305 Fountain Circle
Huntsville, AL 35801

Huntsville, Alabama

Cover Memo

Meeting Type: City Council Regular Meeting **Meeting Date:** 7/11/2024 **File ID:** TMP-4380

Department: Planning

Subject: **Type of Action:** Approval/Action

Resolution authorizing the Mayor to submit a grant application for FY2024 USDOT Strengthening Mobility and Revolutionizing Transportation (SMART) Grants Program Application for The Bob Wallace Avenue SMART Corridor: Smart Signal Technology for Safer Streets.

Resolution No.

Does this item need to be published? **No**

If yes, please list preferred date(s) of publication: N/A

Finance Information:

Account Number: TBD

City Cost Amount: **$** 9% or or $198,210.00

Total Cost: $2,198,210.00

Special Circumstances:

Grant Funded: **$** 2,000,000 or 91%

Grant Title - CFDA or granting Agency: USDOT (United States Department of Transportation

Resolution #: N/A

Location:

Address: N/A
District: District 1 ☐ District 2 ☐ District 3 ☐ District 4 ☐ District 5 ☐

Additional Comments:

RESOLUTION NO. 24-_____

A RESOLUTION OF THE CITY OF HUNTSVILLE FOR A FY2024 USDOT STRENGTHENING MOBILITY AND REVOLUTIONIZING TRANSPORTATION (SMART) GRANTS PROGRAM APPLICATION FOR The Bob Wallace Avenue SMART Corridor: Smart Signal Technology for Safer Streets

WHEREAS, the City of Huntsville desires to leverage the latest in traffic control technology and test the validity of the Miovision Smart Signal system along the Bob Wallace Avenue commercial corridor. The project proposes to utilize smart traffic signals with adaptive signal timing software to enhance the safety and efficiency of the Bob Wallace Avenue corridor. The system is designed to facilitate traffic progression, alleviate congestion and idling times, and detect high-risk traffic incidents. The project will address public health and safety disparities within a "Historically Disadvantaged Area" by reducing fuel emissions and traffic-related fatalities and serious injuries. The City proposes to apply for a USDOT SMART Program Phase 1: Planning & Prototyping Grant to conduct a Corridor and Intersection Analysis & Comprehensive Signal Retiming Study along a 3-mile stretch of the Bob Wallace corridor starting at Leeman Ferry Road and ending at the I-565 Exit/Sparkman Drive. The SMART Grants Program was established to fund projects that will "conduct demonstration projects focused on advanced smart city or community technologies and systems in a variety of communities that address real-world challenges and improve transportation efficiency and safety." If awarded, the City of Huntsville will team with a variety of experts from the public and private sector who have committed to provide technical assistance towards the project.

WHEREAS, the City of Huntsville is eligible to apply to the United States Department of Transportation (USDOT) for the Strengthening Mobility and Revolutionizing Transportation (SMART) Grants Program funding;

WHEREAS, engineers have estimated a total project cost of $2,198,210; and

BE IT THEREFORE RESOLVED, by the City Council of the City of Huntsville, Alabama, that the Council authorizes the Mayor to submit an application on behalf of the City of Huntsville, including all the understandings and assurances contained therein, to the United States Department of Transportation (USDOT) for Strengthening Mobility and Revolutionizing Transportation (SMART) grant funding not to exceed $2,000,000, or ninety-one percent (91%) of the Total Project Cost, and is committed to provide a nine percent (9%) match of $198,210.

BE IT FURTHER RESOLVED that this resolution shall become effective immediately upon approval and adoption by the Council, the public welfare requiring it.

ADOPTED this the 11th day of July, 2024.

_____
President of the City Council of
the City of Huntsville, Alabama

APPROVED this the 11th day of July, 2024.

_____

Mayor of the City of Huntsville, Alabama

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

Application for Federal Assistance SF-424

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

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

* If Revision, select appropriate letter(s):

* Other (Specify):

* 3. Date Received:

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: CITY OF HUNTSVILLE

* b. Employer/Taxpayer Identification Number (EIN/TIN): 63-600-1296

* c. UEI: ZBCLKNT6JWT4

d. Address:

* Street1: 305 FOUNTAIN CIRCLE
Street2:
* City: HUNTSVILLE
County/Parish:
* State: AL: Alabama
Province:
* Country: USA: UNITED STATES
* Zip / Postal Code: 358010000

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: JO BETH
Middle Name:
* Last Name: GLEASON
Suffix:

Title:

Organizational Affiliation:

* Telephone Number: 256-705-3081
Fax Number:

* Email: JOBETH.GLEASON@HUNTSVILLEAL.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

11. Catalog of Federal Domestic Assistance Number:

CFDA Title:

*** 12. Funding Opportunity Number:**

20.941

* Title:

Strengthening Mobility and Revolutionizing Transportation (SMART) Grants Program

13. Competition Identification Number:

Title:

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

Add Attachment | Delete Attachment | View Attachment

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

The Bob Wallace Avenue SMART Corridor: Smart Signal Technology for Safer Streets in Huntsville

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: AL-005 * b. Program/Project: AL-005

