

Resolution No. RS2020-573

A resolution approving an application of the Metropolitan Government of Nashville and Davidson County, acting by and through the Metropolitan Nashville Department of Public Works, for the Advanced Transportation and Congestion Management Technologies Deployment Program, for the development of model deployment sites for large scale installation and operation of advanced transportation technologies to improve safety, efficiency, system performance, and infrastructure return on investment.

WHEREAS, the Fixing America's Surface Transportation Act, FAST Act § 6004; 23 U.S.C., funds surface transportation programs; and,

WHEREAS, The FAST Act established the Advanced Transportation and Congestion Management Technologies Deployment Program to make competitive grants for the development of model deployment sites for large scale installation and operation of advanced transportation technologies to improve safety, efficiency, system performance, and infrastructure return on investment; and;

WHEREAS, the Metropolitan Government is eligible to participate in this grant program and the Department of Public Works wishes to submit a grant application, in partnership with the Nashville Metropolitan Transit Authority and the Tennessee Department of Transportation (TDOT), to deploy connected transit-technology signal infrastructure along the Charlotte Avenue corridor, helping to improve on-time performance for MTA's Route 50 bus service; and,

WHEREAS, the estimated cost of the project is \$3 million with an anticipated 50% local match offered by both Metro Public Works and TDOT; and,

WHEREAS, it is to the benefit of the citizens of The Metropolitan Government of Nashville and Davidson County that this grant application be approved and submitted.

NOW, THEREFORE, BE IT RESOLVED BY THE COUNCIL OF THE METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY:

Section 1. That the grant application of the Metropolitan Government of Nashville and Davidson County, acting by and through the Metropolitan Department of Public Works, for the Advanced Transportation and Congestion Management Technologies Deployment Program, for the development of model deployment sites for large scale installation and operation of advanced transportation technologies to improve safety, efficiency, system performance, and infrastructure return on investment., a copy of which is attached hereto and incorporated herein, is hereby approved, and the Metropolitan Nashville Department of Public Works is authorized to submit said application to the federal government.

Section 2. That this resolution shall take effect from and after its adoption, the welfare of The Metropolitan Government of Nashville and Davidson County requiring it.

APPROVED AS TO AVAILABILITY
OF FUNDS:



Kevin Crumbo, Director
Department of Finance

INTRODUCED BY:





Member(s) of Council

APPROVED AS TO FORM AND
LEGALITY:



Assistant Metropolitan Attorney



NASHVILLE TRANSIT HEADWAYS AND CONGESTION MANAGEMENT

NASHVILLE, TENNESSEE



ATCMTD 2020

APPLICANT: *Metro Government of Nashville & Davidson County, Tennessee*

DEPARTMENT: *Public Works*

Volume II: Budget Application

- Section I: Application Standard Forms
- Section II: Summary Budget Narrative
- Section III: Cost Share Information
- Section IV: Organizational Information

Nashville Transit Headways and Congestion Management

Section I: Application Standard Forms

The required forms were submitted using Grants.gov and are included in the following pages.

View Burden Statement		BUDGET INFORMATION - Non-Construction Programs				OMB Number: 4040-0006 Expiration Date: 02/28/2022	
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. Program Management	20.200	\$	\$	\$ 80,000.00	\$ 85,000.00	\$ 165,000.00	
2. System and Civil Engineering	20.200			69,000.00	75,000.00	144,000.00	
3. System Development, Integration, and Testing	20.200			1,350,000.00	1,183,054.00	2,533,054.00	
4. Operations and Maintenance	20.200			0.00	156,000.00	156,000.00	
5. Totals		\$	\$	\$ 1,499,000.00	\$ 1,499,054.00	\$ 2,998,054.00	

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SECTION B - BUDGET CATEGORIES

6. Object Class Categories	GRANT PROGRAM, FUNCTION OR ACTIVITY				Total (5)
	(1)	(2)	(3)	(4)	
a. Personnel	\$ 117,857.00	\$ 102,857.00	\$ 378,214.00	\$ 111,429.00	\$ 710,357.00
b. Fringe Benefits	47,143.00	41,143.00	151,286.00	44,571.00	284,143.00
c. Travel					
d. Equipment			1,114,305.00		1,114,305.00
e. Supplies					
f. Contractual					
g. Construction			889,249.00		889,249.00
h. Other					
i. Total Direct Charges (sum of 6a-6h)	165,000.00	144,000.00	2,533,054.00	156,000.00	\$ 2,998,054.00
j. Indirect Charges					\$
k. TOTALS (sum of 6i and 6j)	\$ 165,000.00	\$ 144,000.00	\$ 2,533,054.00	\$ 156,000.00	\$ 2,998,054.00
7. Program Income	\$	\$	\$	\$	\$

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Nashville Transit Headways and Congestion Management

SECTION C - NON-FEDERAL RESOURCES					
(a) Grant Program	(b) Applicant	(c) State	(d) Other Sources	(e) TOTALS	
8. Program Management	\$ 85,000.00	\$	\$	\$ 85,000.00	
9. System and Civil Engineering	75,000.00			75,000.00	
10. System Development, Integration, and Testing	183,054.00	1,000,000.00		1,183,054.00	
11. Operations and Maintenance	156,000.00			156,000.00	
12. TOTAL (sum of lines 8-11)	\$ 499,054.00	\$ 1,000,000.00	\$	\$ 1,499,054.00	
SECTION D - FORECASTED CASH NEEDS					
	Total for 1st Year	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
13. Federal	\$ 371,000.00	\$ 55,650.00	\$ 74,200.00	\$ 129,850.00	\$ 111,300.00
14. Non-Federal	\$ 345,611.00	51,842.00	69,122.00	120,964.00	103,683.00
15. TOTAL (sum of lines 13 and 14)	\$ 716,611.00	\$ 107,492.00	\$ 143,322.00	\$ 250,814.00	\$ 214,983.00
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. Program Management	\$ 32,000.00	\$ 32,000.00	\$ 16,000.00		
17. System and Civil Engineering	59,000.00				
18. System Development, Integration, and Testing	270,000.00	1,080,000.00			
19. Operations and Maintenance					
20. TOTAL (sum of lines 16 - 19)	\$ 371,000.00	\$ 1,112,000.00	\$ 16,000.00		
SECTION F - OTHER BUDGET INFORMATION					
21. Direct Charges: 2999054		22. Indirect Charges:			

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 Jorge Riveros	TITLE Chief Engineer
APPLICANT ORGANIZATION Metro Nashville Public Works	DATE SUBMITTED 08/30/2020

Application for Federal Assistance SF-424

* 1. Type of Submission:

- Preapplication
 Application
 Changed/Corrected Application

* 2. Type of Application:

- New
 Continuation
 Revision

* If Revision, select appropriate letter(s):

* Other (Specify):

* 3. Date Received:

8/30/2020

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:

Metro Nashville Public Works

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

62-0694743

* c. Organizational DUNS:

07-821-7668

d. Address:

* Street1:

750 South 5th Street

Street2:

* City:

Nashville

County/Parish:

* State:

TN: Tennessee

Province:

* Country:

USA: UNITED STATES

* Zip / Postal Code:

37206

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:

Jorge

Middle Name:

* Last Name:

Riveros

Suffix:

Title:

Chief Engineer

Organizational Affiliation:

* Telephone Number:

(615) 862-8741

Fax Number:

* Email:

Jorge.Riveros@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:**

Department of Transportation, Federal Highway Administration

11. Catalog of Federal Domestic Assistance Number:

CFDA Title:

*** 12. Funding Opportunity Number:**

693JJ320NE00010

* Title:

Advanced Transportation and Congestion Management Technologies
Deployment Initiative

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:**

NASHVILLE TRANSIT HEADWAYS AND CONGESTION MANAGEMENT

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

* b. Program/Project

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

Add Attachment

Delete Attachment

View Attachment

17. Proposed Project:

* a. Start Date:

* b. End Date:

18. Estimated Funding (\$):

* a. Federal	<input type="text" value="1,499,000.00"/>
* b. Applicant	<input type="text" value="499,054.00"/>
* c. State	<input type="text" value="1,000,000.00"/>
* d. Local	<input type="text"/>
* e. Other	<input type="text"/>
* f. Program Income	<input type="text"/>
* g. TOTAL	<input type="text" value="2,998,054.00"/>

* 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 218, 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:
Middle Name:
* Last Name:
Suffix:

* Title:

* Telephone Number: Fax Number:

* Email:

* Signature of Authorized Representative:

* Date Signed:

Section II: Summary Budget Narrative

This project will be led by Metro Government of Nashville & Davidson County, Tennessee, working in collaboration with other City agencies and departments, the Mayor’s Office, and the Tennessee Department of Transportation. The total budget for this project is estimated to be \$2,998,054 with a 50/50 cost split between Federal funds (\$1,499,000) and non-Federal funds (\$1,499,054). The non-Federal funds, comprising the required cost-share, will be provided by the City of Nashville (\$499,054) and the Tennessee Department of Transportation (\$1,000,000) as cash contributions. No in-kind contribution is being used for the cost-share although Metro Nashville anticipates utilizing staff from the City beyond those proposed to implement this project.

As observed in the following tables, Metro Nashville is requesting ATCMTD grant funds for this critical project and is intending to utilize these funds for the technological components of the project. More specifically, Federal ATCMTD funds will be used to develop the Connected Vehicle based Transit Headways and Congestion Management software application and the associated Roadside Units and On-board units. Matching funds from Metro Nashville and Tennessee Department of Transportation will be used for Project Management, System Engineering and Planning Activities, and Construction.

Unit prices for equipment were derived from current estimates associated with the Tennessee Department of Transportation’s Standard Pay Items. An average, fully loaded rate for labor was estimated as \$150/hour, including a 1.4 multiplier for indirect costs. Per standard Metro Nashville and Tennessee Department of Transportation standard practices, a Construction Contingency of 10%-20% has been reserved in the budget to account for unforeseen issues during the project implementation.

Table 1. Summary Budget Figures

Project Task	Year 1	Year 2	Year 3	Year 4	All
Task 1. Program Mgmt	\$66,000	\$66,000	\$33,000	\$0	\$165,000
Task 2. System and Civil Engineering	\$144,000	\$0	\$0	\$0	\$144,000
Task 3. System Development, Integration, and Testing	\$506,611	\$2,026,443	\$0	\$0	\$2,533,054
Task 4. Operations and Maintenance	\$0	\$0	\$156,000	\$0	\$156,000
Subtotal	\$716,611	\$2,092,443	\$189,000	\$0	\$2,998,054
Total Federal Share	\$371,000	\$1,112,000	\$16,000	\$0	\$1,499,000
Total Non-Federal Share	\$345,611	\$980,443	\$173,000	\$0	\$1,499,054
Subtotal	\$716,611	\$2,092,443	\$189,000	\$0	\$2,998,054



Table 2: Detailed Project Budget Items

Major Work Elements	Unit Description	Units	Estimated Unit Costs	Total Estimated Costs	Costs to ATCMD	Cost Share (Cash)	Cost Share (In-Kind)
Project Management				\$165,000	\$80,000	\$85,000	
	Labor Hours	1,100	\$150	\$165,000	\$80,000	\$85,000	
System and Civil Engineering				\$144,000	\$69,000	\$75,000	\$0
System Engineering	Labor Hours	460	\$150	\$69,000	\$69,000		
Civil Design	Labor Hours	500	\$150	\$75,000	\$0	\$75,000	
System Development, Integration, and Construction				\$2,533,054	\$1,350,000	\$1,183,054	\$0
Software Development	Labor Hours	2,230	\$150	\$334,500	\$334,500		
Software and Equipment Integration and Testing	Labor Hours	1,300	\$150	\$195,000	\$195,000	\$0	
Removal of Rigid Pavement, Sidewalk, etc	S.Y.	1,557	\$37.6	\$58,528		\$58,528	
Concrete Sidewalk (4")	S.F.	8,911	\$7.5	\$66,832		\$66,832	
Concrete Curb Ramp (Retrofit)	S.F.	10,484	\$35.0	\$366,923		\$366,923	
Concrete Curb Ramp	S.F.	10,484	\$11.0	\$115,324		\$115,324	
Fiber Optic Cable (12F)	L.F.	2,175	\$0.8	\$1,740		\$1,740	
Fiber Optic Cable (144F)	L.F.	25,344	\$4.0	\$102,390		\$102,390	
Fiber Optic Splice Fusion	Each	29	\$75	\$2,175		\$2,175	
Ethernet Switch (Layer 3)	Each	29	\$12,500	\$362,500	\$362,500	\$0	
Install Pull Box (Fiber Optic-Type A)	Each	5	\$2,500	\$12,500		\$12,500	
Install Pull box (Fiber Optic-Type B)	Each	29	\$3,000	\$87,000		\$87,000	
Conduit 2" Diameter (PVC)	L.F.	500	\$15	\$7,500		\$7,500	
Conduit 2" Diameter (RGS)	L.F.	1,800	\$100	\$180,000		\$180,000	

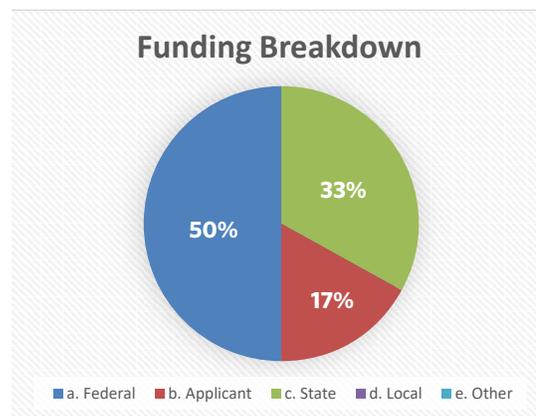
Nashville Transit Headways and Congestion Management

Table 2: Detailed Project Budget Items (continued)

Major Work Elements	Unit Description	Units	Estimated Unit Costs	Total Estimated Costs	Costs to ATCMD	Cost Share (Cash)	Cost Share (In-Kind)
CV Roadside Unit	Each	29	\$8,000	\$232,000	\$232,000		
Signal Priority Phase Selector	Each	29	\$2,000	\$58,000	\$58,000		
Onboard Unit for Transit Vehicles and Installation	Each	24	\$7,000	\$168,000	\$168,000		
Construction Contingency	Each	1	\$182,141	\$182,141		\$182,141	
Operations and Maintenance				\$156,000	\$0	\$156,000	\$0
Operations	Labor Hours	728	\$150	\$109,200		\$109,200	
Data Collection, Analysis, and Evaluation	Labor Hours	312	\$150	\$46,800		\$46,800	
Grand Total				\$2,998,054	\$1,499,000	\$1,499,054	\$0

Section III - Cost Share Information

This project will be led by Metro Government of Nashville & Davidson County, Tennessee, working in collaboration with other City agencies and departments, the Mayor’s Office, and the Tennessee Department of Transportation. The total budget for this project is estimated to be \$2,998,054 with a 50/50 cost split between Federal funds (\$1,499,000) and no-Federal funds (\$1,499,054). The non-Federal funds, comprising the required cost-share, will be provided by the City of Nashville (\$499,054) and the Tennessee Department of Transportation (\$1,000,000) as cash contributions. No in-kind contribution is being used for the cost-share although Metro Nashville anticipates utilizing staff from the City beyond those proposed to implement this project.



SF-424 Block 18



**STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION**

COMMISSIONER'S OFFICE
SUITE 700, JAMES K. POLK BUILDING
505 DEADERICK STREET
NASHVILLE, TENNESSEE 37243-1402
(615) 741-2848

CLAY BRIGHT
COMMISSIONER

BILL LEE
GOVERNOR

August 28, 2020

The Honorable Elaine L. Chao
Secretary, U.S. Department of Transportation
1200 New Jersey Ave, SE
Washington, DC 20590

Subject: Letter of Commitment – Metropolitan Government of Nashville & Davidson County, in partnership with TDOT, 2020 ATCMTD Grant Proposal
Charlotte Avenue Transit Headways & Congestion Management
Funding Opportunity Number: 693JJ320NF00010

Dear Secretary Chao:

This letter is to certify the Tennessee Department of Transportation's (TDOT) non-Federal financial commitment to the Metropolitan Government of Nashville's application for a 2020 Advanced Transportation and Congestion Management Technologies Deployment grant award. TDOT's share of this project will be \$1,000,000.

The goals of ATCMTD align well with both TDOT's and Metro-Nashville's priority emphasis on using innovative technology solutions to improve safety, mobility, efficiency, system performance, and infrastructure return-on-investment. Metro's 2020 ATCMTD application –assembled in partnership with Nashville MTA, TDOT, and potential autonomous-mobility vendors– will develop connected transit technology along the Charlotte Avenue corridor (a designated State Route under TDOT's partial jurisdiction). Grantees will install connected-vehicle tech infrastructure along WeGo Transit's Route 50, allowing signal priority (among other features) that would use vehicle-to-infrastructure communications while monitoring bus headways. An integrated app would then relay this headway information *back* to WeGo bus-drivers in real time.

Connected-vehicle data collection also builds upon Nashville's recent successes executing a similar project supported by USDOT TIGER funds on Murfreesboro Pike, as well as a CMAQ award for West End Avenue. A next-phase federal investment for Charlotte would thus continue this local momentum for installing the backbone comms-infrastructure that is prerequisite to advanced traffic operations—such as active traffic management, transit signal preemption, and signal performance measures.

Situated in the heart of Middle Tennessee at the nexus of Interstates 24, 65 and 40, Nashville has long been called "Music City" or "the Athens of the South." In recent years, however, it has taken on the "Rising Star of the New South" moniker, having been praised by numerous national publications and renowned urbanists for supporting entrepreneurs and sustaining growth. Prior to the pandemic-induced downturn, the metro area was experiencing a multi-year economic boom; over 40 million people live in a 300-mile radius, and more than 13 million tourists visit annually from all over the world.

To mitigate congestion caused by rising population and job growth *and* emerge resilient from the pandemic-induced economic downturn, Nashville has an urgent need to expand this basic signal infrastructure and deliver on its Smart City vision. Nashvillians deserve access to connected, multimodal transportation options and real-time information to make decisions about their options. In addition, easy-to-use, multimodal transportation supports the major industries that comprise the local economy: tourism, arts/entertainment, healthcare, higher education, and technology.

The Charlotte Avenue corridor, specifically, has generated strong interest in public-private partnerships as it is home to many of Nashville's leading healthcare companies and hospital campuses. The Urban Land Institute (national) selected Charlotte Avenue as one of only four of its "*Building Healthy Places & Corridors*" grantees. As a result, neighborhood leaders, planners, public-health experts, universities and other stakeholders envisioned how outdated retail and automobile-oriented strips could transform into safer, healthier mixed-use developments for live/work/play.

If selected to pursue transit-signal priority for Charlotte Avenue, Nashville's highly congested traffic patterns will serve as an excellent laboratory where lessons learned can be shared with municipalities across the country, helping to propel the next generation of urban policies and U.S. transportation systems. We ask for your support of Metro Nashville's 2020 ATCMTD grant application, submitted in partnership with our Department, and encourage the USDOT to give it full and fair consideration.

Sincerely,



Clay Bright
Commissioner



METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY

John Cooper
Mayor

OFFICE OF THE MAYOR
METROPOLITAN COURTHOUSE
NASHVILLE, TENNESSEE 37201

August 28, 2020

The Hon. Secretary Elaine Chao
U.S. Department of Transportation
1200 New Jersey Ave SE | Washington DC 20590

Dear Secretary Chao:

I write to express my strong support for the Metropolitan Government of Nashville's application for an Advanced Transportation and Congestion Management Technologies Deployment grant, submitted in partnership with the Tennessee Department of Transportation. The goals of ATCMTD align well with both TDOT's and Metro-Nashville's priority emphasis on using innovative technology solutions to improve safety, mobility, efficiency, system performance, and infrastructure return-on-investment. The Metropolitan Government **commits a local match of \$500,000** toward the \$3M total project cost; and this application is ultimately contingent upon the approval of the Metropolitan Council, by resolution.

Metro's 2020 ATCMTD application –assembled in partnership with Nashville MTA, TDOT, and potential autonomous-mobility vendors– will develop connected transit technology for the Charlotte Avenue corridor. Grantees will install connected-vehicle tech-infrastructure along WeGo Transit's Route 50, allowing signal priority (among other features) that would use vehicle-to-infrastructure communications while monitoring bus headways. An integrated app would then relay this headway information *back* to bus-drivers in real time. Connected-vehicle data collection also builds upon Nashville's recent successes executing a similar project supported by USDOT TIGER funds on Murfreesboro Pike, as well as a CMAQ award for West End Ave. A next-phase federal investment for Charlotte would continue this momentum for installing the backbone comms-infrastructure that's prerequisite for advanced traffic operations— such as active traffic management, transit signal preemption, and signal performance measures.

Situated in the heart of Middle Tennessee at the nexus of Interstates 24, 65 and 40, Nashville has long been called "Music City" or "the Athens of the South." In recent years, however, it's taken on the "Rising Star of the New South" moniker, having been praised by numerous national publications and renown urbanists for supporting entrepreneurs and sustaining growth. Prior to the pandemic-induced downturn, the metro area was experiencing a multiyear economic boom; over 40 million people live within a 300-mile radius, and more than 13 million tourists visit annually from all over the world.

The Charlotte Avenue corridor, specifically, has generated strong interest in public-private partnerships as it's home to many of Nashville's leading healthcare companies and hospital campuses. The Urban Land Institute (national) selected Charlotte Ave. as one of only four of its "*Building Healthy Places & Corridors*" grantees: As a result, neighborhood leaders, planners, public-health experts, universities and other stakeholders produced a new vision for how outdated retail and automobile-oriented strips could transform into safer, healthier mixed-use development for live/work/play.

Metro's Smart City master plan, *Connected Nashville*, features an inclusive, multimodal transportation system with integrated technologies that improve safety, enhance mobility for all, and reduce environmental impact. Use of technology in Nashville's transportation and transit system allows us to not only complete our streets, but complete our trips in all parts of the county: A central component of *Connected Nashville* is the underlying structures needed to ensure how Smart City services in the mobility realm can function—including expanded IT infrastructure, open-data specifications around road closures and detours, a shared data-management system for client information, software to scan and interpret crash data through smart infrastructure and sensors, and strategic public-private-university partnerships.

To mitigate congestion caused by rising population and job growth *and* emerge more resilient from the pandemic-induced economic downturn, Nashville has an urgent need to expand basic signal infrastructure and continue delivering on its Smart City vision. Nashvillians deserve access to connected, multimodal transportation options and real-time information to make decisions about their options. In addition, easy-to-use, multimodal transportation supports the major industries that comprise our local economy: tourism, arts and entertainment, healthcare, higher education, and information technology. If selected to pursue transit-signal priority for Charlotte Avenue, Nashville's highly congested traffic patterns will serve as an excellent laboratory where lessons-learned can be shared with municipalities across the country, helping to propel the next generation of urban policies and U.S. transportation systems. As Mayor, I enthusiastically request that USDOT select Metro's joint application with TDOT for a 2020 ATCMTD award.

Sincerely,

A handwritten signature in blue ink that reads "John Cooper". The signature is fluid and cursive, with the first name "John" being larger and more prominent than the last name "Cooper".

John Cooper, Mayor
Metropolitan Government of Nashville & Davidson County



Section IV: Organizational Information

- a. Identify any exceptions to the anticipated award terms and conditions as contained in Section F, Federal Award Administration Information. Identify any preexisting intellectual property that you anticipate using during award performance, and your position on its data rights during and after the award period of performance.

Metro Government of Nashville & Davidson County, Tennessee is not aware of any anticipated exceptions to the award terms and conditions as contained in Section F, Federal Award Administration Information. Metro Government of Nashville & Davidson County, Tennessee understands that data collected as part of this grant will be public information and intends to make this data available to the public following a data scrubbing process to insure that no Personally Identifiable Information (PII) is released.

- b. The use of a Dun and Bradstreet (D&B) DUNS number is required on all applications for Federal grants or cooperative agreements. Please provide your organization's DUNS number in your budget application.

Metro Government of Nashville & Davidson County, Tennessee has provided its DUNS number in the budget application. The DUNS number for Metro Government of Nashville & Davidson County, Tennessee is 0782176680000

- c. A statement to indicate whether your organization has previously completed an A-133 Single Audit and, if so, the date that the last A-133 Single Audit was completed.

Metro Government of Nashville & Davidson County, Tennessee completed an A-133 Single Audit on June 30, 2019

- d. A statement regarding Conflicts of Interest.

Metro Government of Nashville & Davidson County, Tennessee is not aware of any actual or potential personal or organizational conflict of interest in this application from past, present or planned organizational, contractual, or other interests which may affect the Metro Government of Nashville & Davidson County, Tennessee's ability to perform the proposed project in an impartial and objective manner.

- e. A statement to indicate whether a Federal or State organization has audited or reviewed the Applicant's accounting system, purchasing system, and/or property control system. If such systems have been reviewed, provide summary information of the audit/review results to include as applicable summary letter or agreement, date of audit/review, Federal or State point of contact for such review.

An organization named Crosslin CPAs has audited or reviewed the City of Nashville's financials. A summary of the results of the audit/review, date of audit/review and point of contact for such review can be found in Appendix B attached to the end of this document.

- f. Terminated Contracts - List any contract/ agreement that was terminated for convenience of the Government within the past 3 years, and any contract/agreement that was terminated for default within the past 5 years. Briefly explain the circumstances in each instance.

The list of terminated contracts can be found in Appendix C attached to the end of this document.

- g. The Applicant is directed to review Title 2 CFR 170 dated September 14, 2010, and Appendix A thereto, and acknowledge in its application that it understands the requirement, has the necessary processes and systems in place and is prepared to fully comply with the reporting described in the term if it receives funding resulting from this Notice. The text of Appendix A will be incorporated in the award document as a General Term and Condition as referenced under this Notice's Section F, Federal award Administration Information.

Metro Government of Nashville & Davidson County, Tennessee has reviewed Title 2 CFR 170 and will comply with the reporting requirements as outlined and required.

- h. Disclose any violations of Federal criminal law involving fraud, bribery, or gratuity violations.

Metro Government of Nashville & Davidson County, Tennessee is not aware of any violations of Federal criminal law involving fraud, bribery, or gratuity violations.



METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY

John Cooper
Mayor

OFFICE OF THE MAYOR
METROPOLITAN COURTHOUSE
NASHVILLE, TENNESSEE 37201

August 28, 2020

The Hon. Secretary Elaine Chao
U.S. Department of Transportation
1200 New Jersey Ave SE | Washington DC 20590

Dear Secretary Chao:

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technologies that improve safety, enhance mobility for all, and reduce environmental impact. Use of technology in Nashville's transportation and transit system allows us to not only complete our streets, but complete our trips in all parts of the county: A central component of *Connected Nashville* is the underlying structures needed to ensure how Smart City services in the mobility realm can function—including expanded IT infrastructure, open-data specifications around road closures and detours, a shared data-management system for client information, software to scan and interpret crash data through smart infrastructure and sensors, and strategic public-private-university partnerships.

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Sincerely,

A handwritten signature in blue ink that reads "John Cooper". The signature is fluid and cursive, with the first name "John" being larger and more prominent than the last name "Cooper".

John Cooper, Mayor
Metropolitan Government of Nashville & Davidson County

A Service of Nashville MTA

430 Myatt Drive
Nashville, TN 37115
WeGoTransit.com
615-862-5969

John Cooper
Mayor

Gail Carr Williams
Chair

Janet Miller
Vice Chair

Hannah Paramore Breen
Member

Walter Searcy, III
Member

Vacant
Member

Stephen G. Bland
Chief Executive Officer

Edward W. Oliphant
Chief Financial Officer

Bill Miller
Chief Operating Officer

Rita Roberts-Turner
Chief Administrative Officer

Trey Walker
Chief Engineer

The Hon. Secretary Elaine Chao
US Department of Transportation
1200 New Jersey Ave. SE
Washington, DC 20590

Dear Secretary Chao,

I write to express WeGo's Public Transit strong support for the Metropolitan Government of Nashville's application for an Advanced Transportation and Congestion Management Technologies Deployment grant, submitted in partnership with the Tennessee Department of Transportation. The goals of ATCMTD align well with both TDOT's and Metro-Nashville's priority emphasis on using innovative technology solutions to improve safety, mobility, efficiency, system performance, and infrastructure ROI.

Metro's 2020 ATCMTD application –assembled in partnership with Nashville MTA, TDOT, and potential autonomous-mobility vendors– will develop connected transit technology for the Charlotte Pike corridor. Grantees will install connected-vehicle tech-infrastructure along WeGo Transit's Route 50, allowing signal priority (among other features) that would use vehicle-to-infrastructure communications while monitoring bus headways. An integrated app would then relay this headway information *back* to WeGo bus-drivers in real time. Connected-vehicle data collection also builds upon Nashville's recent successes executing a similar project supported by USDOT TIGER funds on Murfreesboro Pike, as well as a CMAQ award for West End Ave. A next-phase federal investment for Charlotte would continue this local momentum for installing the backbone comms-infrastructure that is prerequisite for advanced traffic operations—such as active traffic management, transit signal preemption, and signal performance measures.

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neighborhood leaders, planners, public-health experts, universities and other stakeholders envisioned how outdated retail and automobile-oriented strips could transform into safer, healthier mixed-use development for live/work/play.

Nashville's Smart City master plan, *Connected Nashville*, features an inclusive, multimodal transportation system with integrated technologies that improve safety, enhance mobility for all, and reduce environmental impact. Use of technology in Nashville's transportation and transit system allows us to not only complete our streets, but complete trips in all parts of the county: A central and prominent element of *Connected Nashville* is the underlying structures needed to ensure how a variety of Smart City services in the mobility realm can function—including expanded IT infrastructure, an open-data specification around road closures and detours, a shared data-management system for client information, software to scan and interpret crash data through smart infrastructure and sensors, and strategic public-private-university partnerships.

To mitigate congestion caused by rising population and job growth *and* emerge resilient from the pandemic-induced economic downturn, Nashville has an urgent need to expand basic signal infrastructure and continue delivering on its Smart City vision. Nashvillians deserve access to connected, multimodal transportation options and real-time information to make decisions about their options. In addition, easy-to-use, multimodal transportation supports the major industries that comprise the local economy: tourism, arts and entertainment, healthcare, higher education, and information technology. If selected to pursue transit-signal priority for Charlotte Pike, Nashville's highly congested traffic patterns will serve as an excellent laboratory where lessons-learned can be shared with municipalities across the country, helping to propel the next generation of urban policies and U.S. transportation systems. WeGo enthusiastically request that USDOT select Metro's joint application with TDOT for a 2020 ATCMTD award.

