308 Fountain Circle
Huntsville, AL 35801

Huntsville, Alabama

Cover Memo

Meeting Type: City Council Regular Meeting **Meeting Date:** 1/26/2023 **File ID:** TMP-2465

Department: Planning

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

Resolution authorizing the Mayor to submit an application on behalf of the City of Huntsville, to the U.S. Dept of Transportation for Strengthening Mobility and Revolutionizing Transportation, (SMART) for The Bob Wallace Ave SMART Corridor.

Resolution No.

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

If yes, please list preferred date(s) of publication: _____

Finance Information:

Account Number: N/A

City Cost Amount: N/A

Total Cost: $ 1,062,955

Special Circumstances:

Grant Funded: N/A

Grant Title - CFDA or granting Agency: N/A

Resolution #: N/A

Location: **(list below)**

Address:

District: District 1 ☐ District 2 ☐ District 3 ☐ District 4 ☐ District 5 ☐

Additional Comments: This grant funding will support the latest in traffic control. Phase 1 will stretch along 3 miles of the Bob Wallace Corridor, starting at Leeman Ferry Rd and ending at the I-565 Exit / Sparkman Dr.

RESOLUTION NO. 23-_____

A RESOLUTION OF THE CITY OF HUNTSVILLE FOR A FY2022 USDOT STRENGTHENING MOBILITY AND REVOLUTIONIZING TRANSPORTATION (SMART) GRANTS PROGRAM APPLICATION FOR

The Bob Wallace Avenue SMART Corridor:
A Data-Driven Approach Towards Zero
"Leveraging Huntsville's Spirit of Innovation to Ignite Change"

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 to help facilitate multimodal traffic progression and alleviate congestion and idling times, thereby reducing fuel emissions and traffic-related fatalities and serious injuries to address public health and safety disparities within a "Historically Disadvantaged Area." 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 to improve transportation efficiency and safety and address real-world challenges." 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 committed to ensuring the public health and safety of all citizens within its jurisdiction and is committed to reaching Zero-- Vision Zero (zero roadway fatalities) and Net Zero (significantly reduce vehicular emissions) by 2055.

WHEREAS, the City of Huntsville is committed to ensuring equitable investment in the local transportation system by addressing system-wide transportation-related disparities.

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 $1,062,955; 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 $1,062,955.

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 26th day of January, 2023.

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

APPROVED this the 26th day of January, 2023.

_____
Mayor of the City of Huntsville, Alabama

OMB Number: 4040-0004
Expiration Date: 12/31/2022

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: 308 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:

20.941

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: A Data-Driven Approach Towards Zero (Vision Zero & Net Zero) "Leveraging Huntsville's Spirit of Innovation to Ignite Change"

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: 09/01/2023 * b. End Date: 09/01/2024

18. Estimated Funding ($):

* a. Federal	1,062,955.00
* b. Applicant	
* c. State	
* d. Local	
* e. Other	
* f. Program Income	
* g. TOTAL	1,062,955.00

*** 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

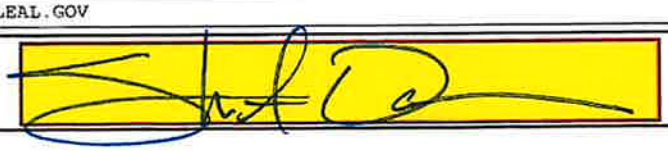
21. *By signing this application, I certify (1) to the statements contained in the list of certifications and (2) that the statements herein are true, complete and accurate to the best of my knowledge. I also provide the required assurances** and agree to comply with any resulting terms if I accept an 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:	SHANE
Middle Name:	
* Last Name:	DAVIS
Suffix:	
* Title:	DIRECTOR OF URBAN & ECONOMIC DEVELOPMENT
* Telephone Number:	256-427-5000
Fax Number:	
* Email:	CAROL.ATCHLEY@HUNTSVILLEAL.GOV

* Signature of Authorized Representative:  * Date Signed: 11/10/22

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

ASSURANCES - NON-CONSTRUCTION PROGRAMS

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

SIGNATURE OF AUTHORIZED CERTIFYING OFFICIAL	TITLE
[signature]	Director of Urban & Economic Development
APPLICANT ORGANIZATION	DATE SUBMITTED
CITY OF HUNTSVILLE	11/18/22

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

1. THE PROJECT: **The Bob Wallace Avenue SMART Corridor: A Data-Driven Approach Towards Zero (Vision Zero & Net Zero)** ***"Leveraging Huntsville's Spirit of Innovation to Ignite Change"*** 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 NET ZERO (reduced emissions) 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. We also have smart infrastructure. Huntsville is a gigabit city and ensures every home has access to high-speed broadband. We have high-tech jobs and 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, among these many accomplishments, we know there are many challenges that we have yet to overcome. 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 "Historically Disadvantaged Communities" status. For a progressive city in Alabama, we are still impacted by past inequities that continue to affect people in our community today. Decades of historical disinvestment and segregationist policies have divided the city (racially and socioeconomically) into southeast and northwest Huntsville and is a significant reason we have the sprawled development we see today. 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.The Huntsville community has made great strides in its mission 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 education. 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 truly desegregate the school system are ongoing to this day. In addition, the City and the Huntsville Housing Authority (HHA) are currently restructuring public housing throughout the city in an effort to address aging properties and promote mixed income developments without displacement (the Mill Creek HUD Choice Neighborhoods 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 surpassing 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. And

we know-- 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 environmental justice and 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 an area of "High Crash Occurrence." Over the last 7 years, the corridor experienced 22 pedestrian- or bike-vs-vehicle crashes, resulting in 6 fatalities. To compound this, the Bob Wallace Avenue Project Area experiences higher rates of asthma and respiratory illnesses and lower life expectancies than all other areas of the city.