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

Add Attachment | Delete Attachment | View Attachment

17. Proposed Project:

* a. Start Date: 09/01/2025 * b. End Date: 09/01/2026

18. Estimated Funding ($):

* a. Federal	2,000,000.00
* b. Applicant	198,210.00
* c. State	
* d. Local	
* e. Other	
* f. Program Income	
* g. TOTAL	2,198,210.00

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

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

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

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

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

☐ Yes ☒ No

If "Yes", provide explanation and attach

Add Attachment | Delete Attachment | View Attachment

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

☒ ** I AGREE

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

Authorized Representative:

Prefix:	
* First Name:	TOMMY
Middle Name:	
* Last Name:	BATTLE
Suffix:	
* Title:	MAYOR
* Telephone Number:	256-427-5000
Fax Number:	
* Email:	CAROL.ATCHLEY@HUNTSVILLEAL.GOV
* Signature of Authorized Representative:	
* Date Signed:	07/11/2024

DISCLOSURE OF LOBBYING ACTIVITIES

Complete this form to disclose lobbying activities pursuant to 31 U.S.C.1352

OMB Number: 4040-0013
Expiration Date: 02/28/2025

1. * Type of Federal Action:
- [ ] a. contract
- [x] b. grant
- [ ] c. cooperative agreement
- [ ] d. loan
- [ ] e. loan guarantee
- [ ] f. loan insurance

2. * Status of Federal Action:
- [ ] a. bid/offer/application
- [x] b. initial award
- [ ] c. post-award

3. * Report Type:
- [x] a. initial filing
- [ ] b. material change

4. Name and Address of Reporting Entity:

[x] Prime [ ] SubAwardee

* Name: CITY OF HUNTSVILLE
* Street 1: 305 FOUNTAIN CIRCLE
Street 2:
* City: HUNTSVILLE
State: AL: Alabama
Zip: 35801
Congressional District, if known:

5. If Reporting Entity in No.4 is Subawardee, Enter Name and Address of Prime:

6. * Federal Department/Agency:
USDOT

7. * Federal Program Name/Description:
DOT-SMART-FY24-01
CFDA Number, *if applicable:*

8. Federal Action Number, *if known:*

9. Award Amount, *if known:*
$

10. a. Name and Address of Lobbying Registrant:

Prefix: * First Name: N/A Middle Name:
* Last Name: N/A Suffix:
* Street 1: Street 2:
* City: State: Zip:

b. Individual Performing Services (including address if different from No. 10a)

Prefix: * First Name: N/A Middle Name:
* Last Name: N/A Suffix:
* Street 1: Street 2:
* City: State: Zip:

11. Information requested through this form is authorized by title 31 U.S.C. section 1352. This disclosure of lobbying activities is a material representation of fact upon which reliance was placed by the tier above when the transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352. This information will be reported to the Congress semi-annually and will be available for public inspection. Any person who fails to file the required disclosure shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

*** Signature:**

***Name:** Prefix: * First Name: TOMMY Middle Name:
* Last Name: BATTLE Suffix:

Title: MAYOR **Telephone No.:** 256-705-3081 **Date:**

Federal Use Only:

Authorized for Local Reproduction
Standard Form - LLL (Rev. 7-97)

FORM **CD-511**
(REV 1-05)

U.S. DEPARTMENT OF COMMERCE

CERTIFICATION REGARDING LOBBYING

Applicants should also review the instructions for certification included in the regulations before completing this form. Signature on this form provides for compliance with certification requirements under 15 CFR Part 28, 'New Restrictions on Lobbying.' The certifications shall be treated as a material representation of fact upon which reliance will be placed when the Department of Commerce determines to award the covered transaction, grant, or cooperative agreement.

LOBBYING

As required by Section 1352, Title 31 of the U.S. Code, and implemented at 15 CFR Part 28, for persons entering into a grant, cooperative agreement or contract over $100,000 or a loan or loan guarantee over $150,000 as defined at 15 CFR Part 28, Sections 28.105 and 28.110, the applicant certifies that to the best of his or her knowledge and belief, that:

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

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

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure occurring on or before October 23, 1996, and of not less than $11,000 and not more than $110,000 for each such failure occurring after October 23, 1996.

Statement for Loan Guarantees and Loan Insurance

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

In any funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this commitment providing for the United States to insure or guarantee a loan, the undersigned shall complete and submit Standard Form-LLL, 'Disclosure Form to Report Lobbying,' in accordance with its instructions.

Submission of this statement is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required statement shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure occurring on or before October 23, 1996, and of not less than $11,000 and not more than $110,000 for each such failure occurring after October 23, 1996.

As the duly authorized representative of the applicant, I hereby certify that the applicant will comply with the above applicable certification.

* NAME OF APPLICANT
CITY OF HUNTSVILLE

* AWARD NUMBER
20.941

* PROJECT NAME
THE BOB WALLACE AVENUE SMART CORRIDOR

Prefix:

* First Name:
TOMMY

Middle Name:

* Last Name:
BATTLE

Suffix:

* Title: MAYOR

* SIGNATURE:

* DATE:

FORM **CD-511**
(REV 1-05)

U.S. DEPARTMENT OF COMMERCE

CERTIFICATION REGARDING LOBBYING

Applicants should also review the instructions for certification included in the regulations before completing this form. Signature on this form provides for compliance with certification requirements under 15 CFR Part 28, 'New Restrictions on Lobbying.' The certifications shall be treated as a material representation of fact upon which reliance will be placed when the Department of Commerce determines to award the covered transaction, grant, or cooperative agreement.