Sincerely,



Chief Executive Officer

cc: Gail Carr Williams, Chair, Nashville MTA Board of Directors



Board of Directors

Dr. Claus Daniel
President
Oak Ridge National
Laboratory

Brad Rutherford
Treasurer
Lux Semiconductors

Jeff Branham
City of Knoxville

Dr. Janey Camp
Vanderbilt University

Commissioner Clay Bright
TN Dept. of Transportation

Alex Cardinali
Nissan

Phil Wade
Bridgestone Americas

Dr. Lori Bruce
Tennessee Tech University

Dr. Stephanie Ivey
University of Memphis

Dr. Asad Khattak
University of Tennessee

Andy Lucyshyn
Gresham Smith

Ryan Stanton
TN Dept. of Environment &
Conservation

August 27, 2020

The Hon. Secretary Elaine Chao
US Department of Transportation
1200 New Jersey Ave SE | Washington, DC 20590

Dear Secretary Chao:

I write to express TennSMART's strong support for the Metropolitan Government of Nashville's application for an Advanced Transportation and Congestion Management Technologies Deployment grant, submitted in partnership with the Tennessee Department of Transportation.

TennSMART is a public-private consortium encompassing a growing number of Tennessee and regional organizations working together to accelerate the development and deployment of new intelligent mobility innovations in Tennessee and beyond. We work closely with government and industry to ensure we are leveraging scientific resources to solve relevant, complex problems in intelligent mobility. Our members include such organizations as Bridgestone Americas, FedEx, Google, Nissan, Oak Ridge National Laboratory, Vanderbilt University, and many others.

Metro's 2020 ATCMTD applications—assembled in partnership with Nashville MTA, TDOT, and potential autonomous-mobility vendors—will develop connected transit technology for the Charlotte Pike corridor. Grantees will install connected-vehicle tech-infrastructure along WeGo Transit's Route 50, allowing signal priority (among other features) that would use vehicle-to-infrastructure communications while monitoring bus headways. An integrated app would then relay this headway information back to WeGo bus-drivers in real time. Connected-vehicle data collection also builds upon Nashville's recent successes executing a similar project supported by USDOT TIGER funds on Murfreesboro Pike, as well as a CMAQ award for West End Ave. A next-phase federal investment for Charlotte would continue this local momentum for installing the backbone comms-infrastructure that is prerequisite for advanced traffic operations—such as active traffic management, transit signal preemption, and signal performance measures.

Nashville's Smart City master plan, Connected Nashville, features an inclusive, multimodal transportation system with integrated technologies that improve safety, enhance mobility for all, and reduce environmental impact. A central and prominent element of Connected Nashville is the underlying structures needed to ensure how a variety of Smart City services in the mobility realm can function—including expanded IT infrastructure, an open-data specification around road closures and detours, a shared data-management system for client information, software to scan and interpret crash data through smart infrastructure and sensors, and strategic public-private-university partnerships.

To mitigate congestion caused by rising population and job growth and emerge resilient from the pandemic-induced economic downturn, Nashville has an urgent need to expand basic signal infrastructure and continue delivering on its Smart City vision. If selected to pursue transit-signal priority for Charlotte Pike, Nashville's highly congested traffic patterns will serve as an excellent laboratory where lessons-learned can be shared with municipalities across the country, helping to propel the next generation of urban policies and U.S. transportation systems. TennSMART enthusiastically requests that USDOT select Metro's joint application with TDOT for a 2020 ATCMTD award.

Sincerely,

Dr. Claus Daniel,
TennSMART Board President on behalf of the Board of Directors

August 26, 2020

The Hon. Secretary Elaine Chao
US Department of Transportation
1200 New Jersey Ave SE
Washington DC 20590



Subject: Metro Nashville ATCMTD Grant Application

Dear Secretary Chao:

I am pleased to offer this letter of support for the Metropolitan Government of Nashville's application for an Advanced Transportation and Congestion Management Technologies Deployment (ATCMTD) grant on behalf of the Greater Nashville Regional Council's Transportation Policy Board. The City's proposal to deploy connected transit technology along the Charlotte Avenue (US Route 70) corridor supports regional goals featured in GNRC's Regional Transportation Plan to improve safety and mitigate congestion within the transportation network.

GNRC is recognized by the State of Tennessee Department of Transportation (TDOT) and the United States Department of Transportation Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) as the federally-designated Metropolitan Planning Organization (MPO) for the seven-county Nashville metropolitan planning area which includes Davidson, Maury, Robertson, Rutherford, Sumner, Williamson, and Wilson counties.

GNRC's Transportation Policy Board members recognize the growing role of emerging technologies in the transportation network, and have invested in a Regional Smart Mobility Assessment, and offered support to Metro Nashville's Smart City master plan, *Connected Nashville*. The Assessment highlights opportunities to deploy technologies such as vehicle-to-infrastructure communication to improve vehicle operations and provide better traveler information and decision making. This Charlotte Avenue corridor effort would also support *Connected Nashville's* smart mobility strategies for expanding advanced mobility technologies along corridors.

The project will serve as an excellent laboratory for the region to follow, offering direction on how enhanced technologies can provide each of our city, state, and federal partners the feedback and guidance necessary for future technology investments. GNRC supports the City's commitment to integrating technology strategies to promote safety, accessibility, and system performance.

Thank you for your consideration of Metro Nashville's grant application.

Sincerely,

A handwritten signature in black ink, appearing to read 'ML', is written over a light blue horizontal line.

Michelle Lacewell, Deputy Director
Greater Nashville Regional Council

Connecting Communities. Empowering People.

220 Athens Way, Suite 200 • Nashville, TN 37228 • GNRC.org



August 26, 2020

The Hon. Secretary Elaine Chao
US Department of Transportation
1200 New Jersey Ave SE | Washington DC 20590

Dear Secretary Chao:

I write to express Urban Land Institute (ULI) Nashville's strong support for the Metropolitan Government of Nashville's application for an Advanced Transportation and Congestion Management Technologies Deployment grant, submitted in partnership with the Tennessee Department of Transportation. The goals of ATCMTD align well with both TDOT's and Metro-Nashville's priority emphasis on using innovative technology solutions to improve safety, mobility, efficiency, system performance, and infrastructure ROI.

Metro's 2020 ATCMTD application—sembled in partnership with Nashville MTA, TDOT, and potential autonomous-mobility vendors—will develop connected transit technology for the Charlotte Pike corridor. Grantees will install connected-vehicle tech-infrastructure along WeGo Transit's Route 50, allowing signal priority (among other features) that would use vehicle-to-infrastructure communications while monitoring bus headways. An integrated app would then relay this headway information *back* to WeGo bus-drivers in real time. Connected-vehicle data collection also builds upon Nashville's recent successes executing a similar project supported by USDOT TIGER funds on Murfreesboro Pike, as well as a CMAQ award for West End Ave. A next-phase federal investment for Charlotte would continue this local momentum for installing the backbone comms-infrastructure that is prerequisite for advanced traffic operations—such as active traffic management, transit signal preemption, and signal performance measures.

Situated in the heart of Middle Tennessee at the nexus of Interstates 24, 65 and 40, Nashville has long been called “Music City” or “the Athens of the South.” In recent years, however, it's taken on the “Rising Star of the New South” moniker, having been praised by numerous national publications and renown urbanists for supporting entrepreneurs and sustaining growth. Prior to the pandemic-induced downturn, the metro area was experiencing an economic boom; over 40 million people live within a 300-mile radius, and more than 13 million tourists visit annually from all over the world. And the Charlotte Avenue corridor, specifically, has generated strong interest in public-private partnerships as it's home to many of Nashville's leading healthcare companies and hospital campuses. The Urban Land Institute (ULI) Americas selected Charlotte Ave. as one of its “*Building Healthy Places*” grant-corridors through its local ULI District Council, ULI Nashville: As a result, neighborhood leaders, planners, public-health experts, universities and other stakeholders envisioned how outdated retail and automobile-oriented strips could transform into safer, healthier mixed-use development for live/work/play. Further, the safety and efficiency benefits that ATCMTD is sure to bring along this important and evolving corridor, could facilitate complimentary investment in essential and safe bike lanes and pedestrian crosswalks along Charlotte Avenue.

Nashville's Smart City master plan, *Connected Nashville*, features an inclusive, multimodal transportation system with integrated technologies that improve safety, enhance mobility for all, and reduce environmental impact. Use of technology in Nashville's transportation and transit system allows us to not only complete our streets, but complete trips in all parts of the county: A central and prominent element of *Connected Nashville* is the underlying structures needed to ensure how a variety of Smart City services in the mobility realm can function—including expanded IT infrastructure, an open-data specification around road closures and detours, a shared data-management system for client information, software to scan and interpret crash data through smart infrastructure and sensors, and strategic public-private-university partnerships.

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Sincerely,

Rose Faeges-Easton
Sr. Director, ULI Nashville



Our mission is to engage the Nashville community
to promote a vibrant transit system.

August 25, 2020

The Hon. Secretary Elaine Chao
US Department of Transportation
1200 New Jersey Ave SE | Washington DC 20590

Dear Secretary Chao:

On behalf of Transit Now Nashville, I am writing to express my strong support for the Metropolitan Government of Nashville's application for an Advanced Transportation and Congestion Management Technologies Deployment grant, submitted in partnership with the Tennessee Department of Transportation. The goals of ATCMTD align well with both TDOT's and Metro-Nashville's priority emphasis on using innovative technology solutions to improve safety, mobility, efficiency, system performance, and infrastructure ROI.

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**Our mission is to engage the Nashville community
to promote a vibrant transit system.**

variety of Smart City services in the mobility realm can function—including expanded IT infrastructure, an open-data specification around road closures and detours, a shared data-management system for client information, software to scan and interpret crash data through smart infrastructure and sensors, and strategic public-private-university partnerships.

To mitigate congestion caused by rising population and job growth *and* emerge resilient from the pandemic-induced economic downturn, Nashville has an urgent need to expand basic signal infrastructure and continue delivering on its Smart City vision. Nashvillians deserve access to connected, multimodal transportation options and real-time information to make decisions about their options. In addition, easy-to-use, multimodal transportation supports the major industries that comprise the local economy: tourism, arts and entertainment, healthcare, higher education, and information technology. If selected to pursue transit-signal priority for Charlotte Pike, Nashville's highly congested traffic patterns will serve as an excellent laboratory where lessons-learned can be shared with municipalities across the country, helping to propel the next generation of urban policies and U.S. transportation systems. Transit Now Nashville enthusiastically request that USDOT select Metro's joint application with TDOT for a 2020 ATCMTD award.

Sincerely,
Adam Nicholson
President, Transit Now Nashville



August 27, 2020

The Hon. Secretary Elaine Chao
US Department of Transportation
1200 New Jersey Ave SE | Washington DC 20590

Dear Secretary Chao:

I write to express the Nashville Downtown Partnership's strong support for the Metropolitan Government of Nashville's application for an Advanced Transportation and Congestion Management Technologies Deployment grant, submitted in partnership with the Tennessee Department of Transportation. The goals of ATCMTD align with TDOT's and Metro-Nashville's priority emphasis on innovative technology solutions.

Metro's 2020 ATCMTD application, assembled in partnership with Nashville MTA, TDOT, and potential autonomous-mobility operators, will develop connected technology for the Charlotte Pike corridor. The project will build on Nashville's recent success with a similar project supported by USDOT TIGER funds on Murfreesboro Pike, as well as a CMAQ award for West End Ave. This project would continue local momentum for the communications infrastructure needed for advanced traffic operations.

Prior to the pandemic-induced downturn, Nashville was experiencing an economic boom, over 40 million people live within a 300-mile radius, and hosts than 13 million annual visitors. Charlotte Pike has generated strong interest in public-private partnerships and the Urban Land Institute selected Charlotte Pike as one of only four of its "*Building Healthy Places*" grantees.

Nashville's Smart City master plan, *Connected Nashville*, features a multimodal transportation system with integrated technologies that improve safety, enhance mobility for all, and reduce environmental impact. A central element of *Connected Nashville* is the underlying structure needed to ensure Smart City services function—including expanded IT infrastructure, open data around road closures and detours, and software to scan and interpret crash data through smart infrastructure and sensors.

To mitigate congestion *and* emerge resilient from the economic downturn, Nashville has an urgent need to expand basic infrastructure. If selected to pursue transit-signal priority for Charlotte Pike, Nashville's traffic patterns will serve as a laboratory where lessons-learned can be shared across the country, to propel the next generation of urban policies and transportation systems.

Nashville Downtown Partnership appreciates your thoughtful consideration of this request. Thank you.

Sincerely,

Thomas D. Turner
President & CEO

JIM COOPER
5TH DISTRICT, TENNESSEE
HOUSE ARMED SERVICES COMMITTEE
SUBCOMMITTEE ON STRATEGIC FORCES –
CHAIRMAN
SUBCOMMITTEE ON INTELLIGENCE, EMERGING
THREATS AND CAPABILITIES
SUBCOMMITTEE ON SEAPOWERS AND PROJECTION
FORCES
COMMITTEE ON OVERSIGHT
AND REFORM
SUBCOMMITTEE ON NATIONAL SECURITY
COMMITTEE ON THE BUDGET

Congress of the United States
House of Representatives
Washington, DC 20515

PLEASE MAIL TO NASHVILLE OFFICE:
605 CHURCH STREET
NASHVILLE, TN 37219-2314
(615) 736-5295
FAX: (615) 736-7479
WASHINGTON OFFICE:
(202) 225-4311
FAX: (202) 226-1035
WEBSITE: cooper.house.gov

August 26, 2020

The Honorable Elaine Chao
Secretary of Transportation
United States Department of Transportation
1200 New Jersey Avenue, S.E.
Washington, DC 20590

RE: Advanced Transportation and Congestion Management Technologies Deployment grant

Dear Secretary Chao,

I am writing in support of the Metro-Nashville Government's application for an Advanced Transportation and Congestion Management Technologies Deployment (ATCMTD) grant, submitted in partnership with the Tennessee Department of Transportation (TDOT). Both Metro-Nashville and TDOT prioritize using innovative technology solutions to improve safety, mobility, efficiency, system performance, and infrastructure ROI, which align well with the goals of ATCMTD.

Nashville is experiencing an economic boom; over 40 million people live within a 300-mile radius, and before the COVID-19 pandemic, more than 13 million tourists visited annually. Traffic along the Charlotte Avenue corridor, where this project will focus, has increased significantly in recent years, and due to its proximity to the downtown city center and its location in relation to many of Nashville's leading healthcare companies and hospital campuses, there is strong interest in making improvements along this corridor.

Nashville's Smart City master plan, *Connected Nashville*, features an inclusive, multimodal transportation system with integrated technologies that improve safety, enhance mobility for all, and reduce environmental impact. To mitigate congestion caused by rising population and job growth *and* emerge resilient from the pandemic-induced economic downturn, Nashville has an urgent need to expand basic signal infrastructure and continue delivering on its Smart City vision.

Nashvillians deserve access to connected, multimodal transportation options and real-time information to make decisions. In addition, easy-to-use, multimodal transportation supports the major industries that comprise the local economy. If selected to pursue transit-signal priority for Charlotte Pike, Nashville's highly congested traffic patterns will serve as an excellent laboratory where lessons-learned can be shared with municipalities across the country, helping to propel the next generation of urban policies and U.S. transportation systems.

Thank you for consideration of this project.

Sincerely,



Jim Cooper
Member of Congress



500 11th Avenue North, Suite 200
Nashville, Tennessee 37203
615.743.3000

nashvillechamber.com

August 28, 2020

The Hon. Secretary Elaine Chao
US Department of Transportation
1200 New Jersey Ave SE | Washington DC 20590

Dear Secretary Chao:

I am pleased to express the Nashville Area Chamber of Commerce's strong support for the Metropolitan Government of Nashville's application for an Advanced Transportation and Congestion Management Technologies Deployment grant, submitted in partnership with the Tennessee Department of Transportation. The goals of ATCMTD align well with both TDOT's and Metro-Nashville's priority emphasis on using innovative technology solutions to improve safety, mobility, efficiency, system performance, and infrastructure ROI.

Metro's 2020 ATCMTD application seeks to develop connected transit technology for the Charlotte Pike corridor. A next-phase federal investment for Charlotte would continue local momentum for installing the backbone comms-infrastructure needed for advanced traffic operations—such as active traffic management, transit signal preemption, and signal performance measures.

Nashville has seen unprecedented growth in recent years, driven by a diverse economy and a welcoming climate for entrepreneurs. The Charlotte corridor has seen this growth; it is home to many of Nashville's leading healthcare companies and hospital campuses as well as related businesses and, more recently, increased housing for the workforce of these industries. The corridor has been the subject of numerous public-private partnerships, including a study by the Urban Land Institute (national) as one of only four of its "Building Healthy Places" grantees. As a result, neighborhood leaders, planners, public-health experts, universities and other stakeholders envisioned how outdated retail and automobile-oriented strips could transform into safer, healthier mixed-use development for live/work/play. As a complement, Nashville's Smart City master plan, *Connected Nashville*, calls for an inclusive, multimodal transportation system with integrated technologies that improve safety, enhance mobility for all, and reduce environmental impact.

Despite the pandemic, Nashville continues to grow and because of the pandemic, public and private leaders in the community are interested in recovering in a manner that gives *all* Nashvillians an opportunity to access jobs, education, health care and amenities. To accomplish this, Nashville has an urgent need to expand basic signal infrastructure and continue delivering on its Smart City vision. Nashvillians deserve access to connected, multimodal transportation options and real-time information to make decisions about their options. In addition, easy-to-use, multimodal transportation supports the major industries that comprise the local economy: tourism, arts and entertainment, healthcare, higher education, and information technology.

For all these reasons, the Nashville Area Chamber of Commerce respectfully requests that USDOT select Metro's joint application with TDOT for a 2020 ATCMTD award.

Best regards,

A handwritten signature in black ink, appearing to read 'RS', written over a light blue grid background.

Ralph Schulz, CEO
Nashville Area Chamber of Commerce



August 28, 2020

The Hon. Secretary Elaine Chao
US Department of Transportation
1200 New Jersey Ave SE | Washington DC 20590

Dear Secretary Chao:

The Transit Alliance of Middle Tennessee expressly supports the Metropolitan Government of Nashville's application for an Advanced Transportation and Congestion Management Technologies Deployment grant, submitted in partnership with the Tennessee Department of Transportation. The goals of ATCMTD align well with both TDOT's and Metro-Nashville's priority emphasis on using innovative technology solutions to improve safety, mobility, efficiency, system performance, and infrastructure ROI.

In collaboration with Nashville MTA, TDOT, and potential autonomous-mobility vendors, Metro Nashville's 2020 ATCMTD application will develop *connected transit technology* for one of Nashville's most congested corridors: the Charlotte Pike corridor. By installing connected-vehicle tech-infrastructure along WeGo Transit's Route 50, this project would allow signal priority (among other features) using vehicle-to-infrastructure communications while monitoring bus headways. Through an integrated app, this headway information goes back to WeGo bus-drivers in real time to help them in their on-time performance and reliability for riders. Connected-vehicle data collection also builds upon Nashville's recent successes executing a similar project supported by USDOT TIGER funds on Murfreesboro Pike, as well as a CMAQ award for West End Ave. A next-phase federal investment for Charlotte would continue this local momentum for installing the backbone comms-infrastructure that is prerequisite for advanced traffic operations—such as active traffic management, transit signal preemption, and signal performance measures.

Situated in the heart of Middle Tennessee at the nexus of Interstates 24, 65 and 40, Nashville has long been called "Music City" or "the Athens of the South." In recent years, however, it's taken on the "Rising Star of the New South" moniker, having been praised by numerous national publications and renown urbanists for supporting entrepreneurs and sustaining growth. Prior to the pandemic-induced downturn, the metro area was experiencing an economic boom; over 40 million people live within a 300-mile radius, and more than 13 million tourists visit annually from all over the world. With the Charlotte Avenue corridor, specifically, generating strong interest in public-private partnerships as it's home to many of Nashville's leading healthcare companies and hospital campuses. The Urban Land Institute (national) selected Charlotte Ave. as one of only four of its "*Building Healthy Places*" grantees: As a result, neighborhood leaders, planners, public-health experts, universities and other stakeholders envisioned how outdated retail and automobile-oriented strips could transform into safer, healthier mixed-use development for live/work/play.

Nashville's Smart City master plan, *Connected Nashville*, features an inclusive, multimodal transportation system with integrated technologies that improve safety, enhance mobility for all, and reduce environmental impact. Use of technology in Nashville's transportation and transit system allows us to not only complete our streets, but complete trips in all parts of the county: A central and prominent element of *Connected Nashville* is the underlying structures needed to ensure how a variety of Smart City services in the mobility realm can function—including expanded IT infrastructure, an open-data specification around road closures and detours, a shared data-management system for client information, software to scan and interpret crash data through smart infrastructure and sensors, and strategic public-private-university partnerships.

It is possible for Nashville to mitigate congestion caused by rising population and job growth *while* emerging resilient from the pandemic-induced economic downturn. Nashvillians deserve access to connected, multimodal transportation options and real-time information to make decisions about their options. In addition, easy-to-use, multimodal transportation supports the major industries that comprise the local economy: tourism, arts and entertainment, healthcare, higher education, and information technology. If selected to pursue transit-signal priority for Charlotte Pike, Nashville's highly congested traffic patterns will serve as an excellent laboratory where lessons-learned can be shared with municipalities across the country, helping to propel the next generation of urban policies and U.S. transportation systems.

The Transit Alliance praises the work of the Metropolitan Government of Nashville on behalf of its communities and neighborhoods to create a plan of advancements and enhancements to our existing transportation system. Implementing *Connected Nashville* is a



vital part of the city's resilience, recovery, and sustainability in terms of economy, environment, and equity. The Transit Alliance unequivocally supports this project and requests that USDOT select Metro's joint application with TDOT for a 2020 ATCMTD award.

Sincerely,

Jessica Dauphin, President and CEO
Transit Alliance of Middle Tennessee

Appendix B

*A summary of the results of the audit/review, date of
audit/review and point of contact*

**METROPOLITAN GOVERNMENT
OF NASHVILLE AND DAVIDSON
COUNTY, TENNESSEE**

**SCHEDULES OF EXPENDITURES OF FEDERAL
AND STATE AWARDS AND REPORTS
REQUIRED BY THE SINGLE AUDIT ACT
AS AMENDED AND THE UNIFORM GUIDANCE**

YEAR ENDED JUNE 30, 2019

METROPOLITAN GOVERNMENT OF NASHVILLE
AND DAVIDSON COUNTY, TENNESSEE

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Independent Auditor's Report on Internal Control
Over Financial Reporting and on Compliance and
Other Matters Based on an Audit of Financial Statements
Performed in Accordance with *Government Auditing Standards*

To the Honorable Mayor and Members of Council
The Metropolitan Government of Nashville and Davidson County, Tennessee

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the financial statements of the governmental activities, the business-type activities, the aggregate discretely presented component units, each major fund, and the aggregate remaining fund information of the Metropolitan Government of Nashville and Davidson County, Tennessee (the "Government") as of and for the year ended June 30, 2019, and the related notes to the financial statements, which collectively comprise the Government's basic financial statements. We have also audited the financial statements of the Sports Authority Fund and the Industrial Development Board Fund, which are discretely presented component units of the Government, and the financial statements of each of the Government's nonmajor governmental, nonmajor enterprise, internal service and fiduciary funds, and have issued our report thereon dated October 31, 2019. Our report includes a reference to other auditors. We have also audited and reported on separately the financial statements of the following discretely presented component units: the Hospital Authority and Metropolitan Transit Authority. Other auditors audited the financial statements of the following discretely presented component units, as described in our report on the Government's financial statements: the Nashville District Management Corporation, the Gulch Business Improvement District, Inc., the Metropolitan Development and Housing Agency, the Electric Power Board, the Emergency Communications District, the Metropolitan Nashville Airport Authority and the Convention Center Authority. This report does not include the results of our testing or the other auditors' testing of internal control over financial reporting or compliance and other matters that are reported on separately by us or other auditors.

Internal Control Over Financial Reporting

In planning and performing our audit of the financial statements, we considered the Government's internal control over financial reporting (internal control) to determine the audit procedures that are appropriate in the circumstances for the purpose of expressing our opinions on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the Government's internal control. Accordingly, we do not express an opinion on the effectiveness of the Government's internal control.



To the Honorable Mayor and Members of Council
The Metropolitan Government of Nashville and Davidson County, Tennessee

A deficiency in internal control exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. A *material weakness* is a deficiency, or a combination of deficiencies, in internal control such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected on a timely basis. A *significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies. Given the limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

Compliance and Other Matters

As part of obtaining reasonable assurance about whether the Government's financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

Purpose of this Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the Government's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Government's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

Nashville, Tennessee
October 31, 2019



Independent Auditor's Report on Compliance for Each Major Program and on
Internal Control Over Compliance Required by the Uniform Guidance and on
the Schedules of Expenditures of Federal and State Awards

To the Honorable Mayor and Members of Council
The Metropolitan Government of Nashville and Davidson County, Tennessee

Report on Compliance for Each Major Federal Program

We have audited the Metropolitan Government of Nashville and Davidson County, Tennessee's (the "Government") compliance with the types of compliance requirements described in the *OMB Compliance Supplement* that could have a direct and material effect on each of the Government's major federal programs for the year ended June 30, 2019. The Government's major federal programs are identified in the summary of auditor's results section of the accompanying schedule of findings and questioned costs.

The Government's basic financial statements include the operations of the following component units: the Nashville District Management Corporation, the Gulch Business Improvement District, Inc., the Metropolitan Development and Housing Agency, the Electric Power Board, the Emergency Communications District, the Metropolitan Nashville Airport Authority, the Convention Center Authority, the Hospital Authority and the Metropolitan Transit Authority, which expended \$135,137,859 in federal awards which are not included in the accompanying Schedule of Expenditures of Federal Awards during the year ended June 30, 2019. Our audit, described below, did not include the operations of the Metropolitan Transit Authority and the Hospital Authority because, when applicable, we audited and reported on those component units' compliance separately. Our audit, described below, also did not include the operations of the Nashville District Management Corporation, Gulch Business Improvement District Inc., the Metropolitan Development and Housing Agency, the Electric Power Board, the Emergency Communications District, the Metropolitan Nashville Airport Authority and the Convention Center Authority because those component units engaged other auditors to perform audits of compliance and report separately.

Management's Responsibility

Management is responsible for compliance with federal statutes, regulations, and the terms and conditions of its federal awards applicable to its federal programs.



To the Honorable Mayor and Members of Council
The Metropolitan Government of Nashville and Davidson County, Tennessee

Auditor's Responsibility

Our responsibility is to express an opinion on compliance for each of the Government's major federal programs based on our audit of the types of compliance requirements referred to above. We conducted our audit of compliance in accordance with auditing standards generally accepted in the United States of America; the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States; and the audit requirements of Title 2 U.S. *Code of Federal Regulations* Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* (Uniform Guidance). Those standards and the Uniform Guidance require that we plan and perform the audit to obtain reasonable assurance about whether noncompliance with the types of compliance requirements referred to above that could have a direct and material effect on a major federal program occurred. An audit includes examining, on a test basis, evidence about the Government's compliance with those requirements and performing such other procedures as we considered necessary in the circumstances.

We believe that our audit provides a reasonable basis for our opinion on compliance for each major federal program. However, our audit does not provide a legal determination of the Government's compliance.

Opinion on Each Major Federal Program

In our opinion, the Government complied, in all material respects, with the types of compliance requirements referred to above that could have a direct and material effect on each of its major federal programs for the year ended June 30, 2019.

Report on Internal Control Over Compliance

Management of the Government is responsible for establishing and maintaining effective internal control over compliance with the types of compliance requirements referred to above. In planning and performing our audit of compliance, we considered the Government's internal control over compliance with the types of requirements that could have a direct and material effect on each major federal program to determine the auditing procedures that are appropriate in the circumstances for the purpose of expressing an opinion on compliance for each major federal program and to test and report on internal control over compliance in accordance with the Uniform Guidance, but not for the purpose of expressing an opinion on the effectiveness of internal control over compliance. Accordingly, we do not express an opinion on the effectiveness of the Government's internal control over compliance.



To the Honorable Mayor and Members of Council
The Metropolitan Government of Nashville and Davidson County, Tennessee

A deficiency in internal control over compliance exists when the design or operation of a control over compliance does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, noncompliance with a type of compliance requirement of a federal program on a timely basis. *A material weakness in internal control over compliance* is a deficiency, or combination of deficiencies, in internal control over compliance, such that there is a reasonable possibility that material noncompliance with a type of compliance requirement of a federal program will not be prevented, or detected and corrected, on a timely basis. *A significant deficiency in internal control over compliance* is a deficiency, or a combination of deficiencies, in internal control over compliance with a type of compliance requirement of a federal program that is less severe than a material weakness in internal control over compliance, yet important enough to merit attention by those charged with governance.

Our consideration of internal control over compliance was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control over compliance that might be material weaknesses or significant deficiencies. We did not identify any deficiencies in internal control over compliance that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

The purpose of this report on internal control over compliance is solely to describe the scope of our testing of internal control over compliance and the results of that testing based on the requirements of the Uniform Guidance. Accordingly, this report is not suitable for any other purpose.

Report on the Schedules of Expenditures of Federal and State Awards

We have audited the financial statements of the governmental activities, the business-type activities, the aggregate discretely presented component units, each major fund, and the aggregate remaining fund information of the Government as of and for the year ended June 30, 2019, and the related notes to the financial statements, which collectively comprise the Government's basic financial statements. We issued our report thereon dated October 31, 2019, which contained unmodified opinions on those financial statements. Our report includes a reference to the reports of other auditors on the financial statements of the Nashville District Management Corporation, the Gulch Business Improvement District, Inc., the Metropolitan Development and Housing Agency, the Electric Power Board, the Emergency Communications District, the Metropolitan Nashville Airport Authority and the Convention Center Authority.



To the Honorable Mayor and Members of Council
The Metropolitan Government of Nashville and Davidson County, Tennessee

We have also audited the financial statements of each of the Government's nonmajor governmental, nonmajor enterprise, internal service and fiduciary funds, as well as the financial statements of the Sports Authority Fund, and the Industrial Development Board Fund as of and for the year ended June 30, 2019, and have issued our report thereon dated October 31, 2019, which contained unmodified opinions on those financial statements. Our audit was conducted for the purpose of forming opinions on the financial statements that collectively comprise the Government's basic financial statements. The accompanying Schedules of Expenditures of Federal and State Awards are presented for purposes of additional analysis as required by the Uniform Guidance and the State of Tennessee, and are not a required part of the basic financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements. The information has been subjected to the auditing procedures applied in the audit of the financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the Schedules of Expenditures of Federal and State Awards are fairly stated in all material respects in relation to the basic financial statements as a whole.