For the Bob Wallace Avenue corridor, Huntsville will leverage its technological know-how and spirit of innovation to transform our transportation system and ignite REAL CHANGE to address these disparities in our community. We 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 we believe will result in transformational change. The SMART Team will consist of the City of Huntsville Engineering Department and the Department of Urban & Long-Range Planning, 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 by competitive bid process 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 new, adaptive signal control technology and multimodal detection system enables traffic control operators to adjust signal timing in real-time in response to traffic and congestion during certain times of the day or high-risk areas. So far, our traffic operations and response to safety improvements have focused primarily 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. We believe this powerful, new technology- hosted on a secure virtual network- will help facilitate faster response times to safety hazards, provide real-time 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 and Net Zero by 2055. The transformational impacts of this project will be felt in the surrounding community and include safer roadway conditions and crash reductions, and cleaner air and water quality, resulting in improved health outcomes. This project will transform the way we think about safety and environmental justice, promoting a truly inclusive community, and cultivate the necessary partnerships to prioritize a systemic culture of safety, equity, sustainability and resilience throughout all levels of the jurisdiction. 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 and Net Zero by 2055 and making us truly a Smart City.

2. The SMART Corridor Project will take place along the Bob Wallace Avenue corridor, an area in west Huntsville that is considered a "Historically Disadvantaged Community" and an "Area of Persistent Poverty." The Project Area is located within a designated Opportunity Zone. The city of Huntsville has a current population estimate of 227,529 and is considered a mid-sized city. The City of Huntsville is the applicant and is not a regional partnership. Engineers have estimated the Total Project Cost to be $1,062,955. The Project is located entirely within a "Historically Disadvantaged Community" and 100% of all project funds will be invested in this area.

3. We expect that the Bob Wallace SMART Corridor Project will result in substantial benefits to a disadvantaged area of our city. Immediately and over time, these benefits will translate to significant improvements to the surrounding community, such as: improved health outcomes; reduced crash rates and roadway fatalities and serious injuries; improved air and water quality; critical infrastructure resilience; improved infrastructure for multimodal traffic and ADA infrastructure; enhanced access to affordable public transportation for low-income residents by prioritizing multimodal safety; and equitable investment made in underserved communities to address environmental justice. As standard operation, the City of Huntsville Urban and Long-Range Planning Department will continue to monitor and measure these improvements over time through local, state, and federal data collection and analysis, such as local crash data collected from police reports; City of Huntsville Air Quality Reports; Huntsville Area MPO Congestion Management studies; traffic counts from local sources and ALDOT; EPA EJScreening Tool; HUD CPD Maps; HEPGIS; Census demographics analysis; and meaningful community outreach to include input from residents within the project area. In addition, the new Miovision ATSPM dashboard will also be used to collect and analyze traffic data. This new system will help us collect better data to quickly assess risks, and make better, informed decisions regarding infrastructure investments. Click Link: Benefits

4. The Bob Wallace Avenue Project Area is located in west Huntsville in an "Area of Persistent Poverty," and is considered a "Historically Disadvantaged Community." The 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). The local roadway is considered a minor east-west arterial for the city and serves a major commercial 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. Neighborhood residents impacted by the project will be included in the planning process.

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 70-mile bicycling and walking trail that will connect Huntsville, Madison, Athens, and Decatur. On average, approximately 21,000 vehicles travel along the Bob Wallace/Sparkman Drive corridor each day. Multiple City of Huntsville bus stops are located in various locations 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 Project Area (demonstration site) is the 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 (LMI) and historically disadvantaged communities 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. To compound this, the neighborhoods within the Project Area 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 sufferers or contributing to asthma and respiratory diseases are well-known. Furthermore, the Bob Wallace commercial corridor itself 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 commuter traffic, as many workers drive the Bob Wallace corridor to access the Arsenal, UAH, and Cummings Research Park. The abundance of commercial businesses and parking lots along the corridor contribute to access management issues for roadway users, further contributing to congestion and poor air quality.

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). In 2008, EPA lowered the ambient standard for ozone to 75 ppb (parts per billion) and Madison County was included on the list of recommended non-attainment areas submitted by the State of Alabama to EPA in March 2009. However, as of December 2014, Madison County has yet to be designated as a non-attainment area. The EPA was scheduled to make the designations under the 2008 standard in March 2010, but delayed the designation process pending further revisions to the ozone standard. In 2013, the EPA reiterated the 75 ppb standard, but has yet to designate areas that do not conform to the standard; the 80 ppb standard set in 1997 is still in effect. The latest Air Quality Report (2012) 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, can contribute to these strategies.

There are 16 intersections with 9 controlled intersections along the Project corridor. The Bob Wallace SMART Corridor 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 can rapidly be scaled.The system will be installed and tested at every intersection 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 manage and track their traffic network, while also providing industry-leading performance measures and actionable insights. This solution creates a secure, virtual network that connects and improves existing traffic infrastructure, allowing it to communicate safely with a city's traffic team, wherever they are. 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 is a full-stack ITS solution for managing and analyzing intersections. The open and secure platform provides wireless connectivity and communications so traffic operators can access cabinets from anywhere.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 industry-leading 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. Designed for robust operation in all weather conditions, 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, technology, 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 of roadway fatalities and serious injuries; improved air and water quality; critical infrastructure resilience; improved infrastructure for multimodal traffic and ADA infrastructure; enhanced access to affordable public transportation for low-income residents by prioritizing multimodal safety; and equitable investment made in underserved communities in an effort to address environmental justice. As noted, the City of Huntsville Urban and Long-Range Planning Department will continue to monitor and measure these improvements over time through local, state, and federal data collection and analysis, and community engagement input. 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 accessible data to help identify safety hazards. This new system will transform the way we think about safety, equity, and environmental justice, promote engagement and ongoing community outreach and representation including the community in the planning process, and promoting a truly inclusive community. Benefits