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

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* NAME OF APPLICANT
CITY OF HUNTSVILLE

* AWARD NUMBER
20.941

* PROJECT NAME
THE BOB WALLACE AVENUE SMART CORRIDOR

Prefix:

* First Name:
TOMMY

Middle Name:

* Last Name:
BATTLE

Suffix:

* Title: MAYOR

* SIGNATURE:

* DATE:

Budget Narrative

Engineers have estimated the Total Project Cost of the Bob Wallace Avenue SMART Corridor Project is $2,198,210. This is broken down into Equipment costs, which are $1,848,210; and Planning costs ("Other"), which are estimated to be $350,000. The Work Plan Schedule for Planning activities and Major Deliverables are shown below.

MAJOR DELIVERABLES Responsibility	ACTIVITIES	MONTH 1 FALL 2025	MONTH 2	MONTH 3	MONTH 4	MONTH 5	MONTH 6	MONTH 7	MONTH 8	MONTH 9	MONTH 10	MONTH 11	MONTH 12
Evaluation & Data Management Plan													
COH, ASCTE, & Consultant													
	Develop Evaluation & Data Management Plan												
COH Planning Department, ODEI	Develop & Initiate Community Participation Plan (Pre- and Post- Implementation)												
Corridor & Intersection Analysis Study													
COH Traffic Engineering, UAH, Miovision, & Consultant													
	Phase 1: Preliminary Data Collection Period / Pre-Existing Conditions												
	Implementation of the Miovision Smart Signal System & New Timing Plan												
	Phase 2: Post Data Collection Period												
	Phase 3: Performance Evaluation Phase / ATSPM Report Generation / Benefit-Cost Analysis												
	Findings Report / Document												
Quarterly Progress Reports													
COH Planning Department													
	Submit Quarterly Report #1 to USDOT												
	Submit Quarterly Report #2 to USDOT												
	Submit Quarterly Report #3 to USDOT												
	Submit Quarterly Report #4 to USDOT												
Draft Implementation Report													
COH Traffic Engineering & Consultant													
	Submit Draft Implementation Report to USDOT												
Final Implementation Report													
COH Traffic Engineering & Consultant													
	Submit Final Implementation Report to USDOT												

BUDGET INFORMATION - Non-Construction Programs

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

SECTION A - BUDGET SUMMARY

Grant Program Function or Activity (a)	Catalog of Federal Domestic Assistance Number (b)	Estimated Unobligated Funds		New or Revised Budget		
		Federal (c)	Non-Federal (d)	Federal (e)	Non-Federal (f)	Total (g)
1. USDOT SMART	20.941	$	$	$ 2,000,000.00	$ 198,210.00	$ 2,198,210.00
2.						
3.						
4.						
5. Totals		$	$	$ 2,000,000.00	$ 198,210.00	$ 2,198,210.00

SECTION B - BUDGET CATEGORIES

6. Object Class Categories	GRANT PROGRAM, FUNCTION OR ACTIVITY (1)	(2)	(3)	(4)	Total (5)
	USDOT SMART				
a. Personnel	$	$	$	$	$
b. Fringe Benefits					
c. Travel					
d. Equipment	1,848,210.00				1,848,210.00
e. Supplies					
f. Contractual					
g. Construction					
h. Other	350,000.00				350,000.00
i. Total Direct Charges (sum of 6a-6h)	2,198,210.00				$ 2,198,210.00
j. Indirect Charges					$
k. TOTALS (sum of 6i and 6j)	$ 2,198,210.00	$	$	$	$ 2,198,210.00
7. Program Income	$ 2,198,210.00	$	$	$	$ 2,198,210.00

SECTION C - NON-FEDERAL RESOURCES

(a) Grant Program		(b) Applicant	(c) State	(d) Other Sources	(e)TOTALS
8.	USDOT SMART	$ 198,210.00	$ 0.00	$ 0.00	$ 198,210.00
9.					
10.					
11.					
12. TOTAL (sum of lines 8-11)		$ 198,210.00	$ 0.00	$ 0.00	$ 198,210.00

SECTION D - FORECASTED CASH NEEDS

	Total for 1st Year	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
13. Federal	$ 2,000,000.00	$ 500,000.00	$ 500,000.00	$ 500,000.00	$ 500,000.00
14. Non-Federal	$ 198,210.00	49,552.50	49,552.50	49,552.50	49,552.50
15. TOTAL (sum of lines 13 and 14)	$ 2,198,210.00	$ 549,552.50	$ 549,552.50	$ 549,552.50	$ 549,552.50

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.	USDOT SMART	$ 0.00	$ 0.00	$ 0.00	$ 0.00
17.					
18.					
19.					
20. TOTAL (sum of lines 16 - 19)		$ 0.00	$ 0.00	$ 0.00	$ 0.00