Nashville, Tennessee
October 31, 2019, except for Compliance
and Internal Control Over Compliance, as
to which the date is December 31, 2019

METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY, TENNESSEE

SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS

For the Year ended June 30, 2019

Program Title	Federal CFDA Number	Contract Number	Grant Period	Program Award	(Accrued) Deferred Grant Revenue June 30, 2018	Federal Receipts	Receipts or Adjustments: Transfers (I) Other (O)	Federal Expenditures/ Distributions	Payments or Adjustments: Grantor (G) Transfers (I) Other (O)	(Accrued) Deferred Grant Revenue June 30, 2019	Amount Passed Through to Subrecipients
ENVIRONMENTAL PROTECTION AGENCY:											
Direct Program:											
Air Pollution Control Program	66.001	00408115-AD	10-01-14 to 09-30-19	2,068,827	(267,081)	626,771	-	430,086	-	(70,396)	-
Total Program	66.001				(267,081)	626,771	-	430,086	-	(70,396)	-
Direct Program:											
Section 103 Ambient Air Monitoring Network Installation	66.034	96497715-5	04-01-15 to 03-31-20	518,809	(7,865)	86,520	-	110,117	-	(31,462)	-
Total Program	66.034				(7,865)	86,520	-	110,117	-	(31,462)	-
Total Environmental Protection Agency					(274,946)	713,291	-	540,203	-	(101,858)	-
INSTITUTE OF MUSEUM AND LIBRARY SERVICES:											
Passed Through Tennessee State Library and Archive:											
Library Services and Technology Act - Technology Grant	45.310	30501-00119-85	10-01-18 to 04-30-19	3,124	-	3,124	-	3,124	-	-	-
Library Services - Library Services for the Disadvantaged	45.310	30501-00219-04	07-01-18 to 05-31-19	6,400	-	6,400	-	6,400	-	-	-
Total Program	45.310				-	9,524	-	9,524	-	-	-
Total Institute of Museum and Library Services					-	9,524	-	9,524	-	-	-
NATIONAL ENDOWMENT FOR THE ARTS:											
Direct Programs:											
Our Town - Planning Commission Project	45.024	16-4292-7086	08-01-16 to 06-30-19	50,000	(2,143)	3,976	-	24,127	-	(22,294)	-
National Endowment for Arts FY18 - Metro Public Schools	45.024	17-5100-7099	07-01-17 to 09-30-18	40,469	(40,469)	40,469	-	-	-	-	-
Total Program	45.024				(42,612)	44,445	-	24,127	-	(22,294)	-
Passed Through Tennessee Arts Commission:											
Major Cultural Institutions (Federal Portion)	45.025	31625-04895	07-01-18 to 06-30-19	23,648	-	23,648	-	23,648	-	-	-
Total Program	45.025				-	23,648	-	23,648	-	-	-
Total National Endowment for the Arts					(42,612)	68,093	-	47,775	-	(22,294)	-
STATE JUSTICE INSTITUTE:											
Direct Program:											
State Justice Institute Technical Assistance - Juvenile Court	N/A	SJI -17-T-129	05-01-17 to 05-01-18	41,545	(12,934)	12,934	-	-	-	-	-
Total Other Financial Assistance					(12,934)	12,934	-	-	-	-	-
Total State Justice Institute					(12,934)	12,934	-	-	-	-	-
U.S. DEPARTMENT OF AGRICULTURE:											
<i>Child Nutrition Cluster</i>											
Passed Through Tennessee Education:											
National School Breakfast Program - Metro Public Schools	10.553	N/A	07-01-18 to 06-30-19	N/A	-	11,550,216	-	11,550,216	-	-	-
Total Program	10.553				-	11,550,216	-	11,550,216	-	-	-
Passed Through Tennessee Education:											
National School Lunch Program - Lunch, Metro Public Schools	10.555	N/A	07-01-18 to 06-30-19	N/A	-	26,564,145	-	26,564,145	-	-	-
National School Lunch Program - Snacks, Metro Public Schools	10.555	N/A	07-01-18 to 06-30-19	N/A	-	87,481	-	87,481	-	-	-
National School Lunch and Breakfast Program - Food Distribution - Metro Public Schools	10.555	N/A	07-01-18 to 06-30-19	N/A	534,041	3,316,552	-	3,255,812	-	594,781	-
Total Program	10.555				534,041	29,968,178	-	29,907,438	-	594,781	-
Passed Through Tennessee Human Services:											
Summer Food Service Program - Metro Action Commission	10.559	49	05-01-18 to 08-01-18	N/A	(352,877)	632,244	-	279,367	-	-	-
Summer Food Service Program - Metro Action Commission	10.559	49	05-01-19 to 08-02-19	N/A	-	-	-	341,941	-	(341,941)	-
Total Program	10.559				(352,877)	632,244	-	621,308	-	(341,941)	-
Total Child Nutrition Cluster					181,164	42,150,638	-	42,078,962	-	252,840	-
Passed Through Tennessee Health:											
Women, Infants, and Children (WIC)	10.557	Part of 34353-14215	10-01-14 to 09-30-18	18,456,400	(1,079,819)	2,319,413	-	1,239,594	-	-	-
Women, Infants, and Children (WIC) - Peer Counseling	10.557	Part of 34353-14215	10-01-14 to 09-30-18	874,000	(41,698)	81,770	-	40,072	-	-	-
Women, Infants, and Children (WIC)	10.557	34353-14219	10-01-18 to 09-30-21	13,494,900	-	2,421,215	-	3,230,013	-	(808,798)	-
Women, Infants, and Children (WIC) - Peer Counseling	10.557	34353-14219	10-01-18 to 09-30-21	655,500	-	78,084	-	96,074	-	(17,990)	-
Total Program	10.557				(1,121,517)	4,900,482	-	4,605,753	-	(826,788)	-

See accompanying Notes to Schedule of Expenditures of State Award.
See independent auditor's report on supplemental information.

METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY, TENNESSEE

SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS

For the Year ended June 30, 2019

Program Title	Federal CFDA Number	Contract Number	Grant Period	Program Award	(Accrued) Deferred Grant Revenue June 30, 2018	Federal Receipts	Receipts or Adjustments: Transfers (T) Other (O)	Federal Expenditures/ Distributions	Payments or Adjustments: Grantor (G) Transfers (T) Other (O)	(Accrued) Deferred Grant Revenue June 30, 2019	Amount Passed Through to Subrecipients
Passed Through Tennessee Human Services:											
Child Adult Care Food Program - Metro Action Commission	10.558	49	10-01-17 to 09-30-18	N/A	(1,485)	179,010	-	177,525	-	-	-
Child Adult Care Food Program - Metro Action Commission	10.558	49	10-01-18 to 09-30-19	N/A	-	864,807	-	867,945	-	(3,138)	-
Total Program	10.558				(1,485)	1,043,817	-	1,045,470	-	(3,138)	-
Passed Through Tennessee Labor:											
Supplemental Nutrition Assistance Program - Nashville Career Advancement Center	10.561	LW09F181QSNAP18	10-01-17 to 09-30-18	94,036	(2,249)	43,798	2,012 O	44,035	(474) O	-	-
Total Program	10.561				(2,249)	43,798	2,012	44,035	(474)	-	-
Direct Program:											
Commodity Supplemental Food Program - Food Distribution	10.565	N/A	07-01-17 to 06-30-18	N/A	263,691	139,230	-	402,921	-	-	-
Passed Through Tennessee Health:											
Commodity Supplemental Food Program - Administration	10.565	Part of 34353-14215	10-01-14 to 09-30-18	939,600	(66,642)	115,243	-	48,601	-	-	-
Total Program	10.565				197,049	254,473	-	451,522	-	-	-
Direct Program:											
Farm to School Initiative - Metro Public Schools	10.575	16-01	12-01-15 to 09-30-19	38,682	(15,248)	37,872	-	20,560	2,064 O	-	-
Total Program	10.575				(15,248)	37,872	-	20,560	2,064	-	-
Passed Through Tennessee Education:											
Fresh Fruits and Vegetables Program - Metro Public Schools	10.582	N/A	07-01-18 to 06-30-19	N/A	-	665,455	-	665,455	-	-	-
Total Program	10.582				-	665,455	-	665,455	-	-	-
Total U.S. Department of Agriculture					(762,286)	49,096,535	2,012	48,911,757	1,590	(577,086)	-
U.S. DEPARTMENT OF DEFENSE:											
Direct Program:											
Air Force R.O.T.C.	N/A	N/A	07-01-17 to 06-30-18	N/A	(23,897)	23,897	-	-	-	-	-
Air Force R.O.T.C.	N/A	N/A	07-01-18 to 06-30-19	N/A	-	217,789	-	217,789	-	-	-
Air Force R.O.T.C.	N/A	N/A	07-01-18 to 06-30-19	N/A	-	116,006	-	116,006	-	-	-
Total Other Financial Assistance					(23,897)	357,692	-	333,795	-	-	-
Total U.S. Department of Defense					(23,897)	357,692	-	333,795	-	-	-
U.S. DEPARTMENT OF EDUCATION:											
Passed Through Tennessee Education:											
Focus School Title-1	84.010	N/A	07-01-16 to 09-30-17	392,216	(125)	-	125 O	-	-	-	-
Title I Non-Enhanced Option	84.010	17-01	07-01-16 to 09-30-18	35,975,710	(28,617)	28,617	-	-	-	-	-
Title I Non-Enhanced Option	84.010	18-01	07-01-17 to 09-30-18	33,945,772	(7,210,002)	8,278,866	-	1,068,864	-	-	-
Title I Non-Enhanced Option	84.010	19-01	07-01-18 to 09-30-19	33,309,922	-	28,605,957	-	30,068,562	-	(1,462,605)	-
Title I SIG Priority Schools	84.010	18-01	07-01-17 to 09-30-18	33,945,772	-	1,705,329	-	3,071,937	-	(1,366,608)	-
Title I-A Neglect	84.010	17-01	07-01-16 to 06-30-18	101,279	(14,675)	107,399	-	103,077	-	(10,353)	-
Title I-D Delinquent	84.010	18-01	07-01-17 to 06-30-19	338,020	(151,984)	383,102	-	302,578	-	(71,460)	-
Irone Grant FY18	84.010	N/A	07-01-17 to 09-30-18	1,443,355	(100,316)	716,056	-	607,680	15,584 O	(7,524)	-
NCLB Consolidated Administration	84.010	18-190000	07-01-18 to 06-30-19	3,334,052	(1,537,337)	4,027,208	-	2,799,352	-	(309,481)	-
Total Program	84.010				(9,043,056)	43,852,534	125	38,022,050	15,584	(3,228,031)	-
Special Education Cluster (IDEA):											
Passed Through Tennessee Education:											
Education of the Handicapped - Excess Cost Funds	84.027	N/A	07-01-18 to 06-30-19	N/A	-	1,020,642	-	1,020,642	-	-	-
IDEA Part B 17-01	84.027	17-01	07-01-16 to 09-30-17	23,105,087	(10,165)	-	10,165 O	-	-	-	-
IDEA Part B 18-01	84.027	18-01	07-01-17 to 09-30-18	22,782,518	(6,159,761)	6,159,761	-	-	-	-	-
IDEA Part B 19-01	84.027	19-01	07-01-18 to 09-30-19	22,672,746	-	17,077,067	-	20,320,005	-	(3,242,938)	-
IDEA Discretionary LRE18	84.027	17-01	07-01-17 to 09-30-18	N/A	(46,976)	46,976	-	-	-	-	-
IDEA Discretionary LRE19	84.027	19-01	07-01-18 to 09-30-19	N/A	-	57,661	-	60,338	-	(2,677)	-
Special Education Transiti	84.027	19-01	07-01-18 to 09-30-19	N/A	-	96,671	-	105,481	-	(8,810)	-
IDEA Discretionary	84.027	19-01	07-01-18 to 09-30-19	N/A	-	18,293	-	21,943	-	(3,650)	-
Total Program	84.027				(6,216,902)	24,477,071	10,165	21,528,409	-	(3,258,075)	-
Passed Through Tennessee Education:											
IDEA Pre-School 18-01	84.173	18-01	07-01-17 to 09-30-18	296,222	(84,512)	84,512	-	-	-	-	-
IDEA Pre-School 19-01	84.173	19-01	07-01-18 to 09-30-19	421,310	-	161,451	-	335,137	-	(173,686)	-
IDEA Pre-School Discretionary	84.173	19-01	07-01-18 to 09-30-19	N/A	-	5,368	-	16,916	-	(11,548)	-
Total Program	84.173				(84,512)	251,331	-	352,053	-	(185,234)	-
Total Special Education Cluster					(6,301,414)	24,728,402	10,165	21,880,462	-	(3,443,309)	-

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METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY, TENNESSEE

SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS

For the Year ended June 30, 2019

Program Title	Federal CFDA Number	Contract Number	Grant Period	Program Award	(Accrued) Deferred Grant Revenue June 30, 2018	Federal Receipts	Receipts or Adjustments: Transfers (T) Other (O)	Federal Expenditures/ Distributions	Payments or Adjustments: Grantor (G) Transfers (T) Other (O)	(Accrued) Deferred Grant Revenue June 30, 2019	Amount Passed Through to Subrecipients
Direct Program:											
Impact Aid	84.041	N/A	07-01-18 to 06-30-19	N/A	-	-	-	-	-	-	-
Total Program	84.041				-	-	-	-	-	-	-
Passed Through Tennessee Education:											
Carl Perkins Reserve	84.048	18-190000	07-01-17 to 06-30-18	11,930	(11,930)	11,930	-	-	-	-	-
Program Improvement - Carl Perkins Federal Grant	84.048	18-01	07-01-17 to 06-30-18	1,491,847	(5,500)	28,249	-	22,749	-	-	-
Program Improvement - Carl Perkins Federal Grant	84.048	19-01	07-01-18 to 06-30-19	1,584,021	-	1,257,068	-	1,592,045	-	(334,977)	-
Total Program	84.048				(17,430)	1,297,247	-	1,614,794	-	(334,977)	-
Passed Through Tennessee Education:											
Magnet School	84.165	U-165A170061	10-01-17 to 09-30-22	5,089,662	(257,459)	2,818,128	-	3,011,860	-	(451,191)	-
Total Program	84.165				(257,459)	2,818,128	-	3,011,860	-	(451,191)	-
Direct Program:											
Project Prevent	84.184	S184M140107	10-01-14 to 09-30-19	1,978,068	(136,149)	517,880	-	573,595	-	(191,864)	-
Total Program	84.184				(136,149)	517,880	-	573,595	-	(191,864)	-
Passed Through Tennessee Education:											
Homeless Children Education Program	84.196	18-01	07-01-17 to 06-30-18	281,787	(60,721)	128,914	-	-	68,193	-	-
Homeless Children Education Program	84.196	19-01	07-01-18 to 06-30-19	292,433	-	196,271	-	291,504	-	(95,233)	-
Total Program	84.196				(60,721)	325,185	-	291,504	68,193	(95,233)	-
Passed Through Tennessee Education:											
21st Century Cohort 3 FY17	84.287	N/A	07-01-16 to 06-30-17	395,261	(4,446)	-	4,446 O	-	-	-	-
21st Century CCLC Cohort	84.287	N/A	07-01-17 to 06-30-18	413,000	(51,650)	66,595	-	-	14,945 O	-	-
21st Century CCLC Cohort	84.287	N/A	07-01-18 to 06-30-19	408,080	-	275,554	-	408,520	-	(132,966)	-
21st Century CCLC -PreK	84.287	N/A	07-01-17 to 06-30-18	300,000	(13,454)	67,223	-	-	53,769 O	-	-
21st Century CCLC -PreK	84.287	N/A	07-01-18 to 06-30-19	302,500	-	246,779	-	302,534	-	(55,755)	-
Total Program	84.287				(69,550)	656,151	4,446	711,054	68,714	(188,721)	-
Direct Program:											
Gear Up Nashville FY13	84.334	13-01	01-01-13 to 06-30-19	3,398,493	(445,531)	131,038	445,531 O	560,309	-	(429,271)	-
Gear Up TN 3	84.334	18-01	07-01-17 to 09-30-18	660,625	(742)	21,528	742 O	83,703	-	(62,175)	-
Gear Up	84.334	19-01	07-01-18 to 09-30-19	1,923,531	-	172,452	-	285,006	-	(112,554)	-
Total Program	84.334				(446,273)	325,018	446,273	929,018	-	(604,000)	-
Passed Through Tennessee Education:											
Music and Art City	84.351	U-351C170073	10-01-17 to 09-30-21	1,200,869	(71,373)	298,122	-	339,070	-	(112,321)	-
Total Program	84.351				(71,373)	298,122	-	339,070	-	(112,321)	-
Passed Through Tennessee Education:											
Title III Emergency Immigrant Education Program	84.365	16-01	07-01-15 to 09-30-16	1,986,457	(439)	-	439 O	-	-	-	-
Title III Emergency Immigrant Education Program	84.365	18-01	07-01-17 to 09-30-18	2,521,704	(845,999)	879,157	-	2,133	31,025 O	-	-
Title III Emergency Immigrant Education Program	84.365	19-01	07-01-18 to 09-30-19	2,512,141	-	1,771,546	-	1,896,313	-	(124,767)	-
Title IIIA Discretionary FY17	84.365	17-180000	07-01-16 to 09-30-17	224,584	(86,234)	86,234	-	-	-	(92,262)	-
Title IIIA Discretionary FY18	84.365A	18-190000	07-01-17 to 09-30-19	328,915	(16,086)	207,478	2,121 O	196,940	-	(3,427)	-
Total Program	84.365				(948,758)	2,944,415	2,560	2,095,386	31,025	(128,194)	-
Passed Through Tennessee Education:											
Math & Science Partnership FY18	84.366	N/A	07-01-17 to 09-30-19	1,425,280	(18,822)	483,431	-	473,326	1,587	(10,304)	-
Total Program	84.366				(18,822)	483,431	-	473,326	1,587	(10,304)	-
Passed Through Tennessee Education:											
Title II Part A	84.367	17-01	07-01-16 to 09-30-17	4,691,405	20,948	-	-	20,948	-	-	-
Title II Part A	84.367	18-01	07-01-17 to 09-30-18	4,766,421	(752,265)	1,371,841	-	155,644	463,832 O	-	-
Title II Part A	84.367	19-01	07-01-18 to 09-30-19	5,650,389	-	2,764,993	-	3,117,104	-	(352,111)	-
Title II-A NonPublic	84.367	N/A	10-01-16 to 09-30-19	633,500	(159,941)	400,223	-	341,544	-	(92,262)	-
Title II-A Principals	84.367	18-01	07-01-17 to 09-30-19	326,381	(48,619)	127,928	-	122,856	-	(43,547)	-
Total Program	84.367				(930,977)	4,664,985	-	3,758,096	463,832	(487,920)	-
Passed Through Tennessee Education:											
School Improvement Cohort 4	84.377	S377A120043/S37A140043	07-01-16 to 09-30-17	3,058,015	(784)	-	784 O	-	-	-	-
School Improvement Cohort 4	84.377	S377A120043/S37A140043	07-01-17 to 09-30-18	3,141,053	(54,738)	860,422	-	259,485	546,199 O	-	-
School Improvement	84.377	S377A120043/S37A140043	07-01-18 to 09-30-19	3,029,400	-	742,009	-	1,008,311	-	(266,302)	-
Total Program	84.377				(55,522)	1,602,431	784	1,267,796	546,199	(266,302)	-

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METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY, TENNESSEE

SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS

For the Year ended June 30, 2019

Program Title	Federal CFDA Number	Contract Number	Grant Period	Program Award	(Accrued) Deferred Grant Revenue June 30, 2018	Federal Receipts	Receipts or Adjustments: Transfers (T) Other (O)	Federal Expenditures/ Distributions	Payments or Adjustments: Grantor (G) Transfers (T) Other (O)	(Accrued) Deferred Grant Revenue June 30, 2019	Amount Passed Through to Subrecipients
Passed Through Tennessee Education: Grow STEM	84.411	U411C150082	01-01-16 to 12-31-20	2,862,522	(949,452)	812,539	-	618,255	-	(755,168)	-
EIR Pyramid Model	84.411	U-411B170021	10-01-17 to 09-30-22	7,683,178	(51,569)	1,099,848	-	1,325,777	-	(277,497)	-
Total Program	84.411				(1,001,021)	1,912,387	-	1,944,032	-	(1,032,665)	-
Passed Through Tennessee Education: Pre-School Expansion	84.419B	18-01	07-01-17 to 06-30-19	13,466,596	(497,013)	6,499,883	-	6,778,414	-	(775,544)	-
Total Program	84.419B				(497,013)	6,499,883	-	6,778,414	-	(775,544)	-
Passed Through Tennessee Education: Student Support - Academic	84.424A	N/A	07-01-16 to 09-30-17	392,216	-	-	-	4,836	-	(4,836)	-
Total Program	84.424A				-	-	-	4,836	-	(4,836)	-
Total U.S. Department of Education					(19,855,538)	92,926,199	464,353	83,695,293	1,195,134	(11,355,412)	-
U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES:											
<i>Aging Cluster:</i>											
Passed Through Greater Nashville Regional Council: Title III Part B Transportation	93.044	2018-39	07-01-17 to 06-30-18	70,000	(6,200)	6,200	-	-	-	-	-
Title III Part B Transportation	93.044	2019-39	07-01-18 to 06-30-19	70,000	-	63,800	-	70,000	-	(6,200)	-
Total Program	93.044				(6,200)	70,000	-	70,000	-	(6,200)	-
Passed Through Greater Nashville Regional Council: Title III Part C Nutrition Program	93.045	2018-39	07-01-17 to 06-30-18	654,906	(53,206)	53,206	-	-	-	-	-
Title III Part C Nutrition Program	93.045	2019-39	07-01-18 to 06-30-19	740,368	-	676,500	-	740,368	-	(63,868)	-
Total Program	93.045				(53,206)	729,706	-	740,368	-	(63,868)	-
Passed Through Greater Nashville Regional Council: Nutrition Services Incentive Program	93.053	2018-39	07-01-17 to 06-30-18	105,363	(8,563)	8,563	-	-	-	-	-
Nutrition Services Incentive Program	93.053	2019-39	07-01-18 to 06-30-19	102,813	-	94,600	-	102,813	-	(8,213)	-
Total Program	93.053				(8,563)	103,163	-	102,813	-	(8,213)	-
Total Aging Cluster					(67,969)	902,869	-	913,181	-	(78,281)	-
Passed Through Tennessee Education: CDC Cooperative Agreement	93.069	N/A	07-01-17 to 09-30-18	281,220	-	-	-	130,471	-	(130,471)	-
Total Program	93.069				-	-	-	130,471	-	(130,471)	-
Passed Through Tennessee Health: Environmental Health Specialist Network (Food Safety Services)	93.070	34360-42718	10-01-17 to 09-30-18	99,300	(9,925)	9,925	-	-	-	-	-
Environmental Health Specialist Network (Food Safety Services)	93.070	34360-42719	10-01-18 to 09-30-19	98,500	-	73,510	-	90,925	-	(17,415)	-
Total Program	93.070				(9,925)	83,435	-	90,925	-	(17,415)	-
Passed Through Tennessee Health: Healthcare Preparedness (HPP)	93.074	Part of 34360-31718	07-01-17 to 06-30-22	350,500	(17,197)	69,434	-	70,100	-	(17,863)	-
Public Health Emergency Preparedness (PHEP)	93.074	Part of 34360-31718	07-01-17 to 06-30-22	3,027,170	(238,735)	668,564	-	596,000	-	(166,171)	-
Public Health Emergency Preparedness Cities Readiness Initiative (CRI)	93.074	Part of 34360-31718	07-01-17 to 06-30-22	652,450	(40,206)	84,546	-	68,739	-	(24,399)	-
Passed Through Tennessee Highland Rim Health Care Coalition: Emergency Lighting for Large-Scale Events	93.074	Z20195491	05-08-19 to 05-30-19	10,000	-	10,000	-	10,000	-	-	-
Emergency Lighting for Large-Scale Events (Supplement)	93.074	Z20195491	05-08-19 to 05-30-19	720	-	720	-	720	-	-	-
Total Program	93.074				(296,138)	833,264	-	745,559	-	(208,433)	-
Passed Through National Association of County and City Health Officials: Expanding Partnerships to Reduce HIV & STD Among Adolescents	93.079	2017-080403	09-30-17 to 09-29-18	20,000	17,131	-	-	15,958	1,173 O	-	-
Total Program	93.079				17,131	-	-	15,958	1,173	-	-
Passed Through Oasis Center Inc. Wyman's Teen Outreach Program - Juvenile Court	93.092	N/A	07-01-17 to 06-30-18	5,000	(1,473)	1,473	-	-	-	-	-
Wyman's Teen Outreach Program - Juvenile Court	93.092	N/A	07-01-18 to 06-30-19	5,000	-	2,322	-	3,353	-	(1,031)	-
Total Program	93.092				(1,473)	3,795	-	3,353	-	(1,031)	-
Passed Through Association of Food and Drug Officials: Retail Standards Grant Program - Food Environmentalist Training	93.103	G-T-1709-05224	01-01-18 to 12-31-18	3,000	-	1,623	-	1,623	-	-	-
Retail Standards Grant Program - Food Environmentalist Training	93.103	G-T-1810-06427	01-01-19 to 12-31-19	3,000	-	-	-	-	-	-	-
Retail Standards Grant Program - Food Inspector Training / FDA Southeast Regional Seminar	93.103	G-SP-1709-05223	01-01-18 to 12-31-18	3,000	-	2,895	-	2,841	54 O	-	-
Retail Standards Grant Program - Food Inspector Training / FDA Southeast Regional Seminar	93.103	G-SP-1810-06418	01-01-19 to 12-31-19	2,000	-	-	-	-	-	-	-
Total Program	93.103				-	4,518	-	4,464	54	-	-

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METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY, TENNESSEE

SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS

For the Year ended June 30, 2019

Program Title	Federal CFDA Number	Contract Number	Grant Period	Program Award	(Accrued) Deferred Grant Revenue June 30, 2018	Federal Receipts	Receipts or Adjustments: Transfers (T) Other (O)	Federal Expenditures/ Distributions	Payments or Adjustments: Grantor (G) Transfers (T) Other (O)	(Accrued) Deferred Grant Revenue June 30, 2019	Amount Passed Through to Subrecipients
Passed Through Tennessee Health:											
TB Outreach and Control (Federal Portion)	93.116	34360-37218	07-01-17 to 06-30-18	260,000	(60,001)	60,001	-	-	-	-	-
TB Outreach and Control (Federal Portion)	93.116	34360-37219	07-01-18 to 06-30-19	260,000	-	199,870	-	258,336	-	(58,466)	-
Passed Through Vanderbilt University Medical Center:											
TB Epidemiologic Studies Consortium	93.116	200-2011-41276-A4	09-29-17 to 09-28-18	75,605	-	51,887	(36,342) O	21,006	-	(5,462)	-
TB Epidemiologic Studies Consortium	93.116	200-2011-41276-A5	09-29-18 to 09-28-19	77,117	-	28,152	-	41,010	-	(12,858)	-
Total Program	93.116				(60,001)	339,910	(36,342)	320,353	-	(76,786)	-
Passed Through Tennessee Health:											
Family Planning (Federal Portion)	93.217	34360-35118	07-01-17 to 06-30-22	3,591,500	(62,649)	677,252	-	718,298	-	(103,695)	-
Total Program	93.217				(62,649)	677,252	-	718,298	-	(103,695)	-
Passed Through Tennessee Mental Health and Substance Abuse Services:											
Cooperative Agreement to Benefit Homeless Individuals	93.243	52489	09-30-16 to 09-29-18	792,499	(46,096)	140,911	-	94,815	-	-	-
Total Program	93.243				(46,096)	140,911	-	94,815	-	-	-
Passed Through Tennessee Health:											
Immunization Services for Children (Federal Portion)	93.268	34360-41217	04-01-17 to 06-30-18	358,300	(63,451)	64,122	-	-	671 O	-	-
Immunization Services for Children (Federal Portion)	93.268	34360-41219	07-01-18 to 06-30-19	479,200	-	348,711	-	469,498	-	(120,787)	-
Total Program	93.268				(63,451)	412,833	-	469,498	671	(120,787)	-
Passed Through Tennessee Health:											
Tobacco Prevention	93.305	34360-46217	04-01-17 to 03-31-20	127,500	(9,155)	39,695	-	42,560	-	(12,020)	-
Total Program	93.305				(9,155)	39,695	-	42,560	-	(12,020)	-
Passed Through National Association of County and City Health Officials:											
NACCHO STD Fast Track Clinic	93.421	2019-052201	04-19-19 to 04-30-20	30,000	-	-	-	-	-	-	-
Total Program	93.421				-	-	-	-	-	-	-
Passed Through Tennessee Human Services:											
Child Support Enforcement, Title IV-D - Juvenile Court	93.563	36306 Amendment 3	07-01-17 to 06-30-18	1,634,008	(117,555)	117,555	-	-	-	-	-
Child Support Enforcement, Title IV-D - Juvenile Court	93.563	36306 Amendment 3	07-01-18 to 06-30-19	1,649,410	-	819,961	-	1,020,892	-	(200,931)	-
Total Program	93.563				(117,555)	937,516	-	1,020,892	-	(200,931)	-
Passed Through Tennessee Housing Development Agency:											
Low Income Energy Assistance Program	93.568	LIHEAP-17-10	07-01-17 to 06-30-18	5,705,758	(751,737)	1,845,874	-	1,094,137	-	-	-
Low Income Energy Assistance Program	93.568	LIHEAP-18-10	07-01-18 to 09-30-19	12,483,186	-	2,943,653	-	3,960,167	-	(1,016,514)	-
Total Program	93.568				(751,737)	4,789,527	-	5,054,304	-	(1,016,514)	-
477 Cluster:											
Passed Through Tennessee Human Services:											
Community Services Block Grant	93.569	Z-18-49110	05-01-18 to 09-30-18	1,295,900	(343,811)	712,531	-	368,720	-	-	-
Community Services Block Grant	93.569	Z-19-49110	10-01-18 to 09-30-19	1,284,000	-	523,270	-	-	-	(521,920)	-
Community Services Block Grant	93.569	Z-19-49110SP	10-01-18 to 09-30-19	781,233	-	87,767	-	103,455	-	(15,688)	-
Total Program	93.569				(343,811)	1,323,568	-	1,517,365	-	(537,608)	-
Passed Through Tennessee Human Services:											
Before and After Care - Metro Action Commission	93.575	N/A	07-01-18 to 06-30-19	N/A	-	114,723	-	116,375	-	(1,652)	-
Total Program	93.575				-	114,723	-	116,375	-	(1,652)	-
Total 477 Cluster					(343,811)	1,438,291	-	1,633,740	-	(539,260)	-
Direct Program:											
Head Start	93.600	04CH01015603	07-01-17 to 06-30-18	12,506,400	(1,727,484)	1,727,484	-	-	-	-	-
Head Start	93.600	04CH01015604	07-01-18 to 06-30-19	13,385,267	-	11,712,345	-	12,853,321	-	(1,140,976)	-
Total Program	93.600				(1,727,484)	13,439,829	-	12,853,321	-	(1,140,976)	-
Passed Through Tennessee Health:											
Health Promotion	93.758	34360-50318	07-01-17 to 06-30-18	116,000	(21,347)	21,347	-	-	-	-	-
Health Promotion	93.758	34360-50319	07-01-18 to 06-30-20	302,600	-	101,278	-	186,250	-	(84,972)	-
Total Program	93.758				(21,347)	122,625	-	186,250	-	(84,972)	-
Passed Through Vanderbilt University Medical Center:											
TB Trials Consortium	93.838	VA-15FED1511233-A3	10-01-17 to 09-30-18	25,586	-	-	-	25,586	-	(25,586)	-
TB Trials Consortium	93.838	VA-15FED1511233-A4	10-01-18 to 09-30-19	13,295	-	-	-	-	-	-	-
Total Program	93.838				-	-	-	25,586	-	(25,586)	-