5. 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: A Data-Driven Approach Towards Zero (Vision Zero & Net Zero), we have put together a multi-disciplinary team of experts that will include: City of Huntsville (COH) Engineering Department and Planning Department, University of Alabama in Huntsville (UAH), the Alabama School of Cyber Technology & Engineering (ASCTE), and Miovision Technologies Incorporated. (Please see Letters of Commitment in the Appendix). If awarded, the City will competitively choose an engineering consultant firm to work directly with the SMART Team to conduct a Corridor and Intersection Analysis & Comprehensive Signal Retiming Study to test the validity and efficacy of the Miovision Smart Signal system along the Bob Wallace Avenue corridor. Our team of experts have extensive expertise in cyber technology, traffic engineering, technology policy, and public policy, 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) Data Management Plan/ASCTE & COH; 2) Corridor & Intersection Analysis Study/COH Traffic Engineering, UAH, Miovision, & Engineering Consultant; 3) Quarterly Progress Reports/ COH Planning Department; 4) 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. There are nine controlled intersections along the three-mile Project Area corridor. The Miovision Core DCM and TrafficLink software and the Miovision SmartView 360* camera will be installed at every intersection and all intersections will be observed and tested. The Miovision Core DCM and TrafficLink performance software provides ATSPM report generation through an included 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. Using the new system, "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,along with other advanced ATSPMs such as 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.

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, 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. The program would capitalize on investments already made on local roadways and signal systems by providing real-time traffic management. The goal is to reduce delays for all travelers, while improving congestion-related environmental factors. 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 inefficiencies. 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. It will have transformational environmental and public health and safety benefits felt by all citizens in the community and secure our goal of reaching Vision Zero and Net Zero by 2055. Installation of the SmartSignal system will be carried out by TCC, Miovision's Tennessee distributor, with assistance from the City and Miovision's dedicated installation team. Miovision will be accountable for ensuring correct configuration and integration, evaluating video feed, configuring detection, and assessing telemetry and detection recognition. Miovision provides training, general maintenance services and technical support with installation, troubleshooting, and usage. Support is available to customers and partners during all business days. The Miovision TrafficLink system is hosted on AWS within a Virtual Private Cloud (VPC), providing the best-in-class compliance for data security and integrity, and the company performs regular vulnerability scanning. However, we know that the Bob Wallace SMART Corridor Demonstration Project will generate an enormous amount of new and very 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 a national model of educational innovation addressing the state of Alabama and our nation's critical intelligence needs. It 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, data sharing, data transport, and cybersecurity and technology standards. Partnering with our local academic institutions will support training, apprenticeship programs, and educational programs to meet workforce capacity needs and promote inclusion in the workforce.

Aligning supportive public policy and regulations is essential. 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 professors and 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 Engineering Department (which houses the 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 City of Huntsville Planning Department has extensive experience in 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 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. 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 continue monitoring 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 the City's ongoing 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 will be to gauge community buy-in and support, and measure direct and indirect impacts and improvements, and the immediate/short-term, mid-term, and long-term health, safety, and environmental benefits to the surrounding community.

The Project meets the USDOT National Objectives and Program Priorities in the following ways:

Safety and Reliability

- Supports local goals such as Vision Zero and Net Zero Emissions Reduction. Facilitate Vision Zero by detecting multimodal traffic, crashes, and high-risk areas.
- Improve state-of-good-repair, reduce costs, and improve safety with the use of alerts to track the status of all traffic hardware.
- Prioritize emergency vehicles, buses, and other public fleets through traffic signal priority with the optional addition of GTT pre-emption.
- Enable responsive traffic management with active grade crossing detection.
- Strengthen the reliability of the transportation system by updating traffic signal technology and ensuring data is secured in a cloud-based, software platform. Allows remote management in compliance with the city's security policies.
- Adjusts signal timing plans for school zone multimodal traffic, supporting safe routes to school for children walking or biking

Equity and Access

- Improve infrastructure for all by using technology to assess infrastructure that supports mobility, including sidewalks, bike lanes, and curb cuts/ADA infrastructure.
- Improve equity by addressing and improving traffic flow and congestion and improving environmental conditions in underfunded areas.
- Improve equity by improving multimodal traffic safety in underfunded areas, reducing disproportionately higher crash rates/fatalities and serious injuries in LMI areas.
- Facilitates enhanced Access to Public Transportation by prioritizing timing plans for bus routes during certain hours of the day to improve access to employment opportunities for LMI populations.
- Detect the number of pedestrians waiting at bus stops; has capabilities to integrate into transit apps and timed bus routes.

