

REQUEST FOR INFORMATION

FC-9338, Autonomous Vehicle Demonstration



City of Atlanta

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CITY OF ATLANTA

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October 21, 2016

ATTENTION INTERESTED RESPONDENTS:

Your firm is hereby invited to submit to the City of Atlanta, Department of Procurement (“DOP”), a Response Statement for **FC-9338, Autonomous Vehicle Demonstration**. The City of Atlanta (the “City”) is issuing this Request for Information (“RFI”) to solicit strategies that could allow the City to enable the testing and deployment of Autonomous Vehicles systems in specific areas within the City. The City is seeking information on autonomous vehicle and Vehicle-to-Infrastructure (V2I) technologies and is seeking to identify industry participants.

The RFI method is not intended to result in a contract award but is designed to allow for the collection of industry information that may be used to determine an appropriate solicitation method. The information received becomes the property of the City and is subject to the Georgia Open Records Act.

DEADLINE FOR RESPONSES:

Your response to this RFI must be received by designated staff of the Department of Procurement at 55 Trinity Avenue, S.W., Suite 1900 (1st Floor), City Hall South, Atlanta, Georgia 30303, **no later than 2:00 P.M. EDT, Friday, November 18, 2016**. Please label all packages with **FC-9338, Autonomous Vehicle Demonstration**.

****ABSOLUTELY NO RESPONSES WILL BE ACCEPTED AFTER 2:00 P.M. EDT****

CONTACT FOR QUESTIONS AND/OR REQUESTS FOR CLARIFICATION:

If you have any question and/or request for clarification regarding the RFI, please contact Krista A. Morrison, Contracting Officer, Senior, by email at kamorrison@atlantaga.gov. The deadline to submit questions in writing is **Monday, October 31, 2016, no later than 1:00 P.M. EDT**. Questions received after the designated period will not be considered. Any response made by the City will be provided in writing to all Respondents by addendum.

It is the responsibility of each Respondent to obtain a copy of any addendum issued for the procurement by monitoring the City’s website at www.procurement.atlantaga.gov or the Department of Procurement’s Plan, which is open during posted business hours, Suite 1900, 1st Floor, 55 Trinity Avenue, S.W., Suite 1900 (1st Floor), City Hall South, Atlanta, Georgia 30303.



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You are highly encouraged to email your business name, contact person, address, phone number, fax number, email address, and the project number to Krista A. Morrison, Esq., Contracting Officer, Senior, at kamorrison@atlantaga.gov to be placed on the Plan Holders List. Failure to do so may prevent you from receiving any addenda that are issued.

The City reserves the right to cancel any and all solicitations and to accept or reject, in whole or in part, any and all proposals when it is for good cause and in the best interest of the City.

Thank you for your interest in doing business with the City.

Sincerely,



Adam L. Smith

ALS/KAM/mg

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I. Background & Purpose

The City of Atlanta, Georgia (“the City”) issues this Request for Information (RFI) to solicit strategies that could be taken by the City to enable the testing and deployment of Autonomous Vehicles systems in specific areas within the City. The City has made a significant investment in various Smart City initiatives, backed by a \$250 million infrastructure bond.

The City of Atlanta’s Renew Atlanta Infrastructure Bond Program includes funding for a smart corridor Demonstration project along North Avenue from the Georgia Tech campus (near Tech Parkway/Luckie Street) to Ponce City Market (near Dallas Street). Additionally, the City has been working to create a new vision for Atlanta to become the transportation city of the future—a “smart city”. There now is a unique opportunity to bring together the resources of two initiatives, Renew Atlanta and Atlanta’s Smart City vision, through development of a smart corridor demonstration project on North Avenue.

The purpose of this demonstration project is multi-fold and includes:

- Using Smart Cities applications to set a foundation for improving safety, mobility, sustainability and economic vitality along the corridor
- Highlighting the City’s desire to be a leader in emerging transportation technologies
- Creating opportunities to partner with stakeholders on innovation
- Elevating the economic, financial, and competitive aspects of the City
- Becoming a model of how to implement smart city applications which can be replicated to take the City of Atlanta to the next level of smart cities

Vehicle-to-Infrastructure (V2I) technology is a type of autonomous vehicle technology in which roadside infrastructure, such as devices at an intersection, communicates with vehicles in a corridor, potentially warning of red lights, excessive speed, or dangerous conditions. V2I can improve safety and traffic flow. In one example, the technology sends a warning to the driver, or potentially even makes the vehicle slow down or stop.