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METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY, TENNESSEE

SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS

For the Year ended June 30, 2019

Program Title	Federal CFDA Number	Contract Number	Grant Period	Program Award	(Accrued) Deferred Grant Revenue June 30, 2018	Federal Receipts	Receipts or Adjustments: Transfers (T) Other (O)	Federal Expenditures/ Distributions	Payments or Adjustments: Grantor (G) Transfers (T) Other (O)	(Accrued) Deferred Grant Revenue June 30, 2019	Amount Passed Through to Subrecipients
Direct Program:											
HIV - Emergency Relief Grant - Part A	93.914	H89HA11433-10-02	03-01-18 to 02-28-19	4,051,674	(861,737)	4,051,674	-	3,189,937	-	-	2,698,657
HIV - Emergency Relief Grant - Part A	93.914	H89HA11433-11-00	03-01-19 to 02-28-20	3,783,417	-	-	-	728,097	-	(728,097)	525,354
HIV - Emergency Relief Grant - Minority AIDS Initiative	93.914	H89HA11433-10-02	03-01-18 to 02-28-19	298,732	(60,655)	284,693	-	224,038	-	-	190,723
HIV - Emergency Relief Grant - Minority AIDS Initiative	93.914	H89HA11433-11-00	03-01-19 to 02-28-20	271,511	-	-	-	34,498	-	(34,498)	28,642
Total Program	93.914				(922,392)	4,336,367	-	4,176,570	-	(762,595)	3,443,377
Passed Through Tennessee Health:											
HIV/AIDS Core Medical Services and Early Intervention Services	93.917	34349-85918	04-01-18 to 03-31-19	54,700	(8,284)	38,095	-	29,811	-	-	-
HIV/AIDS Core Medical Services and Early Intervention Services	93.917	34349-85919	04-01-19 to 03-31-20	54,700	-	-	-	-	-	-	-
Total Program	93.917				(8,284)	38,095	-	29,811	-	-	-
Direct Program:											
Healthy Start Initiative	93.926	H49MC32719-01-00	04-01-19 to 03-31-20	1,070,000	-	-	-	90,430	-	(90,430)	-
Total Program	93.926				-	-	-	90,430	-	(90,430)	-
Passed Through Tennessee Health:											
HIV/AIDS Prevention	93.940	Part of 34349-47418	01-01-18 to 12-31-18	431,600	(128,679)	338,976	-	210,297	-	-	-
HIV/AIDS Prevention	93.940	Part of 34349-47419	01-01-19 to 12-31-19	431,600	-	-	-	201,002	-	(201,002)	-
HIV/AIDS Surveillance	93.940	Part of 34349-47418	01-01-18 to 12-31-18	66,600	(22,041)	55,940	-	33,899	-	-	-
HIV/AIDS Surveillance	93.940	Part of 34349-47419	01-01-19 to 12-31-19	121,900	-	-	-	33,000	-	(33,000)	-
Rapid HIV Testing Services	93.940	Part of 34349-47418	01-01-18 to 12-31-18	143,000	(37,627)	79,536	-	41,909	-	-	-
Rapid HIV Testing Services	93.940	Part of 34349-47419	01-01-19 to 12-31-19	143,000	-	-	-	56,012	-	(56,012)	-
Total Program	93.940				(188,347)	474,452	-	576,119	-	(290,014)	-
Passed Through Tennessee Health:											
Chronic Disease Management and School Health Promotion Services	93.945	34352-08314	01-01-14 to 06-30-18	373,000	(12,525)	12,525	-	-	-	-	-
Total Program	93.945				(12,525)	12,525	-	-	-	-	-
Passed Through Tennessee Health:											
Child Fatality Review Services	93.946	34347-49715	03-01-15 to 09-29-18	28,000	(1,750)	3,500	-	1,750	-	-	-
Child Fatality Review Services	93.946	34347-49719	09-30-18 to 09-29-22	28,000	-	3,500	-	5,250	-	(1,750)	-
Total Program	93.946				(1,750)	7,000	-	7,000	-	(1,750)	-
Passed Through Tennessee Health:											
Comprehensive STD Prevention System	93.977	Part of 34349-47418	01-01-18 to 12-31-18	215,100	(71,266)	183,520	-	112,254	-	-	-
Comprehensive STD Prevention System	93.977	Part of 34349-47419	01-01-19 to 12-31-19	215,100	-	-	-	104,100	-	(104,100)	-
Total Program	93.977				(71,266)	183,520	-	216,354	-	(104,100)	-
Passed Through Tennessee Health:											
Breast and Cervical Cancer Screening (Federal Portion)	93.994	34360-40318	07-01-17 to 06-30-20	152,400	(5,666)	46,735	-	50,800	-	(9,731)	-
Children's Special Services/Care Coordination (Federal Portion)	93.994	34360-38718	07-01-17 to 06-30-18	436,500	(77,395)	77,395	-	-	-	-	-
Children's Special Services/Care Coordination (Federal Portion)	93.994	34360-38619	07-01-18 to 06-30-21	1,309,500	-	305,767	-	374,483	-	(68,716)	-
Total Program	93.994				(83,061)	429,897	-	425,283	-	(78,447)	-
Total U.S. Department of Health and Human Services					(4,849,285)	29,648,126	(36,342)	29,845,095	1,898	(5,084,494)	3,443,377
U.S. DEPARTMENT OF HOMELAND SECURITY:											
Passed Through Tennessee Emergency Management:											
Flood - 5 Properties Home Buyout (FMA-PJ-04-2015-002 - 100% Federal)	97.029	E-34101	05-29-15 to 10-30-18	953,260	(15,932)	329,355	-	19,975	293,448 O	-	-
Total Program	97.029				(15,932)	329,355	-	19,975	293,448	-	-
Passed Through Tennessee Emergency Management:											
Flood Recovery May 2010	97.036	1909 DR TN	05-01-10 to OPEN	70,563,965	(7,595,633)	1,712,252	-	2,363,740	-	(8,247,121)	-
Total Program	97.036				(7,595,633)	1,712,252	-	2,363,740	-	(8,247,121)	-
Passed Through Tennessee Emergency Management:											
Flood - Benzing Road, Park Terrace Home Buyout (Federal Portion HMGP-1909-0017)	97.039	E-24547	11-08-11 to 06-29-18	11,424,885	(160,379)	160,379	-	-	-	-	-
Flood - Pennington Bend Home Buyout (Federal Portion HMGP-1909-0026)	97.039	E-24547	11-08-11 to 06-29-18	4,381,853	(514,950)	514,950	-	-	-	-	-
Flood - Elm Street Home Buyout (Federal Portion HMGP-4211-0001)	97.039	E-34101	02-24-17 to 04-01-19	332,505	(261,561)	23,309	238,252 O	-	-	-	-
Flood - Whites Creek Home Buyout (Federal Portion HMGP-4293-0002)	97.039	E-34101-16719	12-13-18 to 12-15-20	254,835	-	-	-	416,961	-	(416,961)	-
Total Program	97.039				(936,890)	698,638	238,252	416,961	-	(416,961)	-
Passed Through Tennessee Emergency Management:											
Emergency Management Performance 17-19	97.042	34101-04619	10-01-17 to 09-30-19	188,350	-	188,350	-	150,063	-	38,287	-
Total Program	97.042				-	188,350	-	150,063	-	38,287	-

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METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY, TENNESSEE

SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS

For the Year ended June 30, 2019

Program Title	Federal CFDA Number	Contract Number	Grant Period	Program Award	(Accrued) Deferred Grant Revenue June 30, 2018	Federal Receipts	Receipts or Adjustments: Transfers (T) Other (O)	Federal Expenditures/ Distributions	Payments or Adjustments: Grantor (G) Transfers (T) Other (O)	(Accrued) Deferred Grant Revenue June 30, 2019	Amount Passed Through to Subrecipients
Direct Program:											
Port Security	97.056	EMW-2016-PU-00374	09-01-16 to 08-30-19	849,000	(68,597)	386,644	-	318,047	-	-	-
Total Program	97.056				(68,597)	386,644	-	318,047	-	-	-
Passed Through Tennessee Emergency Management:											
Homeland Security Urban Areas EMW-2016-SS-00032-S01	97.067	34101-14417	09-01-16 to 04-30-19	149,270	(91,965)	147,826	1,159 O	57,020	-	-	-
Homeland Security Urban Areas EMW-2017-SS-00093	97.067	34101-13318	09-01-17 to 04-30-20	173,154	(4,765)	24,688	-	126,199	-	(106,276)	-
Homeland Security Urban Areas EMW-2018-SS-00033-S01	97.067	34101-11719	09-01-18 to 04-30-21	294,451	-	-	-	17,097	-	(17,097)	-
Total Program	97.067				(96,730)	172,514	1,159	200,316	-	(123,373)	-
Total U.S. Department of Homeland Security					(8,713,782)	3,487,753	239,411	3,469,102	293,448	(8,749,168)	-
U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT:											
Passed Through Metropolitan Development and Housing Agency:											
CDBG Homeless Assistance Program - Metro Social Services	14.218	N/A	01-01-18 to 06-30-18	85,000	(12,036)	12,036	-	-	-	-	-
CDBG Homeless Assistance Program - Metro Social Services	14.218	N/A	01-01-19 to 01-01-20	124,000	-	38,374	-	46,988	-	(8,614)	-
Total Program	14.218				(12,036)	50,410	-	46,988	-	(8,614)	-
Passed Through Metropolitan Development and Housing Agency:											
Homelessness Management Info System - Metro Social Services	14.267	TN0060L4041710	07-01-18 to 06-30-19	53,508	-	20,614	-	26,003	-	(5,389)	-
Youth Homelessness Demonstration Program - Metro Social Services	14.267	TN0297Y4041700	09-21-18 to 09-21-19	110,696	-	10,495	-	26,315	-	(15,820)	-
Total Program	14.267				-	31,109	-	52,318	-	(21,209)	-
Total U.S. Department of Housing and Urban Development					(12,036)	81,519	-	99,306	-	(29,823)	-
U.S. DEPARTMENT OF INTERIOR:											
Passed Through Tennessee Historical Commission:											
Fort Negley Park Cultural Landscape Plan	15.904	32701-03219	10-01-17 to 09-30-18	24,000	(6,506)	24,000	-	17,494	-	-	-
Total Program	15.904				(6,506)	24,000	-	17,494	-	-	-
Total U.S. Department of Interior					(6,506)	24,000	-	17,494	-	-	-
U.S. DEPARTMENT OF JUSTICE:											
Passed Through Northern Arizona University:											
National Domestic Violence Fatality Review Initiative - Office of Family Safety	16.526	1002929-05	03-01-18 to 09-30-18	46,500	-	13,350	-	13,350	-	-	-
Total Program	16.526				-	13,350	-	13,350	-	-	-
Passed Through Tennessee Finance and Administration:											
VOCA Hispanic, Child and Family - District Attorney	16.575	26758	07-01-17 to 06-30-18	158,316	(17,361)	17,361	-	-	-	-	-
VOCA Hispanic, Child and Family - District Attorney	16.575	26758	07-01-18 to 06-30-19	240,713	-	191,959	-	206,854	-	(14,895)	-
VOCA Victim Intervention Program - Police Counseling	16.575	26639	07-01-15 to 06-30-20	1,726,778	(92,750)	436,997	-	433,906	-	(89,659)	-
VOCA Family Justice Center Navigator/Advocate - Office of Family Safety	16.575	28884	07-01-16 to 06-30-18	100,000	(5,705)	5,705	-	-	-	-	-
VOCA Family Justice Center Navigator/Advocate - Office of Family Safety	16.575	35638	07-01-18 to 06-30-20	377,790	-	164,253	-	198,619	-	(34,366)	-
VOCA Victim Services Coordinator - Police & Office of Family Safety	16.575	32242	08-17-17 to 06-30-20	2,428,500	(173,167)	743,793	-	700,421	-	(129,795)	-
VOCA Serving Youth & Young Adults - Nashville Career Advancement Center	16.575	37348	02-01-19 to 09-30-19	436,182	-	-	-	6,625	-	(6,625)	-
Passed Through Tennessee Education:											
VOCA Serving Youth & Young Adults with Trauma - Public Schools	16.575	56204-VOCANEw	09-01-18 to 06-30-19	200,000	-	54,646	-	107,956	-	(53,310)	-
Total Program	16.575				(288,983)	1,614,714	-	1,654,381	-	(328,650)	-
Passed Through Tennessee Finance and Administration:											
STOP Civil Legal Advocacy - Office of Family Safety	16.588	26928	08-15-15 to 06-30-18	225,000	(13,727)	13,727	-	-	-	-	-
STOP Fatality Review - Office of Family Safety (Federal Portion)	16.588	33794	01-01-18 to 06-30-20	264,000	(15,155)	69,423	3,789 O	62,821	-	(4,764)	-
Total Program	16.588				(28,882)	83,150	3,789	62,821	-	(4,764)	-
Direct Program:											
Encourage Arrest Policies and Enforce Protection Orders - Office of Family Safety	16.590	2015-WE-AX-0020-02	10-01-15 to 09-30-21	1,451,789	(78,328)	212,487	-	204,260	-	(70,101)	26,902
Total Program	16.590				(78,328)	212,487	-	204,260	-	(70,101)	26,902
Direct Program:											
Justice Assistance Grant	16.738	2015-DJ-BX-0803	10-01-14 to 09-30-18	471,673	156,048	-	2,430 O	158,478	-	-	-
Justice Assistance Grant	16.738	2016-DJ-BX-0674	10-01-15 to 09-30-19	504,412	157,853	-	3,145 O	46,726	-	114,272	-
Justice Assistance Grant	16.738	2017-DJ-BX-0418	10-01-16 to 09-30-20	487,362	-	487,362	3,375 O	204,743	-	285,994	-
Justice Assistance Grant	16.738	2018-DJ-BX-0348	10-01-17 to 09-30-21	495,317	-	495,317	769 O	35,896	-	460,190	-
Passed Through Tennessee Finance and Administration:											
Justice Assistance Grant - Pretrial Risk Assessment Pilot	16.738	29513	09-15-16 to 06-30-19	351,999	(33,709)	52,533	-	88,980	-	(70,156)	-
Justice Assistance Grant - Prevention and Intervention for At Risk Youth	16.738	N/A	02-01-19 to 06-30-21	298,539	-	-	-	33,270	-	(33,270)	18,450
Total Program	16.738				280,192	1,035,212	9,719	568,093	-	757,030	18,450

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METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY, TENNESSEE

SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS

For the Year ended June 30, 2019

Program Title	Federal CFDA Number	Contract Number	Grant Period	Program Award	(Accrued) Deferred Grant Revenue June 30, 2018	Federal Receipts	Receipts or Adjustments: Transfers (T) Other (O)	Federal Expenditures/ Distributions	Payments or Adjustments: Grantor (G) Transfers (T) Other (O)	(Accrued) Deferred Grant Revenue June 30, 2019	Amount Passed Through to Subrecipients
Passed Through Tennessee Mental Health and Substance Abuse: Smart Prosecution Initiative: Cherished Hearts - Office of Family Safety	16.825	33901	11-01-18 to 9-30-19	96,179	-	44,804	-	50,785	-	(5,981)	-
Total Program	16.825				-	44,804	-	50,785	-	(5,981)	-
Direct Program:											
Equitable Sharing Asset Forfeitures (Justice) - Police	16.922	N/A	07-01-18 to 06-30-19	N/A	-	91,692	21,095 O	66,730	-	46,057	-
Total Program	16.922				-	91,692	21,095	66,730	-	46,057	-
Passed Through Tennessee Administrative Office of the Courts: Music City Community Court Division VIII	16.999	Memo of Understanding	10-01-18 to 06-30-20	150307	-	2,269	-	21,905	-	(19,636)	-
Total Program	16.999				-	2,269	-	21,905	-	(19,636)	-
Total U.S. Department of Justice					(116,001)	3,097,678	34,603	2,642,325	-	373,955	45,352
U.S. DEPARTMENT OF LABOR:											
Passed Through Tennessee Labor:											
Workforce Innovation and Opportunity Act RESEA	17.225	LW09P171RESEA17	02-01-17 to 06-30-18	28,300	(3,119)	2,981	138 O	-	-	-	-
Workforce Innovation and Opportunity Act RESEA	17.225	LW09P181RESEA18	04-01-18 to 11-14-18	8,667	-	2,899	-	2,899	-	-	2,316
Passed Through Northern Middle TN Workforce Development Board: Workforce Innovation and Opportunity Act RESEA	17.225	Part of Subcontract	10-01-18 to 06-30-19	10,000	-	9,139	-	9,139	-	-	-
Total Program	17.225				(3,119)	15,019	138	12,038	-	-	2,316
WIOA Cluster:											
Passed Through Tennessee Labor:											
Workforce Innovation and Opportunity Act Adult Programs	17.258	LW09F181ADULT18	10-01-17 to 06-30-19	1,431,154	(226,108)	420,745	22,928 O	217,565	-	-	65,474
Passed Through Northern Middle TN Workforce Development Board: Workforce Innovation and Opportunity Act Adult Programs	17.258	Part of Subcontract	10-01-18 to 06-30-19	1,337,277	-	1,015,703	-	1,015,703	-	-	1,015,703
Total Program	17.258				(226,108)	1,436,448	22,928	1,233,268	-	-	1,081,177
Passed Through Tennessee Labor:											
Workforce Innovation and Opportunity Act Youth Programs	17.259	LW09P161YOUTH17	04-01-16 to 06-30-18	2,007,888	(37,261)	41	37,211 O	-	(9)	-	-
Workforce Innovation and Opportunity Act Youth Programs	17.259	LW09P171YOUTH18	04-01-17 to 06-30-19	1,794,243	(312,059)	749,400	83,814 O	521,167	(12)	-	-
Workforce Innovation and Opportunity Act Youth Programs	17.259	LW09P181YOUTH19	04-01-18 to 06-30-20	889,621	-	-	-	-	-	-	-
Workforce Innovation and Opportunity Act Youth Programs	17.259	LW09P161MNSWA17	07-01-18 to 11-14-18	73,111	-	53,114	-	53,114	-	-	-
Passed Through Northern Middle TN Workforce Development Board: Workforce Innovation and Opportunity Act Youth Programs	17.259	Part of Subcontract	10-01-18 to 06-30-19	1,449,777	-	1,260,451	-	1,260,451	-	-	1,098,570
Total Program	17.259				(349,320)	2,063,006	121,025	1,834,732	(21)	-	1,098,570
Passed Through Tennessee Labor:											
Workforce Investment Act Transitional Grant	17.278	LW09F143TFRSP14	04-01-16 to 06-30-16	41,919	3,287	-	-	-	3,287 G	-	-
Workforce Innovation and Opportunity Act Dislocated Worker	17.278	LW09P171DSLWK18	07-01-17 to 06-30-19	322,313	(36,543)	34,743	10,275 O	8,475	-	-	-
Workforce Innovation and Opportunity Act Dislocated Worker	17.278	LW09F181DSLWK18	10-01-17 to 06-30-19	1,972,545	(278,831)	748,758	63,004 O	532,931	-	-	132,288
Workforce Innovation and Opportunity Act Admin for RESEA Funds	17.278	LW09F171MNSWA17	07-01-17 to 06-30-18	11,500	(2,067)	2,067	-	-	-	-	-
Workforce Innovation and Opportunity Act Community Business	17.278	LW09F171CBRSP17	07-01-17 to 06-30-18	306,192	(116,103)	55,958	50,000 O	(10,145)	-	-	-
Workforce Innovation and Opportunity Act Dislocated Worker	17.278	LW09F171TFPSWA17	07-01-18 to 11-14-18	658,000	-	210,225	-	210,225	-	-	108,332
Passed Through Northern Middle TN Workforce Development Board: Workforce Innovation and Opportunity Act Dislocated Worker	17.278	Part of Subcontract	10-01-18 to 06-30-19	1,327,278	-	1,146,453	-	1,146,453	-	-	805,048
Total Program	17.278				(430,257)	2,198,204	123,279	1,887,939	3,287	-	1,045,668
Total WIOA Cluster					(1,005,685)	5,697,658	267,232	4,955,939	3,266	-	3,225,415
Total U.S. Department of Labor					(1,008,804)	5,712,677	267,370	4,967,977	3,266	-	3,227,731
U.S. DEPARTMENT OF TRANSPORTATION:											
Passed Through Tennessee Transportation:											
Dickerson Pike Sidewalk Improvements 121730.00 - Public Works	20.205	150067	05-06-15 to 05-30-20	4,920,000	(84,864)	15,598	-	141,375	-	(210,641)	-
Harding Place Sidewalk Improvements Phase 3 121791.00 - Public Works	20.205	150028	05-06-15 to 03-01-20	4,720,000	(135,228)	18,178	-	151,049	-	(268,099)	-
Lebanon Pike Sidewalk Improvements 121729.00 - Public Works	20.205	150066	05-06-15 to 05-30-20	3,040,000	(56,532)	74,020	-	39,766	-	(22,278)	-
Hart Lane Pedestrian Safety Improvements 119913.01 - Public Works	20.205	150109	07-06-15 to 11-01-20	1,499,979	-	140	-	140	-	-	-
Gallatin Road Complete Streets BRT Lite 123838.00 - Public Works	20.205	160174	2017-2020	3,722,240	-	91,979	-	124,558	-	(32,579)	-
Murfreesboro Road Complete Streets BRT Lite 125309.00 - Public Works	20.205	160247	2017-2020	3,123,200	(25,572)	62,618	-	60,360	-	(23,314)	-
CMAQ Transportation Demand Management Grant FY18-20-Planning Commission	20.205	170129	11-21-17 to 11-20-21	1,184,684	(61,190)	278,866	-	291,185	-	(73,509)	-
Total Program	20.205				(363,386)	541,399	-	808,433	-	(630,420)	-
Passed Through Tennessee Transportation:											
Long-Range Transit Planning Activities 15-19 - Planning Commission	20.505	GG-16-50763-00	01-01-15 to 12-31-18	504,254	(402,545)	402,544	1 O	-	-	-	-
Total Program	20.505				(402,545)	402,544	1	-	-	-	-

See accompanying Notes to Schedule of Expenditures of State Award.
See independent auditor's report on supplemental information.

METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY, TENNESSEE

SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS

For the Year ended June 30, 2019

Program Title	Federal CFDA Number	Contract Number	Grant Period	Program Award	(Accrued) Deferred Grant Revenue June 30, 2018	Federal Receipts	Receipts or Adjustments: Transfers (T) Other (O)	Federal Expenditures/ Distributions	Payments or Adjustments: Grantor (G) Transfers (T) Other (O)	(Accrued) Deferred Grant Revenue June 30, 2019	Amount Passed Through to Subrecipients
<i>Highway Safety Cluster</i>											
Passed Through Tennessee Safety and Homeland Security: Motorcycle Enforcement - Police	20.600	Z19THS378	10-01-18 to 09-30-19	12,000	-	-	-	5,571	-	(5,571)	-
Total Program	20.600				-	-	-	5,571	-	(5,571)	-
Passed Through Tennessee Safety and Homeland Security: Governor's Highway Safety Program - Police	20.616	Z19THS190	10-01-18 to 09-30-19	423,000	-	168,773	-	245,952	-	(77,179)	-
Governor's Highway Safety Program - State Trial Courts Drug Court	20.616	Z18THS211	10-01-17 to 09-30-18	60,000	(15,311)	28,123	-	12,812	-	-	-
Governor's Highway Safety Program - State Trial Courts Drug Court	20.616	Z19THS189	10-01-18 to 09-30-19	59,997	-	28,709	-	43,866	-	(15,157)	-
Total Program	20.616				(15,311)	225,605	-	302,630	-	(92,336)	-
<i>Total Highway Safety Cluster</i>					(15,311)	225,605	-	308,201	-	(97,907)	-
Passed Through Tennessee Safety and Homeland Security: Governor's Highway Safety Program - Police	20.607	Z18THS212	10-01-17 to 09-30-18	402,000	(88,956)	172,142	-	83,186	-	-	-
Total Program	20.607				(88,956)	172,142	-	83,186	-	-	-
Total U.S. Department of Transportation					(870,198)	1,341,690	1	1,199,820	-	(728,327)	-
U.S. DEPARTMENT OF TREASURY:											
Direct Program:											
Equitable Sharing Asset Forfeitures (Treasury) - Police	21.016	N/A	07-01-18 to 06-30-19	N/A	-	3,651	28,105 O	-	-	31,756	-
Total Program	21.016				-	3,651	28,105	-	-	31,756	-
Total U.S. Department of Treasury					-	3,651	28,105	-	-	31,756	-
U.S. ELECTION ASSISTANCE COMMISSION:											
Passed Through Tennessee State:											
Help America Vote Act - Voting Systems Update (Federal Portion)	90.404	30501-01320-01	05-01-19 to 04-30-20	1,691,000	-	-	-	1,691,000	-	(1,691,000)	-
Total Program	90.404				-	-	-	1,691,000	-	(1,691,000)	-
Total U.S. Election Assistance Commission					-	-	-	1,691,000	-	(1,691,000)	-
TOTAL EXPENDITURES OF FEDERAL AWARDS					(36,548,825)	186,581,362	999,513	177,470,466	1,495,336	(27,933,751)	6,716,460

See accompanying Notes to Schedule of Expenditures of State Award.
See independent auditor's report on supplemental information.

METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY, TENNESSEE

SCHEDULE OF EXPENDITURES OF STATE AWARDS

For the Year ended June 30, 2019

Program Title	Contract Number	Grant Period	Program Award	(Accrued) Deferred Grant Revenue June 30, 2018	State Receipts	Receipts or Adjustments: Transfers (T) Other (O)	State Expenditures/ Distributions	Payments or Adjustments: Grantor (G) Transfers (T) Other (O)	(Accrued) Deferred Grant Revenue June 30, 2019	Amount Passed Through to Subrecipients
TENNESSEE ADMINISTRATIVE OFFICE OF THE COURTS:										
Court Interpreter Endowment Grant - State Trial Courts	N/A	07-01-18 to 06-30-19	86,521	-	79,311	-	86,521	-	(7,210)	-
Court Security Grant - Juvenile Court	N/A	07-01-18 to 06-30-19	104,070	-	33,641	-	33,641	-	-	-
Interpreter/Translation Services - Juvenile Court	N/A	07-01-17 to 06-30-18	65,250	(7,339)	7,339	-	-	-	-	-
Interpreter/Translation Services - Juvenile Court	N/A	07-01-18 to 06-30-19	62,450	-	58,912	-	62,450	-	(3,538)	-
Total Tennessee Administrative Office of the Courts				(7,339)	179,203	-	182,612	-	(10,748)	-
TENNESSEE ARTS COMMISSION:										
Arts Builds Communities	31625-02312	07-01-17 to 06-30-18	34,560	(15,552)	15,552	-	-	-	-	-
Arts Builds Communities	31625-05136	07-01-18 to 06-30-19	34,560	-	19,008	-	34,035	-	(15,027)	29,380
Major Cultural Institutions (State Portion)	31625-04895	07-01-18 to 06-30-19	51,852	-	51,852	-	51,852	-	-	-
Total Tennessee Arts Commission				(15,552)	86,412	-	85,887	-	(15,027)	29,380
TENNESSEE DEPARTMENT OF AGRICULTURE:										
Retail Food Store Inspection	32505-02817	01-01-17 to 12-31-21	887,425	(96,786)	137,874	-	41,088	-	-	-
Total Tennessee Department of Agriculture				(96,786)	137,874	-	41,088	-	-	-
TENNESSEE DEPARTMENT OF CHILDREN'S SERVICES:										
Child and Family Services Intervention - Juvenile Court	43966	07-01-17 to 06-30-18	434,333	(47,277)	47,277	-	-	-	-	-
Child and Family Services Intervention - Juvenile Court	56508	07-01-18 to 06-30-19	434,333	-	310,037	-	328,747	-	(18,710)	-
State Supplemental Juvenile Court Improvement	39771	07-01-17 to 06-30-18	9,000	(4,500)	4,500	-	-	-	-	-
State Supplemental Juvenile Court Improvement	39771	07-01-18 to 06-30-19	9,000	-	4,500	-	9,000	-	(4,500)	-
Safe Baby Court	57400	03-19-18 to 06-30-18	66,000	(6,889)	6,889	-	-	-	-	-
Safe Baby Court	57400	07-01-18 to 06-30-19	235,000	-	137,445	-	148,992	-	(11,547)	-
Total Tennessee Department of Children's Services				(58,666)	510,648	-	486,739	-	(34,757)	-
TENNESSEE DEPARTMENT OF CORRECTIONS:										
Community Corrections Program - State Trial Courts	55197	07-01-17 to 06-30-18	1,464,314	(186,911)	186,911	-	-	-	-	-
Community Corrections Program - State Trial Courts	55197	07-01-18 to 06-30-19	1,545,314	-	1,341,395	-	1,442,959	-	(101,564)	-
Drug Court - State Trial Courts	32901-31318	07-01-17 to 06-30-18	982,000	(202,235)	202,235	-	-	-	-	-
Drug Court - State Trial Courts	32901-31318	07-01-18 to 06-30-19	982,000	-	930,405	-	982,000	-	(51,595)	-
Total Tennessee Department of Corrections				(389,146)	2,660,946	-	2,424,959	-	(153,159)	-

See accompanying Notes to Schedule of Expenditures of State Award.
See independent auditor's report on supplemental information.

METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY, TENNESSEE

SCHEDULE OF EXPENDITURES OF STATE AWARDS

For the Year ended June 30, 2019

Program Title	Contract Number	Grant Period	Program Award	(Accrued) Deferred Grant Revenue June 30, 2018	State Receipts	Receipts or Adjustments: Transfers (T) Other (O)	State Expenditures/ Distributions	Payments or Adjustments: Grantor (G) Transfers (T) Other (O)	(Accrued) Deferred Grant Revenue June 30, 2019	Amount Passed Through to Subrecipients
TENNESSEE DEPARTMENT OF ECONOMIC AND COMMUNITY DEVELOPMENT:										
AllianceBernstein - Industrial Development Board	60412	01-01-19 to 12-31-25	N/A	-	-	-	9,067,511	-	(9,067,511)	-
Associated Pathologists - Industrial Development Board	33006-59517	06-01-17 to 05-31-22	828,000	-	-	-	-	-	-	-
Community Health Systems Inc. - Industrial Development Board	33006-55416	11-30-15 to 11-29-20	6,750,000	-	3,410,092	-	3,410,092	-	-	-
Hankook Tire America Corp. - Industrial Development Board	33006-96617	05-01-16 to 04-30-21	2,715,000	-	42,341	-	62,857	-	(20,516)	-
Keystone Automotive Industries - Industrial Development Board	33006-61217	12-06-16 to 12-05-21	1,950,000	-	-	-	1,950,000	-	(1,950,000)	-
LifITN Microenterprise Loans - Economic & Community Development	33005-99018	06-30-18 to 06-29-21	68,100	-	-	-	-	-	-	-
Philips Holding USA Inc. - Industrial Development Board	33006-78918	10-30-17 to 10-29-22	4,212,500	-	4,212,500	-	4,212,500	-	-	-
WCP Properties LLC (HCA Health Services) - Industrial Development Board	33006-10713	05-08-13 to 02-07-19	7,500,000	-	7,500,000	-	-	-	-	-
Total Tennessee Department of Economic and Community Development				-	15,164,933	-	26,202,960	-	(11,038,027)	-
TENNESSEE DEPARTMENT OF EDUCATION:										
Child Nutrition State Match	N/A	07-01-18 to 06-30-19	N/A	-	415,982	-	415,982	-	-	-
Ace Initiative	18-01	07-01-17 to 06-30-18	200,000	(14,621)	14,621	-	-	-	-	-
Ace Initiative	19-01	07-01-18 to 06-30-19	200,000	-	82,186	-	202,026	-	(119,840)	-
Coordinated School Health	17-01	07-01-16 to 06-30-17	230,000	(2,432)	2,432	-	-	-	-	-
Coordinated School Health	18-01	07-01-18 to 06-30-19	230,000	-	25,855	-	-	-	-	-
Coordinated School Health	19-01	07-01-18 to 06-30-19	230,000	(25,855)	169,214	-	234,680	-	(65,466)	-
Family Resource Centers	18-01	07-01-17 to 06-30-18	236,893	(17,767)	17,767	-	-	-	-	-
Family Resource Centers	19-01	07-01-18 to 06-30-19	236,893	-	227,238	-	227,238	-	-	-
Leaps Lottery for FY18	18-01	07-01-17 to 06-30-18	527,840	(24,230)	24,230	-	-	-	-	-
Leaps Lottery for FY19	19-01	07-01-18 to 06-30-19	530,340	-	322,256	-	496,120	-	(173,864)	-
Pre-K Voluntary Lottery Money Expansion	19-01	07-01-18 to 06-30-19	3,894,072	-	2,998,846	-	3,894,072	-	(895,226)	-
Priority Schools	18-01	07-01-17 to 06-30-18	1,191,061	(161,318)	161,318	-	-	-	-	-
Priority Schools	19-01	07-01-18 to 06-30-19	1,191,061	-	1,263,996	-	423,289	-	840,707	-
Priority School State Grant	19-01	07-01-18 to 06-30-19	825,000	-	340,550	-	373,968	-	(33,418)	-
Read to be Ready	17-01	07-01-16 to 06-30-18	969,610	(1,259)	581	-	-	-	(678)	-
Read to be Ready Coaching	18-01	07-01-17 to 06-30-18	10,000	(9,456)	9,456	-	1,475	-	(1,475)	-
Read to be Ready Summer Grant	19-01	07-01-18 to 06-30-19	835,728	(491,145)	571,755	-	665,708	-	(585,098)	-
Safe School Equipment	19-01	07-01-18 to 06-30-19	1,490,606	-	56,258	-	935,896	-	(879,638)	-
Tennessee Safe Schools Act	17-01	07-01-16 to 06-30-17	432,515	(8,611)	8,611	-	-	-	-	-
Tennessee Safe Schools Act	18-01	07-01-17 to 06-30-18	453,306	(47,669)	47,669	-	-	-	-	-
Tennessee Safe Schools Act	19-01	07-01-18 to 06-30-19	596,244	-	434,161	-	462,863	-	(28,702)	-
Total Tennessee Department of Education				(804,363)	7,194,982	-	8,333,317	-	(1,942,698)	-
TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION:										
Capitol View Park LPRF 2018 Grant	32701-03663	02-22-19 to 02-21-21	100,000	-	-	-	-	-	-	-
Curbside Recycling Grant	32701-03669	02-18-19 to 02-17-24	2,358,250	-	-	-	-	-	-	-
Household Hazardous Waste Operations and Maintenance Grant	32701-03071	07-01-17 to 10-31-18	371,540	(85,000)	364,040	-	279,040	-	-	-
Education and Outreach Grant	32701-03420	03-24-18 to 03-23-23	50,000	(50,000)	-	-	-	-	-	-
Organics Management	32701-03264	12-04-17 to 12-03-22	30,000	(14,250)	30,000	-	15,750	-	-	-
Recycling Rebate Grant	Memo of Agreement	07-01-17 to 06-30-18	N/A	(124,841)	124,841	-	-	-	-	-
Recycling Rebate Grant	Memo of Agreement	07-01-18 to 06-30-19	N/A	-	125,650	-	125,650	-	-	-
Tire Environmental Act Program	32701-03647	04-01-19 to 03-31-21	95,617	-	-	-	-	-	-	-
Total Tennessee Department of Environment and Conservation				(274,091)	694,531	-	420,440	-	-	-

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METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY, TENNESSEE

SCHEDULE OF EXPENDITURES OF STATE AWARDS

For the Year ended June 30, 2019

Program Title	Contract Number	Grant Period	Program Award	(Accrued) Deferred Grant Revenue June 30, 2018	State Receipts	Receipts or Adjustments: Transfers (T) Other (O)	State Expenditures/ Distributions	Payments or Adjustments: Grantor (G) Transfers (T) Other (O)	(Accrued) Deferred Grant Revenue June 30, 2019	Amount Passed Through to Subrecipients
TENNESSEE DEPARTMENT OF FINANCE AND ADMINISTRATION:										
Internet Crimes Against Children	49530	07-01-16 to 06-30-21	1,200,000	(82,715)	215,155	2 O	219,013	-	(86,571)	-
STOP Fatality Review - Office of Family Safety (State Portion)	33794	01-01-18 to 06-30-20	64,200	-	23,141	-	20,941	3,789 O	(1,589)	-
Total Tennessee Department of Finance and Administration				(82,715)	238,296	2	239,954	3,789	(88,160)	-
TENNESSEE DEPARTMENT OF HEALTH:										
Breast and Cervical Cancer Screening (State Portion)	34360-40318	07-01-17 to 06-30-20	114,600	(4,261)	35,143	-	38,200	-	(7,318)	-
Children's Special Services/Care Coordination (State Portion)	34360-38718	07-01-17 to 06-30-18	291,000	(51,597)	51,597	-	-	-	-	-
Children's Special Services/Care Coordination (State Portion)	34360-38619	07-01-18 to 06-30-21	873,000	-	203,844	-	249,655	-	(45,811)	-
Family Planning (State Portion)	34360-35118	07-01-17 to 06-30-22	734,000	(12,804)	138,411	-	146,799	-	(21,192)	-
Fetal-Infant Mortality Review	34347-33218	07-01-17 to 06-30-18	318,600	(127,124)	127,124	-	-	-	-	-
Fetal-Infant Mortality Review	34347-33219	07-01-18 to 06-30-19	318,600	-	230,302	-	297,923	-	(67,621)	-
Grant-in-Aid	34360-34719	07-01-18 to 06-30-19	725,200	-	725,200	-	725,200	-	-	-
Grant-in-Aid: Prenatal Presumptive Eligibility Expansion	34360-63718	07-01-17 to 06-30-18	206,600	(46,500)	46,500	-	-	-	-	-
Grant-in-Aid: Prenatal Presumptive Eligibility Expansion	34360-63719	07-01-18 to 06-30-19	206,600	-	154,000	-	188,600	-	(34,600)	-
Healthy Start	34347-48417	07-01-16 to 06-30-18	380,000	(43,872)	43,872	-	-	-	-	-
Healthy Start	34347-48419	07-01-18 to 06-30-19	324,500	-	207,599	-	308,696	-	(101,097)	-
Help Us Grow Successfully (HUGS)	34360-36915	07-01-14 to 06-30-19	3,051,000	(112,738)	583,710	-	606,726	-	(135,754)	-
Immunization Services for Children (State Portion)	34360-41217	04-01-17 to 06-30-18	197,300	(34,940)	35,309	-	-	369 O	-	-
Immunization Services for Children (State Portion)	34360-41219	07-01-18 to 06-30-19	157,840	-	114,859	-	154,644	-	(39,785)	-
Oral Disease Prevention Services	34360-37617	07-01-16 to 06-30-18	1,808,722	(120,874)	120,874	-	-	-	-	-
Oral Disease Prevention Services	34360-37619	07-01-18 to 06-30-20	1,804,200	-	636,962	-	894,210	-	(257,248)	-
TB Outreach and Control (State Portion)	34360-37218	07-01-17 to 06-30-18	1,334,700	(308,012)	308,012	-	-	-	-	-
TB Outreach and Control (State Portion)	34360-37219	07-01-18 to 06-30-19	1,350,200	-	1,037,941	-	1,341,559	-	(303,618)	-
TENNder Care Outreach Services	34630-34417	07-01-16 to 06-30-19	1,819,200	(134,150)	604,498	-	570,650	-	(100,302)	-
Tobacco Use Prevention & Control Services	34347-64118	10-01-17 to 06-30-18	373,500	(232,914)	283,813	-	-	50,899 T	-	-
Tobacco Use Prevention & Control Services	34347-64119	07-01-18 to 06-30-19	97,500	-	73,961	50,899 T	93,126	-	31,734	-
Viral Hepatitis High Morbidity Regions (State Portion)	Part of 34349-47418	01-01-18 to 12-31-18	85,000	(33,168)	70,191	-	37,023	-	-	-
Viral Hepatitis High Morbidity Regions (State Portion)	Part of 34349-47419	01-01-19 to 12-31-19	85,000	-	-	-	44,641	-	(44,641)	-
HIV PreP (State Portion)	Part of 34349-47419	01-01-19 to 12-31-19	181,200	-	-	-	3,330	-	(3,330)	-
Total Tennessee Department of Health				(1,262,954)	5,833,722	50,899	5,700,982	51,268	(1,130,583)	-
TENNESSEE DEPARTMENT OF HUMAN SERVICES:										
Community Service Poverty Fund - Metro Action Commission	Direct Appropriation Grant	07-01-18 to 06-30-19	25,050	-	25,050	-	15,938	-	9,112	-
Passed Through Greater Nashville Regional Council:										
Choices - Home Delivered Meals - Metro Social Services	2018-39	07-01-17 to 06-30-18	51,285	(3,985)	3,985	-	-	-	-	-
Choices - Home Delivered Meals - Metro Social Services	2019-39	07-01-18 to 06-30-19	51,457	-	47,300	-	51,457	-	(4,157)	-
Options - Home Delivered Meals - Metro Social Services	2018-03	07-01-17 to 06-30-18	80,000	(4,255)	4,255	-	-	-	-	-
Options - Home Delivered Meals - Metro Social Services	2019-03	07-01-18 to 06-30-19	80,000	-	49,988	-	55,817	-	(5,829)	-
Total Tennessee Department of Human Services				(8,240)	130,578	-	123,212	-	(874)	-

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METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY, TENNESSEE

SCHEDULE OF EXPENDITURES OF STATE AWARDS

For the Year ended June 30, 2019

Program Title	Contract Number	Grant Period	Program Award	(Accrued) Deferred Grant Revenue June 30, 2018	State Receipts	Receipts or Adjustments: Transfers (T) Other (O)	State Expenditures/ Distributions	Payments or Adjustments: Grantor (G) Transfers (T) Other (O)	(Accrued) Deferred Grant Revenue June 30, 2019	Amount Passed Through to Subrecipients
TENNESSEE DEPARTMENT OF LABOR:										
Infrastructure Funding - Nashville Career Advancement Center	LWOP171IESIFA18	07-01-17 to 09-30-18	436,672	(111,355)	148,792	-	37,437	-	-	-
Infrastructure Funding - Northern Middle TN Workforce Development Board (sub contract to WIOA)		10-01-18 to 06-30-19	80,000	-	77,226	-	77,226	-	-	-
Total Tennessee Department of Labor				(111,355)	226,018	-	114,663	-	-	-
TENNESSEE DEPARTMENT OF MENTAL HEALTH AND SUBSTANCE ABUSE SERVICES:										
Recovery Court TN Web-Based Info. Tech. Systems - General Sessions Court	61222	12-15-18 to 06-30-19	10,000	-	9,939	-	9,939	-	-	-
Residential Drug Court Treatment - State Trial Courts	54991	07-01-17 to 06-30-18	450,000	(58,619)	58,619	-	-	-	-	-
Residential Drug Court Treatment - State Trial Courts	50387	07-01-18 to 06-30-19	450,000	-	320,094	-	449,982	-	(129,888)	-
Passed Through Davidson County Mental Health & Veterans Court Assistance Foundation: Davidson County Veteran Recovery Treatment Court - General Sessions Court	N/A	07-01-18 to 06-30-19	85,445	-	85,004	-	85,004	-	-	-
Total Tennessee Department of Mental Health and Substance Abuse Services				(58,619)	473,656	-	544,925	-	(129,888)	-
TENNESSEE DEPARTMENT OF STATE:										
Help America Vote Act - Voting Systems Update (State Portion)	30501-01320-01	05-01-19 to 04-30-20	89,000	-	-	-	89,000	-	(89,000)	-
Total Tennessee Department of State				-	-	-	89,000	-	(89,000)	-
TENNESSEE DEPARTMENT OF TRANSPORTATION:										
Liter and Trash Grant Program - Sheriff	19-500-4018-04	07-01-17 to 06-30-18	180,300	(121,335)	112,437	8,898 O	-	-	-	-
Liter and Trash Grant Program - Sheriff	57854	07-01-18 to 06-30-19	180,300	-	82,512	-	180,300	-	(97,788)	-
Special Litter Grant - Public Works	40100-02319	07-01-18 to 06-30-20	200,000	-	6,490	-	44,291	-	(37,801)	-
State Aid Road Project: McCrory Lane Resurfacing - Public Works	19-SAR1-S8-009	10-11-17 to 11-30-19	913,027	-	765,630	-	742,297	-	23,333	-
State Aid Road Project: Una Antioch Pike Resurfacing - Public Works	19-SAR1-S8-006	01-25-16 to 11-30-17	691,650	(212,421)	65,607	146,814 O	-	-	-	-
Total Tennessee Department of Transportation				(333,756)	1,032,676	155,712	966,888	-	(112,256)	-
TENNESSEE EMERGENCY MANAGEMENT AGENCY:										
Flood Recovery May 2010	1909 DR TN	05-01-10 to OPEN	3,920,220	(839,484)	263,596	-	131,319	-	(707,207)	-
Flood - Benzing Road, Park Terrace Home Buyout (State Portion HMGP-1909-0017)	E-24547	11-08-11 to 06-29-18	1,904,148	(26,730)	26,730	-	-	-	-	-
Flood - Pennington Bend Home Buyout (State Portion HMGP-1909-0026)	E-24547	11-08-11 to 06-29-18	730,309	(85,824)	85,824	-	-	-	-	-
Flood - Elm Street Home Buyout (State Portion HMGP-4211-0001)	E-34101	02-24-17 to 04-01-19	55,417	(43,594)	3,885	39,709 O	-	-	-	-
Flood - Whites Creek Home Buyout (State Portion HMGP-4293-0002)	E-34101-16719	12-13-18 to 12-15-20	42,473	-	-	-	52,121	-	(52,121)	-
Reimbursable 100% from Tennessee Emergency Management for Assisting in OTHER States' Disaster Recoveries:										
South Carolina Flood October 2015		N/A	N/A	-	-	-	83,807	-	(83,807)	-
Hurricane Harvey (Texas) August 2017	FEMA-4332-DR (EMAC)	N/A	N/A	(47,936)	47,936	-	15,979	-	(15,979)	-
Hurricane Irma (Florida) September 2017	FEMA-4337-DR (EMAC)	N/A	N/A	(469,944)	499,318	-	29,374	-	-	-
Hurricane Florence (North & South Carolina) September 2018	FEMA-4393/4394-DR (EMAC)	N/A	N/A	-	9,342	-	189,269	-	(179,927)	-
Total Tennessee Emergency Management Agency				(1,513,512)	936,631	39,709	501,869	-	(1,039,041)	-

See accompanying Notes to Schedule of Expenditures of State Award.
See independent auditor's report on supplemental information.

METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY, TENNESSEE

SCHEDULE OF EXPENDITURES OF STATE AWARDS

For the Year ended June 30, 2019

Program Title	Contract Number	Grant Period	Program Award	(Accrued) Deferred Grant Revenue June 30, 2018	State Receipts	Receipts or Adjustments: Transfers (T) Other (O)	State Expenditures/ Distributions	Payments or Adjustments: Grantor (G) Transfers (T) Other (O)	(Accrued) Deferred Grant Revenue June 30, 2019	Amount Passed Through to Subrecipients
TENNESSEE STATE LIBRARY AND ARCHIVES:										
Library Services - Materials for the Deaf and Hard of Hearing	30504-00418	07-01-17 to 06-30-18	88,000	(88,000)	88,000	-	-	-	-	-
Library Services - General Library Services	30501-00219-04	07-01-18 to 05-31-19	45,500	-	45,500	-	45,500	-	-	-
Library Services - Materials for the Deaf and Hard of Hearing	30501-00419	07-01-18 to 06-30-19	88,000	-	63,626	-	88,000	-	(24,374)	-
Library Services - Training Opportunities for the Public (TOP)	30501-01419-23	01-15-19 to 01-14-20	12,750	-	-	-	2,700	-	(2,700)	-
Total Tennessee State Library and Archives				(88,000)	197,126	-	136,200	-	(27,074)	-
TOTAL EXPENDITURES OF STATE AWARDS				(5,105,094)	35,698,232	246,322	46,595,695	55,057	(15,811,292)	29,380

See accompanying Notes to Schedule of Expenditures of State Award.
See independent auditor's report on supplemental information.

METROPOLITAN GOVERNMENT OF NASHVILLE
AND DAVIDSON COUNTY, TENNESSEE
NOTES TO SCHEDULES OF EXPENDITURES OF FEDERAL AND STATE AWARDS
YEAR ENDED JUNE 30, 2019

A. BASIS OF PRESENTATION

Reporting Entity

The basic financial statements of the Metropolitan Government of Nashville and Davidson County, Tennessee (the "Government"), as of and for the year ended June 30, 2019, include the operations of the following component units: the Nashville District Management Corporation, the Gulch Business Improvement District, Inc., the Hospital Authority, the Metropolitan Development and Housing Agency, the Electric Power Board, the Metropolitan Transit Authority, the Emergency Communications District, the Metropolitan Nashville Airport Authority and the Convention Center Authority. The expenditures of federal awards of these component units totaled \$135,137,859 and are not included in the accompanying schedule of expenditures of federal awards for the year ended June 30, 2019. These component units are separately audited and reported on in accordance with the audit requirements of Title 2 U.S. *Code of Federal Regulations* Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* (Uniform Guidance), when applicable, and their expenditures are not included in the schedules of expenditures of federal and state awards of the Government for the year ended June 30, 2019.

Noncash Federal Programs

The Government is the recipient of federal awards that do not result in cash receipts or disbursements, including distribution of U.S. Department of Agriculture (USDA) Food Commodities (CFDA No. 10.565), which are valued based on a USDA price list obtained from the Tennessee Department of Health. Distributions under such programs are included in the accompanying schedules of expenditures of federal and state awards.

Federal Financial Assistance Without CFDA Numbers

Federal awards which have no assigned CFDA number have been included in the last section of each appropriate federal agency section, where applicable.

Pass-Through Awards

Funds received by the Government and redistributed to a component unit of the Government or received directly by the component unit in the Government's name are reported in the component unit's financial statements and are not included in the Government's schedules of expenditures of federal and state awards.

Funds received by an agency of the Government and redistributed to another agency of the Government are reported in the receiving department's accounts to avoid duplication of the aggregate level of awards expended by the Government. Accordingly, pass-through funds are included once.

METROPOLITAN GOVERNMENT OF NASHVILLE
AND DAVIDSON COUNTY, TENNESSEE
NOTES TO SCHEDULES OF EXPENDITURES OF FEDERAL AND STATE AWARDS
YEAR ENDED JUNE 30, 2019

A. BASIS OF PRESENTATION - Continued

Program Clusters

The Uniform Guidance defines a cluster of programs as a grouping of closely related programs that share common compliance requirements. According to this definition, similar programs deemed to be a cluster of programs are tested accordingly.

Schedule of Expenditures of State Awards

In compliance with Tennessee state law, the accompanying schedule of expenditures of state awards is included with this report. Such schedule presents all state funded financial awards, as defined by the State Comptroller of the Treasury's Office, and is prepared and presented in a manner consistent with the schedule of expenditures of federal awards.

B. BASIS OF ACCOUNTING

The expenditures presented in the accompanying schedules of expenditures of federal and state awards were developed from agency records and federal and state financial reports which have been reconciled to the central accounting records of the Government. Governmental funds are reported using a modified accrual basis of accounting. Proprietary funds are reported using the accrual basis of accounting. These central records serve as the primary source of information in the preparation of the Government's basic financial statements.

Federal and state revenues and expenditures are included in the general fund, special revenue funds, capital projects funds, and enterprise funds in the Government's basic financial statements.

Because the schedules of federal and state awards present only a selected portion of the Government's operations, they are not intended to and do not present the financial position or changes in financial position of the Government.

C. MATCHING COSTS

The State of Tennessee's portion of joint programs with the Government are included in the accompanying schedule of expenditures of state awards, except in those cases where the state's portion is combined with the federal portion and cannot be separately identified. In such cases, the state's portion is included in the accompanying schedule of expenditures of federal awards. The Government's portion of such joint awards is not included.

METROPOLITAN GOVERNMENT OF NASHVILLE
AND DAVIDSON COUNTY, TENNESSEE
NOTES TO SCHEDULES OF EXPENDITURES OF FEDERAL AND STATE AWARDS
YEAR ENDED JUNE 30, 2019

D. INDIRECT COSTS

Included in the Government's Cost Allocation Plan are central service costs allowable under OMB cost principles. These costs may be "allocated" among programs of the Government in a consistent manner.

The amount presented in the Cost Allocation Plan as "allocated" to each department is not actually charged as expenditure to that department, but is accounted for in the central service area's budget. The amount is used to calculate indirect costs associated with programs funded by external sources that allow the inclusion of indirect costs (certain grants, user fees, etc.).

Many of the Government's federal and state funded programs allow indirect costs to be charged and include them as a line item in the grant budget. However, if the grant budget does not specifically provide for indirect costs to be charged, none of the indirect costs are reported as costs to the grantor nor are the costs included or presented in the schedules of expenditures of federal and state awards.

The Government has elected not to use the 10 percent de minimis indirect cost rate allowed under the Uniform Guidance.

E. CONTINGENCIES

The federal and state grants received by the Government are subject to audit and adjustment. If any expenditures are disallowed by the grantor agencies as a result of such an audit, the grantor agencies could make claim for reimbursement, which would become a liability of the Government.

During May 2010, Nashville and Davidson County experienced significant flooding and was declared a federal disaster area by President Barack Obama. The federal disaster declaration enables the reimbursement of certain flood-related costs to the Government through the Federal Emergency Management Agency (FEMA) of the U.S. Department of Homeland Security. Flood-related costs included in the accompanying schedule of expenditures of federal awards totaled \$2,363,740, which includes amounts expended in prior years that were approved as eligible expenditures by FEMA in fiscal year 2019. These expenditures have been included in the accompanying schedule of federal expenditures under CFDA 97.036. Flood-related amounts receivable under CFDA 97.036 totaled \$8,247,121 at June 30, 2019. Such flood-related costs are subject to review, approval and adjustment by FEMA and the Office Inspector General, which is on-going. The Government continues to work with FEMA on various appeals and adjustments to the FEMA project worksheets and related grant agreements.

METROPOLITAN GOVERNMENT OF NASHVILLE
AND DAVIDSON COUNTY, TENNESSEE
SCHEDULE OF FINDINGS AND QUESTIONED COSTS
YEAR ENDED JUNE 30, 2019

SECTION I - SUMMARY OF INDEPENDENT AUDITOR'S RESULTS

Financial Statements

Type of auditor's report issued: Unmodified

Internal control over financial reporting:
Material weakness(es) identified? yes no
Significant deficiency(ies) identified not considered to
be material weaknesses? yes none reported

Noncompliance material to financial statements noted? yes no

Federal Awards

Internal control over major programs:
Material weakness(es) identified? yes no
Significant deficiency(ies) identified not considered to
be material weaknesses? yes none reported

Type of auditor's report issued on
compliance for major federal programs: Unmodified

Any audit findings disclosed that are required to be reported
in accordance with 2 CFR 200.516(a)? yes no

METROPOLITAN GOVERNMENT OF NASHVILLE
AND DAVIDSON COUNTY, TENNESSEE
SCHEDULE OF FINDINGS AND QUESTIONED COSTS - Continued
YEAR ENDED JUNE 30, 2019

SECTION I - SUMMARY OF INDEPENDENT AUDITOR'S RESULTS - Continued

Federal Awards - Continued

Identification of major programs:

CFDA Number Name of Federal Program

Child Nutrition Cluster:

10.553	National School Breakfast Program
10.555	National School Lunch Program
10.559	Summer Food Service Program

Other Programs:

84.010	Title I, Part A
93.568	Low Income Home Energy Assistance Program (LIHEAP)
93.914	HIV Emergency Relief Grant
84.367	Title II, Part A
84.165	Magnet Schools Grant

Dollar threshold used to distinguish between Type A and Type B programs: \$3,000,000

Auditee qualified as low-risk auditee? ___ yes X no

METROPOLITAN GOVERNMENT OF NASHVILLE
AND DAVIDSON COUNTY, TENNESSEE
SCHEDULE OF FINDINGS AND QUESTIONED COSTS - Continued
YEAR ENDED JUNE 30, 2019

SECTION II - FINANCIAL STATEMENT FINDINGS

Internal Control Findings:

None Reported

Compliance Findings:

None Reported

SECTION III - FINDINGS AND QUESTIONED COSTS FOR FEDERAL AWARDS

None reported.

**SECTION IV - FINDINGS AND QUESTIONED COSTS REQUIRED BY THE STATE
OF TENNESSEE AUDIT MANUAL**

None reported.

METROPOLITAN GOVERNMENT OF NASHVILLE
AND DAVIDSON COUNTY, TENNESSEE
SCHEDULE OF FINDINGS AND QUESTIONED COSTS - Continued
YEAR ENDED JUNE 30, 2019

SECTION V - SUMMARY OF PRIOR AUDIT FINDINGS

Financial Statement Findings

No prior findings reported.

Federal Award Findings and Questioned Costs

Prior Year Finding Number	Finding	Status/Current Year Finding Number
2018-001	Preparation of Schedule of Expenditures of Federal Awards (Original finding 2016-001)	Corrected

Findings and Questioned Costs Required by the State of Tennessee Audit Manual

Prior Year Finding Number	Finding	Status/Current Year Finding Number
2018-002	Mayor and Police Fraud	Corrected
2018-003	Police Fraud	Corrected pending the collection of restitution.

Appendix C
Terminated Contracts

Terminated Contracts 2017-2020
Metro Nashville Davidson County Government

Year	Contract No.	Contractor Name	Department(s) Served	Reason for Termination	Explanation
2017	347146	Laboratory Supply Co. dba LABSCO	Health	Cause	Vendor refused to accept terms of newly assigned contract
2018	358736	Meharry Medical College	Metro Action Commission	Cause	Vendor personnel changes prevented ability to continue to provide services
2018	409880	MAXIMUS Human Services	Finance Department	Convenience	Lack of funding availability
2018	425162	Kline Swinney Associates	Water Services	Convenience	Services no longer needed
2018	327943	Helicorp	Metro Police Department	Cause	Vendor request
2018	352103	Christine Kreyling	Parks Department	Cause	Vendor request
2019	354488	1020 Digital, LLC dba Connected Nation Exchange	Information Technology Services	Cause	Company went out of business
2019	416990	ETC Institute	Mayor's Office	Convenience	Services no longer needed
2019	431990	Martha O'Bryan center	Nashville Career Advancement Center	Convenience	Lack of funding availability
2019	388574	Mid-Cumberland HRA	Nashville Career Advancement Center	Convenience	Lack of funding availability
2019	428984	United Neighborhood Health Services	Public Health Department	Convenience	Lack of funding availability
2019	340111	Wilson County School Dist.	Nashville Career Advancement Center	Convenience	Lack of funding availability
2019	420620	Workforce Essentials	Nashville Career Advancement Center	Convenience	Lack of funding availability
2020	36414	Town & Country Ford	General Services/Fleet	Cause	Models procured under the contract no longer available
2020	428204	Red River Waste Solutions	Metro Public Works	Cause	Services not provided as agreed upon
2020	448053	Product Envy	Metro Libraries	Cause	Services not provided as agreed upon
2020	376494	Marshall & Associates	Metro Assessor's Office	Convenience	Services no longer needed
2020	421836	Sorenson Forensics	MNPD Crime Lab	Cause	Services not provided as agreed upon
2020	395759	Brandeis University	Nashville Career Advancement Center	Convenience	Services no longer needed
2020	400777	Mid-Cumberland Human Resources Agency	Nashville Career Advancement Center	Convenience	Lack of funding availability

Terminated Contracts 2017-2020
Metro Nashville Davidson County Government

Year	Contract No.	Contractor Name	Department(s) Served	Reason for Termination	Explanation
2020	400774	Oasis Center	Nashville Career Advancement Center	Convenience	Lack of funding availability
2020	400775	Martha O'Bryan Center	Nashville Career Advancement Center	Convenience	Lack of funding availability
2020	443537	Cumberland River Compact	Nashville Career Advancement Center	Convenience	Lack of funding availability
2020	443545	Fathom PBC	Nashville Career Advancement Center	Convenience	Lack of funding availability
2020	447039	Martha O'Bryan Center	Nashville Career Advancement Center	Convenience	Lack of funding availability
2020	447040	Fathom PBC	Nashville Career Advancement Center	Convenience	Lack of funding availability
2020	447038	Goodwill of Middle Tennessee	Nashville Career Advancement Center	Convenience	Lack of funding availability

NASHVILLE TRANSIT HEADWAYS AND CONGESTION MANAGEMENT

NASHVILLE, TENNESSEE



ATCMTD 2020

APPLICANT: Metro Government of Nashville & Davidson County, Tennessee

DEPARTMENT: Public Works

Project Name	Charlotte Avenue/Dr. Martin L King, Jr Blvd Transit Headways and Congestion Management
Eligible Entity Applying to Receive Federal Funding	Metro Government of Nashville & Davidson County, Tennessee
Total Project Cost (from all sources)	\$3,000,000
ATCMTD Request	\$1,500,000
Are matching funds restricted to a specific project component? If so, which one?	No
State(s) in which the project is located	Tennessee
Is the project currently programmed in the: <ul style="list-style-type: none"> • Transportation Improvement Program • Statewide Transportation Improvement Program • MPO Long Range Transportation Plan • State Long Range Transportation Plan 	No
Technologies Proposed to Be Deployed (briefly list)	<ul style="list-style-type: none"> • Connected Transit Vehicle Technology • Transit Signal Priority • Congestion Management Technology • Fleet headway management software • Real-time bus occupancy data • Connected Vehicle-to-Infrastructure Intersection Upgrades
Is the project located in a rural area? A rural area is an area not in a Census-designated urbanized area (a Census-designated urban area 50,000 residents or more).	No
Is the project located in a qualified opportunity zone designated pursuant to 26 U.S.C. § 1400Z-1?	No

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Appendix (Volume II)

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EXECUTIVE SUMMARY

Charlotte Avenue is one of the most heavily utilized transit corridors in Nashville with some of the slowest average travel times. The area is densely developed with 88,000 jobs and 16,000 residents living within a half mile of the corridor. Roadway congestion often results in "bunching" of buses along the route, leading to uneven passenger loads and a drop in reliability and efficiency. This project seeks to remedy those issues and set the stage for future improvements through targeted use of connected transit vehicle technology.