Climate and Resiliency

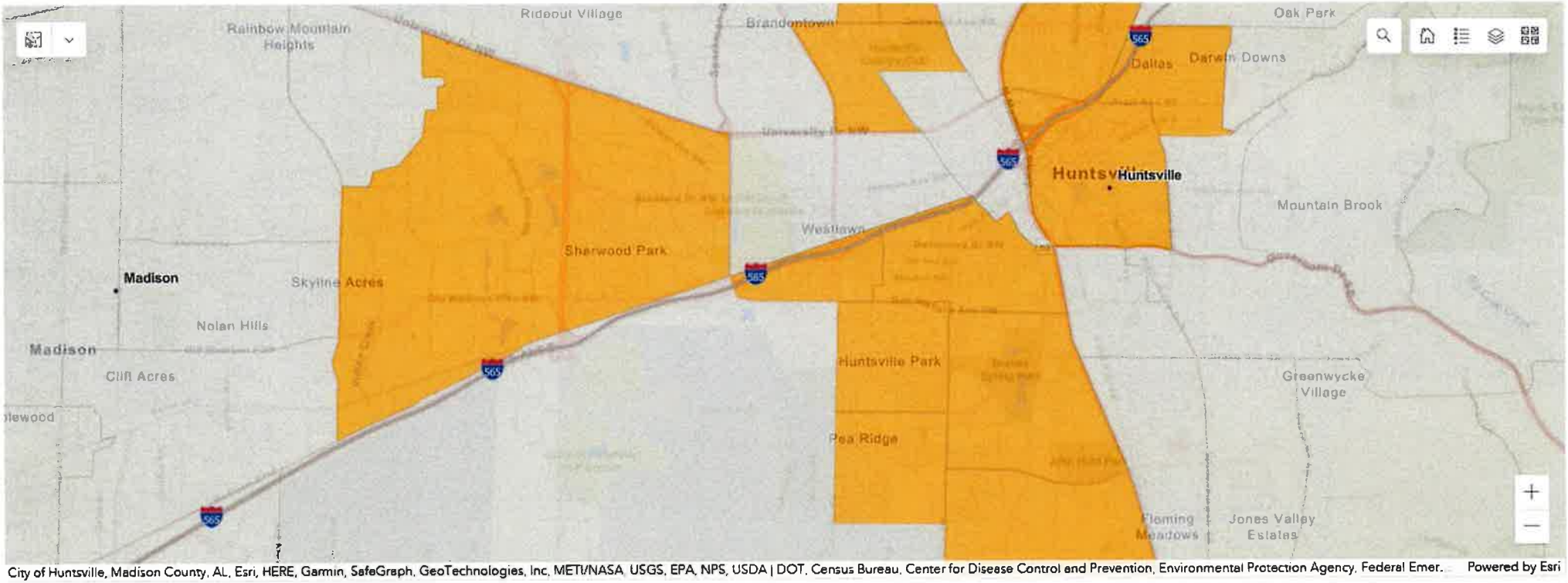
- Facilitate Net Zero Emissions Reduction by allowing for traffic analysis and optimization based on real, long-term data which will reduce congestion and idling times
- Reduce traffic congestion and vehicle-related emissions to facilitate progression and traffic flow to reduce idling times and cut harmful emissions and greenhouse gases in half.
- Reduce congestion by leveraging trajectory analysis along a corridor to adjust signal timing to current conditions.
- Strengthen the resilience of the transportation system by updating traffic signal technology and ensuring data is secured in a cloud-based, software platform. Allows remote management in compliance with the city's security policies.
- Enhancing resilience of the transportation system and advancing data collection techniques, reducing staff time, saving time, money, and resources

Integration

- Facilitate on-demand conversion of right-of-way for pedestrians and cyclists with adaptable smart infrastructure.
- Improve operations and maintenance by using sensors to monitor real-time conditions of traffic hardware, signage, and intersection operability.
- Address non-recurring congestion, prioritize investments for pedestrians and cyclists, or other complex problems, leveraging advanced AI.
- Make safety and mobility improvements through sensors that collect continuous traffic data for passenger vehicles, trucks and buses, cyclists, and pedestrians, and integrate with traffic signalization systems and transportation planning tools.
- Improve the operation and management of traffic signals and develop evaluation criteria that support agency goals leveraging Automated Traffic Signal Performance Measures (ATSPM)-equipped signals.
- The technology easily integrates into the existing WaveTronix traffic control operations system, and can rapidly, and cost-effectively, be scalable and implemented city-wide. Is non-intrusive and requires minimal installation and set-up, saving time, money, and reesources.

Transportation Disadvantaged Census Tracts (Historically Disadvantaged Communities)

User Instructions: On the list to the right, select your state of interest. Use the +/- icons or mouse wheel to zoom into the map. Click and drag the map area to pan. Use the select tool on the left to select US Census tracts within your area of in indicators will be visible in orange. Single-click on a Census tract to view the tract number and Transportation Disadvantage categories. The icon is the legend for the visible map layers. Use the home button to return to the continental U



City of Huntsville, Madison County, AL, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, USDA | DOT, Census Bureau, Center for Disease Control and Prevention, Environmental Protection Agency, Federal Emer... Powered by Esri

1 of 50

ALABAMA

72.8k

Total Selected Census Tracts

1 of 50

CALIFORNIA

22k

Total Selected Transportation Disadvantaged Census Tracts

30%

Percent of Transportation Disadvantaged Census Tracts In Selected Area

BUDGET NARRATIVE

Engineers have estimated the Total Project Cost of the Bob Wallace Avenue SMART Corridor Project is $1,062,955. This is broken down into Equipment costs, which are $532,955; and Planning costs ("Other"), which are estimated to be $530,000. The Work Plan Schedule for Planning activities and Major Deliverables are shown below.

MAJOR DELIVERABLES Responsibility	ACTIVITIES	MONTH 1 FALL 2023	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												
Corridor & Intersection Analysis Study													
COH Traffic Engineering, UAH, Miovision, & Consultant													
	Phase 1: Preliminary Data Collection Period / Pre-Existing Conditions												
	Implementation of the Miovision SmartSignal 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												

NICHOLAS T. NENE, P.E., PTOE
1200 Clinton Ave W, Huntsville, AL 35805

Nicholas.nene@huntsvilleal.gov

OBJECTIVE:

- I am a highly Energetic Manager, detailed oriented, Professional Engineer (P.E.) & Traffic Operation Engineer (PTOE), with over 15 years of extensive Administrative, Managerial, Supervisory work in Civil, Traffic, Operations and Safety Engineering. I am successful in building and motivating dynamic teams and cultivating company culture in which staff members feel comfortable voicing questions and concerns as well as contributing new ideas that drive City/Traffic Engineering growth. Organized and diligent with excellent written, oral, technical and interpersonal communication skills. I am seeking to progress in a position that will provide opportunities for growth and advancement, to utilize my experience, skills and knowledge in traffic, transportation and construction engineering toward becoming a highly valuable team member for the City of Huntsville.