V2I is in its early stages, and one of the main barriers is that few states or cities have deployed roadside infrastructure. Furthermore, the cost and time to deploy the infrastructure varies based on the local conditions.

One of the goals in the North Avenue Smart Corridor plan is to provide the optimal conditions for autonomous vehicles and possible V2I. The plan will accomplish this, in part, by including City fiber along the corridor, access points for wireless communications and sensors, and reliable high-speed communications to the City’s traffic control center as well as future technology upgrades proposed by the Georgia Department of Transportation and the City of Atlanta.

The North Avenue Smart Corridor will have ample power and fiber-optic network infrastructure to support a variety of cameras, sensors, connected traffic signals, wireless infrastructure (including for communications to vehicles) and public-facing services designed to provide real-time feedback, analysis, and alerts, adaptive traffic control, increased public safety, and enhanced mobility. A smart intersection Demonstration is also underway within this corridor with live camera feeds providing traffic data collection, analysis, and alerts.

The City is seeking to be a leader in autonomous vehicles and V2I and is seeking to leverage its Smart City program to deploy autonomous vehicles and V2I technologies. The City is seeking information on autonomous vehicle and V2I technologies and is seeking to identify industry participants.

The City is seeking input from entities with experience in the implementation of test beds, Demonstration programs, and functional deployments of Autonomous Vehicle and V2I applications that would be suited to the North Avenue smart corridor. The City is also seeking input on how the City can best prepare for autonomous vehicle and V2I infrastructure to be deployed.

This input may include guidance on:

- Infrastructure, such as
 - Wired and wireless networking,
 - Electrical plant,
 - Radio equipment for vehicle-to-infrastructure (V2I) communication,
 - Design of roads and roadside areas;
- Staffing and training;
- Project aspects, such as
 - Phased deployment approaches that have proven successful,
 - Metrics to measure the progress and success of the project
 - The optimal role of the City and of other project partners; and
- Legal or policy expertise and lessons learned that has been found to help Autonomous Vehicle deployments.
- A proposed two phase approach which includes: 1) an autonomous vehicle demonstration that is matched to the current and near term (August 2017) corridor conditions and capabilities as follows: smooth pavement, clear roadway markings and signage, fiber including connections to every traffic signal, signal communications, signal timing, surveillance and detection, updated traffic controllers, and bicycle/pedestrian detection at a minimum of 3 locations and (2) an assessment of necessary improvements to support V2I operations in the corridor as a second phase demonstration within one year.

The City may also issue a more detailed Request for Proposals (RFP) relating to this project or choose another direction that is deemed in the City's best interest. Responding to this RFI is not a guarantee of a contract award. Further, there is no guarantee an RFP will be developed as a result of this RFI. The City reserves the right to withdraw the RFI or any subsequent RFP.

II. Vision: Innovative City Services and Improved Quality of Life

The City has set a vision for innovation in City services and ensuring that the quality of life remains vibrant for the City's residents. The City is undertaking a number of initiatives for Smart City infrastructure, driven by a \$250 million infrastructure bond. From these initiatives, the City anticipates cost savings, improved public services, increased public safety, and communications networks that meet the demands of residents and visitors.

Figure 1: A Smart City Leverages a Strategic and Data-Centric Approach

The City of Atlanta is a 'Smart City' when.... 

We (the city) collectively leverage a **strategic and data-centric approach** to improve mobility, public safety, and sustainability, ultimately enhancing citizen well-being and fostering the economic growth of our city.