SECTION F - OTHER BUDGET INFORMATION

21. Direct Charges:

22. Indirect Charges:

23. Remarks:

A. THE PROJECT: **The Bob Wallace Avenue SMART Corridor: Smart Signal Technology for Safer Streets** THE VISION: Utilizing smart signal technology to resolve health and safety disparities in underserved areas of the city. THE GOAL: *VISION ZERO (zero roadway fatalities and serious injuries)by 2055.* In the Rocket City, we promote ourselves as "A Smart Place." We have smart people – the highest concentration of engineers in the nation and one of the highest overall concentrations of STEM professionals. Huntsville is a gigabit city and ensures every home has access to high-speed broadband. We are known for our aerospace, technology, defense, and advanced manufacturing cluster. Redstone Arsenal, Cummings Research Park (CRP), and NASA's Marshall Space Flight Center comprise the main hubs for the area's technology-driven economy. CRP is the second largest research park in the United States and the fourth largest in the world. The University of Alabama in Huntsville (UAH) and Alabama A&M University (AAMU) are centers for technology and engineering research in the area. Many small businesses, commercial technology companies, and more than 25 biotechnology firms and over 57 Fortune 500 companies call Huntsville "home." In the 1960's, we had the vision and innovation to put man on the moon and we remain the center for rocket-propulsion research at NASA and the military. Our strong economy is one of the reasons why we were recently named "The #1 Best Place to Live in America." However, while the median income of the Huntsville metro area is $66,450, 15.2% of the population live in poverty and 27.83% of the city is considered "Disadvantaged Communities" status. Huntsville is still impacted by past inequities that continue to affect people in our community today. Decades of segregationist policies have divided the city (racially and socioeconomically) into southeast and northwest Huntsville and is a significant reason for its sprawled development. In response to our unprecedented growth during the Space Race, ambitious Urban Renewal plans and highway construction projects in the 1950s/60s further divided the races, demolishing or displacing whole minority business districts and neighborhoods and pushing them further north and west. The region's racial divide is still evident today and has become increasingly acute for minority populations in west Huntsville, who struggle with higher poverty rates, isolated neighborhoods, higher traffic fatalities, higher rates of environmental contamination and health-related issues, higher unemployment levels, and lower life expectancies. Because of these disparities, the City has made it a priority to promote equity and equitable investment in neighborhoods to ensure an inclusive community. The City created the Office of Diversity, Equity, and Inclusion (ODEI) in 2021 (previously the Office of Multicultural Affairs) to underscore and strengthen our commitment to inclusiveness, awareness, and meaningful community outreach. Although our city was the first in the state to integrate schools during the Civil Rights era, efforts on behalf of the City and Huntsville City Schools to desegregate the school system are ongoing to this day. The City and the Huntsville Housing Authority (HHA) are currently restructuring public housing to address aging properties and develop mixed income developments without displacement. (The Mill Creek HUD Choice Neighborhood Initiative (CNI) is located in the Project Area). Inclusionary zoning and planning efforts are ongoing to provide affordable housing downtown (closer to employment) and accessible, affordable public transportation throughout the city. Between 2010 and 2020, Huntsville grew by 20%, adding nearly 35,000 people, and recently surpassed Montgomery and Birmingham to become the most populous city in the state. Recent estimates indicate the city has grown from a 215,006 population in 2020 to a 227,529 population in 2022, representing a 5.8% increase, or an additional 12,523 people in less than two years. In 2022, the city gained 9 people per day. Our infrastructure, particularly our transportation infrastructure, has not kept up with our growth, especially in impoverished areas of our city. These areas experience a disproportionately higher rate of roadway fatalities and serious injuries and higher rates of environmentally induced health problems. As a city that underscores equity, diversity, and inclusiveness, prioritizing public health and safety for All and making equitable investments in All neighborhoods is our #1 priority. The Bob Wallace Avenue commercial corridor area is considered a "Historically Disadvantaged Community" and an "Area of Persistent Poverty," having some of the highest poverty rates in the city at 50-60%. This area also experiences some of the highest pedestrian- and bicycle-vs-vehicle crash rates in the city and is considered a "High Injury Network." Located

in a "Vulnerable Area of Concern," over the last 7 years, the corridor experienced 22 pedestrian- or bike-vs-vehicle crashes, resulting in 6 fatalities. The Bob Wallace Avenue Project Area also experiences higher rates of asthma and respiratory illnesses and lower life expectancies than all other areas of the city. In 2022, the city embarked on a Vision Zero planning initiative to address these transportation disparities. The City Council passed a resolution committing to zero roadway fatalities and serious injuries by 2055. From 2015-2020, Huntsville's Traffic Fatality Rate more than doubled, increasing from 5.77 to 12.81, and the Pedestrian Fatality Rate nearly doubled, increasing from 2.10 to 3.94. Nationally, Huntsville ranks 43rd in traffic deaths per 100,000 people. This is higher than the 2020 U.S. national average of 11.7. On average, 302 people a year are killed or severely injured in traffic crashes in Huntsville. The Vision Zero study found that we lose 25 people each year to traffic-related crashes, and that People of Color are 33% more likely to be involved in a fatal pedestrian traffic crash than non-People of Color in the city. The Bob Wallace Avenue corridor was chosen for the SMART demonstration site due to its high crash rate and high concentrations of vulnerable roadway users, including the area's highest concentration of Hispanic and Latino populations and Limited English Proficiency (LEP) households, and People Living with a Disability. These neighborhoods are considered low income with significant portions of transportation-burdened populations, carless households, and transit-dependent populations. Click Link: HSV VZ Plan