CORE STRENGTHS & ATTRIBUTES:

- Project Planning & Management.
- Construction & Operations Management.
- Budget Management.
- Time & Change Management.
- Supervisory and training skills.
- Cross-functional team management.
- Skilled negotiator & Sound judgment.
- Advanced Written & Communication Skills
- Accident & Safety Analysis.
- Advanced Computer knowledge.

EXPERIENCE:

City of Huntsville — **Feb 2020 – Present**

Traffic Improvement Projects Manager/Acting Operations Manager.

- Managing, Administering and supervised the operation and activities of the City's Traffic Engineering Division, regarding maintenance and installation of traffic control devices on existing streets and other roadways as well as planning organizing, directing and coordinating the activities of about thirty-two (32) staff members, professional and management support staff.
- Overseeing all traffic signal and sign shop activities, including emergency response to malfunctioning computerized traffic signal systems, shop testing and evaluation of traffic signal timing plans, testing and repair of traffic signal components and assessment of advanced sensor microprocessor and communication technologies.
- Managing all traffic operations field activity, including scheduling and implementation of major repairs, improvements, installation and maintenance of traffic signals, traffic signs and pavement marking and the construction of traffic control systems at newly constructed intersections.
- Preparing and overseeing the Division's operating budget, and initial request for the Division's Capital Improvement Plan (CIP) while monitoring expenditures in both operating and capital accounts and oversee the purchasing of traffic control equipment, materials and supplies and the Division's fleet of vehicles and accessories.
- Coordinating and supervising on-site inspections of traffic control devices along existing streets and all new annexations to ensure the required traffic control devices are in place; coordinates and conducts on-site inspections for acceptance of new subdivisions to ensure the required traffic control devices are in place as required of developers in accordance with guidelines.
- Supervising and assists in testing and evaluating new equipment for compliance with specifications and performance standards.
- Researching and preparing specifications for equipment, both for a fleet of specialized trucks and hydraulic lift equipment and electronic traffic control devices.
- Interviewing and select new employees, conducting Divisional conduct and overseeing disciplinary procedures and aspects of employee performance, training and safety programs.
- Investigating and resolving complaints and maintenance issues; guiding field investigations to resolve complaints and maintenance issues related to traffic signs, markings, signals and visibility obstruction issues.
- Managing all administrative functions, to include personnel records, time accounting, requests for services, complaints from the public and other City departments; manages work orders, enters purchase orders and processes invoices.

City of Huntsville **Feb 2016 – Present**
Traffic Improvement Projects Manager/Traffic Engineer.

- Planning, directing, delegating and administering a variety of complex engineering duties associated with the location, design and construction of major and minor roadways, abutting lands, connections with other modes of transportation and traffic control devices and systems.
- Adept at identifying problems resulting in development of solution required to complete the mission of the Division. Managing changes to the project scope, project schedule and project expenses
- Utilizing computer modeling programs, Synchro, to develop simulations in order to improve safety and efficiency at intersections in the City.
- Assisting in preparing the Traffic Division's annual operating and capital improvement funding request, $3 million.
- Developing and Engineering project designs and cost estimates for all Traffic Engineering traffic improvement projects in addition to spearheading goals, objectives and priorities for traffic management and safety, street lighting, traffic signs and signals.
- Providing construction management oversight for all Traffic Engineering capital improvement and operational projects for congestion and accident reduction within the City.
- Representing the department in tort liability claims related to alleged traffic controls and related deficiencies; submits the necessary records that are needed to respond to insurance adjusters.
- Reviewing economic development plans for conformance to applicable design standards and reviewing improvements to existing intersections related to geometric design, location of access and requirements for traffic control device improvements.
- Directing and supervises studies by Traffic Engineering staff to determine traffic control needs throughout the city; oversees the installation of new installments, improvements and signal timing optimization at existing signalized intersections.
- Providing technical direction regarding traffic sign and signal placement and other Traffic Engineering activities; consults with Traffic Engineering staff to develop specifications for equipment procurement and maintenance activities.
- Overseeing collection, management, analysis and interpretation of transportation data including traffic counts, turning movements, speeds, accident data and other measures of congestion as determining system optimization for all city traffic signal systems.
- Meeting with members of the media and the general public regarding Traffic Engineering construction projects, traffic signal requests, signal timing and other traffic safety issues.
- Overseeing and manages all in-house and contractor provided Traffic Engineering capital improvement projects and the provision of workforces and control equipment provided by Traffic Engineering division to highway improvement projects managed by others.
- Representing the city in legal actions relating to traffic collision cases between private parties and when the city is a defendant, under advisement by the city attorneys; responding to attorneys and insurance adjusters via depositions, interrogatories and court testimony.
- Meeting weekly with the Mayor and department Heads to discuss the status of all ongoing engineering projects in the Traffic Engineering Division in addition to attending Council meetings & public meetings, as needed.

Alabama Department of Transportation (ALDOT). **April 2005 – Present**
Assistant Area Traffic Engineer / Manager

- Assisting with the day-to-day directing, coordinating, management and operations of the Traffic Engineering Department (planning, budgeting, designing, construction, and personnel); providing traffic and transportation engineering guidance to District offices in the area.
- Communicating and conferring with governmental officials, representatives, (Federal, State, County & City), consultants, department lawyers, and the general public in areas such as highway & construction plans relating to past, current, or future Department of Transportation capital improvement projects.