Nashville anchors one of the fastest growing regions in the United States. With this growth comes opportunities and challenges in connecting people and places, and providing access to good jobs, quality education and adequate healthcare. Public transit is the backbone for both managing the increase in transportation demand and for ensuring an affordable and efficient mobility option for all members of the community. Technology must play a central role in creating the transit and transportation system that is needed to meet the promise of improving safety, mobility, efficiency, experience and quality service to the public.

Metro Nashville is partnering with the Nashville Metropolitan Transit Authority (dba WeGo Public Transit), and Tennessee Department of Transportation (TDOT) to develop connected transit technology on the Charlotte Avenue/ Dr. Martin L King, Jr Blvd corridor. This key project will immediately improve the service and capabilities of transit on one of Nashville's most vital corridors, while also readying technological capacity to extend the connected vehicle technology of this deployment throughout the region.

Focusing on WeGo Route 50, Connected transit data will be used for operational

decision-making, with information relayed back for display to the driver to enable real-time reaction and service improvements. The this project will deploy a combination of infrastructure, vehicle, and back office technologies to accomplish the following new capabilities:

- Enhanced real-time monitoring of roadway and transit conditions on Charlotte Avenue
- Dynamic management of Route 50 buses to optimize vehicle headways and capacity
- Traffic signal upgrades to facilitate signal priority when buses are behind schedule

Connected vehicle data collection will build off recent successes using Tiger funds (used on Murfreesboro Pike) and CMAQ funds (to be used on West End Avenue) to continue implementing backbone communications infrastructure for advanced traffic operations. This infrastructure is a prerequisite for applications like active traffic management, transit signal priority, signal performance measures as well as future connected vehicle opportunities as technology advances and expands.

Nashville is well-positioned to leverage new technologies and innovation to improve transportation as a service to our citizens. With an ambitious transportation plan for the future, continued investment in technology will bridge the success of recent efforts to the opportunities of the future. This project is an important step in readying a key corridor for coming change, while establishing a transferable model for the region. Linking the primary downtown transit hub with the Statehouse, Tennessee State University Avon Williams Campus, the Tristar Centennial Medical Center, as well as employment centers, commercial uses and residential neighborhoods, this project will set the example for transit technology innovations to come.

PROJECT NARRATIVE

Description of Project Area

Location and Demographics

Nashville is a Southern city with a population of 670,820 (Census 2019) and 525 square miles in size, with an annual growth rate of 1.24% over the last decade. Nashville is the cultural and political capital of Tennessee, as well as the heart of the Country music industry. It is home to the Tennessee State Capitol, Tennessee State University, important research hub Vanderbilt University, and the Country's longest running radio program in the Grand Ole Opry. Downtown Nashville and its western neighborhoods feature a mixture of density and land uses experiencing rapid infill growth in recent years, leading to increased congestion on transit routes leading to the downtown core. The WeGo route 50 Charlotte Pike BRT Lite along Charlotte Avenue is a perfect example

of a transit corridor experiencing this growth and related operational issues due to increased congestion. Thus, the corridor is a great candidate for deploying advanced Intelligent Transportation Systems (ITS) technologies aimed at improving transit operability through connected vehicle technology. As a result of these upgrades, a vibrant transit-innovation corridor can be created that will lead to better congestion management, more predictable transit trips, and improved livability along an important commercial corridor for the Nashville region. Given the rapid population growth Nashville has experienced in recent years, the connected transit corridor will serve as a catalytic investment. This will help build important local capacity and set Nashville on the path to deploy new mobility technology solutions throughout the regional transit network.



Figure 1 Nashville Context
Map Image source: nashville.gov/



Figure 2 WeGo Transit Bus

Image source: Facebook.com/WeGoTransit

Route 50 and Charlotte Avenue extends west from downtown Nashville and acts as a major arterial and transit corridor connecting downtown to three important districts. These districts include North Nashville, Green Hills-Midtown, and West Nashville. All three of these areas have experienced infill and re-development as Nashville has grown in recent years, leading to higher population densities and new or expanded activity centers along Charlotte Avenue. Downtown's high-density office and institutional land uses give way to a more mixed medium-density residential, commercial, and industrial land use to the east of Interstate 40. As Charlotte Avenue crosses Interstate 440, 2 miles outside of downtown, the land use transitions again to lower density commercial and residential development. Route 50 serves all these diverse land uses and important institutional employers and has a large built-in user base as a source of stable ridership that will benefit from the improved transit operations resulting from the proposed connected transit corridor investments.

Existing Transit Service

Nashville's transit service, WeGo, is operated by Nashville's Metropolitan Transit Authority. WeGo operates 44 regular routes including seven frequent service routes, which includes Route 50. Fixed route fares for adults are \$2.00

per one-way trip or \$4.00 for an all-day pass. WeGo generally operates a hub-and-spoke transit system with downtown Nashville acting as the hub for the system. Annually, Route 50 carries approximately 600,000 passengers, and is the fifth busiest corridor in the WeGo Public Transit system.

WeGo Route 50 is a frequent service route running approximately nine miles along Charlotte Avenue from the Tennessee State Capital in the east to the very western edge of the metropolitan region at Cedar Crest, with this project terminating at White Bridge Pike. Charlotte Avenue is one of the top five transit usage corridors in the region. Buses along the line operate from 4:30 A.M. to 11:00 P.M. on weekdays with a frequency during peak hours of 15 minutes. The route connects major trip generators and important cultural institutions to the WeGo Central transit hub. These include TriStar Centennial Medical Center, Centennial Park, the Tennessee State Capital, WeGo Central, and the Musicians Hall of Fame and Museum. The route also serves high concentrations of minority and low income populations in North Nashville just west of downtown, bounded by Charlotte Avenue to the south and Interstate 40 to the west and north.



Figure 3 Nashville Points of Interest and Districts
 Map Image source: nashville.gov/



Project Area Vicinity

The Charlotte Avenue/Dr. Martin L King, Jr Blvd corridor fronts the State's Capital building and continues as a densely developed corridor with **88,000 jobs and 16,000 residents living within a half mile of the corridor**. Several large medical complexes, Centennial Park and Art Center occupy the corridor and most notably, Vanderbilt University, with **12,000 students and 8,000 faculty and staff are within a half mile of the corridor**. The existing development and diversity of uses make this an optimum location for pilots demonstrating how technology can improve and balance mobility needs which is a noted goal for the Charlotte Avenue Corridor Study completed in October 2018. Additionally, as was done in Chattanooga, honoring Dr. King with a corridor that advances our future mobility for underserved communities is a fitting action.

Downtown District

Downtown Nashville is the cultural, entertainment, tourism, and employment hub for the Nashville region. Nashville's core features a high concentration of cultural attractions that bring an influx of visitors to the city's downtown each year. In 2019, 16.1 million tourists visited the city attracted to the historic music venues and honky-tonk bars. These visitors brought with them over seven billion dollars in direct visitor spending. The tourist industry has helped to spur a boom in new hotel rooms and nationally renowned dining experiences as demand for hotel rooms has outpaced all other US cities over the last five years. The downtown area is also experiencing an influx of residential infill development, especially concentrated just north of the state capital near the Bicentennial Capital Mall State Park and First Horizon Park. Continued investments in the regional Cumberland River Greenway trail network that connects downtown to adjacent neighborhoods along the Cumberland River has helped

to provide residents and visitors better multimodal access to key cultural destinations and better links to the WeGo regional transit network. Route 50's terminus within the downtown core ends within a block of the State Capitol building, the Musicians Hall of Fame and Museum, the Tennessee Performing Arts Center, and a number of hotels and office towers that bring together residents and visitors in the thousands each day.

Green Hills-Midtown District

Generally located south of Charlotte Avenue and west of Interstates 40 and 65, the Green Hills-Midtown district is a centrally located, historic collection of neighborhoods with a diverse mix of land uses. The area is home to cultural institutions such as Vanderbilt University and the Music Row neighborhood, which is famous for its history of recording studios and role as the heart of the Country music industry. Closer to downtown, the area is experiencing an influx of new residents attracted by new apartment buildings that offer urban living in a vibrant mixed-use area with good proximity to jobs. Route 50 is adjacent to much of this redevelopment energy and an investment in ITS technologies to better manage congestion and transit operations can further catalyze future investments into this bustling district.

West Nashville District

West Nashville starts west of Interstate 440 and the railroad spur line and includes land running north to the Cumberland River. The area is divided in half by Interstate 40, which runs parallel to Charlotte Avenue. The majority of West Nashville's land use is single family housing with smaller mixes of commercial, open space, and light industrial. Within West Nashville, Charlotte Avenue functions as the area's primary commercial corridor, not only providing a major connection to downtown Nashville, but also neighborhood shopping, entertainment, and employment opportunities.



Figure 4 Existing Intersections
Map Image source: nashville.gov/

North Nashville District

The North Nashville area is a historically immigrant and African American neighborhood that is still home to a large percentage of minority and low income populations. However, in recent years the district’s strong historic identity, architectural character and proximity to downtown and nightlife opportunities has brought an influx of infill, especially within the Germantown neighborhood. The district is home to a diverse mix of land uses, including an industrial core along the Cumberland River that has become a hub for the logistics industry, institutional uses such as Tennessee State University and medium and low density residential. Recent residential infill is generally happening at a greater density compared to historic development patterns, leading to an increasing concentration of population that would benefit from improved transit operations along route 50.

Real-World Issues and Challenges

More than 1 million people are expected to move to the Nashville region in the coming decades, making the transportation experience

an increasingly complex challenge. Downtown Nashville is the region’s most concentrated trip destination. Since more people travel to downtown Nashville than any other location in the region, downtown transit investment is vital to the region’s success.

Downtown Nashville is the center of Middle Tennessee, and the place where most transit riders travel to and from. Downtown Nashville is a major point of cross-regional access. Because of its importance to the region, downtown Nashville requires special consideration for transit priority. However, it is also where transit gets bogged down, with buses currently averaging only about 6 mph in downtown. These slow speeds make transit unattractive. Traffic congestion and a lack of transit priority contribute to transit’s slow service in this area. A key to making transit more effective for the region is to make it work well within downtown Nashville.

The challenge of traffic congestion and unreliable transit needs to be met with modern solutions.

The Charlotte Avenue corridor is one of the major arterials within Metro Nashville and



connects downtown Nashville's thriving tourism industry, government hub, and commercial center to high-growth areas in west Nashville and interstate highways. It connects to WeGo Central at 4th Ave, the hub for transit activity and connectivity across the region. The transit hub contains twenty-four bus bays that serve three dozen bus routes. The Charlotte Avenue corridor is at the heart of the region's transit system with Bus Route 50 providing frequent service 18 hours a day. Unfortunately, traffic congestion and unreliable transit service impede the ability of Nashville's citizens to fully engage with civic life and economic opportunities along the Charlotte Avenue corridor and beyond.

The transit riding experience, like so many of life's experiences, was thrown into disarray in early 2020 with the COVID-19 global pandemic. Among many impacts, public health and social distancing became a focal point for transit. In our new normal, increased information about the transit riding experience will be essential to deliver safe access to opportunity.

The project will create a transit monitoring software application to compile data that will be used for operational decision-making, with headway management information relayed to central dispatch and back for display to the driver. This will include real-time bus spacing information to drivers on Route 50, allowing headway adjustments to evenly distribute passenger loads and arrival times, in addition to data collection and review. The project will provide real-time bus occupancy data to both transit riders and central dispatch via an application and digital signage at bus shelters. This could also alert dispatch to the need for deployment of a helper bus.

The pandemic has highlighted how vital transit is to continue to provide service with a focus on essential workers getting to jobs

at locations such as medical facilities and grocery stores. Transit service supports equity in the greater Nashville community by serving neighborhoods with high levels of poverty, joblessness, and vulnerable health populations.

Improvements to transit on Charlotte Avenue will have immediate improvements to service downtown but will also provide regional benefits. Transit supports sustainable growth and is good for the environment since each person riding the bus produces lower greenhouse gas emissions than each person in a car. Transit makes Nashville a better place to visit as visitors expect quality public transportation to get around the city. Transit investment attracts talent and makes cities more competitive. Transit boosts the region's economy and creates jobs. Transit access reduces household transportation costs, making Nashville and the region a more affordable place to live. As the Nashville region builds back after a pandemic and economic downturn, transit's ability to provide safe, convenient, and reliable access to jobs will be more essential than ever.

Description of Technologies to Be Deployed

The Charlotte Avenue Transit Headways and Congestion Management Project will include the three following primary functions:

- Enhanced real-time monitoring of roadway and transit conditions on Charlotte Avenue
- Dynamic management of Route 50 buses to optimize vehicle headways and capacity
- Traffic signal upgrades to facilitate signal priority when buses are behind schedule

The following investments will be made in infrastructure, vehicles, and software in support of this concept.

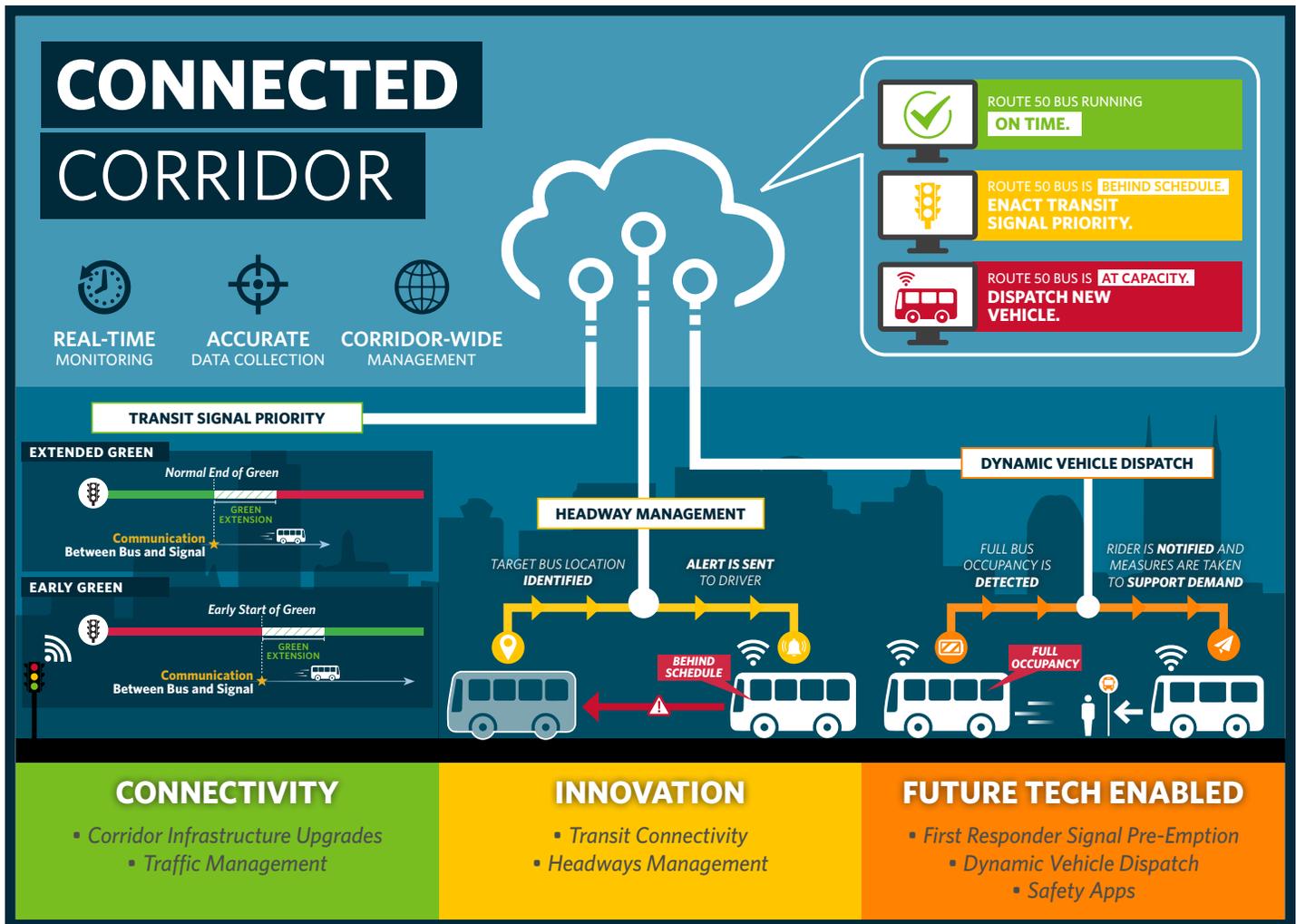


Figure 5 Connected Corridor Concept
Image source: HDR

Infrastructure Investments

The project corridor along Charlotte Avenue/Dr. Martin L King, Jr Blvd extends approximately 4.8 miles from 4th Avenue N to White Bridge Road. The traffic infrastructure improvements include installation of backbone fiber communications infrastructure for advanced traffic operations management at the 29 signalized intersections along the corridor. Upgrades will include 29 roadside units (RSUs) and signal priority phase selectors. Dual mode dedicated short-range communications (DSRC) and cellular vehicle-to-everything (C-V2X) units will be installed allow the City to leverage past investments in DSRC while future-proofing

the corridor for cellular-based fleets. The RSUs will detect traffic conditions and, if required, facilitate signal priority for buses. They will also enable future capabilities such as emergency vehicle preemption, red light violation warning, and pedestrian safety applications. Bus stops will be equipped with digital signage that provides real-time bus arrival and occupancy information to waiting passengers.

The majority of the corridor’s communication infrastructure is twisted-pair copper and detection at intersections is primarily electromagnetic loops. These technologies are well past their expected service life



and limit opportunities for modern traffic communications and control. As Metro Nashville continues the development of plans for a Transportation Management Center, upgrades to fiber communications and detection will give the city greater reliability and accuracy. The Nashville Electric Service (NES) has existing overhead utilities along the corridor from 10th Avenue N to White Bridge Road. There are underground utilities along the Charlotte Avenue/Dr. Martin L King, Jr Blvd from 4th Avenue N to 10th Avenue N. The new fiber communications to be installed along this corridor as part of this ATCMTD grant are expected to go overhead where there are already existing overhead utilities. New underground conduit will be needed between 4th Avenue N and 10th Avenue N where existing utilities are underground. The section of the Charlotte Avenue corridor from 10th Avenue N to White Bridge Road could benefit from a complete streetscape overhaul with sidewalk improvements, access management, and pedestrian accommodations at each intersection in the future. For the purposes of this ATCMTD grant application, budget limitations restrict the sidewalk and roadway improvements to the areas impacted by the installation of the fiber conduit and the intersections along the corridor requiring sidewalk and curb ramp improvements to bring these locations into compliance with the Americans with Disabilities Act.

Vehicle-Based Equipment

DSRC on-board units (OBUs) will be installed on 24 buses to enable vehicle-to-infrastructure (V2I) communications with the signals on Charlotte Avenue. Initially the primary purpose of these OBUs will be to issue signal request messages to traffic signals, but the City desires to use this technology to deploy other V2I and vehicle-to-vehicle (V2V) applications over time. Existing mobile data terminals (MDTs) will be upgraded to present dynamic

headway management prompts and the status of signal priority requests to operators.

Software Development

Incoming data from infrastructure- and vehicle-based investments will be integrated in a new software platform designed to enable proactive management of Charlotte Avenue. Traffic conditions will be monitored in real-time to assess current levels of congestion; the location, travel speeds, and passenger occupancy of buses on the corridor; and the current status of traffic signals.

These data sources will also be used to inform a new dynamic headway management system with the following capabilities:

- Real-time monitoring of Route 50 buses by system operators to assess schedule adherence and bus occupancy
- The ability to enact protocols to modify vehicle headways when roadway conditions deteriorate
- Communication of decisions to bus operators on Route 50

Challenge	Solution
Route 50 bus is running ahead of schedule	Alert bus operator to hold at the next stop.
Route 50 bus is running behind schedule	Enact transit signal priority and alert bus operator of delay
Route 50 bus is running at capacity	Deploy auxiliary bus to quickly add capacity to the route (future capability)

Testing Ground and Future Capabilities

This project will build on recent regional successes implementing backbone communications infrastructure for advanced traffic operations. The City of Nashville will also coordinate with the TDOT's planned I-24

SMART Corridor, located to the southwest of Downtown Nashville. Investments on that corridor will include a combination of traditional ITS and connected vehicle technologies to facilitate a range of integrated corridor management deployments. At the regional level, these improvements will set the stage for testbed activities and more robust connected and automated vehicle deployments as fleet penetration increases. Additionally, as Metro Nashville continues to plan its new Traffic Management Center, these investments will establish best practices for incorporating data from emerging technologies for more informed decision-making.

Deployment Plan **Program Management, Performance Measurement, Systems Engineering, and Design**

Following award, the City of Nashville will work with U.S. DOT to enter into a Cooperative Agreement. This agreement will include a Project Management Plan that includes a statement of work, project schedule with milestones, staffing plan, and budget. The City will work with U.S. DOT to develop mutually agreeable performance measures to track for the duration of the project. These will be documented in a Project Evaluation Plan, with all data collection described in the Data Management Plan.

Prior to entering into contract with a vendor for software development and connected vehicle components of the project, the City will undergo a systems engineering process to refine the project concept, understand stakeholder needs, and develop requirements for procurement. A Systems Engineering Management Plan, Concept of Operations, and Systems Engineering Review Form will be developed for U.S. DOT approval and will utilize the Department's relevant systems engineering resources to the extent practicable.

The City anticipates issuing a solicitation for consulting services to assist with program management, systems engineering, design, and evaluation and reporting activities.

System Development, Integration, and Construction

Following the completion of performance management, systems engineering, and design deliverables the City will issue a competitive procurement for software development, connected vehicle components, and construction activities. The City will work with WeGo as part of the software development process to verify that the dynamic headway management system is successfully integrated into the WeGo and City of Nashville operations centers and existing WeGo MDTs and bus occupancy detectors. Coordination with WeGo's respective vendors for these components will be required. OBUs and antennae will be installed on 24 buses at WeGo facilities. It is anticipated that OBU installation and integration testing will be completed using vendor labor.

The City will install RSUs and signal phase priority selectors at 29 intersections on Charlotte Avenue using City staff labor. Based on the existing signal system in place, the City anticipates minimal signal controller upgrades will be required to support the addition of these components. Following the completion of signal controller upgrades the City will work with WeGo and the software development and connected vehicle vendor(s) to perform testing of the transit signal priority components.

Operations and Maintenance

Following successful integration testing the City will conduct a training session for operations center staff and WeGo bus operators. The City has budgeted to operate the Charlotte Avenue Transit Headways and Congestion Management Project for two years as part of the ATCMTD grant; however



the City’s goal is to add new corridors and connected vehicle functions over time.

During the preliminary two-year period, the following breakdown of responsibilities is anticipated:

- Maintenance of the traffic signal controller components, fiber optics network, and any required roadway or sidewalk improvements will be performed by the City of Nashville
- Repairs and software updates for RSUs and OBUs will be performed by vendor labor
- Maintenance of MDTs, vehicle occupancy detectors, and any infrastructure associated with transit stops will be performed by WeGo or the respective vendor

Following award, the City will enter into a memorandum of understanding that describes each party’s roles and responsibilities. The City will host periodic project meetings that include the entities above as appropriate and their input will be reflected in Quarterly Progress Reports, Annual Budget Review and Program Plan Reporting, and the Final Report for the project.

Obstacles to Deployment **National Environmental Policy Act (NEPA)**

It is not anticipated there will be environmental challenges through the National Environmental Policy Act (NEPA), as the activities described should fall under a categorical exclusion. Activities should be contained within existing right-of-way with benefits to the traveling public and minimal negative impacts to Environmental Justice populations or private property.

Other Agency Permits and Reviews

There will be little challenge to the initial deployment of signal improvements and customer communication enhancements. City of Nashville and WeGo will follow normal

communication processes for similar customer improvements, and will coordinate with TDOT.

As the corridor develops to provide a potential on-street “testing ground” for manufacturers to evaluate privately owned vehicles to test connected vehicle technology and host demonstration events, the challenges will become more pronounced. Regulatory, legislative, and institutional barriers may exist that prohibit or hinder the ability for new technologies to be deployed onto public roads. City of Nashville, Tennessee Department of Transportation, WeGo, and others are supportive partners of the testing of future technologies along this corridor. Agency and stakeholder leaders understand that connected vehicle technologies offer the potential for economic development by attracting investments from emerging industries. These partners will work together to clear the way for new technologies that point to the future of transportation.

Public and Institutional Perception

As emerging technologies have been developed, such as autonomous vehicles, the public has grown more aware of the potential benefits and pitfalls. The public is excited about new technologies but can be wary of safety considerations if technologies are not deemed safe. Bus operators can be concerned about the future potential of new technologies to negatively impact future bus operator jobs. WeGo is committed to making sure that it is advancing connected vehicle technologies to enhance safety and the bus operator experience. WeGo is not engaging in autonomous vehicle deployments at this time. Letters of support from partner agencies and institutional stakeholders are included in this application.

Quantifiable Performance Improvements

Overall signal upgrades will allow for better signal operations, which will in turn lead to reduced congestion, improved transit service, fewer crashes, and improved emergency vehicle response times. Many of these benefits can be measured, and the City of Nashville will work with U.S. DOT to consider this as part of the ATCMTD evaluation process.

The signal improvements and real time transit information (including real-time bus spacing information and real-time bus occupancy data) will improve transit service for 24 buses along the corridor. The new systems will provide the information needed and ability to adjust headways in real-time in response to changing needs. This ability to manage dynamic transit headways will improve the system's efficiency, reliability, and customer responsiveness. In addition to providing information to the transit system and its operators, information regarding vehicle occupancy will be available directly to consumers, allowing them to better manage their trips (and which vehicles to board). Together, these improvements will make transit a more attractive option and attract ridership.

Multiple measures, including reduced average wait times for passengers at stops along corridor; faster transit travel time along entire corridor; and increased ridership can be tracked. The City of Nashville will work with U.S. DOT evaluators to identify the best methodology for measuring improvements to transit service.

The upgraded signals will provide real-time information about traffic conditions that will provide planning-level data to optimize signal performance over time. This improved congestion management should lead to:

- Reduced travel times along the corridor as a whole. (Travel time data and AADT during

AM and PM peaks will be collected along the corridor.)

- Reduce crashes along the entire corridor (fewer red-light violations which is a major factor in the number of severe injuries on the corridor).
- Faster response time for emergency response vehicles based along the corridor and/or regularly using that corridor. (To be collected from police and fire department systems)

Signal upgrades and the inclusion of connected vehicle technology will also allow a number of future connected vehicle applications on the corridor. For example, pre-emption for emergency vehicles may be deployed to decrease emergency response times while reducing crashes at the 29 intersections along Charlotte Avenue. The impact can be measured by looking at the changes in crash rates and overall response times for emergency vehicles along the corridor. As the connected vehicle penetration rate increases within privately owned vehicles, the range of intersection safety and mobility applications can be considered, each with measurable performance improvements.

Safety, Mobility, and Environmental Benefits

The proposed improvements to create a connected transit corridor to improve route operations through congestion mitigation, and real-time headway modification will generate multiple benefits for transit riders, personal vehicle and truck drivers, as well as residents and workers along the corridor.



NEW

Brand new multimodal connected vehicle application for both operators and the public



INNOVATIVE

Never before implemented approach to dynamic transit dispatch and headway management



SAFETY

Transportation safety improvements today and setting the stage for first responder connectivity



ADAPTABLE

Example corridor for connected vehicle technology throughout the region

Safety Benefits

Among the most significant, and with likely high monetary value, are safety benefits from a reduction in the number and severity of crashes along the route. The following safety benefits are expected:

- **Reduced crashes due to signal adjustments to manage congestion.** As signals are better coordinated, drivers along the route are less likely to experience frustration and fewer people are expected to jump lights.
- **Future reduced emergency vehicle crashes from signal prioritization and pre-emption.** The information gleaned from the better connected network, traffic operations can refine signal time and prioritizes so as to reduce the likelihood of crashes between emergency and other vehicles. Avoiding emergency vehicle crashes has an even greater benefit than other crashes because in addition to the direct effects of that crash, there is a negative impact on their response time.
- **Future intersection safety applications for privately-owned vehicles.** The signal and network improvements being proposed now, can also serve as the backbone and infrastructure to deploy other applications in the future, including those for privately-owned vehicles. With part of the necessary

infrastructure in place, it becomes cheaper and easier to implement (and perhaps complete the development of) new applications, including some that might otherwise not be feasible.

In addition to reducing crashes, these system improvements improve safety in two other ways:

- **Reduced emergency vehicle response times.** Signal prioritization, combined with reduced congestion along the corridor, will help police, fire, and ambulances that need to use the corridor arrive at their destination sooner than they otherwise would. This group includes ambulances traveling to the TriStar Centennial Hospital and Saint Thomas Midtown Hospital, including the pediatric emergency room. In addition, the Nashville Fire Department Station 13 and Station 19 are located along the corridor, as well as the West Police Precinct.
- **Enhanced health precautions for passengers by providing vehicle occupancy data to customers.** For some transit riders with special medical needs, the ability to more easily avoid crowded buses may positively impact their physical and/or mental health.

