project enables all people within the multimodal transportation networks to reach their desired destination safely, affordably, and with a comparable level of efficiency and ease.

The Metro Nashville Transportation Plan December 2020 describes the city's goal of creating a "transportation menu" for neighborhoods around Nashville with the idea that every person should have multiple mobility options available and accessible. The Electrify MUSIC City Project supports this idea as it integrates EVCI with other modes of transportation (including more affordable and accessible options). By placing charging infrastructure at key locations such as public transportation hubs and park-and-ride locations, the project encourages people to use a combination of electric vehicles, public transit, and other transportation options to reach their destination **safely, affordably, and with a comparable level of efficiency and ease**.

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

By increasing access to Nashville's multimodal network, the project supports the Mayor's Sustainability Advisory Committee's recommended goals of reducing Nashville's drive-alone rate from 79% to 70% by 2025, to 54% by 2035, and to 40% by 2050. Simultaneously, Metro aims to increase their EV adoption rate from 3% to 10% by 2025, to 20% by 2035, and up to 40% by 2050. (Metro Nashville Mayor's Office Transportation Plan December 2020). This will encourage commuters to use EVs with other modes of transportation for their daily commutes, reducing emissions and traffic congestion. These efforts specifically target the projects' benefits towards members of Nashville communities underserved by affordable transportation options, while also promoting participation in cleaner forms of transportation such as park-and-ride facilities and public transportation.

Qualification (5) The project addresses as applicable, the unique challenges rural and Tribal communities face related to mobility and economic development, including isolation, transportation cost burden, and traffic safety (consistent with DOT's Rural Opportunities to Use Transportation for Economic Success (ROUTES) initiative) if geographically relevant to the project or indicate that this is not relevant.

Because Nashville is considered an Urbanized Area (as seen in Figure 3-5), addressing transportation challenges for rural and tribal communities is not geographically relevant to this project. However, the proposed DCFC at the Bellevue Community Center and Level 2 chargers at the Bellevue Branch Library along I-40 and the Level 2 chargers at the Global Mall, Ford Ice Center, and Southeast Davidson Library and Community Center along I-24 can help connect members of surrounding rural areas to urbanized Nashville by providing access to EVCI near main access routes in and out of the city.

Qualification (6) The project incorporates and supports integrated land use, economic development and transportation planning to improve the movement of people and goods and local fiscal health, facilitates greater public and private investments and strategies in land-use productivity, including rural main street revitalization or increase in the production or preservation of location-efficient housing.

The proposed EV chargers at the future Global Mall exemplifies how the EVCI locations are incorporated into mixed-use developments that combine government offices, businesses, retail, and residential elements in a single area complex. This approach can provide convenient access to EV charging for residents, employees, and customers, and it can reduce the need for separate parking lots or garages for different uses. Additionally, the project proposes adding or expanding EV chargers into public amenities, such as parks, community centers, libraries, public parking lots, and public parking garages, further removing transportation related disparities in the area by providing equal access to all. This approach can encourage people to spend time in these areas and promote social interaction and community engagement, contributing to the goal of incorporating and supporting **integrated land use**.

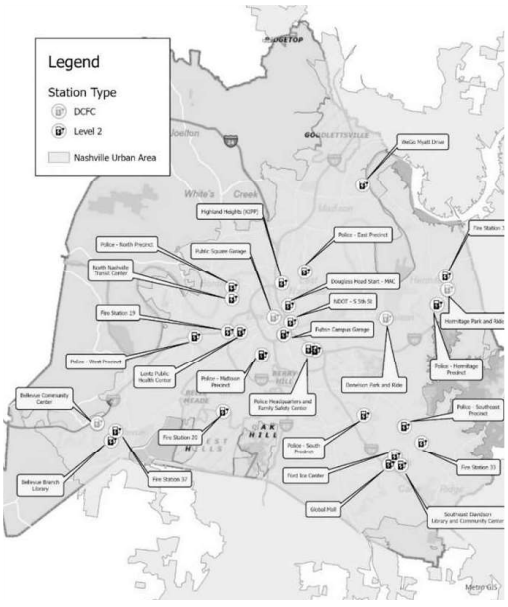


Figure 3-5: Electrify MUSIC City EVCI on Urbanized Areas

By supporting strategies in land-use productivity, these charging stations can help **facilitate the movement of people and goods throughout the Metropolitan area**. Installing EV-charging stations can encourage more people to use efficient, electric modes of

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

transportation such as e-bikes and scooters and public transit. This can reduce the number of gasoline-powered vehicles on the road, which can help reduce traffic congestion, delay, and improve air quality. In turn, this can help facilitate the movement of people and goods throughout the Metropolitan area promoting **local fiscal health**.

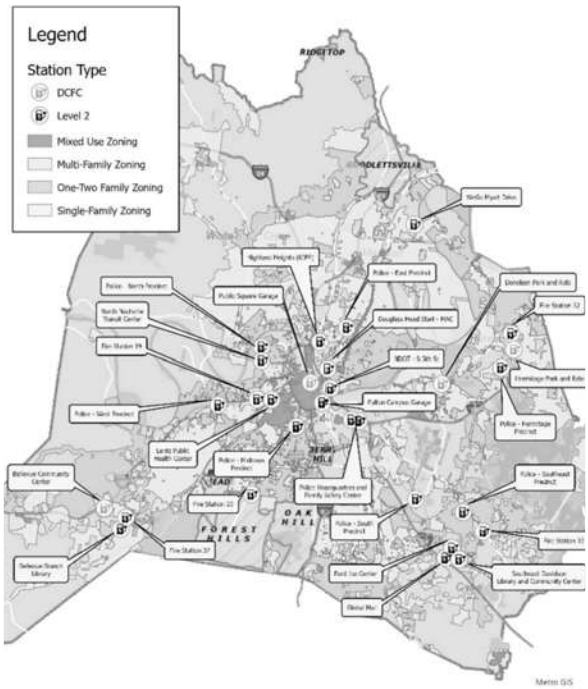
WeGo Public Transit

These charging stations can also **support economic development** by attracting more businesses and investments to the area. As electrified transportation becomes increasingly popular, having accessible chargers can be seen as an attractive amenity for businesses and their employees. Additionally, supporting the transition to electric transportation helps improve local fiscal health and improve financial resiliency, as it can reduce the dependence on fossil fuels and their associated costs which can vary greatly with changing global political factors.

Furthermore, the projects would **create opportunities for public-private partnerships** by Metro facilitating competition between private companies for supplying and operating and maintaining EVCI infrastructure, leveraging the strengths of both sectors to maximize the benefits for the community.

The project facilitates **greater public and private investments and strategies in land-use productivity such as the production or preservation of location efficient housing** by prioritizing the installation of EV-charging stations in areas that are accessible and convenient for residents of multi-unit dwellings. According to the US Census Bureau's 2021 American Community Survey, more than a third (about 39%) of occupied houses in the Nashville-Davidson Metropolitan government area are multi-unit dwellings, compared to the national average of 26%. (B25024 - Census Bureau Tables). A JD Power's study (EV Charging Is Still a Huge Problem for Renters (jalopnik.com)) shows that renters and people living in apartments/condos are the main demographics that face hurdles to proper charging. The study shows that homeowners are more likely to consider switching to an EV due to affordability and charger access. Renters that could afford the cost of installing an at-home charging system run into issues because they do not own the land/property on which their charger would be installed. With Nashville's homeownership rate 14.3% less than the statewide average, this project aims to remove those roadblocks for renters who want to make the switch to electric vehicles. Metro has budgeted for five chargers to be on-street parking, increasing access to EV owners renting at condos or apartment complexes without personal driveways or garages. The location of these five on-street chargers will be determined once Metro presents to and receives approval from the Traffic and Parking Commission, which would take place after receiving grant funds. An additional 29 public chargers are located within "mixed use" and "multi-family" residential zones (representing location-efficient housing units) at nearby facilities such as community centers or public parking lots, as shown in Figure 3-6. This will allow EV-owning residents of multi-unit housing sites to charge their vehicles while parked on the street, an attractive amenity that will encourage and preserve location efficient housing and multi-unit housing as a convenient and desirable option.

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96



These benefits to residents of multi-unit dwellings and location efficient housing options simultaneously benefit lower income populations, as the national median income of renters is about $30,000 less than homeowners, according to the US Census Bureau's 2021 American Housing Survey. American Housing Survey (AHS) - AHS Table Creator (census.gov). Similarly, the survey shows that 22.5% of renters are considered impoverished, whereas only 9% of homeowners are at or below the poverty line. To this end, Metro proposed 34 of the 73 chargers to be located within 1 mile of an MDHA affordable housing property, further supporting transportation-related investments in lower-income communities and improving overall quality of life.

Figure 3-6: Electrify MUSIC City EVCI on Residential Zoning Areas

Merit Criterion #4 – Workforce Development, Job Quality,and Wealth Creation:

Metro plans to develop a strategy that will help boost workforce development, job quality, and wealth creation based on career awareness, employment success support, quality careers and workplaces, and procurement requirements. The project meets all qualifiers under criterion #4 for Workforce Development, Job Quality, and Wealth Creation in the following ways:

Qualification (1) The Project will create good-paying jobs with free and fair choice to join a union and expand strong labor standards including, but not limited to the use of project labor agreements.

Metro promotes **good-paying jobs with free and fair choice to join a union and expand strong labor standards** as shown in their labor policy below:

Chapter 3.56 Metro Charter - Labor Policy

3.56.010 - Right of employees to organize - Collective bargaining

Employees of Metropolitan government shall have, and be protected in the exercise of, the right, freely and without fear of penalty or reprisal, to form, join and assist any employee organization, or to refrain from belonging, and to bargain collectively through representatives of their own choosing on questions of wages, hours, retirement benefits and all other terms and conditions of employment for the purpose of representation free from actual interference, restraint or coercion.

Currently, Metro has three **labor unions**: The Fire Union (Fire Department), Fraternal Order of Police (Metro Nashville Police Department), and the Service Employee International Union (SEIU) for other employees.

Metro is also aware of the US job market trend with young entrepreneurship on the rise or expected to continue rising and youth generally less interested in skilled trade occupations. Entrepreneurship creates **good-paying**

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

jobs, raises competition, and increases innovation. Metro plans to engage with universities and community colleges to connect workers and explain how establishing themselves as experts, learning new skills to boost their skillset and expertise, and developing their entrepreneurship and leadership skills in the EV growing business can help them acquire better-paying jobs. NDOT has established a Handshake Account in coordination with Metro's Human Resources (HR) department, which will target colleges and universities nationwide, aiming to connect with potential candidates from all backgrounds.

Metro went through the exercise of listing some of the EV-related industries and occupations that may be impacted by widespread implementation of EVCI using the departmental job classification and compensation plan "Alpha Comp Plan March 10, 2023", as listed below. These industries may require specific action to adapt to emerging EV industry, which in turn may create specialized job opportunities for new EVCI services.