- Preparing oral and written presentations (reports, correspondence, emails, memorandum, forms, agreements, meeting agendas, depositions, presentation & charts) on project-related inquiries internally, by contractors or citizen requests or complaints.

- Conducting and interpreting in-depth traffic engineering studies for projects such as roadway volume counts, speed studies, safety & accident analyses, turning movements, traffic delays, capacity analyses, vehicle classification, signal phasing, signal timing adjustments, traffic simulation (SYNCRO), signal warrants, Multi-Way Stops, signal design reviews and wet weather analysis.

- Managing, coordinating and inspecting work completed by personnel or contractors in traffic control, striping & markings, roadway markers, traffic signal installation, signs, guardrail, cable rail, and transpo supports in maintenance activities/construction to ensure compliance with applicable federal, state laws, policies, procedures and standards. Overseeing and monitoring the progress of projects, and providing resolution to project/program issues through periodic field inspection or as needed.

- Reviewing, analyzing and recommending changes to documents such as engineering plans, intersection modifications, traffic impact studies, commercial site development access, traffic control plans permits, ITS, contracts, street lighting, and access management studies; providing technical expertise in connection to ongoing/future projects or procedures. Initiating upgrades, changes or modifications to existing signs, markings, traffic signals throughout our area as required; inspecting changes upon completion.

- Consulting with subordinate and intra-departmental administrative personnel to discuss and review transportation activities, projects, problems, and operating functions. Attending functions such as pre-bid meeting, plan specifications & Estimates (P.S.&E), plan-in-hand inspections, public hearings, seminars and product demonstrations.

- Investigation, prioritizing, resolving of complaints related to traffic signs, markings, signals, safety-related issues or citizen concerns. Analyzing accident and crash data and developing engineering recommendations and corrective counter measures for hazard elimination or accident reductions along state routes or intersections, based on the use of statistical analysis.

- Serving as the maintenance department liaison in the Railroad-Highway Crossing Program of the Federal Highway Administration (FHWA), Section 130 Program to review selected crossings throughout the Area in order to reduce the incidence of accidents, injuries and fatalities at public railroad crossings.

- Interpreting and communicating the purpose and intent of policies, codes, regulations, and engineering criterion as related to highway transportation issues & facilities while ensuring good working relationships with local department of transportation agencies, contractors, and consultants, the public and other stakeholders.

- Participating in emergency planning and snow and ice event mitigation and response management across nine counties in our area.

Alabama Department of Transportation. **Jul 2004 – Apr 2005**
Civil Engineering Graduate – Bridge & Roadway Construction

- Performed construction inspection, supervised, monitored, and explained the scope of work to the general contractors performing bridge, roadway, driveway, sign, pipe, and culvert construction to ensure contract compliance with Federal and State construction guidelines and specifications.

- Inspected and monitored temporary traffic control devises, utility construction on right of way project worksites to ensure conformity to plans and specifications.

- Processed, computed data for earthwork quantities, geometrics, pay item quantities, construction areas, cost of projects, cross sections as well as reviewed construction notes and special details. Computed compaction densities, volumes elevations, and performed concrete mix tests for construction purposes.

- Monitored, reviewed and documented compliance with woodland protection, storm water discharge regulations, including appropriate best management practice (BMP's) to comply with environmental guidelines from Alabama Department of Environmental Management (A.D.E.M), U.S Army Corp of Engineers and other regulatory bodies.

Huntsville City. **Apr 2004 – Jun 2004**
GIS Department Intern

- Used mathematical and simulation models in GIS to forecast the effects of different road improvements, policy changes and public transport schemes.

- Assisted the GIS Department to collect data through GPS for inventory of city storm sanitary sewers so that a data base could be established.

- Assisted in converting GPS collected data into formats directly compatible with the GIS software designs and created executable data dictionaries into filed collectors for various civil programs.

Alabama A&M University. **Aug 2003 – Jun 2004**
Research Assistant - Urban Planning Department.

- Performed qualitative and quantitative research on behalf of the department relating to the assessment of the state of physical, social and economic infrastructure in the state.

- Conducted literature reviews, analyses and programming tasks and participated in reporting research findings and presenting data.

EDUCATION:

- **Masters of Urban Planning and Regional Studies;** **Fall 2008**
  Transportation Planning.
  Alabama Agricultural & Mechanical University; ABET.

- **Bachelor of Science in Civil Engineering.** **Spring 2003**
  Mathematics Minor
  Alabama Agricultural & Mechanical University; ABET.

LICENSES:

- **Registered Professional Engineer (P.E).**
  Alabama Board of Engineers and Land Surveyors- License Number: AL 34865

- **Professional Traffic Operations Engineer (PTOE).**
  Transportation Professional Certificate Board - License Number: # 3910

- **IMSA - Traffic Signal Technician – Level I.**
  International Municipal Signal Association (I.M.S.A) - License Number: ZZ_103106

- **IMSA - Traffic Signal Technician – Level II**
  International Municipal Signal Association (I.M.S.A) - License Number: ZZ_103106

- **IMSA - Work Zone Temporary Traffic Control Technician.**
  International Municipal Signal Association (I.M.S.A) - License Number: AA_103106

CERTIFICATIONS & TRAINING:

- **Emergency Support Function – Transportation Emergency Support Function.**
  Federal Emergency Management Agency

- **Emergency Support Function – Public Works Engineering.**
  Federal Emergency Management Agency

- **Access Management - Location and Design.**
  Federal Highway Administration (F.H.W.A)

- **Road Safety Auditing.**
  Federal Highway Administration (F.H.W.A)

PROFESSIONAL AND CIVIC AFFILIATIONS:

- Member, Institute of Transportation Engineers.
- Member, American Society of Civil Engineers.
- Member, American Planning Association.