Mobility Benefits

In addition to the notable safety benefits, the proposed system upgrades will generate important mobility benefits as well. Travel along the corridor will become faster, on average, and also more reliable — for all traveling by bus, car or truck. The following mobility benefits are expected:

- **Improved average travel time.** Signal prioritization, reduced congestion, and dynamic headways (for transit riders) will lead to shorter overall trips along the entire corridor. Travel time will be saved for those on work or leisure trips, including non-emergency trips to the nearby Medical Centers.
- **Improved reliability.** People place a value on reliability itself. When people are not confident that the chances of being late for work or an important appointment extremely low, they take other modes or build in additional ‘buffer time’ into their trips. A more reliable travel corridor will allow people to make better use of their time and encourage more to take transit.
- **Greater transit customer flexibility and comfort on rides.** Real-time bus occupancy data will allow passengers information to make decisions on whether to take a crowded bus right before them or wait for the next one, if it is less crowded and coming quickly. Bus riders might prefer to wait for less crowded buses for a variety of reasons, including the desire for a seat, wanting greater distance between themselves and other riders, a potentially quieter ride, etc.
- **As transit performance improves along the corridor, more people will find transit attractive.** When transit system performance improves, more people find it a viable option, whether because average trip time is now short enough, overall travel time becomes

more reliable, or the trips generally become more comfortable. Transit ridership will go up, as people move from cars or take more trips overall by bus.

Environmental Benefits

Environmental benefits will arise from reduced congestions a reduction breaking in and speeding up at intersections. The following environmental benefits are expected:

- **Transit signal priority will lead to some reduction in breaking and speeding.** This, in turn, will lead to improved fuel efficiency and reduced emissions for transit vehicles on Route 50. An added point to note is that the reduction in emissions will occur in a densely populated area, and near a hospital, affecting large numbers of residents and workers
- **Reduction in noise impacts.** The reduced breaking and overall congestion will also lead to a reduction in noise. This will be particularly beneficial for pedestrians and residents along the corridor.

Future Planning Benefits

Finally, the connected vehicle technology improvements and system upgrades will allow for the collection and use of additional data, beyond what is currently planned. Together, the additional data will provide a wealth of information for city planners to use, both as they refine the Charlotte Avenue corridor and consider similar improvements along other major corridors.

Vision, Goals, and Objectives

Vision

This vision for this project is use technology to enhance connectivity to employment, institutional, and cultural destinations. Not only will this transform the operation of a key transit corridor, it will set the stage for future technology investments throughout the



rapidly growing region. Beyond the traditional transportation goals of safety and mobility, this project is about advancing equity, choice, and the overall quality of life for City residents.

Project Goals:

Mobility

A corridor that facilitates the efficient movement of people quickly through key districts in and around downtown without the need for a personal vehicle, through the improved operation and efficiency of transit. Improved route headway management and signal prioritization will improve transit operations and facilitate increased mobility efficiency in all modes.

Equity

A corridor that ensures access to critical employment, healthcare, education, and other critical destinations for all members of the Nashville community and especially for historic minority neighborhoods served by WeGo Route 50. More regular and reliable service resulting from these changes will improve transit for those who most rely on the service for daily transportation needs.

Quality of life

A corridor that increases the overall quality of life for the Nashville community along Route 50 that provides travel that lowers congestion, improves corridor operations, and provides the basis for future transit improvements.

Safety

A corridor that improves safety for Nashville residents and leverages connected communication technologies to provide safety benefits to vulnerable roadway users and drivers. Contributions to congestion management and related traffic accident mitigation will lead to added benefits.

Choice

A corridor that introduces improved and efficient transit while complementing other

modes establishes options for mobility. The immediate improvements in balancing passenger loads and providing real-time information to riders will enable transit to become a viable choice for an even greater number of the many thousands of residents and workers along the corridor.

Economic Competitiveness

A corridor that can support long range community goals of a high capacity transit corridor that supports strategic infill and connects centers without the need for large amounts of parking, allowing for greater density of developable land to support the maintenance of household affordability. By laying the groundwork for new technology implementation today and in the future, opportunities along the corridor will remain strong for the coming decades.

Flexibility

A corridor with infrastructure improvements that will pay both short and long-term dividends to the community. The use of connected vehicle technology and the fiber installation will be able to adapt and evolve to serve as the backbone of emerging 21st century vehicle technologies.

Project Objectives:

Project outcomes will be clear, effective and measurable. The primary objectives are:

Improve transit service through connected vehicle technology. Equipping the corridor infrastructure and route buses with the proposed technology will create a smart, connected ecosystem of real-time transit information that can be used to better optimize transit routes and dynamically adjust supply to meet demand

Drive ongoing neighborhood improvements and development. Updates to this frequent transit corridor will enable it to act as a catalytic force for further development and

increased neighborhood services in the area. It will serve as part of the overall congestion management strategy of the area and a key linkage between home, work and goods for tens of thousands of workers, residents, students and visitors.

Enable future mobility. The connected technology will provide a testing ground and lay the foundation of base technologies to create a corridor supporting to the future deployment and testing of new mobility models.

Leveraging Existing Assets

The Charlotte Avenue/Dr. Martin L King, Jr Blvd corridor will serve as a living lab for technology and sustainability pilots and demonstrations including smart signals, crosswalks, parking, connected vehicles, green infrastructure, solar powered features such as crosswalks, lighting, native species right of way (ROW) plantings, and others.

These improvements are needed to set the stage for future connected vehicle operations in the corridor. Connected vehicle data collection will build off recent successes using Tiger funds (used on Murfreesboro Pike) and CMAQ funds (to be used on West End Avenue) to continue implementing backbone communications infrastructure for advanced traffic operations. This system will also complement dynamic dispatching technology that would integrate connected vehicle technology to leverage existing assets such as passenger counting systems.

Regional Transportation Assets

The Nashville Transit Signal Priority System initiative includes the installation of upgraded traffic signal equipment and safety enhancements that improve on-time bus service and provide a more comfortable ride

for thousands traveling to Nashville's Central Business District every day. The Nashville Transit Signal Priority System has upgraded decades-old traffic signals and added signal priority equipment for all of the fixed-route buses serving southeastern Nashville along Murfreesboro Pike. Dedicated-lane rapid bus service along Murfreesboro Pike is building upon the technological enhancements to traffic signals.

Similarly, the I-24 SMART Corridor has taken a comprehensive approach to managing the existing infrastructure and improving travel time reliability between Rutherford and Davidson Counties. The I-24 SMART Corridor project will integrate freeway and arterial roadway elements, along with physical, technological, and operational improvements, to provide drivers accurate, real-time information and to actively manage traffic. Intelligent Transportation Systems (ITS) features will also be deployed to upgrade signals and optimize signal timing on SR 1 and connector routes. Projects such as these have highlighted the Nashville region's push for transit signal improvements that enhance the multimodal travel experience. These past projects and ongoing initiatives provide a framework for the region to leverage existing advanced transportation technology investments to promote future enhancements.

Transit Assets

The transit system has advanced many technologies on board its vehicles and throughout its network. In recent years, many electronic devices have been added onboard vehicles, at facilities, and on transit infrastructure. The in-vehicle technology incorporates many devices that communicate with and through the CAD/AVL system. An overview of the pertinent current components highlights how this grant will leverage existing assets at the transit agency.



TransitMaster In-Vehicle Logic Unit (IVLU) is the onboard computer for the TransitMaster CAD/AVL system. It runs all mobile software supporting vehicle tracking, automated and manual communications, passenger counting, and schedule adherence. TransitMaster Mobile Data Terminal (MDT) is the driver touch-screen interface to log in to the CAD/AVL system, view and respond to messages, view schedule/adherence and upcoming stops, make PA announcements, and initiate radio calls to dispatch.

Cisco Cellular Router/Antenna is the primary data communications for the TransitMaster IVLU, INIT ProxMobile fare validator, and public wi-fi. If this device fails, various functions can be affected or fail completely, including vehicle tracking, real-time customer information, customer wi-fi, Transit Signal Priority, and account-based fare collection.

Customer wi-fi access integrates with the Cisco cellular router to broadcast public wi-fi within the vehicle for customer use. The voice radio/antenna integrates with TransitMaster IVLU to provide voice communications between bus operator and dispatch. The data radio/antenna is a secondary data communications for TransitMaster IVLU that serves as a fallback data communications device in the event of a failure of the Cisco router, but it cannot support data-intensive activities to the same level.

The GPS/WLAN antenna provides GPS location data for TransitMaster IVLU and other integrated systems, including Genfare farebox and INIT ProxMobile fare validator. WLAN transmits bulk file uploads and downloads to the IVLU, such as new schedule versions when a new mark-up is taking effect. RFind RFID Tags identify when vehicles arrive at and depart from specific bays at WeGo Central. If the on-vehicle tags are not working, arrival and departure events fall back to GPS-based tracking, which is much less

reliable and leads to erroneous information on customer displays at WeGo Central as well as less accurate historical schedule adherence and travel time data.

Front/Rear Door Automated Passenger Counters (APCs) count passengers boarding and exiting by stop. This data is used for route planning and frequency adjustments, vehicle assignments, and stop amenity placements. Data is currently only used in aggregate and not used for real-time information. J-1708 Vehicle Area Network box ('J-Box') serves as the Vehicle Area Network (VAN) hub for various onboard devices that need to communicate with the IVLU. If there is a problem with the J-Box, destination signs will not change automatically, the GenFare farebox will not have correct route and location information from the IVLU, and APC data will not be transmitted.

The vehicle technology installed through this grant will integrate with numerous existing components and leverage their assets to enhance future vehicle connectivity and communications.

In order to manage headways to maintain spacing, bus operators will get an indication if their vehicle is too far ahead or behind. By retrofitting connected vehicle technology on buses that use the corridor, a new functionality will show headways compared to vehicles before and after the operator's bus along the corridor. In-vehicle technology will communicate with connected infrastructure to deploy transit signal priority and transit signal preemption in coordination with WeGo's backoffice system in order to improve operations along the corridor.

Schedule

The project schedule is outlined in Figure 6. Project work steps can begin immediately after award of grant funds.

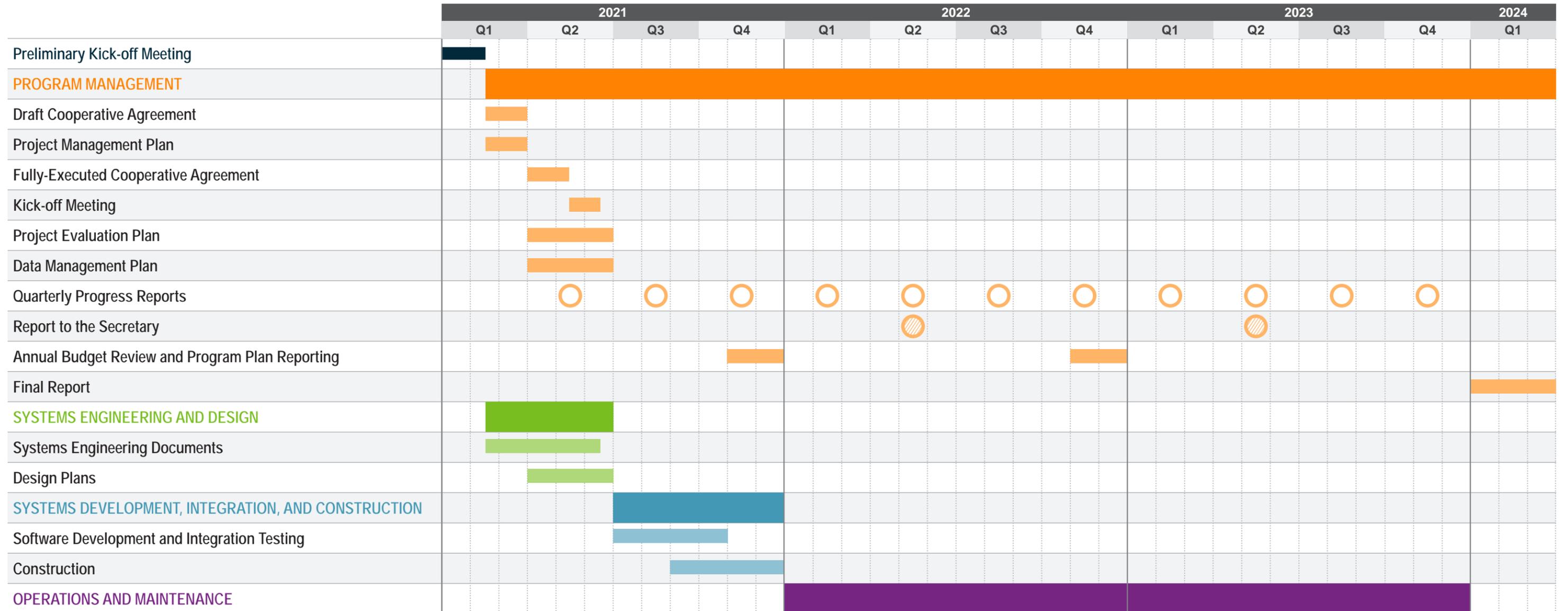


Figure 6 Project Schedule



Leveraging Existing U.S. DOT Resources

The City of Nashville will seek to leverage and support U.S. DOT resources and programs wherever possible. The following will be consulted as part of the planning, systems engineering, and design of the Charlotte Avenue Transit Headways and Congestion Management project:

- Systems engineering and lessons learned documentation for Transit Signal Priority and other relevant signal-based connected vehicle applications.

- Early lessons learned and evaluation outcomes from other ATCMTD grant awardees that have implemented dynamic transit management, connected vehicle, and signal priority technologies.
- Reports developed as part of the Smart Columbus demonstration, especially those pertaining to the Connected Vehicle Environment and Enhanced Human Services projects.

Alignment with U.S. DOT Goals

Tables 1 through 4 summarize the project's alignment with U.S. DOT desired technologies, goals, focus areas, and objectives.

Table 1. Project alignment with U.S. DOT Desired Technologies

U.S. DOT DESIRED TECHNOLOGIES		
Criteria		Alignment with Project
✓	Advanced traveler information systems	Real-time bus occupancy and headway will be provided to passengers via app and digital signage.
✓	Advanced transportation management technologies	Traffic signal data collection and communications infrastructure will be installed to provide transit signal priority.
✓	Infrastructure maintenance, monitoring, and condition assessment	Vehicle-to-infrastructure communications and bus occupancy detection will monitor conditions in real-time.
✓	Advanced public transportation systems	Connected vehicle technology and dynamic headway management software will enhance travel time reliability.
✓	Transportation system performance data collection, analysis, and dissemination systems	Data from the performance period will be collected and evaluated to inform future expansion of the transit headway and congestion management concept.
✓	Advanced safety systems, including vehicle-to-vehicle and vehicle-to-infrastructure communications, technologies associated with autonomous vehicles, and other collision avoidance technologies, including systems using cellular technology	Vehicle-to-infrastructure communications will allow future intersection safety applications on the project corridor.

Nashville Transit Headways and Congestion Management

Table 1. Project alignment with U.S. DOT Desired Technologies (continued)

U.S. DOT DESIRED TECHNOLOGIES	
Criteria	Alignment with Project
<i>Integration of intelligent transportation systems with the Smart Grid and other energy distribution and charging systems</i>	
<i>Electronic pricing and payment systems</i>	
<i>Advanced mobility and access technologies, such as dynamic ridesharing and information systems to support human services for elderly and disabled individuals</i>	

Table 2. Project alignment with U.S. DOT Desired Goals

U.S. DOT DESIRED GOALS	
Criteria	Alignment with Project
✓ Reduced costs and improved return on investments, including through the enhanced use of existing transportation capacity;	Optimized transit dispatch and capacity utilization will deliver operational benefits for public agencies and passengers.
✓ Delivery of environmental benefits that alleviate congestion and streamline traffic flow;	Transit signal priority will reduce transit times, intersection delay and the associated emissions.
✓ Measurement and improvement of the operational performance of the applicable transportation networks;	Data from the performance period will be collected and evaluated to determine the impacts of the project on the operational performance of the corridor and surrounding network.
✓ Reduction in the number and severity of traffic crashes and an increase in driver, passenger, and pedestrian safety;	Vehicle-to-infrastructure communications will allow future intersection safety applications on the project corridor, including reduced crashes due to better signal operations.
✓ Collection, dissemination, and use of real time transportation related information to improve mobility, reduce congestion, and provide for more efficient and accessible transportation, including access to safe, reliable, and affordable connections to employment, education, healthcare, freight facilities, and other services;	Traffic, schedule adherence, and bus occupancy data will be used to improve transit travel time reliability and reduce congestion.
✓ Monitoring transportation assets to improve infrastructure management, reduce maintenance costs, prioritize investment decisions, and ensure a state of good repair;	More efficient use of the transit fleet will be achieved by managing demand in real time, reducing maintenance and ensuring a state of good repair.
✓ Delivery of economic benefits by reducing delays, improving system performance and throughput, and providing for the efficient and reliable movement of people, goods, and services;	Dynamic headway management and optimized transit capacity utilization will reduce transit delays on a corridor with a high concentration of jobs, as well as minority and low income residents..



Table 2. Project alignment with U.S. DOT Desired Goals (continued)

U.S. DOT DESIRED GOALS		
	Criteria	Alignment with Project
✓	Accelerated deployment of vehicle-to-vehicle, vehicle-to-infrastructure, and automated vehicle applications, and autonomous vehicles and other advanced technologies;	Transit signal priority will be enacted via infrastructure- and vehicle-based connected vehicle technology.
✓	Integration of advanced technologies into transportation system management and operations;	Data from connected vehicle deployments will be integrated into the management of transit and roadway operations.
✓	Demonstration, quantification, and evaluation of the impact of these advanced technologies, strategies, and applications towards improved safety, efficiency, and sustainable movement of people and goods	Data from the performance period will be collected and evaluated to determine the safety, mobility, and environmental benefits of the advanced technologies deployed as part of this project.
✓	Reproducibility of successful systems and services for technology and knowledge transfer to other locations facing similar challenges.	The project will establish a model for the City of Nashville and other agencies to implement transit signal priority and dynamic headway management cost-effectively on other congested corridors.

Table 3. Project alignment with U.S. DOT Focus Areas

U.S. DOT FOCUS AREAS		
	Criteria	Alignment with Project
✓	Multimodal Integrated Corridor Management (ICM)	Charlotte Avenue will be dynamically managed using an inter-agency approach that will benefit all transportation modes.
✓	Installation of connected vehicle technologies at intersections, pedestrian crossing locations, and other conflict areas	Vehicle-to-infrastructure communications will allow future intersection safety applications on the project corridor.
	<i>Unified fare collection and payment systems across transportation modes and jurisdictions</i>	
	Freight Community System	
✓	Technologies to support connected communities	Enhanced transit travel time reliability and traveler information will improve access to jobs and homes on the project corridor.
	<i>Infrastructure Maintenance, Monitoring, and Condition Assessment</i>	
	<i>Rural Opportunities to Use Transportation for Economic Success (R.O.U.T.E.S.) Initiative</i>	
	<i>Complete Trip</i>	

Table 4. Project alignment with U.S. DOT Objectives

U.S. DOT OBJECTIVES		
Criteria		Alignment with Project
✓	Supporting economic vitality at the national and regional level;	Enhanced transit travel time reliability and traveler information will improve access to jobs and services for residents, workers, and visitors, and promote investment on the project corridor.
✓	Leveraging Federal funding to attract other, non-Federal sources of infrastructure investment, as well as accounting for the life-cycle costs of the project;	Federal funding will be 100% matched by local cash contributions, with operating costs accounted for in the project budget.
✓	Using innovative approaches to improve safety and expedite project delivery; and,	Vehicle-to-infrastructure communications will allow future intersection safety applications on the project corridor.
✓	Holding grant recipients accountable for their performance and achieving specific, measurable outcomes identified by grant applicants.	The project team is committed to developing meaningful performance targets and has designated budget for this activity.

MANAGEMENT STRUCTURE

Description of Applicant Organizations

The Metropolitan Government of Nashville and Davidson County Department of Public Works (Metro), in partnership with the Tennessee Department of Transportation (TDOT) and WeGo Public Transit (WeGo), is the lead project applicant and would be the designated recipient entering into an agreement with the U.S. DOT if awarded funds under the ATCMTD grant program. The mission of the Department of Public Works Engineering Section is to enhance safety, equity, and accessibility for the residents, businesses, and visitors of Nashville and Davidson County. In support of this mission Metro delivers a wide range of services in support of multimodal transportation and Complete Streets infrastructure to promote quality of life, environmental sustainability, and create cleaner, beautiful, and more livable

neighborhoods. Public Works’ vision is to lead, inspire, and motivate a progressive, responsive team, striving to exceed customer expectations.

WeGo Public Transit is the Metropolitan Transit Authority (MTA), providing comprehensive transit services to Nashville and Davidson County. The MTA is led by the Chief Executive Officer, a Metro government employee, who is responsible for the managerial oversight of the entire system. Metro works closely and collaboratively with WeGo on many projects of shared interest. Consequently, this allows efficient coordination and streamlined execution of the proposed project.

As the applicant and designated recipient of ATCMTD grant funds, Metro will be the lead fiscal agency responsible for organizing, administering, and managing the ATCMTD program grant funds and project delivery through project team contracts, activities, resources, budget, schedules, and collaborative activities with partners along the corridor. Using comprehensive project planning and



controls based on the U.S. DOT Systems Engineering “V” Model, Metro will establish a Project Plan within the first month of award. Using a model similar to TDOT’s, Metro will:

- Finalize the Project Plan within five weeks of grant award;
- Execute agreements with subrecipient and contractors in accordance with the finalized Project Plan within two months of the grant award;
- Receive, verify and process monthly invoices for payment from the project’s subrecipients and contractors in accordance with Tennessee’s Prompt Payment Act (TCA, Title 66, Chapter 34);
- In addition to ongoing communication, convene with the Project Team on a weekly basis during duration of project to oversee progress and resolve any performance challenges that may need intervention;
- Manage and convene with project partners and stakeholders on a monthly basis to report out project activities and receive feedback and guidance for ongoing and future tasks; and,
- Prepare and provide quarterly project reports to the USDOT that include task updates and all quarterly activities.

Partnership Plan

The project team, led by Metro, will work with its primary partners, including TDOT and WeGo, to initiate a community engagement process to identify other key potential local, regional, and national public and private stakeholders, research institutions, and organizations. Outreach will focus on those that advance multimodal project support and goals and which may broaden the reach and contribute additional resources towards the project. For example, additional resources

may include supplementary funds, staff time, technology, ideas, and services.

Partners have indicated a willingness to serve on a project team to identify the needs of stakeholders, develop solutions, and ensure successful project delivery. The project will foster strong collaboration among broad constituents within the community through the following activities:

Designation of Sub-Recipients

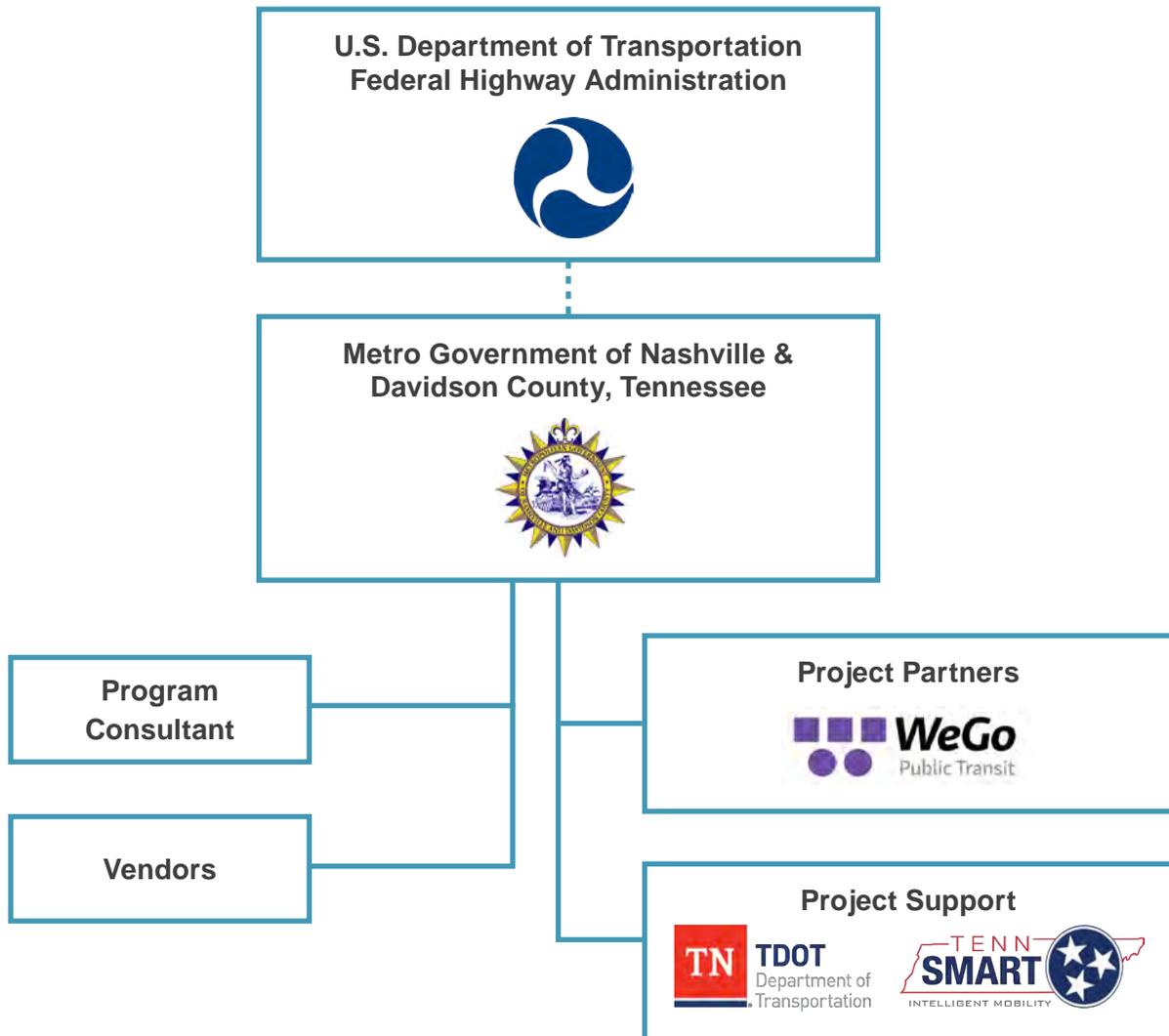
Metro will manage and execute the design, implementation, and operation of the project. Any parties added to the project as sub-recipients will be clearly identified.

Any expenses eligible for reimbursement under the ATCMTD grant program and any expenses eligible for reimbursement under any other federal or state program contributing funds to this project will be programmed by Metro. After the funds are programmed, work will be scheduled and performed. The entity performing the work will submit invoices of its completed work for review and reimbursement. Any vendors contracted to work on this project will coordinate directly with Metro.

Evidence of Memorandum of Understanding

Metro does not anticipate the need for a memorandum of understanding (MOU) for this project. If an MOU is required, Metro will work to secure an MOU. Based on the good working relationship with project partners, no issues are foreseen.

Organizational Chart



STAFFING DESCRIPTION

This project will be staffed and managed by a lead Program and Project Manager and team consisting of staff from Metro, TDOT, and WeGo. There will be, however, many other key staff supporting tasks and major activities. Metro will retain the same Program and Project Manager throughout the performance period of the grant. If any changes occur due

to unforeseen events, Metro will follow a prescribed contingency approach documented in the Project Plan for staff replacement. If replacement of the Program and Project Manager is needed, Metro will work closely with the U.S. DOT to select a suitable and mutually agreed upon replacement. The following summarizes the qualifications of the key staff for the project team (resumes also found in Appendix A):



Derek Hagerty, PE, PMP

Project Manager, Engineering Section, Metro Department of Public Works

Mr. Hagerty is a Project Manager for the Metro Department of Public Works. Derek is the proposed Program and Project Manager for this project and will ultimately be responsible for all aspects of the project, including managing the scope, schedule, and final delivery. As the Program and Project Manager, he will be the primary point of contact for the U.S. DOT.

Derek is the project manager for the installation, maintenance, and data collection activities of all BlueTOAD devices for the I-440 Active Corridor Management “Lite” project, which recently won the Intelligent Transportation Society of Tennessee’s 2019 Project of the Year. He also led the effort to install the first shared urban mobility device infrastructure in Nashville.

Mr. Hagerty is a U.S. Army veteran and holds a Bachelor of Science degree in Civil Engineering from Iowa State University. He is a licensed professional engineer in Kentucky and Tennessee and a certified Project Management Professional.

Jorge Riveros, PE, PTOE, TSOS

Chief Engineer, Engineering Section, Metro Department of Public Works

Mr. Riveros is the Chief Engineer/Assistant Director for the Metro Department of Public Works and will serve as the Deputy Program and Project Manager. Jorge has served in various lead roles in agencies across the U.S. and has over 20 years of diverse experience, including executive and technical leadership, public administration, program, project, and infrastructure policy, planning, financing and budgeting, government and public relations, contracts and negotiation, and legislation. Most recently, he was involved in the installation and deployment of connected and automated

vehicle infrastructure, systems architecture, and cybersecurity in Austin, Texas and is a member of the global OmniAir Consortium, which will help him bring the needed expertise to the deployment of this project.

Mr. Riveros has served on various national, state, and local committees, boards, and professional organizations, presented/ moderated on numerous topics at conferences around the country, and has a successful track record of working collaboratively with national, state, and local partners, public officials, stakeholders, citizens and other public groups, and various research institutions. He holds a Bachelor of Science degree in Civil Engineering and Engineering Mechanics from The University of Arizona and is a licensed/ registered professional engineer in Colorado, Arizona, Texas, and Tennessee; a certified Professional Traffic Operations Engineer; and a certified Traffic Signal Operations Specialist.

Faye Q. DiMassimo, FAICP

Senior Advisor, Transportation and Infrastructure, Mayor’s Office, Metro Nashville Government

Ms. DiMassimo is Metro’s Senior Advisor, Transportation and Infrastructure, to Mayor John Cooper. She has nearly 40 years of experience with federal, regional, and local public entities, as well as the private sector in the development, management, and delivery of multimodal transportation programs. Most recently, she was with Deloitte Consulting and has served as the City of Atlanta Renew Atlanta/ Transportation Special Purpose Local Option Sales Tax (TSPLOST) General Manager and the Director of the Cobb County Department of Transportation.

She holds three degrees from Auburn University including a Bachelor of Science in Public Administration and Masters of Community Planning and Public Administration. Additionally, she is a

Fellow of the American Institute of Certified Planners (FAICP). Faye has participated in numerous leadership programs and community organizations over the years and presently serves on the College Football Hall of Fame Exhibit Hall board. Her deep experience, expertise, and solid relationships with regional stakeholders are vital to ensuring that this project has the political, legal, and technical leadership to be successful.