For the Bob Wallace Avenue corridor, Huntsville will partner with top experts in the fields of engineering, planning, and cyber technology to invest in an historically disadvantaged area of the city to test a new smart signal technology that will result in transformational change. The SMART Team will consist of the City's Office of Diversity, Equity, and Inclusion (ODEI), Traffic Engineering, and Urban & Long-Range Planning departments, the Huntsville-Area Metropolitan Planning Organization (MPO), the Alabama School of Cyber Technology & Engineering (ASCTE), the University of Alabama in Huntsville (UAH), and Miovision Technologies Incorporated. If awarded, we will hire an engineering consulting firm to join our SMART Team and conduct a Corridor and Intersection Analysis & Comprehensive Signal Retiming Study. The Study will test the validity and efficacy of the Miovision Smart Signal system, which includes the Miovision Core DCM and TrafficLink software and the Miovision SmartView 360* camera. This adaptive signal control technology and multimodal detection system enables traffic control operators to adjust signal timing in real-time in response to traffic incidents and congestion in high-risk areas. The Miovision system- hosted on a secure virtual network- will help facilitate faster response times to safety hazards, provide real-time multimodal data-collection, and facilitate real-time traffic flow to help alleviate congestion, reducing idling times, and enabling safer, cleaner intersections for all modes of transportation (pedestrian, bicycle, transit, vehicle). This will result in significant reductions in greenhouse gas and fuel emissions and substantial improvements to safety and response times for multimodal traffic, thereby decreasing crash rates and improving community health and safety. These improvements will support the City's Complete Streets and Smart Growth policies, our commitment to Equity & Safety, and help achieve our goal of Vision Zero by 2055. The transformational impacts of this project will be felt in the surrounding community and include safer roadway conditions and crash prevention for Vulnerable Roadway Users, and cleaner air and water quality, resulting in improved public health and safety outcomes. If the study is successful and generates the anticipated positive results, the intent is to implement the smart signal technology city-wide, thereby realizing our goal of Vision Zero by 2055.

B. The SMART Corridor Project will take place along a 3-mile stretch of the Bob Wallace Avenue corridor, an area in west Huntsville located entirely within a "Disadvantaged Community" and an "Area of Persistent Poverty." The relevant census tracts are: 01089002100; 01089002200; 01089002300; and 01089002501. With a 2020 population of 215,006, Huntsville is considered a mid-sized city and is a Census-designated Urban Area.

C. We expect that the Bob Wallace SMART Corridor Project will result in substantial benefits to a disadvantaged area of Huntsville. Immediately and over time, these benefits will translate to significant

improvements to the surrounding community, such as: improved health and safety outcomes; crash prevention, resulting in reduced crash rates and roadway fatalities and serious injuries; enhanced walkability and safer intersections for multimodal traffic and vulnerable roadway users; improved air and water quality; critical infrastructure resilience; prioritized signal timing for multimodal traffic and ADA needs; enhanced access to affordable public transportation for low income residents and carless and/or transit-dependent populations; and equitable investment made in underserved communities to address environmental justice within historically segregated/isolated communities. As part of the Project's Community Participation Plan, the ODEI and the Planning Department will engage hard-to-reach populations within the project area via multilingual community surveys solicited online and door-to-door before and after the study period. The Team will monitor and measure improvements over time through local, state, and federal data collection and analysis, such as: local crash data; City of Huntsville Air Quality Reports; Huntsville Area MPO Congestion Management studies; traffic count collection; EPA EJScreening Tool; HUD CPD Maps; HEPGIS; and Census demographics. In addition, the new Miovision ATSPM dashboard will also be used to collect and analyze traffic data immediately and over time. Click Link: Benefits

D. The Bob Wallace Avenue corridor and its neighborhoods are wedged between two major transportation arterials for the city-- Interstate 565 and Memorial Parkway (U.S. 231/U.S. 431). These state-owned highways also serve as major barriers to communities in north and west Huntsville. These communities are cut off by these dangerous highways from employment opportunities and healthcare and essential services located in the downtown area. Bob Wallace is a local roadway and is considered a minor east-west arterial serving the west Huntsville small business district, as well as many low-and-moderate income neighborhoods. As it heads west from the Parkway, it connects with Sparkman Drive to make a horseshoe-shaped road around the city serving access to several major amenities-- Redstone Arsenal, the U.S. Space & Rocket Center, and University of Alabama Huntsville (UAH)/Cummings Research Park (CRP) campus. The area between Bob Wallace and Clinton Avenue is the home to the Mill Creek HUD/HHA Choice Neighborhood Initiative (CNI) mixed income development and Lowe Mill neighborhoods. The neighborhood consists of four public housing neighborhoods. The Mill Creek CNI is the first ever mixed income "development without displacement" in Huntsville.