Dr. Michael D. Anderson

Department Chair,
Associate Dean for Graduate Education & Research, CEE

Contact

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Olin B. King Technology Hall
Room S201
Huntsville, AL 35899
Campus Map

256.824.5028
andersmd@uah.edu

Biography

Dr. Anderson, PE, is a Professor of Civil Engineering who has over 20 years of experience focusing on transportation, traffic modeling, freight transportation, and GIS-T applications. He has completed numerous projects for the U.S. Department of Transportation, Alabama Department of Transportation, the Alabama Transportation Institute and the University Transportation Center for Alabama.

Education

- Ph.D., Civil Engineering, Iowa State University, 1998
- M.S., Civil Engineering, Iowa State University, 1996
- B.S., Civil Engineering, Iowa State University, 1994

Honors & Awards

- Selected College of Engineering Outstanding Faculty Member 2018-2019
- Selected College of Engineering Outstanding Senior Faculty Member 2013-2014
- Best paper "Using a Federal Database and Local Industry Sector Knowledge to Develop Future Freight Forecasts" at the Tools of the Trade Conference in Williamsburg, VA.

- Selected College of Engineering Outstanding Senior Faculty Member 2008-2009
- Best paper "A Methodology to Use FAF2 Data to Forecast External-External Trips" at the Tools of the Trade Conference in Portland, OR.

- Best paper "A Spatial Economic Model to Forecast External Trip Percentage Splits on Highways Approaching Small Communities" in Section A selected by representatives from the Transportation Research Board.
- Best paper "A Spatial Economic Model to Forecast External Trips in Small Communities" at the Tools of the Trade Conference in Colorado Springs, CO.
- Named 2002-2003 Student Government Association Outstanding Faculty Member representing the Graduate School.
- Named 2001-2002 Student Government Association Outstanding Faculty Member representing the Graduate School.
- Named 2001-2002 College of Engineering Outstanding Young Faculty Member.

Research Funding

- "Alabama Public Transportation Agency Safety Plan" Sponsored by the Alabama Department of Transportation, January 22, 2019 – September 1, 2020. ($275,000).
- "Alabama Transit Management System" Sponsored by the Alabama Department of Transportation, October 1, 2018 – September 30, 2020. ($2,250,000).
- "Implementing usRAP in Alabama: Coving the State – Phase 4" , Sponsored by the Alabama Department of Transportation, October 1, 2018-September 30, 2020, ($373,301).

- "Performance Reviews for Section 5310 and 5311 Agencies", Sponsored by the Alabama Department of Transportation, September 1, 2015-September 30, 2020, ($243,141).

Expertise

- Transportation Engineering
- Traffic Engineering
- Geographic Information Systems

- Management Systems
- Simulation
- Public Transit
- Urban Planning

Recent Publications

- Abburi, D., Doustmohammadi, M., Anderson, M.D. "Analysis of Emergency Response to Crashes Based on Demographic Factors," *International Journal of Traffic and Transportation Engineering.* Vol. 8. No. 2. 2018. Pp. 25-28.
- Doustmohammadi, M., Anderson, M.D. and Gholston, S. "Wet Pavement Crash Analysis for Alabama Roadways," *International Journal of Statistics and Applications.* Vol. 9., No. 1, 2019. Pp. 21-28.
- Doustmohammadi, M., Anderson, M.D. "A Bayesian Regression Model for Estimating Average Daily Traffic Volumes for Low Volume Roadways," *International Journal of Statistics and Probability.* Vol 8., No. 1, 2019. Pp. 143-149.

- Khan, T., Anderson, M.D., Kassu, A. "Promoting Transportation Sustainability by Utilizing Available Roadway Capacity," *Current Urban Studies*. Vol. 6, No. 4, 2018. Pp. 517-531.
- Khan, T., Anderson, M.D. "Measuring Urban Sprawl Indices at Traffic Analysis Zone (TAZ) Level," *Current Urban Studies*. Vol. 6, No. 4, 2018. Pp. 499-516.
- Kassu, A., Anderson, M.D. "Analysis of Nonsevere Crashes on Two- and Four-Lane Urban and Rural Highways: Effects of Wet Pavement Surface Condition," *Journal of Advanced Transportation*. Vol. 2018. Article ID 2871451, 10 pages, 2018.
- Kesavareddy, S., Haleem, K., Doustmohammadi, M., Anderson, M.D. "Comparing the Crash Injury Severity Risk Factors at High-Volume and Low-Volume Intersections with Different Traffic Control in Alabama," *International Journal of Statistics and Applications*. Vol. 8. No. 4. 2018. Pp. 173-188.
- Kesavareddy, S., Haleem, K., Doustmohammadi, M., Anderson, M.D. "Comparison of Crash Severity Risk Factors at Signalized and Stop-Controlled Intersection in Urban and Rural Areas in Alabama," *International Journal of Statistics and Probability*. Vol. 7. No. 5. 2018. Pp. 50-63.
- Kassu, A., Anderson, M.D. "Determinants of Severe Injury and Fatal Traffic Accidents on Urban and Rural Highways," *International Journal for Traffic and Transportation Engineering.* Vol. 8. No. 3. 2018. Pp. 294-308.
- Doustmohammadi, M., Shirani-Bidabadi, N., Kesavareddy, S., Anderson, M.D. "The Impact of Sidewalks on Vehicle-Pedestrian Crash Severity," *International Journal of Statistics and Probability.* Vol. 7. No. 4. 2018. Pp. 69-77.

James Garris Bugg, P.E.