1. Utilities
2. Repair and Maintenance
3. Educational Services (Vocational Training)
4. Specialty Trade Contractors
5. Motor Vehicle and Parts Dealers
6. Electrical Equipment, Appliance, and Component Manufacturing
7. Transportation Equipment Manufacturing
8. Warehousing and Storage
9. Software Publishers
10. Administrative and Support Services
11. Securities, Commodities Contracts and Other Financial Instruments
12. Insurance Carriers and Related Activities
13. Vocational Rehabilitation
14. Merchant Wholesalers, Durable Goods
15. Professional, Scientific and Technical Services
16. Management of Companies and Enterprises

Qualification (2) The project promotes investments in high quality workforce development programs with supportive services to help train, place, and retain people in good-paying jobs or registered apprenticeship, with a focus on women, people of color, and others that are underrepresented in infrastructure jobs.

Metro has a **workforce development program** for the purpose of providing job training and recruitment to Nashville residents for construction projects for which any publicly financed economic development incentives have been provided by the Metropolitan government. This includes but is not limited to incentives in the form of tax increment financing (TIF, payments-in-lieu-of-tax (PILOT) agreements, participation agreements, and economic and community development incentives authorized by Metro Code Chapter 2.210.

Metro also plans to follow all current and future established local, state, and federal regulations regarding training, licenses, certifications, experience level, and **diversity of the workforce used** to install and maintain EV-charging infrastructure. Metro will conduct these efforts **with a focus on women, people of color, and others that are underrepresented in infrastructure jobs**. Training includes but is not limited to Electric Vehicle Infrastructure Training Program (EVITP) to upskill current workforce, customized training for EVCI companies

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

and **apprenticeship opportunities**.

Metro also promotes entry and retention through the POWER Youth Summer Employment Initiative, which provides career exploration and work experience activities for youth 14 to 24 years old, who are also underrepresented in infrastructure jobs. This initiative is executed through high school internships, direct hire or other external postings and experience work programs.

Regarding Metro's university and community college outreach efforts, as discussed in Qualification 1 above, Metro will work with the appropriate state agencies to develop training programs to respond to these work opportunities for potential candidates from all backgrounds.

See Qualification 3, below, for details on Metro's/NDOT's strategies for recruiting and hiring underrepresented groups.

Finally, Metro plans to set requirements on workforce development, job quality, and wealth creations to be followed by vendors and subcontractors for planning, design, installation, operation and maintenance of the EV chargers.

Qualification (3) The project utilizes hiring policies and provide a workplace culture to promote the entry and retention of underrepresented populations.

To promote the entry and retention of underrepresented populations and minorities, Metro/NDOT recognizes the growing expectations workers have for their employers and have implemented comprehensive strategies and policies to meet these expectations. This includes enhancing benefits packages offered by Metro/NDOT to workers, ultimately aiming to increase employee retention and reduce turnover. Additionally, they have taken the following steps to create an inclusive workplace culture:

1. Metro/NDOT acknowledges that access to transportation, affordable and reliable childcare, as well as the rising costs of housing and living, can be significant barriers for underrepresented populations and minorities. To address these challenges, Metro is actively working to provide support in these areas and supplement employees' needs with specialized programs and benefits packages wherever possible. This may include initiatives such as transportation assistance programs, strategies to address housing affordability, increasing employee wages—especially for lower paid workers and implementing Paid Family Leave and offering medical coverage for an employee's partner.

2. Metro/NDOT has implemented hiring policies that prioritize diversity, equity, and inclusion. This includes actively seeking underrepresented populations and minorities during the recruitment and hiring processes. By fostering a diverse and inclusive workforce, Metro aims to create an environment that values and embraces different perspectives and experiences. To further bolster this initiative, Metro has hired a Chief Diversity Equity & Inclusion Officer with the central Human Resources department. The Chief DEIO is responsible for the development and implementation of results-focused policies and strategies for Metro.

3. Metro/NDOT encourages the formation of employee resource groups (ERGs) that represent various underrepresented populations and minorities. These ERGs provide a platform for employees to connect, share experiences, and work on initiatives that promote diversity and inclusion. Metro/NDOT supports these groups to ensure their voices are heard and their contributions are recognized, with the goal of **promoting the entry and retention of underrepresented populations**.

4. Metro/NDOT regularly holds diversity and inclusion training in an effort to increase awareness and understanding of equity in the workplace. These include workshops, seminars, and cultural competency training to promote a respectful and inclusive work environment. Diversity classes are mandatory for all Metro employees.

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

Additionally, NDOT, in partnership with Metro, has developed the following inclusive and innovative organizational policies to provide a culture that serves the Nashville community efficiently and effectively:

1. In order to attract and retain qualified engineering candidates, NDOT has partnered with Metro's HR Department and Legal Department to initiate a visa sponsorship program for candidates from foreign backgrounds.

2. NDOT has actively participated in eight job fairs across Nashville and one at Fort Campbell to establish relationships with military personnel transitioning from service. This effort aims to encourage them to consider NDOT as an employer.

3. NDOT is actively engaged in the Group Violence Intervention initiative led by the Mayor's Office. As part of this initiative, NDOT provides job opportunities for individuals interested in making positive lifestyle changes and pursuing a career with Metro. Furthermore, NDOT has offered employment opportunities to applicants who may have negative results on their criminal background reports, considering factors such as the nature of the offense and the length of time since the infraction.

Also, when implementing this project NDOT will require that any entities responding to request for proposals include information regarding hiring policies and workplace culture that promotes the entry and retention of underrepresented populations.

Qualification (4) The project promotes local inclusive economic development and entrepreneurship such as the utilization of Disadvantaged Business Enterprises, Minority-owned Businesses, Women-owned Businesses, or 8(a) firms

In regard to Metro's **intentions for Disadvantage Business Enterprise (DBE) participation and engagement**, Metro places a top priority on creating opportunities for Minority and Women-Owned Business Enterprise (MWBE) inclusion efforts. Through procurement regulation changes that are underway, Nashville is implementing a race and gender-neutral program that establishes a contract threshold, under which certain contracts become eligible by designation to only be bid on by small business in accordance with SBA guidelines. The program will also provide more time for prime contractors and subcontractors to plan for and prepare timely bids. This is to increase the ability for firms to form joint ventures or teaming arrangements and to obtain any needed support services. Metro is developing an enhanced communications plan for how it will better assist the MWBE business community in understanding its programs, implementations, and how to prepare for future procurement opportunities. Metro's target goals depend on the size of the project and availability businesses willing to bid on projects. For this project, Metro will set a **target goal of at least 15 percent MWBE target**.

Merit Criterion #5: CFI Program Vision

Qualification (1) The project will equitably expand the deployment of public EV charging infrastructure in publicly accessible locations for use by the community, including but not limited to local businesses; retail centers; municipal and local community sites; intermodal transportation facilities, parking facilities, multimodal hubs, multiunit dwellings, workplaces, commercial districts, tourism destinations and cultural sites; public parks and recreational destinations, and other frequented site host locations in the local community.

It is Metro's overall vision to provide a multimodal system that offers travel choices and better connects neighborhoods, residents, and businesses to the places where they need to go in a safe manner. As such, Metro recognizes it is imperative to establish a publicly accessible, reliable, and consistent EVCI network that connects

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

the entire community and to provide an **equitable expansion** of EV-charging infrastructure for use by the entire Nashville community.

The publicly accessible sites proposed as part of the Electrify MUSIC City project include community centers, park-and-ride facilities, multimodal hubs, parking garages and other locations throughout the Metropolitan area. Figure 5-1, depicts some of the community points of interest and the vicinity to the proposed charger locations. Additionally, Table 5-1 breaks down the different types of locations where charging stations are proposed. Stations shown in green are located within a Justice40 disadvantaged community.

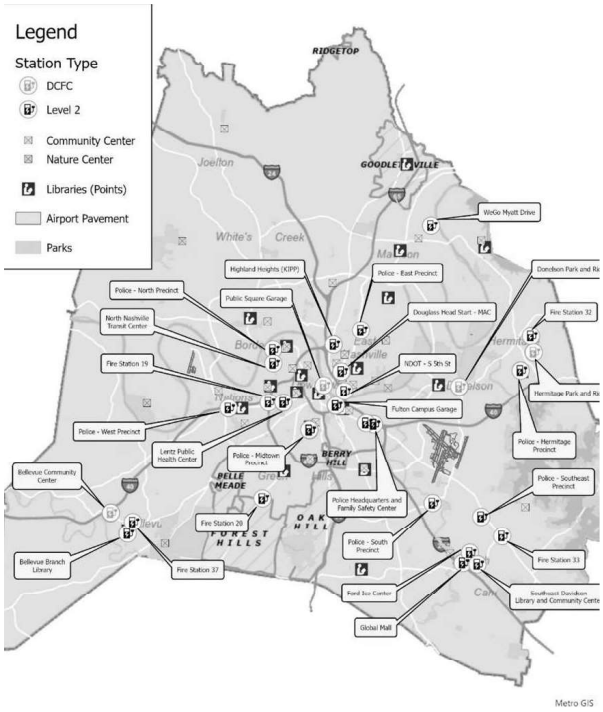


Figure 5-1: Electrify MUSIC City EVCI on Map of Community Points of Interest

Table 5-1: Publicly Accessible EV-Charging Stations

Location Type	Locations
Local Businesses	Global Mall Parking - Public Square Garage
Retail Centers	Global Mall Parking - Public Square Garage
Municipal and Local Community Sites	Bellevue Branch Library Bellevue Community Center Family Safety Center Lentz Public Health Center Southeast Davidson Library & Community Center Global Mall
Intermodal Transportation Facilities	North Nashville Transit Center

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

Parking Facilities	Parking - Fulton Campus Garage Parking - Public Square Garage
Multi-modal Hubs	Donelson Park and Ride Hermitage Park and Ride
Multiunit Dwellings	5 on-street charging stations (at least 2 of 5 to be located in DACs)
Workplaces	Global Mall
Commercial Districts	Global Mall Parking - Public Square Garage
Public Parks and Recreational Destinations	Ford Ice Center - Antioch
Public Schools	Douglass Head Start – MAC Highland Heights (KIPP)
Public Service Sites	Family Safety Center Lentz Public Health Center Fire Station 19 Fire Station 20 Fire Station 32 Fire Station 33 Fire Station 37 NDOT-750 S. Police - East Precinct Police - Headquarters Police - Hermitage Precinct Police - Midtown Hills Precinct Police - North Precinct Police - South Precinct Police - Southeast Precinct Police - West Precinct WeGo Myatt Drive

These publicly accessible sites are frequently visited destinations as evidenced in Table 5-2, which presents the usage rates at the various facilities that are existing and are included in this project.

Table 5-2: Facility Usage Rates

Location	Number of Uses 4/22 - 4/23	Total Energy (kWh)	Energy Use per Work Day
Family Safety Center	172	2,755	11.1
Bellevue Ice & Community Center	3,083	33,644	135.1

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

Bellevue Branch Library	514	7,837	31.5
Douglass Head Start	286	5,617	22.6
Fulton Campus Parking Garage	2,844	28,741	115.4
Public Square Garage	1,363	17,969	72.2
Lentz Public Health Center	1,265	12,657	50.8
Midtown Hills Police Precinct	298	6,175	24.8
Fire Station #19	277	5,708	22.9
Fire Station #20	170	5,030	20.2
Fire Station #32	206	4,527	18.2
Fire Station #33	185	1,489	6.0
Fire Station #37	317	7,370	29.6
Southeast Davidson Library and Community Center	1,643	16,085	64.6
MNPD Headquarters	419	3,953	15.9
West Police Precinct	337	5,955	23.9

With 46 of 73 chargers (in which the location has been determined) in the Electrify MUSIC City Project located in at least one underserved community (Transportation Disadvantaged Census Tracts, Justice40 DACs, MDHA's Nashville Promise Zones, or Opportunity Zones), these considerations demonstrate that at least 63% of the sites target benefits towards low-income communities, disadvantaged communities, communities underserved by affordable transportation, or overburdened communities in terms of proximity and accessibility to EVCI. Based on the usage rates at these sites shown in the prior table, it is further evidenced that sites are actively being used and are benefiting these underserved communities.