There are several major community amenities along Bob Wallace that generate significant traffic: Redstone Arsenal, the U.S. Space & Rocket Center, the Huntsville Botanical Garden, and the trails that connect these entities. This section of Bob Wallace is planned to house part of the future Singing River Trail of North Alabama, a 220-mile regional trail system that will connect Huntsville, Madison, Athens, and Decatur. On average, approximately 21,000 vehicles travel along the Bob Wallace/Sparkman Drive corridor each day. It serves as a major regional commuter corridor linking the center of Huntsville with major federal military installations and research institutions. Multiple municipal bus stops are located along the two roads. Bob Wallace Avenue serves six schools (university, high school, middle, and elementary) within the area. The Bob Wallace Avenue SMART Corridor demonstration site is a 3-mile stretch of the corridor starting at Leeman Ferry Road (near Memorial Parkway) and ending at the I-565 Exit (where it turns into) Sparkman Drive. Low income neighborhoods that are concentrated in this area of Huntsville have a disproportionately higher rate of roadway and traffic-related fatalities and serious injuries than in any other area of the city. The city-wide Fatal Crash Rate for Huntsville is 0.017 fatal crashes per mile. The Bob Wallace corridor experiences a Fatal Crash Rate of 0.33 fatal crashes per mile.

To compound this, these neighborhoods are twice as likely to develop asthma and respiratory illnesses (13-16% of the population have asthma, as opposed to 7% in east Huntsville). In addition, the Project Area has the highest concentrations of People Living with a Disability. These neighborhoods experience lower life expectancies, with an average lifespan of 67 years, as opposed to 80 years for neighborhoods in east Huntsville. There are many issues that may be contributing to these disparities. The area is adjacent to the

Redstone Arsenal, which regularly tests military equipment and performs blasting that fires rocket fuel and perchlorate matter into the atmosphere. Another strong correlation is that the area is wedged between two major transportation arterials, I-565 and Memorial Parkway, that both generate significant traffic. Published studies on the effects of congestion and fuel emissions on asthma and respiratory disease sufferers are well-known. Furthermore, the Bob Wallace commercial corridor has significant vehicular and truck traffic due to the area's commercial nature and experiences stop-and-go traffic throughout the day to service retail and commercial entities. This leads to congested roadway conditions, especially during certain days of the week and peak times of the day, such as school drop-off and pick-up times, church traffic, loading and delivery times, and rush hour traffic. Adding to this is regional commuter traffic, as many workers drive the Bob Wallace corridor to access employment centers at the Arsenal, UAH, and Cummings Research Park. The abundance of commercial parking lots and driveways along the corridor contribute to access management issues for roadway users, further contributing to multimodal crashes, congestion, and poor air quality. Click Link: Benefits

The Huntsville urban area is presently classified as an attainment area for all criteria pollutants (pollutants for which EPA has promulgated National Ambient Air Quality Standards (NAAQS) under the Clean Air Act). The COH Air Quality Report published by the City of Huntsville's Department of Natural Resources and Environmental Management, indicates that over 70% of the ozone precursor emissions (oxides of nitrogen and volatile organic compounds) in the area comes from mobile sources. While substantial reductions in emissions from individual vehicles have occurred due to Federal limitations on fuel volatility and national tailpipe emissions standards, increases in VMT (Vehicle Miles Traveled) have partially offset these reductions. With stricter tail-pipe standards taking effect in 2004, and with imposition of tighter 2007 and 2010 diesel emissions standards, on-road emissions of ozone precursors should decrease in the coming years as a result of fleet turnover. However, further improvements in the transportation network to reduce congestion and improve connectivity are necessary to ensure these air quality benefits are actually realized. Opportunities to reduce GHG emissions from transportation include switching to alternative fuels, using more fuel efficient vehicles, and reducing the total number of miles driven. Each of these options requires a mixture of public and private sector involvement. Transportation planning activities which influence how transportation systems are built and operated, such as this SMART signal project, will contribute to these strategies. The most significant benefits will be the prevention of life altering crashes and the reduction of roadway fatalities and serious injuries. With the implementation of smart signal technology, crashes can be reduced by over 60%. Advantages of the Miovision system implementation include: reducing traffic jams and accidents on streets; ensuring immediate clearance for emergency vehicles; facilitating safer and shorter commute times; reducing congestion and energy consumption at intersections; real-time monitoring of multimodal traffic incidents to reduce response times and prevent crashes.

There are 9 controlled intersections along the Project corridor. The Project proposes to test and validate the Miovision Core DCM and TrafficLink software and the Miovision SmartView 360* camera, a mature technology that has been sufficiently tested in multiple cities, so we know it is repeatable and scalable. The system will be installed and tested at all 9 intersections along the Bob Wallace Project Area. The technology is appropriate for the city's population density and existing transportation system. The City of Huntsville Traffic Engineering Department chose Miovision as the vendor because the technology easily integrates into the existing Wavetronix system, and can rapidly, and cost-effectively, be scaled and implemented city-wide. Miovision TrafficLink is a software platform that allows cities to remotely track and manage their traffic network, while also providing performance measures and actionable insights. The system creates a secure, virtual network that connects and improves existing traffic infrastructure, allowing it to communicate safely with a city's traffic team anywhere. TrafficLink integrates with existing hardware and provides encrypted