2802 Bent Oak Road, Chattanooga, TN, 37421 | (205) 353-2182 | garrisbugg1@gmail.com

Licensing

Licensed Professional Engineer in Tennessee, License Number #124605

Education

Bachelor's of Science in Civil Engineering - Auburn University – Auburn, AL

- **August 2012 – December 2016**

Master's of Science in Civil Engineering - University of Tennessee - Knoxville, TN

- **August 2017 – August 2020**

Experience

CITY OF HUNTSVILLE - TRAFFIC ENGINEERING OFFICE - HUNTSVILLE, AL

September 2022 - Present

- Designed roadway and signing and marking projects
- Analyzed traffic volume and crash data
- Reviewed roadway, multimodal, and site design plans
- Supervised other engineers and data analysts
- Collaborated with multiple offices at the City of Huntsville
- Responded to public official and citizen requests

TENNESSEE DEPARTMENT OF TRANSPORTATION - REGION 2 TRAFFIC OFFICE - CHATTANOOGA, TN

January 2017 – August 2022

- Designed roadway projects
- Analyzed traffic count, radar speed study, and crash data
- Examined work zones and work zone plans
- Reviewed roadway, multimodal, and site design plans
- Supervised the traffic technician team
- Communicated and collaborated with multiple different divisions in TDOT

AUBURN UNIVERSITY CIVIL ENGINEERING DEPARTMENT – AUBURN, AL

May 2016 – August 2016

- Researched effects of long trips on the infrastructure and who is taking those trips
- Organized data, survey answers, and writings
- Wrote and composed a complete streets handbook
- Analyzed statistics to find trends in data

THE COMFORT GROUP OF ALABAMA - CO-OP INTERNSHIP - HUNTSVILLE, AL

January 2014 – August 2015

- Communicated with project managers and foremen to plan mechanical contracting projects
- Created schedules and Gantt charts
- Organized schedules, specifications, submittals, and plans
- Coordinated with other managers from different contractors for full projects

Jo Beth Gleason

Master of Landscape Architecture
Auburn University

Master of Political Science
UA Huntsville

I am from Huntsville, Alabama and my family is part of the Rocket City NASA legacy. I was a student of the first studio to graduate from the Auburn University Master of Landscape Architecture (MLA) program and I am a member of the MLA Advisory Board. I have traveled Europe extensively and have visited Italy, France, Germany, England, Austria, Czech Republic, and Scotland. I am an avid bicyclist with a passion for creating walkable, livable downtowns and communities that are inclusive to all. I believe design has the ability to connect us and create a more equitable, sustainable future. I believe that social responsibility and caring for our world is at the heart and soul of our profession, what drives us as planners and landscape architects, and what ultimately informs meaningful design. I also believe as Jane Jacobs did that *cities have the capability of providing something for everybody, only because, and only when, they are created by everybody.*

Jo Beth Gleason holds two master's degrees in Landscape Architecture from Auburn University, and Political Science from University of Alabama Huntsville. This diverse background has allowed her to work at a variety of scales, from large-scale regional planning projects, community, neighborhood, and district-wide plans to small-scale urban design, multimodal transportation, streetscape, and site plans for both public and private sector clients. Before working at her latest position, Jo Beth was an Associate Planner at the Top of Alabama Regional Council of Governments, where she was project manager and lead planner on a number of economic development and community planning projects across North Alabama. She has also worked at architecture firms in Huntsville and Birmingham where she assisted with the design of various built projects ranging from residential, commercial, and municipal design projects, including historic rehabs, HUD Affordable Housing design, streetscape improvement projects, and the Railroad Park project in downtown Birmingham. As an Associate Planner, Jo Beth provides project management and expertise in urban design, business district redevelopment, economic and market analyses, feasibility studies, municipal codes and ordinances, public policy, place-based economic development, and project development with a sound understanding in governmental financing and project funding. In addition to planning and design experience, Jo Beth has secured over $26million in local and federal funding for planning, design, and construction of economic drivers and capital projects across Alabama, Tennessee, and Mississippi over the course of seven years.

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Jo Beth Gleason, ASLA, APA

Associate Planner

Education:
Master of Landscape Architecture, 2000
Bachelor of Science, Environmental Design, 1998
Auburn University, College of Architecture, Design, and Construction
Master of Political Science, 2012
University of Alabama Huntsville

Study Abroad: European Study Abroad Program, College of Architecture, Design, and Construction, Auburn University, 1998
England, Scotland, France, Italy, Germany, Austria, Czech Republic, and the Netherlands

Affiliations:
American Society of Landscape Architects
American Planning Association
Phi Kappa Phi National Honor Society
MLA Advisory Council, Auburn University
Albertville Downtown Steering Committee
Team DeKalb
Thrive2055 Tri-State Regional Plan
Tennessee Valley Regional Consortium for Sustainable Communities
North Alabama Farm-Food Collaborative
Broad Street Improvements Design Committee, Albertville, Alabama

Teaching:
Guest Lecturer, Graduate-level Professional Practice. Department of Community and Regional Planning, AAMU, Huntsville, Alabama, 2013
Graduate Teaching Assistant, Appreciation of Architecture, College of Architecture, Design, and Construction, Auburn University, 2000

Awards:
Academic Scholarship, Graduate Tuition, Department of Political Science and Public Policy, UA Huntsville, 2011, 2012
Academic Scholarship Undergraduate Tuition, UA Huntsville, 1993
Athletic Scholarship Undergraduate Tuition, UA Huntsville, 1993
Phi Kappa Phi National Honor Society inductee, 2011
Katherine L. Harris Writing Competition, First Place Academic Upper Division, UA Huntsville, 2011
Huntsville Energy Initiative - proposal sent to Mayor Tommy Battle and community leaders, City of Huntsville, 2011
Scholar Athlete Award, UA Huntsville, 1994
Congressional Art Award Winner-Fifth District, Alabama. Art Exhibition Capitol Building - Washington, D.C., 1993
Study Abroad program. Project chosen for accreditation, Auburn University, 1998