In addition, the Electrify MUSIC City Project includes sites intended to serve multi-unit dwellings. Metro will propose five on-street charging locations at location-efficient housing units and multi-unit dwellings without personal driveways or garages, allow EV-owning residents of multi-unit housing sites to charge their vehicles while parked on the street. These locations will be determined once Metro presents to and receives approval from the Traffic and Parking Commission, which would take place after receiving grant funds. However, Metro will ensure at least two of these locations will be within disadvantaged communities, low- and moderate-income neighborhoods, and/or underserved or hard to reach communities. An additional 29 public chargers are located within location-efficient housing unit zones, such as nearby streets or at public parking lots, further supplementing residents' access to public EVCI (Figure 3-6).

Metro recognizes the importance of providing a balance of charging options to meet the needs of different types of EV drivers in terms of power level. After reviewing the existing charging and fueling infrastructure, assessing electric charging demands/needs, and coordinating with other local and state EVCI programs, Metro has determined the most appropriate mix of Level 2 and DCFC chargers at each proposed location and will mirror these considerations when selecting the five on-street charging locations for multi-unit dwellings to equitably expand the public EV-charging infrastructure.

Qualification (2) The project will address one of the following focus areas in Section D.2.i.: (1) connect or promote multi-modal hubs and shared-use fleets and services; (2) provide convenient, affordable access to charging and alternative fuel infrastructure to offer urban/suburban area charging and fueling solutions; (3) support multi-purpose use

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

to offer rural are charging and fueling solutions; OR (4) enable electrification or alternative fuel use for fleet vehicles that serve and operate in the community

In conjunction with serving the disadvantaged community through providing a wide range of site types, the project is also intended to serve the overall Nashville transportation network and meets Qualification 2 by focusing **on connecting and promoting multi-modal hubs and enabling electrification for fleet vehicles serving and operating in the community**.

Metro plans to share the proposed new transformer at the Fulton Garage site with their fleet vehicles, furthering electrification efforts in and around Nashville, while also future proofing this location. The large transformer will supply both the requested public-facing Level 2 and DCFC as well as fleet EVSE being installed inside the garage at this location.

Beyond servicing the local community fleet vehicles, the project also has several sites supporting multi-modal hubs as shown in Appendix B: Electrify MUSIC City EVCI on Nashville Public Transit MAP. All stations are within walking distance (1 mile) from public transit stops, and 27 out of 73 are withing walking distance of public bike-share amenities. The Global Mall, for example, is intended to serve as a multi-use facility that includes government offices, businesses, retail, and residential elements. Located directly off I-24, the Metro-mall will incorporate tie-ins to public transit along with park-and-ride lots for commuters to utilize. The Master Plan for the Global Mall itself is set to be completed end of Summer 2023; after this, Metro anticipates releasing a Request for Qualifications (RFQ) for a master developer. The graphic below details the current concept plans for the mall facility (Figure 5-2).

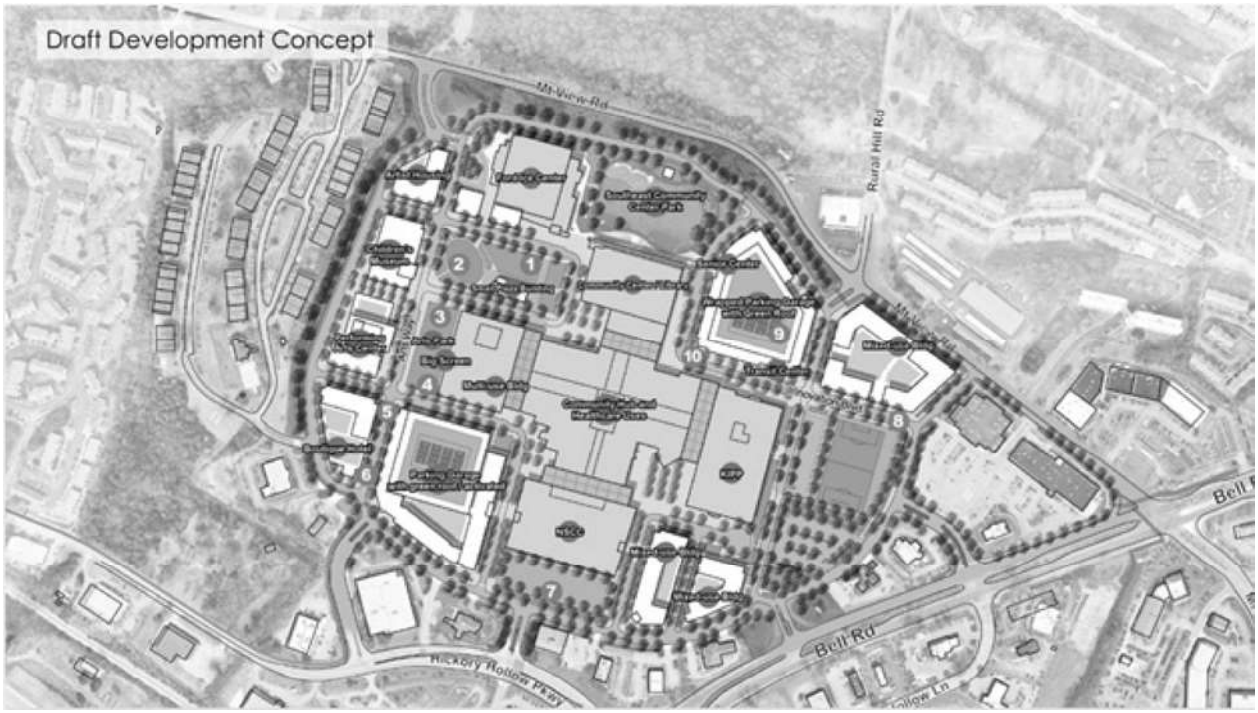


Figure 5-2: Draft Development Concept of Global Mall

The Electrify MUSIC City Project proposes seven Level 2 chargers at the Global Mall and Ford Ice Center locations to connect and promote the multi-modal hub. Additionally, these chargers will likely serve as some of the battery backup and storage system sites capable of supporting DCFC EVs during natural disasters and power outages. By providing essential EVCI at this community hub, this funding will promote equitable public accessibility throughout the entire Nashville Metropolitan community as well as surrounding commuters and freight along I-24 through Nashville.

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

Furthermore, the WeGo Star is Middle Tennessee's only fixed guideway transit service, providing riders with reliable travel times along the 32-mile route between Lebanon (Wilson County) and Riverfront Station in Downtown Nashville. The WeGo Star is a service of the Regional Transportation Authority of Middle Tennessee (RTA), which also offers commuter bus service in six additional regional travel zones. In addition to its role in carrying the Downtown workforce, the Star is often deployed to serve large scale special events such as the New Year's Eve celebration downtown, 4th of July Fireworks, and Tennessee Titans home football games. These trains often "sell-out," carrying 400 to 700 people per trip. The attractiveness of the Star (despite its limited service) comes from two characteristics lacking in the regional bus corridors: (1) reliable travel time, since it does not operate in mixed traffic on the regional highway network as required of RTA Regional Buses, and (2) well-located "purpose-built" park-and-ride lots that provide a safe and convenient location for commuters to park and catch the train. To continue, the Donelson and Hermitage Stations serve as a park-and-ride area for transit customers to park free and either ride the WeGo 6, carpool, vanpool, or take the WeGo Star.

The Donelson and Hermitage park-and-ride locations, which offer free parking, two dual-port Level 2 chargers and one dual-port DCFC, are located on the outskirts of the Nashville-Davidson County area in suburban neighborhoods. Both locations are also served by Route 6 Lebanon Pike buses operated by WeGo Public Transit.

The Donelson Station is located at 2705 Lebanon Pike, directly north of the intersection of Donelson Pike and Bluefield Avenue. It is adjacent to Donelson Plaza, a revitalization of a historic shopping center, the Donelson Branch Library, and Fifty Forward with direct access to the park-and-ride lot from Donelson Pike. The station currently serves as the location of the Donelson Farmers Market, which brings many visitors on Friday afternoons. Approximately 230 parking spaces are provided.
The Donelson station is approximately 11 miles from downtown Nashville, saving commuters an 18-minute drive in personal vehicles.

WeGo Star

Donelson Park and Ride Station

The Hermitage Station is located at 4121 Andrew Jackson Parkway, directly off of Andrew Jackson Parkway near Old Hickory Boulevard. Approximately 280 parking spaces are provided. The Hermitage station is approximately 16 miles from downtown Nashville, saving commuters a 22-minute drive in personal vehicles.

Installing EVCI at park-and-ride locations in suburban areas can be an effective way to encourage people to use the WeGo 6 and/or the WeGo Star when commuting into the city or downtown area. By offering a convenient place for EV drivers to park their vehicles and charge them while using public transit, it can reduce range anxiety and make it more appealing for individuals to choose public transportation over driving alone. This can help reduce traffic congestion and greenhouse gas emissions in the city center.

Hermitage Park and Ride Station

Moreover, offering EV chargers at park-and-ride locations can also encourage the use of other modern transportation options beyond public transit. For example, individuals may opt to use rental vehicles, taxis, car shares, ride shares, ride-hailing services, bicycles, or other electrified or alternative fuel multi-passenger or active mobility options once they arrive downtown, since their personal vehicle will be parked at the park-and-ride facility. This can provide greater

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

flexibility and convenience to commuters, making it easier for them to get around the city without relying on personal vehicles.

Additionally, the Dr. Ernest Rip Patton, Jr. North Nashville Transit Center is a new WeGo development at 26th Avenue and Clarksville Highway. It will have an air-conditioned waiting room, restrooms, Wi-Fi, and multiple bus bays to connect several routes across town. It is part of an overall effort to increase access to public transit across Nashville while reducing the necessity of transferring Downtown at WeGo Central. A groundbreaking took place on November 10, 2022, and the opening is scheduled for Spring 2024. Three dual-port Level 2 chargers are proposed at the North Nashville Transit Center.

Furthermore, by promoting the use of public transit and other modern transportation options, the overall cost of transportation for individuals can also be reduced by saving parking fees and other expenses associated with driving their own vehicle into the city center. Overall, the proposed EV-charging stations at the Donelson and Hermitage park-and-ride locations, as well as the chargers proposed at the North Nashville Transit Center, can be an effective strategy for promoting sustainable transportation and reducing the negative impacts of personal vehicle use in urban areas.