LTE wireless connectivity to a secure, cloud-based software platform, and allows remote management of traffic signaling in compliance with the city's security policies. MiovisionCore®DCM includes a full-stack ITS system for managing and analyzing intersections. The open and secure platform provides wireless connectivity and communications so traffic operators can access cabinets remotely. The modular design optimizes performance and reliability in all environments and can be easily upgraded to expand functionality to manage current traffic needs and evolve with the development of the network. The high-performance NVIDIA Volta™ GPU enables traffic engineers to process detection and count data at the source with precision and accuracy giving them the power to make real-time decisions with accurate and complete data. Miovision SmartView 360* is a bell camera that is used to capture video at intersections. The SmartView 360 is equipped with a 4K 9MP 360° lens with a 180° field of view and delivers high-resolution video streams to the MiovisionCoreDCM so operators can remotely manage and analyze intersections. The proposed test will be a Corridor and Intersection Analysis & Comprehensive Signal Retiming Study to validate the efficacy of the Miovision smart signal system. In compliance with federal grant requirements, data collected will not be used for any kind of traffic or parking enforcement activity. The proposed project will use advanced data and applications to provide significant benefits in alignment with USDOT Priorities and local priorities. The City of Huntsville has examined a case study out of Escambia County, Florida that tested the same product and resulted in substantial benefits to the community. The benefits were quantified as saving time (1,200 vehicle hours of weekly time savings); reducing fuel emissions (weekly fuel savings of 3,400 gallons); reducing costs ($7million of cumulative delay, and fuel savings) resulting in a Benefit:Cost ratio of 70:1. We expect that the Bob Wallace SMART Corridor Project will result in similar benefits to a disadvantaged area of our city. Immediately and over time, these benefits will translate to substantial improvements to the surrounding community, such as: improved health outcomes; reduced crash rates and accident prevention; improved air and water quality; critical infrastructure reliability and resilience; safer infrastructure for multimodal traffic and ADA infrastructure; enhanced access to affordable public transportation for low-income residents by prioritizing multimodal traffic, transit route progression, and emergency vehicle access; and equitable investment made in underserved communities in an effort to address environmental justice, and crash rate disparities. The City of Huntsville Planning Department and ODEI will monitor and measure these improvements over time through , crash data collection and analysis, pre-and post-study community input solicitation. The proposed solution represents a demonstrable improvement over the status quo, as we have so far only focused on road design, physical infrastructure, and signage. While these interventions improve safety, they are generally capital projects, which are slow and expensive to rollout, and do not produce actionable data to help identify safety hazards in real-time. Real-time monitoring of safety hazards can cut emergency response times in half. Benefits

E. In collaboration with some of the world's most innovative companies, cutting-edge research and academic institutions, and distinguished experts, the City of Huntsville has identified immediate opportunities that will engage a variety of public and private partners to deliver enhanced mobility and economic opportunities for citizens of all income groups. These initiatives are consistent with the priorities and objectives of the City of Huntsville and the USDOT SMART Grants Program and are the concepts which will be refined with an eye towards implementation and ensuring an equitable distribution of benefits for all members of our community. For the Bob Wallace Avenue SMART Corridor Project, we have put together a multi-disciplinary team of experts that will include: City of Huntsville (COH) ODEI, Traffic Engineering, and Planning departments, the Huntsville Area MPO, the University of Alabama in Huntsville (UAH), the Alabama School of Cyber Technology & Engineering (ASCTE), and Miovision Technologies Incorporated. If awarded, the City will choose an engineering firm to work directly with the SMART Team to conduct a Corridor and Intersection Analysis & Comprehensive Signal Retiming Study. Our team of experts have expertise in cyber technology methods and applications, traffic engineering, technology policy, public policy, and public engagement and will ensure the project analysis is performed within all legal and regulatory requirements and meets the 18-

month period of performance timeline. The proposed Work Plan includes the following deliverables and activities assigned to the relevant SMART Team members: 1) Community Participation Plan/COH ODEI and Planning Department; 2) Data Management Plan/ASCTE & COH; 3) Corridor & Intersection Analysis Study/COH Traffic Engineering, UAH, Miovision, & Engineering Consultant; 4) Quarterly Progress Reports/ COH Planning Department; 5) Draft & Final Implementation Report/ COH Traffic Engineering & Consultant. The Corridor Analysis/Study will be structured in the following phases: 1) Preliminary Data Collection Period/Pre-Existing Conditions; 2) Implementation of the Miovision SmartSignal System & New Timing Plan; 3) Post Data Collection Period; 4) Performance Evaluation Phase/ATSPM Report Generation/Benefit-Cost Analysis; 5) Findings Report.

The Miovision Core DCM and TrafficLink software and the Miovision SmartView 360* camera will be installed at all 9 intersections along the three-mile Project Area corridor and all intersections will be observed and tested. The Miovision Core DCM and TrafficLink performance software provides ATSPM report generation through a web-based portal. This software combines powerful data to generate actionable ATSPM's through a series of customizable charts and graphs (split failures, split trends, Purdue Coordination Diagram (PCD)graphs). Key metrics will be used to measure and validate the technology's expected benefits. "Before" traffic conditions (such as travel time and speed, turning movement counts, and signal timing data) will be collected by the Team. Using a combination of this data and the optimization software, progression inefficiencies will be observed and used to generate new timing plans for the corridor. After the new timing plan has been implemented, performance evaluation will be conducted by the Team and key metrics will be collected from intersections to generate "after-implementation" ATSPM reports. Using the TrafficLink portal, a series of analytics including Time-Space Diagrams; Split Trends Graphs (to observe split failures), Corridor Congestion Scans, and the Purdue Coordination Diagram, and Arrivals on Red, will be used to measure the before-and-after effects of signal timing and coordination changes along the corridor. These analytics will be used to generate offset change recommendations to improve travel times and speeds between intersections along the corridor. The metrics will show if speeds along the corridor increase and peak travel times are reduced. Once the signal timing changes and coordination are implemented, a reevaluation of corridor progression using Time-Space diagrams will enable the Team to observe if a higher number of vehicles can drive the length of the corridor with minimal stopping. Travel Time Indexes will be calculated to visually identify where bottlenecks are occurring. The Miovision system will allow the Team to adjust signal timing plans based on real-time data to manage the demand during different times of the day, while also ensuring there are no negative impacts on travel times or progression. The team will observe real time video from the SmartView camera to analyze multimodal traffic conflicts and near misses and adjust signal timing for pedestrians, bicyclists, transit users, wheelchair-bound individuals, and other vulnerable roadway users.