Steve Bland

Chief Executive Officer, WeGo Public Transit, Nashville Metropolitan Transit Authority

Mr. Bland is the Chief Executive Officer for WeGo Public Transit and the Regional Transportation Authority responsible for managerial oversight of the entire system. Lending leadership expertise from transit systems both large and small, Steve views his primary purpose as CEO to be a steadfast steward of the greater Nashville community. He is honored to serve as an advocate for the system becoming an even more gratifying part of the lives of current riders and an appealing consideration for future travelers. He believes providing safe and efficient transit is an essential public service for growing cities and is committed to ensuring WeGo's service continues to rise at every level.

Mr. Bland holds both a Bachelor of Science in Public Affairs with Distinction and specialization in Transportation Planning and Management and a Master of Public Affairs in Public Finance from the Indiana University School of Public and Environmental Affairs.

Phillip (Brad) Freeze, PE, MSCE **Director, Traffic Operations Division,** **Tennessee Department of Transportation**

Mr. Freeze has an Master of Science in Civil Engineering from the University of Tennessee and 17 years of experience as a TDOT employee managing and overseeing the installation and maintenance of a variety of Intelligent Transportation Systems. An employee of TDOT since 2002, Brad currently serves as the Director of the TDOT Traffic Operations Division. The mission of the Traffic Operations Division is to maximize the capacity the existing roadway network in Tennessee. Responsibilities of the Traffic Operations Division include the management of the Traffic Management Center and Traffic Incident Management programs; the review of national best practices for Transportation Management & Operations; management of the TDOT wireless radio network; and the support of collaboration between Headquarters and Regional TDOT offices for the research, development, and deployment of ITS projects. Currently, Brad is overseeing the ongoing I-24 Smart Corridor build-out, which serves as a template and provides a natural extension of the I-24 Smart Corridor's advanced technologies for Metro's proposed ATCMTD project.

Mr. Freeze serves as the chair of the National Operations Center of Excellence and is a member of several professional transportation organizations. He is a licensed professional engineer in Tennessee.

Primary Point of Contact

Derek Hagerty, PE, PMP
Program and Project Manager

Metro Nashville Department of Public Works
750 South 5th Street
Nashville, TN 37206
(615) 862-8748
derek.hagerty@nashville.gov



JORGE RIVEROS, PE, PTOE, TSOS

PROFESSIONAL PROFILE

Energetic, experienced leader with a diverse technical and administrative background in public works and multimodal transportation systems is seeking to transform and nurture a progressively minded public agency. Focused on issues of equity, access, and affordability, I am adept at managing large, complex projects, programs, and work teams while fostering collaboration through: thoughtful listening, clarity, and inclusion of varied viewpoints; focusing on employee growth, retention, and morale; maintaining positive internal/external relationships; seeking innovation; optimizing program delivery through cost-efficient solutions; and providing exceptional customer service.

WORK EXPERIENCE

Metropolitan Nashville Public Works Department

Nashville, TN

Assistant Director/Chief Engineer

- Direct and manage the administration/human resources actions, budget, contracts, grant and funding opportunities, planning, policy development, training, and daily operations of the personnel (50 employees), programs, projects, and resources of the Engineering Section, which includes the following divisions: capital improvement projects, development review, traffic and signal engineering, bikeways, sidewalks, pavement management, right-of-way permitting, parking, and addressing and records management; and create standard operating procedures, policies, and ordinances to meet departmental business goals and objectives, as well as manage key initiatives in alignment with the Mayor's Office, the Public Works Director, the Metro Council and other key stakeholders in the public and private sector.
- Present and provide public information to the City Council, Boards and Commissions, public groups, internal and external agencies, and media/news outlets.

City of Austin Transportation Department

Austin, TX

Smart Mobility Program Manager (8/18-Present)

- Technical team lead for the Smart Mobility Office, which advanced programs to demonstrate, pilot, and prove out emerging mobility technologies to further community initiatives by: creating policies that promote the deployment of all mobility technologies/services, including shared, connected and automated (CAV), and electric vehicles, transit, bikes, scooters, low speed e-motorcycles, etc, and to support Vision Zero and traffic congestion and air quality management programs; testing and managing CAV technology, including DSRC and CV2X; cultivating creative, mutually beneficial public-private partnerships; integrating smart growth concepts into transportation planning (mobility hubs and placemaking); exploring integrated distributed ledger technology related to transportation initiatives; and consulting on data analysis and cybersecurity needs related to smart mobility solutions.
- In all three roles with Austin, presented and provided public information to the City Council, Boards and Commissions, public groups, internal and external agencies, and media/news outlets.

Program Manager V (7/17-8/18)

- On an interim basis, led, coordinated, and executed the delivery of the 2016 \$720 million Mobility Bond program (planning, design, construction) for regionally significant, multimodal transportation capital improvements/investments including: Complete Streets; facilities for transit, bicycle, and pedestrian users; operational intersection improvements (intersection safety/Vision Zero, signal timing optimization); pavement resurfacing/reconstruction; Safe Routes to School; urban trails, etc.

Managing Engineer (7/16-7/17)

- Directed and monitored the administration/human resources actions, budget (annual budget of \$8 million) and general obligation bond development, planning, policy development, training, and daily operations of the personnel (43 employees), programs, projects, and resources of the Arterial Management Division, which oversaw the: annual signal timing program; transportation management center; signal and pedestrian hybrid beacon construction and maintenance programs; intelligent transportation systems (ITS) and communications planning and deployment; department-wide capital

Nashville Transit Headways and Congestion Management

improvement projects, programs, and contracts; and created standard operating procedures, policies, and ordinances to meet departmental business goals and objectives.

City of Tucson Department of Transportation

Tucson, AZ

Transportation Administrator

- Oversaw the direction, administration/human resources actions, budget (annual budget of \$30 million), planning, policy development, training, and daily operations of the personnel (~150 employees), programs, projects, and resources of the Streets & Traffic Maintenance Division, which included the following maintenance activities: street paving and grading, roadway landscaping, street sweeping, sidewalk repair, storm drain/drainage way clearing and annual EPA reporting, traffic signals and signal communications, street lighting, signing, pavement markings, graffiti removal, inclement weather programs, department fleet and safety programs, and special event planning; and formulated and implemented division strategic plans, standard operating procedures, policies, and work activities to coordinate with department and organizational goals.
- Acted on behalf of the City and its elected officials to develop strategic partnerships and contacts with community representatives, external agencies, and other organizations.
- Presented and provided public information to the City Council, Boards and Commissions, public groups, internal and external agencies, and media/news outlets.

PROFESSIONAL REGISTRATION/CERTIFICATION

- Licensed/Registered Professional Civil Engineer: Colorado (39839), Arizona (44332), Texas (124307), Tennessee (123798)
- Certified Professional Traffic Operations Engineer (PTOE), 2379
- Certified Traffic Signal Operations Specialist (TSOS), 104

EDUCATION

8/96-12/99 **The University of Arizona** Tucson, AZ
Bachelor of Science Degree in Civil Engineering

- General/Structural Emphasis

PROFESSIONAL MEMBERSHIPS/POSITIONS

- Member of the national Institute of Transportation Engineers (ITE) and Tennessee Section ITE (TSITE), and former member of Capital Area Section (Texas) ITE (CAS-ITE) and Southern Arizona ITE (SAITE)
 - 2010-2011 President – SAITE
- Member of ITS Tennessee, and former member of ITS Texas and ITS Arizona
- Former member of the Texas Innovation Alliance
- Member of the OmniAir Consortium
- Contributing member to the U.S. DOT's V2X (Vehicle-to-Everything) Hub User Group, and the U.S. DOT's Work Zone Data Exchange for Automated Vehicle Safety Working Group
- Friend of the Transportation Research Board Standing Committees on Intelligent Transportation Systems (AHB15), Traffic Signal Systems (AHB25), and Vehicle-Highway Automation (AHB30)
- Former chair/member of the Pima Association of Governments (PAG) Transportation Systems Subcommittee, Safety Working Group Subcommittee, and Bicycle-Pedestrian Subcommittee
- Former member of the PAG Regional Traffic Signal Timing and Operations Program and the PAG Regional Pedestrian Task Force
- Former member of the Central Arizona Association of Governments Regional Transportation Plan Task Force



FAYE Q. DIMASSIMO,
FAICP

404.259.6561
fqd3sons@yahoo.com
[Linkedin.com/in/faye-dimassimo-89485412](https://www.linkedin.com/in/faye-dimassimo-89485412)

Executive and strategic advisor with career long results at the local, regional and federal levels of government and in the private sector, bringing solutions and innovation to organizational, community, infrastructure and economic development needs including planning, development, management and implementation. Creative funding and partnership strategies as well as leadership of multidisciplinary teams to deliver quality on schedule and on budget. Thought leadership for future facing, transformational efforts with expertise in communication strategies. Mentor and talent development. Active in professional and community organizations at the Regional, State and Federal levels and a frequently called upon speaker and panelist.

EDUCATION

Auburn University
 Master of Community Planning

Auburn University
 Master of Public Administration

Auburn University
 Bachelor of Science, Public Administration

PROFESSIONAL EXPERIENCE

Senior Advisor to Mayor John Cooper, Metropolitan Government of Nashville and Davidson County

October 2019 to present

Faye is accountable for leading efforts to develop an infrastructure and transportation vision and accompanying data/performance driven strategies that will enable Metro Nashville to successfully meet challenges and leverage opportunities. In that role, she works collaboratively with internal and external partners spanning public safety, technology, development planning, economic development, recreational facilities and others to develop supporting policy and management frameworks that will achieve leadership vision. Faye frequently communicates in public venues to stakeholder and public audiences with a focus on inclusivity and innovation in approaches to reach all. A business sense outcome-based approach to evaluating and improving current management practices, including asset management, financial strategies development, and policy frameworks is key to the work she accomplishes.

Specialist Leader, Deloitte Consulting

LLP

June 2018 to October 2019

Faye has served clients nationally in strategy development, process management and problem solving in the transportation and mobility space as well as Smart City initiatives. Most recently, she has worked on proposals and efforts in Atlanta, Baton Rouge, San Diego and Broward County, Florida.

General Manager, City of Atlanta, Renew Atlanta/TSPLOST programs

December 2015 to May 2018

Key Accomplishments:

As the General Manager of the Renew Atlanta bond and TSPLOST programs, Faye continues shaping the future of the City of Atlanta. The total \$550 million of the two programs, and her key role coordinating with MARTA on the successful transit referendum, puts her at the center of the region's transportation vision and implementation.

In addition to advancing resurfacing, bridge replacements, bike and bikeshare infrastructure, sidewalk improvements and the like, Faye developed

the plan for implementing the State's first Smart Corridor – North Avenue – including the partnerships with Georgia Tech, GDOT, MARTA, Coca Cola and Ponce City Market and autonomous vehicle demonstrations that clearly set the Region's path through the technology age.

Her leadership in securing The Safer Roads designation for the Smart Corridor – one of only three Cities selected in the world (the others in China and Brazil) set the stage for a plan of technology and safety integration that is predictive in nature.

By identifying what and when, transportation challenges can be met in a manner unlike the more traditional reactive posture, improving the transportation experience and safety for drivers, transit patrons, cyclist and pedestrians.

There is also no doubt that the seeds of transformational projects that have been planted by her will indeed shape the future of the Atlanta region.

Since she joined the City, the Renew Atlanta program moved from having 60 projects valued at \$13 million under contract to having over 400 projects at over \$169 million under contract. She also works in partnership with the City's Chief Equity Officer, Royce Brooks, developing every aspect of community equity in infrastructure delivery impacts. In her first year, Faye's accomplishments led to her being named Creative Loafing's 2017 20 People to Watch and Georgia Trends 2018 Notable of the Year.

Director, Cobb County Department of Transportation

January 2010 to December 2015

Faye directed a \$36 million operating budget, 160 professional and field staff, and oversaw 5000 roads, 2400 miles of road, over 500 traffic signals, over 235 bridges and culverts, 85 roadway cameras and 70 miles of multipurpose trails as well as Cobb LINC (formerly Cobb County Community Transit) and Cobb International Airport - McCollum Field.

Key Accomplishments:

Under Faye's management, Cobb County DOT was reorganized, served as the state pilot for PEACH roads – a transportation sustainability initiative – that ranks and delivers projects countywide on sustainability accomplishment in design, construction and maintenance. She secured among the largest Federal Transit Administration Alternatives Analysis competitive grants made nationally for Connect Cobb and led the County's 2014 Transportation Plan update. These activities underscore Faye's leadership in bringing forward a transportation vision that is bold and innovative.

Her accomplishments in Cobb County were recognized by her management peers and the Board of Commissioners with the award of the Cobb County Silver Eagle Award in 2012 and the Cobb County Golden Goose Award in 2013.

Part Time Faculty, Kennesaw State University, Regional and Local Planning Class, Department of Political Science and International Affairs

November 2014 to May 2016

Key Accomplishments:

Faye provided classroom instruction grounded in practical experience.

Transportation Planning Practice Builder, Kimley-Horn and Associates

March 2008 to January 2010

Key Accomplishments:

Faye supported scenario development, technical analysis, and stakeholder engagement facilitation for the Governor of Georgia's statewide transportation investment strategy. In addition, she led the City of Milton's first transportation plan and strategy for the North Fulton County Transportation Plan.

Vice President/Manager of Transportation and Environmental Planning, URS Corporation

August 2003 to March 2008

Faye served as the program and project manager for a wide variety of public and private sector clients. Her Project and program responsibilities ranged in value \$60,000 to \$11 million+.

Key Accomplishments:

Faye managed the multiyear MARTA General Planning Consultant contract and among the region's first Atlanta Regional Commission State Route 6 Multimodal Corridor Study.

Project Manager, Lanier Environmental Consultants

August 2000 to August 2003

Responsible for project management of all State DOT sponsored and other transportation projects from inception to successful completion.

Key Accomplishments:

Faye served under contract to the Georgia Department of Transportation and Governor's office assisting in the preparation of Clean Air related legal proceedings related to transportation planning (including technical issues related to travel demand and air quality models) and air quality conformity including witness preparation, review and comment on legal briefs and affidavits, regulatory research and technical support, and expert testimony.



**Assistant Division
Administrator, Federal Highway
Administration, Georgia
Division**

September 1997 to August 2000

(Promoted from Transportation Systems Manager, Federal Highway Administration, Georgia Division, August 1996 to September 1997).

Under the general direction of the Division Administrator, shared responsibility for the operation of the Division office and for administration of the Federal-aid highway program in Georgia and overall management and implementation of the Division office administrative budget and Federal aid program budgets totaling over \$954 million.

Key Accomplishments:

Faye had primary responsibility for a variety of complex and controversial issues in the Atlanta region related to air quality conformity including the Division office's role in the negotiation and development of the settlement agreement to the lawsuit filed by a coalition of environmental groups under the Clean Air Act as well as coordinating the Division Office's activities in response to a Notice of Intent filed by a coalition of environmental justice groups. She also led the efforts to regain conformity status through creative solutions and collaboration with regional, state and federal agencies including the 17th Street Bridge and Atlantic Station development.

**Environmental and Planning Coordinator,
Federal Highway Administration,
Alabama Division**

May 1993 to August 1996

(Transferred) Community Planner, Federal Highway Administration, Alabama Division, November 1991 to May 1993 (promoted).

Faye coordinated the National Environmental Policy Act (NEPA) process for all Federal-aid projects statewide as well as all transportation planning activities statewide necessary for federal funding eligibility.

Key Accomplishments:

Faye directly managed over 200 documents environmental documents insuring compliance with environmental regulations while delivering needed infrastructure improvements throughout the State of Alabama. She also provided assistance and technical guidance to the statewide network of Metropolitan Planning Organizations (MPOs) in the development of intermodal and public transportation management systems.

**Executive Director,
Lee- Russell Council of Governments**

June 1987 to July 1991

Director East Alabama Regional Solid Waste Disposal Authority, January 1991 to July 1991.

Developed and administered programs, human resources and supporting budgets for two county regional planning and development commission.

Key Accomplishments:

Faye's leadership insured the successfully delivery of local planning and technical assistance programs including Metropolitan Planning Organization (transportation planning), UMTA Urban and Rural

Transit operations (Section 9,18 and 16(b)2, Community Development Block Grants and other state and federal resources for infrastructure and other community improvements, economic development activities, Agency on Aging programs, the establishment of the Lee-Russell Aging Foundation (established through development with local business and individual contributions). She also developed, established and administered multi-county East Alabama Regional Solid Waste Disposal Authority.

**Planner,
City of Auburn**

July 1985 to May 1987

Key Accomplishments:

Faye developed and administered grants for housing, infrastructure, economic development and recreation facility improvements including labor standards enforcement, program and fiscal compliance.

**Urban Transportation Planner,
Lee County Area Council of Governments**

November 1982 to September 1983

Promoted to Director of Planning and Development, October 1983 to June 1985.

Key Accomplishments:

Faye planned, organized and directed transportation planning activities including the development and maintenance of comprehensive socioeconomic, demographic and land use databases as well as development of the program budget.

PROFESSIONAL AND PUBLIC SERVICE ACTIVITIES

- WTS Atlanta member
- Transit Cooperative Research Panel TCRP H-41 Member: Assessing and Comparing Environmental Performance of Major Transit Investments
- Intelligent Transportation Society of GA, 1998-2003
- Georgia Chapter, American Planning Association, Awards Chair 1998, 1999
- Alabama Chapter, American Planning Association, Planner of the Year, 1989, Vice President, 1988 to 1990, President, 1994 to 1996
- Auburn University Community Planning Program Advisory Council, 1994 to 2004. Chair, 1997 to 2004
- Intelligent Transportation Society of Georgia – ITS GA, Conference Chair and/or committee member, 1998, 1999, 2000, 2001, Board Member, 2002, 2003
- Urban Land Institute (ULI) Forum on Transportation and Land Use, 1999
- Design Alabama, Board Member, 1994 to 1996, Alabama Community Design Program pro bono community charrettes

COMMUNITY SERVICE ACTIVITIES

- College Football Hall of Fame/Atlanta Hall Management Board of Directors, 2017 – present, Executive Committee 2020
- Strand Theatre Board of Trustees: Chair, 2014-2017, Vice Chair, 2012-2014, 2017 – present, Capital Campaign, 2010 - 2012
- Regional Leadership Institute (RLI) graduate, 2007
- Park Pride Board Member, 2008
- Institute for Georgia Environmental Leadership (IGEL), 2004-2005, Board of Directors, 2005 – 2010
- 100 Women Strong Auburn University Engineering Mentor program
- Leadership Cobb Class of 2013
- Former McEachern PTA, Pebblebrook PTA, various leadership positions
- McEachern Chase Homeowners Association past President
- Pebblebrook High School Foundation CEO, 2009-2011

CAREER AWARDS AND RECOGNITION

- Nashville Business Journal 10 People to Watch
- Georgia Trend 2018 Notable of the Year
- Selected for the Atlanta Region's LINK leadership trip, 2008 – 2013, 2017
- Creative Loafing's 2017 20 People to Watch
- Cobb County Silver Eagle Award, 2012 (*Peer Management Award*)
- Cobb Golden Goose Award, 2013 (*Cobb County Board of Commissioners Management Award*)
- WTS Atlanta Woman of the Year Award, October 2012
- 2011 Northwest Georgia YWCA Women of Achievement Honoree
- Federal Highway Administration Administrator's Award; 1996; Regional Administrator's Award; 1997
- Pi Sigma Alpha political science honorary, 1987
- Auburn Jaycees Outstanding Young Woman, 1987



Stephen G. Bland

WORK EXPERIENCE

PUBLIC TRANSPORTATION AGENCY CHIEF EXECUTIVE EXPERIENCE

Chief Executive Officer, WeGo Public Transit, Nashville, TN **2014 – Present**

Lead two organizations (Metropolitan Transit Authority of Nashville and Davidson County and the Regional Transportation Authority of Middle Tennessee, both dba “WeGo Public Transit”) forming a combined 300 vehicle transit system serving the 10 Counties of Middle Tennessee. Annual operating budget of \$95 million combined; average capital budget of \$25 million; 780 employees; over 10 million passenger boardings. Bus, paratransit and commuter rail operations.

CEO for the largest transit agency in Tennessee. Accomplishments to date include rebuilding and nurturing of senior staff following extensive turnover with the departure of my predecessor; completed “nMotion” long-range strategic planning process currently in implementation that was unanimously adopted by the Metro Transit Authority Board, and the Regional Transportation Authority Board, engaging 20,000 Middle Tennesseans; initiated transit oriented development projects at Mt. Juliet (under way) and Hamilton Springs (completed) Commuter Rail stations; executed introduction of Proterra 100% Electric Buses into circulator service; turned around struggling real-time information technology project, resulting in successful real-time information deployment in 2016; directed “paratransit improvement program” resulting in improvements to on-time performance, pick-up reliability, and after-hours contact; Led Operations improvement program, including collective bargaining changes to address chronic Bus Operator shortages and a Maintenance audit program resulting in reduced bus failures; rebranded system and modified transit advertising program to enhance system image; serve as Secretary/Treasurer and Past Chair of the Legislative Committee for the Tennessee Public Transportation Association, in which role we developed, advocated and supported passage of legislation including Bus on Shoulder, Transit Public Private Partnership, Dedicated Local Funding for Mass Transit, and Transit Farecard Legislation in the Tennessee General Assembly.

Chief Executive Officer, Port Authority of Allegheny County, Pittsburgh, Pennsylvania **2006 – 2013**

Led a 1,000+ revenue vehicle multi-modal transit system serving the Greater Pittsburgh region. Annual operating budget of approximately \$350 million; average annual capital budget of \$140 million; completed \$500+ million FTA New Starts Subway extension project; 2,490 employees; 66 million annual passenger boardings.

PUBLIC TRANSPORTATION CEO EXPERIENCE (CONTINUED)

Guided this large multimodal transit authority through a period of transformational change in a complex political environment, leading a team that accomplished major cost/service restructuring to address significant financial shortfalls and changing demographics. Sustained 94% of prior ridership levels following 30% service hour reduction, reduction of total staffing by over 600 positions, elimination of 300 revenue vehicles from fleet and closing of one operating division out of six.

Accomplishments included the design of a high impact Board Governance model to effectively engage Board Members in decision making; creation of a coalition of 25 corporate and community organizations to advance the development of Bus Rapid Transit in the Downtown to Oakland corridor; value engineered cost savings to reduce overall cost of \$500+ million New Start subway extension project by approximately \$35 million; enactment of a \$250 million dedicated statewide transit funding package; engaged local advocacy partners to develop \$35 million+ in supplemental State and Local funding; partnered with local leadership to develop Pittsburgh's first dedicated local funding source for public transportation, that generated \$32 million annually; initiated regional smart card system for Pittsburgh and its surrounding counties; negotiated two consecutive concessionary collective bargaining agreements generating long and short-term cost savings gaining over 90% of member votes in union ratification; conducted the most comprehensive system-wide service redesign in Authority history, resulting in a 63% increase in ridership per route and a 30% improvement in service productivity; system safety efforts widely recognized by State and Federal regulators, resulting in reduced employee, vehicular and passenger accidents and injuries on bus and rail between 2006 and 2013.

Capital District Transportation Authority, Albany, New York Executive Director

2002 – 2006

Led a 290 revenue vehicle transit system serving 4 counties in Upstate New York. Annual budget of \$60 million; 675 employees; 13 million annual trips. Increased ridership by 7%, service levels by 15% during tenure.

Worked with Board Chair to design Board Development Program resulting in committee restructuring, annual Board/Stakeholder Policy workshops and frequent Board training seminars; created internal audit function; addressed severe safety issues in fleet maintenance function on my arrival, resulting in a 73% reduction in average defects per vehicle; developed supervisory training/restructuring program designed to grow new leaders within our supervisory ranks; commissioned \$56 million intermodal terminal; completed construction of \$7 million intermodal terminal on time and under budget; redesigned service and fare structure resulting in 12% ridership increase and 8% increase in passenger revenue (with additional increases to this date); led paratransit improvement program which simultaneously recognized 3-year ridership growth of 45% and 95% reduction in trip denials; engaged active community partnerships in the disability community, fare structure development process, and service redesign process. Advanced planning of a Bus Rapid Transit project in the Route 5 Corridor between Downtown Albany and Downtown Schenectady (now in operation).



PUBLIC TRANSPORTATION CEO EXPERIENCE (CONTINUED)

rabbittransit, York, Pennsylvania
Executive Director

1994 – 2002

Led an 80 revenue vehicle transit system in South Central Pennsylvania. Annual operating budget of approximately \$8 million; 150 employees; 2 million annual passenger boardings.

Simultaneously increased ridership by over 25% and service levels by 50% while sustaining 33% operating recovery ratio; reduced system cost per hour; instituted Board of Directors development process resulting in Board/ community driven strategic plans for service development, technology deployment and branding; implemented branding initiative resulting in an increase in community awareness of transit system from 30% to 80%.

CONSULTING AND OTHER RELEVANT TRANSIT EXPERIENCE 2013-2014

Started sole proprietor consulting practice that provided consulting, business development and advisory services to government, public, institutional and private entities aimed at strengthening mobility options in communities, addressing governance/leadership issues, improving operations and enhancing competitive position in the public transit industry. Working on behalf of Michael Baker Corporation, acted as Interim Project Director for the CTfastrak Bus Rapid Transit project between New Britain and Hartford, Connecticut. Served as General Superintendent for PATH Rail System under the Port Authority of New York and New Jersey.

FORMAL EDUCATION

Indiana University, Bloomington, Indiana
School of Public and Environmental Affairs
Master of Public Affairs in Public Finance

Indiana University, Bloomington, Indiana
School of Public and Environmental Affairs
Bachelor of Science in Public Affairs, with Distinction
Majors in Transportation Planning and Management

REFERENCES

Available Upon Request.



Derek J. Hagerty, PE, PMP

Engineer 1

Derek is a Transportation Engineer with strong communication skills and leadership experience developed over five years as an US Army officer. He has an excellent record of performance in project planning, design, and management.

Key Projects and Assignments

Metro Nashville Transportation Engineer

Nashville, Tennessee

Oversees the installation, maintenance, and data collection activities of all BlueTOAD devices in Metro Nashville including the Intelligent Transportation Society of Tennessee's 2019 Project of the Year, I-440 Active Corridor Management "Lite". Led the effort to install the first shared urban mobility device (SUMD) infrastructure in Nashville. Manages the Metro Nashville Neighborhood Traffic Calming Program. Assesses, designs, and manages all traffic calming projects within Metro Nashville including 16 over the past 12 months.

Concourse D and Terminal Wings, Nashville International Airport*

Nashville, Tennessee

An active member of the Design/Build team tasked with designing and developing the infrastructure to fulfill Metro Nashville Codes, all while maintaining the integrity and capacity of the existing utility. Designed the grading and drainage of the Concourse D footprint and campus to local, state, and federal standards along with the design of the apron pavement and aircraft parking areas to align with the future gates and jet bridges.

Airfield C-130 Fuselage Trainer*

Fort Campbell, Kentucky

Designed and managed the construction of a concrete pad and electrical service to support a C-130 fuselage used for military training on Campbell Army Airfield. Oversaw the delivery, mounting and final connections of fuselage. Coordinated with airfield management to construct and to reduce the risk associated with the project within an active blast arc radius.

Systems Integration Management Office (SIMO) Facility*

Fort Campbell, Kentucky

Owner Representative Project Manager for the construction of a rotary wing research and development facility. Worked closely with contractors to ensure project scope was met to owner's satisfaction while deconflicting construction with military aviation training, security requirements, and day-to-day activities.

PROJECT ROLE

Transportation Engineer

LOCATION

Nashville, TN

EDUCATION

- BS in Civil Engineering, Iowa State University, 2013

YEARS OF EXPERIENCE

Joined Metro Nashville Public Works in 2019 with 6 years of experience

REGISTRATIONS

- PE, KY # 35357
- PE, TN # 123533

CERTIFICATIONS

- Project Management Professional
- TDOT Local Government Guidelines Manual & Right-of-Way Training

*Experience with previous employer.



Phillip (Brad) Freeze, PE
 Director of Traffic Operations Division, Tennessee
 Department of Transportation (TDOT)

An employee of TDOT since 2002, Brad currently serves as the Director of the TDOT Traffic Operations Division. The mission of the Traffic Operations Division is to maximize the capacity the existing roadway network in Tennessee.

Responsibilities of the Traffic Operations Division include the management of the Traffic Management Center and Traffic Incident Management programs, the review of national best practices for Transportation Management & Operations, management of the TDOT wireless radio network, and the support of collaboration between Headquarters and Regional TDOT offices for the research, development, and deployment of ITS projects. In addition, the Traffic Operations Division performs traffic engineering studies and prepares traffic signal, roadway lighting, and roadway signage designs.

EDUCATION

M.S. Civil
 Engineering,
 University of
 Tennessee,
 Knoxville
 B.S. Civil
 Engineering,
 Tennessee
 Technological
 University

REGISTRATIONS

Professional
 Engineer #

PROFESSIONAL MEMBERSHIPS

- Institute of
 Transportation
 Engineers
- ITS Tennessee
- ITS America
- AASHTO
 Committee on
 Transportation
 System
 Operations,
 Chair of the
 Traffic
 Operations
 Subcommitte

Relevant Experience

I-24 Smart Corridor Project. Brad is the lead project manager for the I-24 Smart Corridor Project. I-24 is an integral part of the Nashville-Davidson County transportation network and a major route for commuters and freight. Since 2005, traffic volumes have increased by more than 60 percent in the Murfreesboro-Rutherford County segments of I-24. Further widening of the interstate is not financially feasible, nor will it solve the congestion issues along the corridor.

The I-24 SMART Corridor project will integrate freeway and arterial roadway elements, along with physical, technological, and operational improvements, to provide drivers accurate, real-time information and to actively manage traffic. The project includes active freeway and arterial management systems, integrated corridor management decision support systems, and other technological deployments.

Technical Advisory Committee, National Operations Center of Excellence (NOCoE). In addition to his TDOT responsibilities, Brad currently serves as the Chair of the Technical Advisory Committee of the NOCoE, which was

established through a partnership with the American Association of State Highway and Transportation Officials (AASHTO), the Institute of Transportation Engineers (ITE), and the Intelligent Transportation Society of America (ITSA). The NOCoE is intended to serve the emerging transportation systems management and operations (TSM&O) community, which is focused on deploying strategies and technologies to increase the safety and efficiency of the nation's transportation system.

Engineer, Intelligent Transportation Systems (ITS), Tennessee Department of Transportation. Previous to his current position in the Traffic Operations Division, Brad oversaw the development of Intelligent Transportation Systems & Traffic Signal Design projects. His responsibilities included design of signalized intersections, design of roadway lighting systems, the preparation of cost analyses, and ITS research.