The Electrify MUSIC City Project also proposes charging/ mobility hubs that serve both inner-ring suburban and urban needs. Several suburban-leaning communities, such as Smyrna and Murfreesboro, use the I-24 corridor to enter into the city. The Global Mall/ Ford Ice Center location, as well as other locations throughout the Metropolitan area, will provide a great benefit to commuters where they can utilize various parking garages or community centers when entering the city – creating a further linkage between the urban and suburban need.

Additionally, as discussed previously, installing EVCI at park-and-ride locations in suburban areas such as the Donelson and Hermitage facilities can be an effective way to encourage people in suburban communities to use the WeGo 6 and/or the WeGo Star when commuting into the city or downtown area. By offering a convenient place for EV drivers to park their vehicles and charge them while using public transit, it can reduce range anxiety and make it more appealing for individuals to choose public transportation over driving alone when travelling into the urbanized parts of Nashville, strengthening the connection between urban and suburban communities.

DOT Statutory Selection Priorities

The project expands access to EVCI within low- and moderate-income neighborhoods:

Metro recognizes that the transportation networks that Nashvillians depend on each day have created and continue to exacerbate inequalities that make travel more difficult for low- and moderate-income people and can put them at greater risk. The Electrify MUSIC City Project proposes 37 chargers across 15 locations directly within low- and moderate-income neighborhoods as previously shown in Figure 3-3 of Merit Criterion #3. With 51% of the project chargers located within low- and moderate-income neighborhoods, the project demonstrates a fundamental and intentional focus on promoting EVCI in historically impoverished areas.

The range for low- and moderate-income neighborhoods was set to 50% of the area median income (AMI) for low-income households, and between 50% and 80% AMI for moderate income neighborhoods. With Nashville's median household income of $65,565, the threshold income for low-income neighborhoods was up to $32,782, and up to $52,452 for medium-income neighborhoods.

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

The project expands access to EVCI within communities with a low ratio of private parking spaces to households or a high ratio of multiunit dwellings to single family homes:

The Electrify MUSIC City Project proposes five on-street charging locations at multi-unit dwellings to allow residents with EV to charge their vehicles while parked on the street, which lowers barriers to accessible and convenient EV charging. To support the Justice40 initiative as put forth by federal government for equitable EVCI, Metro will ensure that at least two of the on-street charging locations are within low- and moderate-income neighborhoods or underserved communities where resources to EVCI are lacking. The exact location of these five on-street chargers will be determined once NDOT presents to and receives approval from Nashville's Traffic and Parking Commission, which would take place after receiving grant funds. Metro plans to rely on public input when selecting the locations of the on-street residential chargers and may implement public engagement strategies such as interactive GIS maps for in-person and virtual engagement.

In addition, the project expands access to 29 EVCI chargers across eight locations within residential zones characterized by a low ratio of private parking spaces to households or a high ratio of multiunit dwellings to single-family homes (Figure 3-6). These communities are designated as "mixed use" and "multi-family" residential zones, as previously shown in Figure 3-6 of Merit Criterion #3 and shown below. "Mixed use" and "multi-family" residential zones are inherently likely to have a low ratio of private parking spaces to households or a high ratio of multiunit dwellings to single-family homes. With 40% of the project chargers located within these residential zones, the project demonstrates a fundamental and intentional focus on promoting EVCI at location-efficient housing.

DOT Additional Considerations

The project contributes to geographic diversity among eligible entities, including achieving a balance between urban and rural communities.

As adoption of electric vehicles gains popularity, illuminating the interconnected pathways that connect diverse metropolitan, suburban, and rural communities will prove critical for paving the way towards a comprehensive and harmonious EV-charging network. By bolstering Nashville's local EV-charging network, the Electrify MUSIC City Project amplifies the convenience and practicality of EVs within urban landscapes and connects those opportunities to regional charging infrastructure available in surrounding communities. A well-placed and well-connected network of charging stations in a city empowers its residents, businesses, and visitors to embrace electric mobility without worrying about the range anxiety that has plagued early EV adopters. A robust local network not only provides immediate benefits to Nashville's residents but also complements and strengthens the charging networks in neighboring communities, creating a seamless flow of electric mobility across urban, suburban, and rural regions.

The proposed DCFC at the Bellevue Community Center, Level 2 chargers at the Bellevue Branch Library along I-40, and the Level 2 chargers at the Global Mall, Ford Ice Center, and Southeast Davidson Library and Community Center along I-24 can help connect members of surrounding rural areas to urbanized Nashville by providing access to EVCI near main access routes in and out of the city.

Bellevue Community Center

Notably, Nashville is also proposing to incorporate EVCI in this proposal into mobility hubs at the Donelson park-and-ride facility, the Hermitage park-and-ride facility, and the North Nashville Transit

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

Center, which all intend to serve as critical locations that facilitate connectivity and movement across the city and between suburban neighborhoods and urban communities.

The Electrify MUSIC City Project contributes to geographic diversity and serves a population with a wide range of backgrounds, lifestyles, and transportation needs. The project location of Metropolitan Nashville will service the commuters, transporters and travelers that comprise the vitality of Nashville feel. The proposed locations are high-traffic flow points that will allow usage in varied situations. From Tennessee's commuter data and as shown in Figure 6-1, Davidson County observes a variety of travel behavior from various age groups, income levels, and industries. Nashville and Davidson County draw a number of commuters and visitors from surrounding communities on a daily basis. By situating EVCI throughout the city and county, Metro is ensuring that all populations across diverse geographic and demographic backgrounds have access to EVCI.

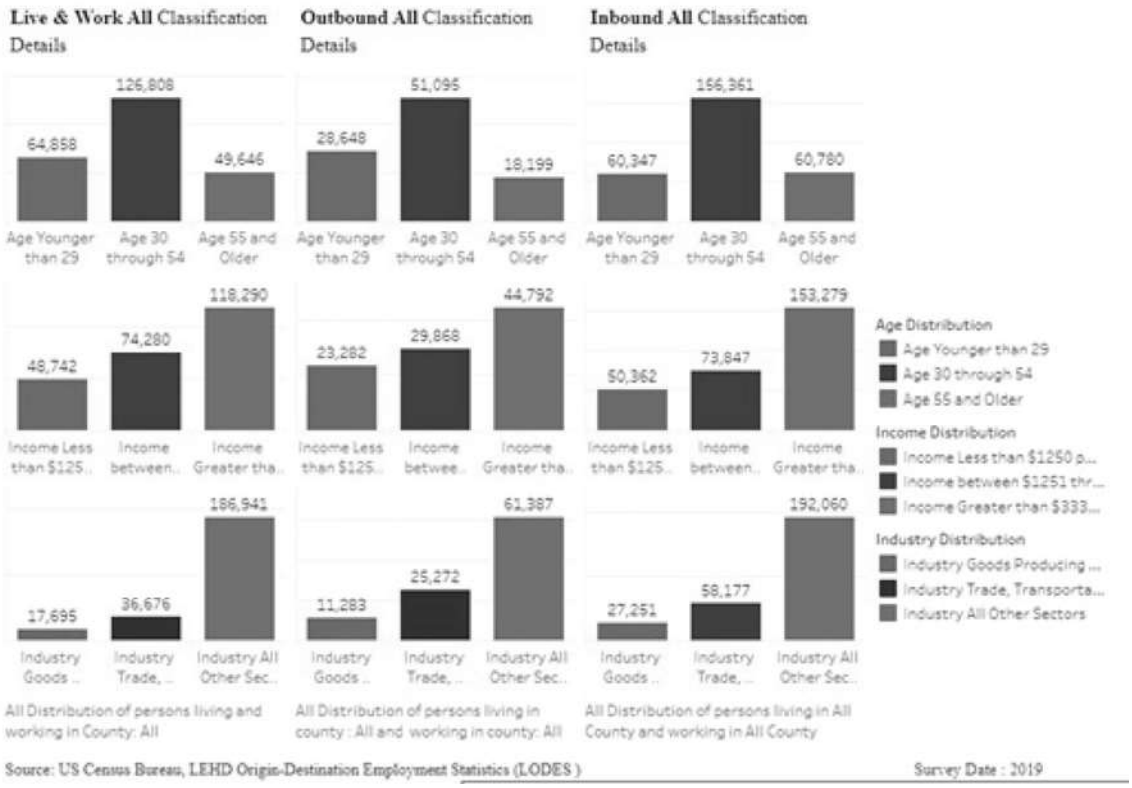


Figure 6-1: Tennessee Commuter Data

The project meets current or anticipated market demands for charging or fueling infrastructure, including faster charging speeds with high-powered capabilities necessary to minimize the time to charge or refuel current and anticipated vehicles.

As of March 31, 2023, there were 4,961 electric vehicles registered in Davidson County and 28,417 registered in the entire state. Statewide goals project increasing the EV count to 200,000 EVs by 2028. This ambitious goal puts more than seven times the current count of EV on the road in the next five years and follows the 2021 to 2022 total increase in EV registrations of 34%, as shown in Figure 6-2. The Electrify MUSIC City Project is a response to recognizing future demand of EVs and a proactive plan to support the upcoming traction in the market.

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

The installation and renovation of EVCI under the Electrify MUSIC City Project is part of a larger framework of community charging that aims to meet the market demand projections set forth by the State of Tennessee. Also, the proposed addition of five DCFC chargers will supplement the project's goals of anticipating greater EV needs in the future as high-powered DCFC EVCI can accommodate a higher number of vehicles charging by minimizing time for refuel and increasing power throughput for medium- to heavy-duty vehicle types.

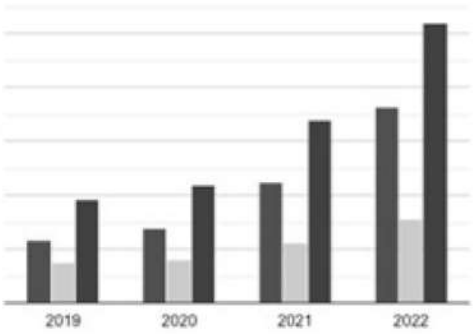


Figure 6-2: Tennessee EV Registrations

DOT Priority Considerations

The project demonstrates exceptional benefits under Merit Criterion #3 Equity, Community Engagement, and Justice40, Merit Criterion #4 Workforce Development, Job Quality, and Wealth Creation, or Merit Criterion #5 CFI Program Vision, as demonstrated in the respective sections above.

Merit Criterion #3:

Electrify Music City aims to address the longstanding issue that the transportation networks we all depend on each day have created and continue to exacerbate inequalities that make it more difficult for low-income people, people of color, and people with disabilities to get where they need to go and can put them at greater risk. With 29 chargers located in Transportation Disadvantaged Census Tracts, 28 chargers located in Justice40 CEJST DACs, 25 chargers located in MDHA's Nashville Promise Zones, 26 chargers located in Opportunity Zones, 37 chargers located in low and moderate household income census tracts, 40 chargers located in census tracts with high minority populations, 29 chargers located in "mixed use" or "multi-family" residential zones, and 5 on-street chargers planned at location-efficient housing units, Electrify MUSIC City takes direct and intentional action to correct this pattern of inequality. Metro's focus on affordability, accessibility, and public engagement through the project's EVCI locations drives home the CFI program's concentration on Equity, Community Engagement, and Justice40.