Signal optimization can significantly reduce congestion and improve traffic flow on arterial roads. The Analysis will provide the necessary data and analytics to spot inefficiencies to measure the effects of signal timing and coordination changes along the corridor. Following the completion of the analysis, the Team will be able to show before-after results to help quantify the benefits of signal optimization. Using the new ATSPM, the Team will calculate delay savings, emissions savings, fuel savings, and cost savings, for a benefit-cost ratio, promoting data-driven decision making and outcome-based results. If the demonstration project analysis produces the expected positive results, the intent is to implement the Smart Signal technology city-wide and implement an Active Arterial Management (AAM) program to provide continuous optimal operation of all major corridors of the entire transportation system. Another significant safety benefit will be the use of multimodal video detection to detect, classify, and count vehicle, transit, pedestrian, and bicycle activity. The Miovision SmartView camera will provide detailed multimodal detection and continuous counts at intersections so traffic operators can observe and be alerted in real-time if any crashes or near-misses occur

and where to control pedestrian signal timing, improving response times for emergency vehicles, and better addressing safety infrastructure deficiencies. This will have an enormous impact on the way the city analyzes multimodal transportation data and traffic safety, streamlining response times to traffic-related incidents, and modernizing traffic safety infrastructure to ensure safety, efficiency, and resilience of the transportation system.

The Bob Wallace SMART Corridor Demonstration Project will generate an enormous amount of new and valuable data from mobility and other sectors. That is why we are partnering with the Alabama School of Cyber Technology & Engineering (ASCTE) to provide their expertise in cyber technology and give guidance and technical support on the required Data Management Plan. ASCTE is the nation's only high school focused on the integration of cyber technology and engineering into all academic disciplines. Their students, with the guidance of their syndicated faculty and subject matter experts, will provide technical assistance and guidance on the Plan and industry best practices regarding data governance, sharing, and transport, and cybersecurity standards. Partnering with our local academic institutions will support training, apprenticeship programs, and educational programs to meet workforce development needs and promote inclusion in the workforce.

Aligning supportive public policy and regulations is essential to the Project. We will leverage established research and university expertise in technology policy and engineering from the University of Alabama Huntsville (UAH) and work with the students and staff of the Engineering Department to share knowledge of engineering practices and policies with decision-makers. The UAH Engineering Department scholars are professionally licensed engineers with knowledge in traffic engineering, transportation systems, traffic modeling, freight transportation, GIS-T applications, and have experience working with projects for the USDOT. UAH Engineering Department works closely with the City of Huntsville and advises officials on transportation projects and traffic impact studies. The City of Huntsville Traffic Engineering Department, with the guidance of the Consultant, will manage the project, working with all team members to ensure compliance with all local, state, and federal regulations and policies. The staff has many years of experience managing large infrastructure projects that include multiple public and private stakeholders across the city. The staff is made up of Professional Engineers who will provide project leadership, technical support and analysis, and who have intimate knowledge of the city's transportation and traffic operating systems. The department has a full staff dedicated to carrying out the project after Stage 2 implementation. The Huntsville Area MPO will be necessary to coordinate efforts with surrounding communities and the County within the MPO to carry out safety and congestion management studies impacting the region. The City of Huntsville Planning Department has extensive knowledge of public policy and federal regulations, socioeconomic and demographics analysis, as well as grant writing, grant administration, project development, and monitoring and compliance. The Planning staff will provide quarterly reports to USDOT to monitor project progress and ensure accountability and financial transparency. The Planning Department and the ODEI will also provide resources such as technical analysis that will help policymakers understand and balance potential social benefits and risks. This includes research to evaluate and ensure that these benefits are equitably distributed across the city's diverse socioeconomic groups upon implementation. As part of the Project's Community Participation Plan (CPP) and to fulfill the City's mission for an inclusive, equitable, and sustainable community, the Planning staff will work with the City's Office of Diversity, Equity, and Inclusion (ODEI) to monitor the ongoing public health and safety, racial equity, and environmental justice impacts to the Project Area before and after the prototyping and implementation stage are complete. This will include quantitative and qualitative data collection through a stringent community engagement process, in compliance with City LEP and ADA policies, and involves public meetings, community surveys, and meaningful engagement with residents within and outside the Project Area. The focus of the CPP will be to gauge hard-to-reach populations and measure direct and indirect impacts, such as job creation and access to opportunity, and the immediate, mid-term, and long-term health, safety, and environmental benefits to the surrounding community.