Merit Criterion #4:

Metro is committed to promoting good-paying jobs and labor standards that prioritize employee rights. Their labor policy ensures that employees have the freedom to join a union and engage in collective bargaining without fear of reprisal. Metro recognizes the importance of entrepreneurship in creating high-paying jobs and plans to collaborate with universities and community colleges to help workers develop their skills and entrepreneurship abilities in the evolving electric vehicle industry. They also have programs in place to provide job training and recruitment opportunities for Nashville residents, particularly in EVCI-related projects. Metro prioritizes diversity and inclusion by implementing hiring policies that prioritize underrepresented populations, supporting employee resource groups, and providing diversity and inclusion training. They also aim to create opportunities for minority and women-owned businesses through procurement regulations and set a target goal of at least 15 percent for MWBE participation.

Merit Criterion #5:

Metro's vision is to create a comprehensive multimodal transportation system that better connects neighborhoods, residents, and businesses in Nashville. To achieve this, the Electrify MUSIC City Project will establish an accessible and reliable EVCI network that benefits the entire community, with a particular focus on disadvantaged areas, as over 63% of the projects target low-income, underserved, or disadvantaged communities. The EVCI network will be strategically located at community centers, park-and-ride facilities, multimodal hubs, and other locations throughout the Metropolitan area with the goal of promoting sustainable transportation, reducing

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

congestion and greenhouse gas emissions, and increasing accessibility and affordability of transportation for all residents. Additionally, to address the focus areas listed in the CFI Grant NOFO, the Electrify MUSIC City Project will offer charging stations at park-and-ride locations and public transit hubs. Through this, Metro aims to encourage the use of public transit and other modern transportation options while providing convenient and affordable EV charging. Secondly, the project also meets the needs of renters and multi-unit dwellings by proposing 5 on-street chargers and supplementary public chargers in close proximity to these locations. Additionally, by creating intersectional charging/mobility hubs and providing a mix of Level 2 and DCFC chargers, Metro aims to meet the diverse needs of EV drivers and strengthen the connection between urban and suburban communities. Overall, the Electrify MUSIC City Project strives to make clean and affordable transportation accessible to all, particularly in historically underinvested and disadvantaged areas.

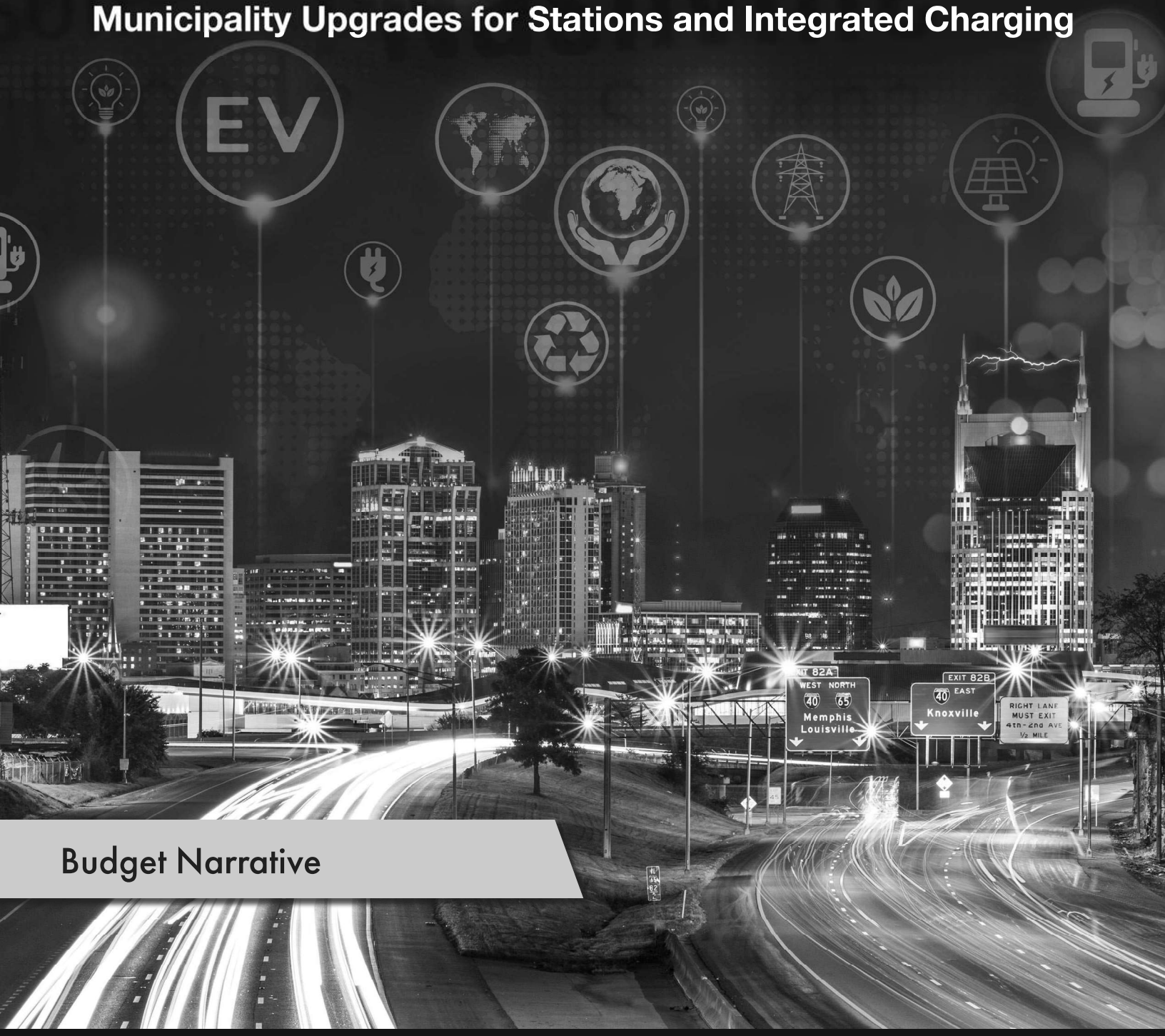
DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

June 2023

NDOT

Electrify MUSIC City

Municipality Upgrades for Stations and Integrated Charging



Budget Narrative

ARCADIS

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

The Electrify Music City Project significantly increases the amount of charging infrastructure in the Nashville area to equitably meet the goals of the community and future demand for EVCI. In doing so, project costs will include efforts in planning and development, potential ROW acquisition, installation, operations and maintenance, and educational activities. The total estimated project cost is approximately $5.87 million as shown in Table 1, below.

Table 1: Electrify MUSIC City Budget Summary Funding Share by Activity

Activity	Funding Share (USD, % share of activity)				Total
	Non-Federal	CFI Program	% CFI Program	% Metro	
Planning and Development Costs	$24,992.00	$357,408.00	93.46%	6.54%	$382,400.00
ROW Acquisition	$13,796.00	$156,204.00	91.88%	8.12%	$170,000.00
Installation	$147,532.00	$1,960,068.00	93.00%	7.00%	$2,107,600.00
Operations and Maintenance	$986,200.00	$2,196,400.00	69.01%	30.99%	$3,182,600.00
Educational Activity	$1,000.00	$24,000.00	96.00%	4.00%	$25,000.00
Total	**$1,173,520.00**	**$4,694,080.00**	**80.00%**	**20.00%**	**$5,867,600**

There are no other Federal funding sources being used on this project.

Additionally, the annual yearly amounts by source are shown in Table 2 below:

Table 2: Electrify MUSIC City Budget Summary – Annual Funding by Activity and Funding Share

Project Costs	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Planning and Development Costs	$340,000.00	$10,600.00	$10,600.00	$10,600.00	$10,600.00	$382,400.00
ROW Acquisition	$170,000.00					$170,000.00
Installation	$2,107,600.00					$2,107,600.00
Operations and Maintenance	$36,100.00	$801,600.00	$745,100.00	$745,100.00	$654,700.00	$3,182,600.00
Educational Activity	$5,000.00	$5,000.00	$5,000.00	$5,000.00	$5,000.00	$25,000.00
TOTAL PROJECT COST	**$2,858,700.00**	**$817,200.00**	**$ 760,700.00**	**$760,700.00**	**$670,300.00**	**$5,867,600.00**
CFI Grant Funds 80%	$2,286,960.00	$653,760.00	$608,560.00	$608,560.00	$536,240.00	$4,694,080.00
Metropolitan Government of Nashville and Davidson County - 20%	$571,740.00	$163,440.00	$152,140.00	$152,140.00	$134,060.00	$1,173,520.00

See the accompanying Appendix A: Electrify MUSIC City Project Budget for more details.

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

Planning and Development Costs

The planning and development costs include the development of a GIS based online tracking tool to provide the public with access to EVCI locations. This interactive map will allow the public to see the charging sites throughout the area and pinpoint where they see an increased need for charging infrastructure. This is also meant to support locating the five proposed on-street residential chargers that have not yet been assigned a specific location.

Additionally, this cost includes preparing for and conducting in-person engagement events in efforts to broaden public feedback. These workshops would also focus on educating disadvantaged community members and others about the upcoming EVCI projects, collecting feedback on site locations, and determining how to measure project benefits. Public engagement activities through workshops or other outreach efforts are therefore included in the costs to occur annually to continue the on-going education and evaluation process of the system.

Planning costs also include the potential for some environmental reviews and development of the appropriate documentation prior to the final planning and development cost for engineering services and design. Engineering services include electrical engineering design for new sites and sites requiring additional capacity. Civil engineering site design, including providing appropriate signage, markings, ADA elements, lighting, and other items may be needed. In total, planning and development costs amount to about $382,000.

Right-of-Way (ROW) Acquisition

This cost includes any ROW that may be required. While the existing and planned sites are mostly on Metro ROW, a full design of the site and power requirements has not been conducted. This line item is for ROW that may be required to run additional utilities to power the sites that are being upgraded to meet NEVI compliance. Funds budgeted for ROW acquisition may also be used for new sites and associated utility requirements as well as the planned on-street parting sites. In total, ROW acquisition costs amount to about $170,000.

Installation

Installation costs include costs to removal of existing equipment and installation of new chargers and related infrastructure. It includes the cost for concrete pads and pedestals, pull boxes, conduit, electrical elements, utility relocations, parking stops and other site elements such as signage, marking and lighting as noted in the Planning and Development costs and discussed in the project Merit Criteria Document. In total, installation costs amount to about $2.11 million.

Operations and Maintenance

Operations and maintenance costs include keeping the sites operable throughout the course of the project while meeting the NEVI requirements for uptime, reliability, and other standards as discussed throughout the Merit Criteria document. This includes costs for Metro grant administration activities such as required reporting activities and vendor coordination. Metro plans to utilize alternative contracting methods to operate and maintain the stations utilizing “charging as a service”, or a “hybrid-owned” solution. This line item also includes the charge station vendor/operator fees as well as utility costs which are based on historical usage/demand rates. There is some contingency included in this item as well as it is expected for demand rates to increase over the next 5 years. In total, operations and maintenance costs amount to about $3.18 million.

Educational Activity Costs

Educational Activities include coordinating with the local universities and providing materials on the EVCI. This also includes workforce development activities and training as discussed in the Merit Criteria section number 4. In total, educational activity costs amount to about $25,000.

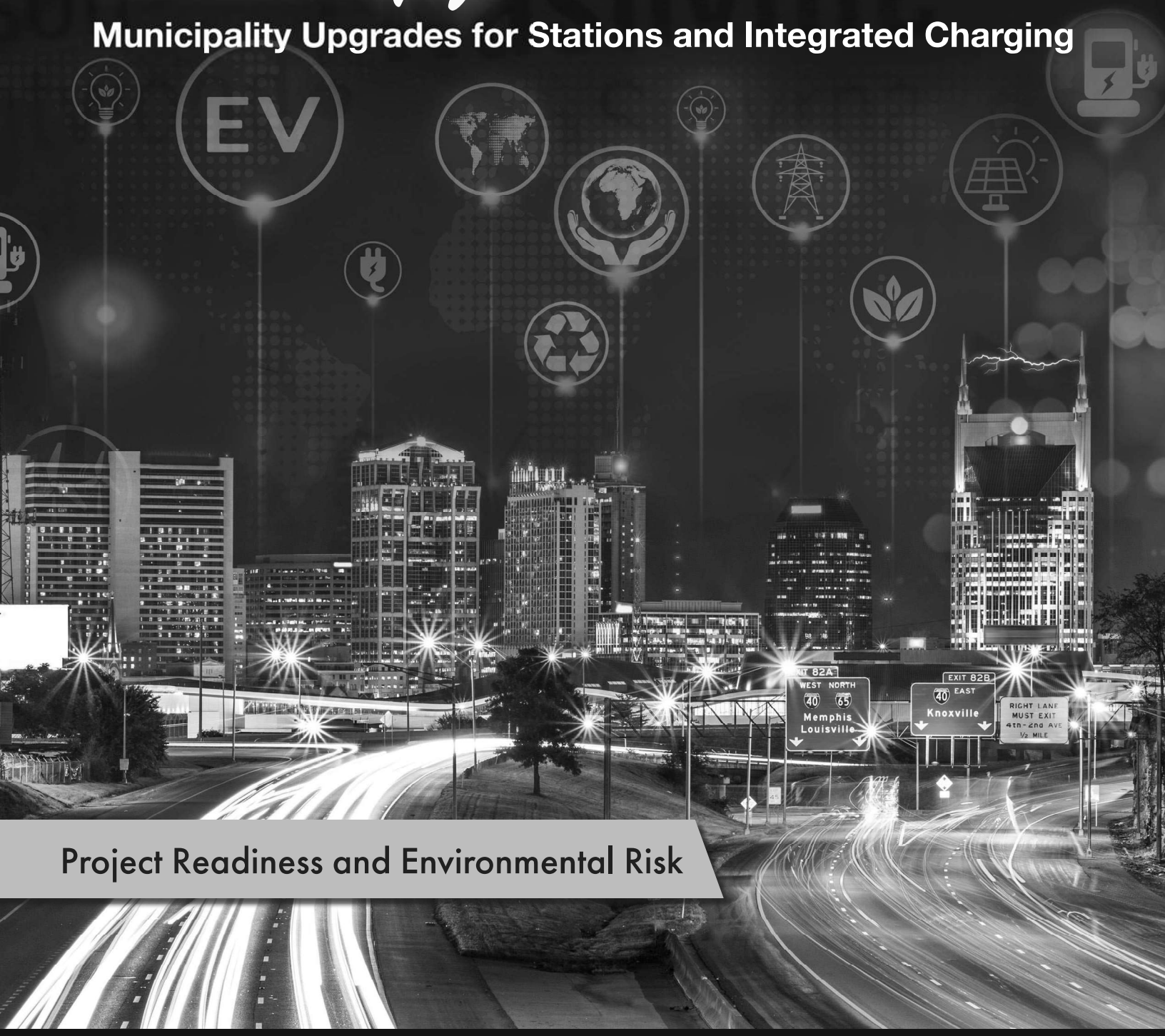
DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

June 2023

NDOT

Electrify MUSIC City

Municipality Upgrades for Stations and Integrated Charging



Project Readiness and Environmental Risk

ARCADIS

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

The Electrify MUSIC City Project (Municipality Upgrades for Stations and Integrated Charging) will include 34 locations throughout the Nashville-Davison County area following the replacement or new installation of National Electric Vehicle Infrastructure Program (NEVI)-compliant Level 2 and Direct Current Fast Charging (DCFC) EV chargers. These efforts aim to provide a more consistent and safe user experience, maximize federal grant funding, and promote cleaner forms of transportation in the Nashville Metro area.

Technical and Engineering Information

The projects included in this application fall under three categories: rip-and-replace, rip-and-upgrade, and new installation. Several site locations have plans that fall under more than one category.

Rip-and-replace projects can be described as a "like for like" swap. These projects replace an existing, expired, dual-port Level 2 charger with a new dual-port Level 2 charger of the same power level that is fully compliant with the NEVI Program's final rule requirements. There are 21 planned Level 2 rip-and-replace chargers.

Rip-and-upgrade projects replace an existing single-port Level 2 charger with a fully NEVI-compliant, dual-port Level 2 charger. There are nine planned Level 2 rip-and-upgrade chargers.

New installation projects are new locations and will not replace an existing charger. All newly installed Electric Vehicle Charging Infrastructure (EVCI) will be fully compliant with the NEVI Program's final requirements. There are 38 planned Level 2 chargers classified as new installation projects. The project also proposes five new dual-port, 750-volt, 150-kW DCFC chargers at the following locations:

- Bellevue Community Center
- Public Square parking garage
- Fulton Campus parking garage
- Hermitage park and ride lot
- Donelson park and ride lot.

Additionally, Metro intends to use the CFI grant funding to install five new installations on-street Level 2 chargers near multi-unit dwellings, summing to a total of 43 new installation Level 2 chargers. Some proposed new installation projects may **require right-of-way (ROW) acquisition,** but it is anticipated that all new and existing sites will be on public ROW. Acquisition will be evaluated on a site-by-site basis and may be affected by power availability.

The Nashville metropolitan area uses WeGo Public Transit to provide public transportation throughout the region. The Level 2 and DCFC EVCI proposed at the Donelson and Hermitage transit hubs with park and ride facilities, which are serviced by WeGo Public Transit, will follow guidance outlined in WeGo's Transit Design Guidelines, published in February of 2019.

All chargers proposed under this grant application will provide secure **payment methods**, accessible to persons with disabilities and will include RFID, Apple Pay, Google Wallet, and all major credit cards. All charging infrastructure will also provide either automated toll-free phone number or a short message system that provides the EVCI customers with the option to initiate a charging session and submit payment. Metro's charging infrastructure under the Electrify MUSIC City Project will be fully compliant with NEVI's final regulations on payment methods and will not require a membership for use, nor delay, limit or curtail power flow to vehicles on the basis of payment method or membership and will provide access for users that are limited-English proficient.

Local and State Integration and Planning

While this project is not yet included in the most recent versions of the Transportation Improvement Program (TIP) and Statewide Transportation Improvement Program (STIP), Metro has adequate processes in place to make these additions once grant funding has been secured. This process includes submitting the project details to the Metropolitan Planning Organization (MPO) for TIP adoption. The TIP application will then be presented to

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

the Transportation Coordinating Committee (TCC). This is immediately followed by a two-week public review period. After this, the TIP will be presented to the Transportation Policy Board (TPB) and a public hearing will be held for the official adoption of the project into the TIP by the TPB. This process typically takes only a couple of months and is not anticipated to cause project delays once the grant is awarded.

Project Risks

There are no outstanding legal, technical, or financial issues that would make this a high-risk project. Table 1 describes mitigation measures for all possible, although unlikely, project risks.

Table 1: Potential Risks and Mitigation Measures

Risk	Mitigation Measures
Schedule	While there is currently no indication that the Electrify MUSIC City Project is at risk for significant delays, schedule delays are a possibility in any project. In preparation, Metro has adequate systems in place to effectively implement this project quickly, as described in the project timeline
Budget	Metro has successfully identified and secured funds for the project as described in the Project Budget, backed by the full faith and credit of the Metropolitan Government of Nashville and Davidson County. Metro's bond ratings are "Aa2" (Moody's) and "AA" (S&P Global), and the state of Tennessee has a "AAA" bond rating, indicating a stable outlook. Metro has strategies for mitigating capital funding shortfalls, including the use of a $50k contingency in this application budget estimation to ensure the project budget has reserve funds. Furthermore, while not anticipated, if actual cost escalations exceed allocated funds, Metro plans to cover any additional, unforeseen costs with other reserve funds.
National Environmental Protection Agency (NEPA) Clearance	Using the previous environmental data and analysis performed by Metro's General Services Team, in addition to a review of similar EVCI installation projects in Nashville, significant environmental impacts are not anticipated. The project will undergo a NEPA analysis to confirm no significant impacts occur, and if they do, how those will be minimized and mitigated. Metro will work closely with FHWA throughout the NEPA process. This NEPA process may require approvals/coordination with the Environmental Protection Agency (EPA), the Tennessee Department of Environment & Conservation (TDEC), and/or Metro's Office of Emergency Management (OEM). Coordination with these agencies has not yet begun but is planned to occur between November 2023 and December 2023, as demonstrated in the project timeline. This project may require less documentation and lower levels of review and approval by these agencies due to significant impacts not being anticipated with an expected Categorical Exclusion (CE) or Environmental Assessment (EA) document. More information on NEPA clearance is provided later in this document.
Right-of-Way	Right-of-way acquisitions are not anticipated because the proposed locations are all on public sites owned by the City of Nashville. However, in the unlikely event that ROW acquisition is necessary, the project team will aim to minimize ROW acquisition to ensure environmental impacts do not rise to the "significant" level. Any ROW and acquisition necessary will be completed in a timely manner and in accordance with 49 Code of Federal Regulations (CFR) Part 24, 23 CFR Part 710, and other applicable legal requirements.

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

Utility Upgrades/ Grid Capacity	To avoid any risks associated with utility upgrades or grid capacity, the project team has carefully identified charging infrastructure locations. The existing services at all except one of the 29 locations (excluding the five on-street charging locations) are adequate in terms of capacity to accommodate the charging loads. At the one location where upgrades are required, Metro has already performed an electrical engineering study to determine what inverter and additional infrastructure is needed to accommodate EV expansion; In addition, an in-depth evaluation will be performed to determine service voltages and primary feeder capacities at each location. While facility upgrades at some sites are planned to accommodate additional EVSEs, utility upgrades are not anticipated at the majority of sites.
Design and Construction	All risks of design-based errors, which may cause user-related risks, such as electrical hazards and equipment malfunctions, will be mitigated through the rigorous interval-based design and review process (30%, 60%, and 90%, 95%, 100% preliminary and final plan completion). Additionally, Metro will ensure NEVI requirements for the design of each proposed charging station are strictly followed throughout the design process. Metro will ensure EVCI providers are licensed, qualified and demonstrate prioritizing design safety, durability, and longevity. Metro will address any risks associated with construction of the EV charging stations as they arise in a timely, safety-forward manner. To mitigate construction-related risks, Metro plans to work closely with all stakeholders to schedule construction activities during off-peak hours and communicate any potential disruptions to the public in advance. Strict adherence to safety standards during construction and installation will also be implemented to address construction-related risks. National construction standards put forth by regulatory agencies such as OSHA will be adhered to for risk mitigation to human and environmental hazards.
User Safety	Potential project risks associated with user safety include cybersecurity, e.g., data privacy, and physical security, e.g., the overall well-being of EV charging users and their vehicular property. To minimize safety risks to EVCI users, Metro will follow the NEVI Standards and Requirements to ensure cybersecurity and physical security. To increase the security of user data, Metro will support public key infrastructure (PKI), which serves as a foundational component of authentication, information integrity, data confidentiality, and data access control. In relation to physical security, luminous on-site lighting and video surveillance will be utilized to discourage inappropriate activity.

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

Operation, Maintenance, and Use	Potential project risks associated with operation, maintenance, and use of the proposed EVCI include impact on traffic patterns, user-related risks such as electrical hazards and equipment malfunctions, and availability and minimum uptime requirements of charging stations. To minimize and/or prevent negative impacts to traffic patterns, Metro has proposed and developed a wide network of EVCI locations across the city, preventing one single location from attracting an unproportional number of users. In anticipated high-use locations, Metro has proposed several dual-port chargers to avoid long queues that could pose traffic safety risks for vehicles entering or exiting the charging location or parking lot. Metro will also include adequate signage with directions to spots where appropriate, allowing for users to safely determine where available EV chargers are located. To ensure availability and minimum uptime requirements of charging stations, Metro plans to implement a comprehensive management system, including real-time monitoring, data analysis for optimizing station locations. Operational and Maintenance (O&M) duties will be contracted to qualified third party entities. Strict adherence to safety standards during O&M duties, clear instructions and signage for EVCI users, and regular maintenance and monitoring will also be implemented to address user-related risks.

Public Engagement

The Tennessee Department of Transportation (TDOT) and the Tennessee Department of Environment and Conservation (TDEC) partnered to hold public engagement listening sessions as part of the NEVI program development in 2022. Additionally, Metro issued a survey seeking feedback from the public on strategies included in its climate action plan drafted in 2021. Public engagement from both of these efforts was used by Metro to guide the preliminary plans of this project. As it relates to the climate action plan survey, respondents indicated that installing more electric vehicle chargers is the No. 1 preferred action to mitigate greenhouse gas (GHG) emissions from the transportation sector. The survey showed that the people of Nashville are eager for EVs and support taking necessary actions to promote electric transportation adoption throughout the city.

Moving forward, Metro plans to hold additional public engagement events and outreach efforts to gain more targeted feedback about the charging stations under the Electrify MUSIC City Project. For example, regarding the five proposed on-street residential chargers that have not yet been assigned a specific location, Metro plans to develop an interactive geographical information system (GIS) map on which the public would be able to pinpoint where they see an increased need for charging infrastructure. This idea could be implemented at in-person public engagement sessions and be embedded into an online platform to broaden public feedback. By utilizing a GIS map, individuals attending public engagement sessions could physically mark locations on the map where they believe charging infrastructure should be prioritized. Alternatively, the online platform would ensure that a wider range of opinions can contribute to the process by allowing people to provide feedback remotely and conveniently.

In all public engagement efforts, Metro intends to take specific measures to ensure low-income communities, disadvantaged communities, communities underserved by affordable transportation, or overburdened communities are actively engaged in these outreach discussions. Such measures include developing a short fact sheet, which will be translated into multiple languages, summarizing key information of the project to be used in public engagement activities, which can be provided to stakeholders to solicit support from community leaders. Metro will use USDOT's Promising Practices for Meaningful Public Involvement in Transportation Decision-

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

Making Report to help guide their outreach and public involvement efforts. Metro plans to take necessary steps to ensure participation from members of disadvantaged communities (DACs) and Nashville's most prominent equity experts and advocacy groups, including: IMF, One Nashville, NOAH, Music City Riders United, The Equity Alliance, the Mayor's Youth Council / WeGo Youth Council, Nashville Rising, MDHA, Metro Social Services, and members of the Latino, Kurdish, Muslim, and African immigrant communities.

DBE Participation

In regard to Metro's intentions for Disadvantage Business Enterprise (DBE) participation and engagement, Metro places a top priority on creating opportunities for Minority and Women-Owned Business Enterprise (MWBE) inclusion efforts. Through procurement regulation changes currently underway, Nashville is implementing a race- and gender-neutral program that establishes a contract threshold, under which certain contracts become eligible by designation to only be bid on by small business in accordance with Small Business Administration (SBA) guidelines. The program will also provide more time for prime contractors and subcontractors to plan for and prepare timely bids. This is to increase the ability for firms to form joint ventures or teaming arrangements and to obtain any needed support services. Metro is developing an enhanced communications plan for how it will better assist the MWBE business community in understanding its programs, implementations, and how to prepare for future procurement opportunities. Metro's target goals depend on the size of the project and availability of businesses willing to bid on projects. For this project, Metro will set a MWBE target goal of 15%.

Racial Equity

Additionally, Metro has and will continue to take intentional steps to ensure the Electrify MUSIC City Project is consistent with EO 13985, Advancing Racial Equity and Support for Underserved Communities Through the Federal Government (86 FR 7009), by (1) prioritizing DBE/MWBE involvement efforts throughout the procurement process and (2) by upgrading or installing 40 chargers (55%) across 19 locations in areas with higher populations of minorities. According to U.S. Census Bureau QuickFacts: Nashville-Davidson metropolitan government (balance), Tennessee' 2022 estimate, 40% of Nashville's population is considered a racial minority. For the purposes of this application, all chargers in the Electrify MUSIC City Project are located in areas with higher populations of minorities if the community's racial minority population is 41% or more.

Accessibility Requirements and ADA

Metro implements federally funded projects in accordance with the grant application and all applicable laws and regulations using sound management practices, including, but not limited to, Buy America provisions, ADA regulations, Civil Rights requirements, Federal Motor Safety Standards (FMVSS), and/or the Federal Motor Carrier Safety Regulations (FMCSR). To ensure accessibility requirements are met, Metro will follow all applicable local, state, and federal regulations and guidance during the development and completion of this project.

In compliance with The Americans with Disabilities Act (ADA) of 1990, Metro will consider ways to meet ADA guidelines when developing contracts with EV equipment providers. Although the ADA does not provide specific requirements for EV charging station parking spaces at this time, Metro considers the guidance provided by the U.S. Access Board for accessible EV charging space wherever reasonably possible.

Equity and Justice40

Additionally, an equity assessment, which is detailed in Merit Criterion #3 of the Merit Criteria Document submitted with this application, was performed to ensure all equity and Justice40 requirements are being met by the project.

Adding or expanding EV chargers directly in or near underserved communities removes transportation related

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

disparities by ensuring convenient and affordable access to EVCI. Furthermore, installing EVCI in disadvantaged communities brings several direct benefits to the members of those communities, even if they do not own an electric vehicle themselves in terms of environmental sustainability, economic opportunities, technological access, and overall community development.

With 46 of 73 chargers (excluding the five on-street chargers) in the Electrify MUSIC City Project located in at least one underserved community (Transportation Disadvantaged Census Tracts, Justice40 DACs, MDHA's Nashville Promise Zones, or Opportunity Zones), these considerations demonstrate that at least 63% of projects target benefits towards low-income communities, disadvantaged communities, communities underserved by affordable transportation, or overburdened communities in terms of proximity and accessibility to EVCI- well exceeding the required 40% by Justice40.

Anticipated Project Timeline

The proposed project schedule illustrated below identifies all major project milestones (Table 2).

Table 2: Anticipated Project Timeline

Anticipated Date	Timeline Item or Activity
June 13, 2023	Project is Submitted via grants.gov
September 1, 2023	Award Announcement
September 2023	*Metro through TDOT local programs would finalize an agreement with FHWA
October – November 2023	*Project adopted in TIP and STIP
November-December 2023	*NEPA CE process through TDOT
January 2024	*Notice to Proceed from FHWA via TDOT Local Programs
February thru June 2024	*Procurement process in accordance with local, state, and federal guidelines
July 2024	*Vendor is selected for design and construction of EV charging facilities. Vendor is selected for Operations and Management
September 2024	*Vendor begins work
September 2025	*Vendor completes installation

*Tentative item pending approval of grant application

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

Compliance with 23 CFR Part 680

Metro will only use federal funding acquired under the CFI Grant to fund planning, design, construction, operations, maintenance, and any other applicable expenses of EV Charging Stations that follow requirements listed in 23 CFR Part 680, published on February 28, 2023. Metro will take appropriate and necessary measures to ensure all EV chargers installed or replaced with grant funds under this project are NEVI compliant. This includes, but is not limited to:

- Overall design
- Power
- Uptime
- Payment
- Data sharing
- Cybersecurity
- Physical security

However, it should be noted that there are some stations where Metro is requesting design exceptions. Considering the constraints of limited parking availability and historically low utilization, it is not advisable to install the NEVI requirement minimum of four charging ports per site at the following locations:

- Police - South Precinct
- Fire Station 19
- Fire Station 20
- Fire Station 32
- Fire Station 33
- Fire Station 37
- WeGo Myatt Drive
- NDOT,
- five on-street residential locations.

Metro requests a design exception that would allow for the installation of only one dual-port charger at each of these locations. This approach accounts for both the anticipated usage of the proposed EVCI and the limited available on-site parking space. This solution helps the Electrify MUSIC City Project to provide widespread access of EVCI for EV drivers while balancing other site needs and therefore demonstrates a responsible allocation of the grant funds. If the CFI Grant Program does not permit design exceptions, Metro will make necessary changes to the proposed charger locations in order to fulfill the requirement of having four ports. Metro would consider two options: either adding more chargers to the underqualified sites while maintaining the same number of locations, or merging two single charger locations into one while keeping the number of chargers the same but reducing the total number of locations. All other locations will have at least four charging ports to simultaneously charge at least four vehicles in accordance with NEVI requirements.

Project Expected or Anticipated Environmental Impacts

The proposed investment into Metro's EVCI network allows the greater Nashville area to take a significant step towards a more sustainable future in transportation. The project aims to address common concerns surrounding EV deployment, adoption, and user experience such as range anxiety and charge time. By reducing these concerns, the Electrify MUSIC City Project lowers barriers of entry to transition from traditional internal combustion engine (ICE) vehicles to more eco-friendly EVs. The proposed project locations are anticipated to greatly benefit the community and hold minimal environmental risks to the immediate and surrounding community and their associated activities. Metro is committed to a swift and compliant deployment of the proposed project.

Environmental impacts as related to EV chargers can be separated into positive and negative impacts. The replacements, upgrades, and new installations of EV chargers in Nashville will support the city's environmental

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

goals in the following ways:

- The increased adoption of electric vehicles will result in less transportation-related GHG emissions and reduce contribution to global climate change.
- EVs do not produce tailpipe emissions, which will most directly benefit the immediate surrounding communities to infrastructure. The removal of tailpipe emissions is expected to reduce local air pollution and overall improve public health. As the most populous city in Tennessee with significant transportation activity, improving the air quality in these dense urban areas proves maximal effectiveness in improving quality of life for citizens.
- In turn, the project will bolster renewable energy adoption and reduce reliance on fossil fuels to increase the use of cleaner energy. In an effort to implement specific reliability and resiliency measures, Metro will explore the option of powering EV chargers with renewable energies such as solar power wherever possible. In the future, Metro may also consider ways to incorporate backup power storage options at Electrify MUSIC City's EVCI to aid during natural disasters and power outages.

Despite the positive environmental impacts of installing, deploying, and maintaining an EVCI network, general environmental detractors exist, such as concerns with land use, energy use, and installation. For The Electrify MUSIC City Project, these may be mitigated or avoided altogether.

Land use

The proposed project sites are located in the Nashville greater metropolitan area, which does not require repurposing undeveloped and natural lands for installation. The footprint of an EV charger is typically smaller than that of a gasoline station. This goes for vertical and horizontal space: EV chargers can be deployed in space-constrained areas, meeting cars where they are expected to be parked for extended periods of time (e.g., a parking lot, wall-mounted, or pole-mounted), while that is not the case for traditional gas stations. Additionally, EVCI does not require the same extent of vertical infrastructure required by gasoline stations for underground storage tanks. With this in mind, the project will avoid land use concerns.

Energy use

The increased use of EV chargers will inherently increase overall energy demand, and any upstream reliance on fossil fuels will still generate carbon dioxide (CO2) emissions. To that front, the Tennessee Valley Authority (TVA) and Nashville Electric Service (NES) have been investing and developing more resilient and environmentally sustainable power solutions, moving towards a more positive trajectory. Metro has a historically strong relationship with NES, the local power company responsible for providing electricity throughout Nashville. NES is overseen by a five-member board who are all appointed by the mayor. Additionally, leadership from the City and NES regularly meet to discuss both operational and strategic items. It is through this existing collaborative relationship that Metro will work with NES to determine energy sources, required grid capacity and necessary upgrades, and storage needs. Metro also regularly engages with TVA, the generator of electricity used throughout the city, state of Tennessee, and the "valley" region, including parts of six other states. In 2019, the Metro Nashville Council approved a renewable portfolio standard mandating that the Metro government obtain 100% of its electricity from renewable sources by 2041. Metro Nashville acquires its electricity from Nashville Electric Service, which purchases its power from TVA. TVA has issued a commitment to achieve net-zero emissions by 2050. TVA's current power generation mix is 41% nuclear, 28% gas, 16% coal, 12% hydro, 3% wind and solar. Outside of what Metro purchases, Metro Nashville has on-site solar photovoltaic (PV) systems with a combined capacity of 5.01 MW in the following categories: 2.26 MW installed onsite, 0.06 MW Community Generation, 2.69 MW to be commissioned by the end of 2024. Metro Nashville is in active negotiations regarding its 100-MW Green Invest project for large scale solar that was approved by Metro

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

Council. Metro Nashville also sells 0.2 MW back to the grid. In all cases, the mixed-source power generation composition remains more environmentally conscious and helps reduce carbon emissions as opposed to the status quo of continuing the use of gasoline and ICE vehicles. Overall, the project and subsequent activities will be net mitigating CO2 emissions.

Installation

The installation of EV chargers may temporarily disrupt areas along public roadways as construction may be required to connect chargers to the grid. To mitigate these disruptions, Metro will actively communicate with crucial stakeholders, such as the local utility, to ensure project timelines are efficient and reasonable; collaborate with local elected officials to educate and disseminate information about the process; provide notifications to community members and businesses regarding the conducted work; and coordinate with local traffic management authorities to schedule construction activities during off-peak hours whenever possible and communicate any potential disruptions to the public in advance.

NEPA Compliance

Metro understands the NEPA requirements as they relate to assessing the potential environmental impacts and permitting for federally funded projects, programs, and policies. While Metro does not expect significant harmful impacts and has followed the general CFI Notice of Funding Opportunity (NOFO) language that "eligible CFI projects are generally the type of actions that would not be expected to result in significant environmental impacts", the City will develop the necessary documentation to provide evidence of minimal impact on the environment. Each project site will be assessed for hazard identification and exposure assessments as well as risk characterization, management, and communication. Based on past evidence, Metro expects that most areas will qualify for Categorical Exclusions and will seek to pursue the NEPA CE process through TDOT for review. Metro recognizes that the project must be in compliance with NEPA in order for funds to be authorized and has developed a general timeline for NEPA compliance, as delineated below in Table 3. Pursuing this procedure will offer the most streamlined and expedited pathway to EVCI deployment.

Table 3: Timeline for NEPA Compliance

Anticipated Date	Timeline Item or Activity
September 2023	Award announcement Metro will finalize an agreement with FHWA through TDOT Local Programs Division. Commence formal stakeholder and utility coordination
October 2023	Develop assessments process for each Nashville project site as per CE requirements
November-December 2023	NEPA CE process through TDOT
January 2024	Notice to Proceed from FHWA via TDOT Local Programs

DocuSign Envelope ID: 01419153-725C-4BEE-8276-8D646C1E6C96

APPLICATION FOR Charging and Fueling Infrastructure Grant Program

METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY

DocuSigned by:
Diana W Alarcon
CCA6046554B9461...

6/2/2023

Diana W. Alarcon, Director
Department of Transportation and
Multimodal Infrastructure

Date

DocuSign

Certificate Of Completion

Envelope Id: E165D464E0884BA1BCA8121E5D6120F5
Status: Completed
Subject: DocuSign: Urgent! NDOT Charging and Fueling Infrastructure Discretionary...24-28 App due 06/13/23
Source Envelope:
Document Pages: 90
Signatures: 4
Certificate Pages: 16
Initials: 3
AutoNav: Enabled
EnvelopeId Stamping: Enabled
Time Zone: (UTC-06:00) Central Time (US & Canada)

Envelope Originator:
Vaughn Wislon
730 2nd Ave. South 1st Floor
Nashville, TN 37219
Vaughn.wilson@nashville.gov
IP Address: 170.190.198.185

Record Tracking

Status: Original
6/12/2023 8:31:42 AM
Holder: Vaughn Wislon
Vaughn.wilson@nashville.gov
Location: DocuSign

Security Appliance Status: Connected
Pool: StateLocal

Storage Appliance Status: Connected
Pool: Metropolitan Government of Nashville and Davidson County
Location: DocuSign

Signer Events	Signature	Timestamp
Rose Wood rose.wood@nashville.gov Finance Admin Metro Finance Dept. OMB Security Level: Email, Account Authentication (None)	RW Signature Adoption: Pre-selected Style Using IP Address: 170.190.198.185	Sent: 6/12/2023 8:43:30 AM Viewed: 6/12/2023 9:04:34 AM Signed: 6/12/2023 9:04:47 AM
Electronic Record and Signature Disclosure: Not Offered via DocuSign		
Aaron Pratt aaron.pratt@nashville.gov Security Level: Email, Account Authentication (None)	AP Signature Adoption: Pre-selected Style Using IP Address: 170.190.198.185	Sent: 6/12/2023 9:04:50 AM Viewed: 6/12/2023 9:07:40 AM Signed: 6/12/2023 9:07:45 AM
Electronic Record and Signature Disclosure: Not Offered via DocuSign		
Kelly Flannery kelly.Flannery@nashville.gov Security Level: Email, Account Authentication (None)	Kelly Flannery Signature Adoption: Pre-selected Style Using IP Address: 170.190.198.185	Sent: 6/12/2023 9:07:47 AM Viewed: 6/12/2023 9:18:41 AM Signed: 6/12/2023 9:18:53 AM
Electronic Record and Signature Disclosure: Accepted: 6/12/2023 9:18:41 AM ID: e58420ca-1f5d-46b9-9fc4-c1e08d8320d0		
Balogun Cobb balogun.cobb@nashville.gov Security Level: Email, Account Authentication (None)	Balogun Cobb Signature Adoption: Pre-selected Style Using IP Address: 170.190.198.144	Sent: 6/12/2023 9:18:57 AM Viewed: 6/12/2023 9:33:43 AM Signed: 6/12/2023 9:33:53 AM
Electronic Record and Signature Disclosure:		

Signer Events	Signature	Timestamp
Accepted: 6/12/2023 9:33:43 AM ID: 57e696af-d0e2-4ee9-9918-e29e8a25eab7		
Courtney Mohan courtney.mohan@nashville.gov Security Level: Email, Account Authentication (None)	 Signature Adoption: Pre-selected Style Using IP Address: 170.190.198.144	Sent: 6/12/2023 9:33:58 AM Resent: 6/12/2023 1:09:39 PM Viewed: 6/12/2023 1:54:28 PM Signed: 6/12/2023 3:08:50 PM
Electronic Record and Signature Disclosure: Accepted: 6/12/2023 1:54:28 PM ID: 53c38847-3f0c-4807-919b-9c6c0eded7e0		
Kristin Wilson kristin.wilson@nashville.gov Security Level: Email, Account Authentication (None)	 Signature Adoption: Pre-selected Style Using IP Address: 170.190.198.185	Sent: 6/12/2023 3:08:55 PM Viewed: 6/12/2023 4:00:17 PM Signed: 6/12/2023 4:00:31 PM
Electronic Record and Signature Disclosure: Accepted: 6/12/2023 4:00:17 PM ID: d19c88b7-0fa2-41e0-a9aa-fe594c7f7a02		
John Cooper diane.treadway@nashville.gov Office Manager Security Level: Email, Account Authentication (None)	 Signature Adoption: Pre-selected Style Using IP Address: 170.190.198.100	Sent: 6/12/2023 4:00:34 PM Viewed: 6/12/2023 4:03:06 PM Signed: 6/12/2023 4:03:20 PM
Electronic Record and Signature Disclosure: Accepted: 6/12/2023 4:03:06 PM ID: 685568f2-270a-42e4-953b-c0b4dfb97bda		

In Person Signer Events	Signature	Timestamp

Editor Delivery Events	Status	Timestamp

Agent Delivery Events	Status	Timestamp

Intermediary Delivery Events	Status	Timestamp

Certified Delivery Events	Status	Timestamp

Carbon Copy Events	Status	Timestamp
Casey Hopkins casey.hopkins@nashville.gov Security Level: Email, Account Authentication (None) **Electronic Record and Signature Disclosure:** Not Offered via DocuSign	COPIED	Sent: 6/12/2023 4:03:25 PM
Ava Elsaghir ava.elsaghir@nashville.gov Security Level: Email, Account Authentication (None) **Electronic Record and Signature Disclosure:** Accepted: 6/12/2023 10:26:15 AM ID: 9fbd9cb4-25d7-4bae-b9bc-b6d83c820d8a	COPIED	Sent: 6/12/2023 4:03:26 PM Viewed: 6/12/2023 4:04:31 PM

Witness Events	Signature	Timestamp

Notary Events	Signature	Timestamp

Envelope Summary Events	Status	Timestamps
Envelope Sent	Hashed/Encrypted	6/12/2023 8:43:30 AM
Certified Delivered	Security Checked	6/12/2023 4:03:06 PM
Signing Complete	Security Checked	6/12/2023 4:03:20 PM
Completed	Security Checked	6/12/2023 4:03:26 PM

Payment Events	Status	Timestamps

Electronic Record and Signature Disclosure