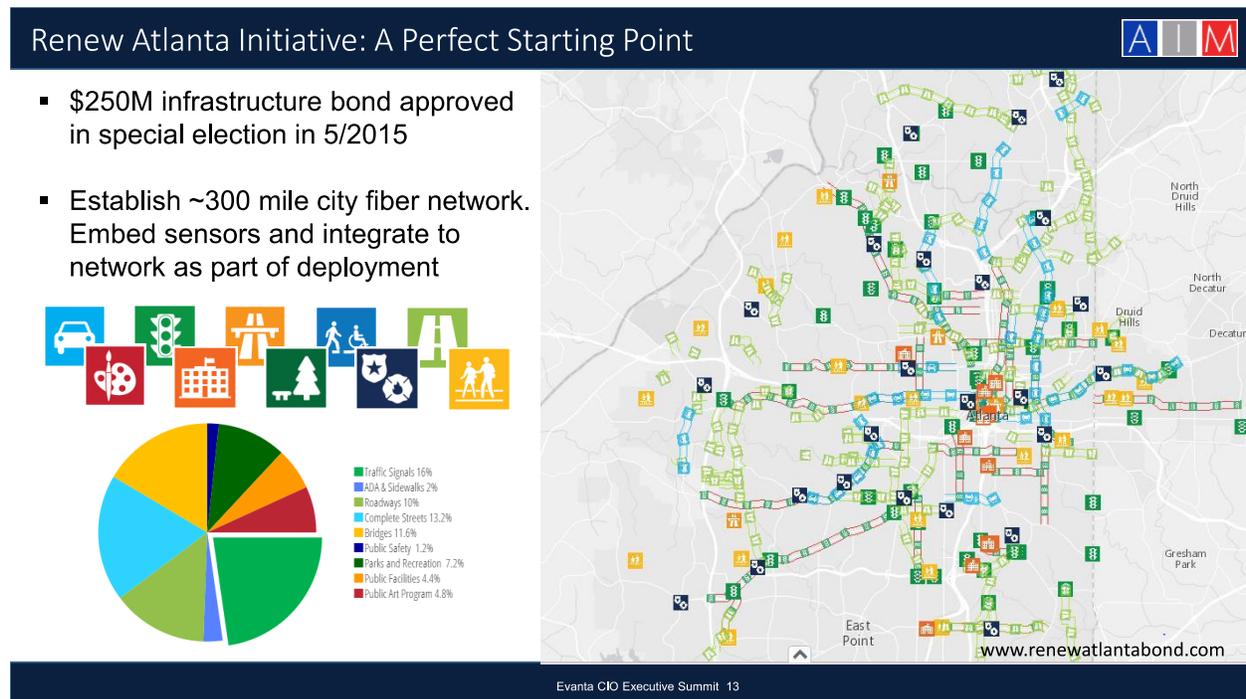
Evanta CIO Executive Summit 6

Atlanta is experiencing large increases in urban population, visitors, and the number of businesses that are developing in or relocating to the City. These increases create new challenges in handling street traffic, foot traffic, and data traffic, as well as ensuring a safe and sustainable environment for the City's residents and businesses. At the same time, the expectations of the City's residents, visitors, and businesses are undergoing a massive shift toward greater demand for connectivity, immediacy, sustainability, and safety. Technological advances in fiber, wireless, sensors, big data analytics, and connected devices have created avenues for the City to meet those demands.

The City is pursuing a number of initiatives designed to create a Smart City and improve City services by developing and enhancing new and existing infrastructure and devices:

- **Fiber Deployment** – ATLNET (City of Atlanta Information Management Department) is currently developing a municipal fiber optic communications infrastructure that will support other Smart City initiatives.
- **Smart Poles** – The City is leveraging its street light and traffic signal LED conversion by connecting poles to the fiber network and attaching cameras and sensors and wireless devices to create smart utility poles. The City is also developing a partnership with Georgia Power that will include the ability to use utility poles for the Smart City.
- **Wi-Fi Connectivity** – The City is seeking to supplement these advanced City services with Wi-Fi connectivity and to offer free public Wi-Fi.

Figure 2: The “Renew Atlanta” Initiative Forms the Basis for Smart City Planning



Each of these initiatives is designed to fulfill the Smart City vision. The City anticipates a number of specific benefits, including:

- **Cost Savings** – The fiber build-out and wireless networks will facilitate cost savings for the City and could result in considerable revenue generation. By owning a citywide fiber network, Atlanta will be able to save costs on leasing fiber for City services. Moreover, the City will be able to lease excess fiber capacity to generate revenue. By connecting poles to the fiber network, the City will also be able to connect small cell antennas that can be leased to wireless providers. Smart City devices connected to the wireless networks will facilitate more efficient allocation of the City’s staff and resources, resulting in cost savings.

- **Improved City Services** – The fiber, smart pole, and wireless networks will enable the City to make smarter decisions and improve the quality of its services. Cameras and sensors will allow the City to better synchronize traffic lights, immediately collect traffic information, and make real-time adjustments to alleviate congestion, ultimately reducing greenhouse gas emissions in the City. Environmental sensors will capture evidence of these improvements in traffic corridors and provide immediate indications of atypical environmental concerns. Smart trash cans will alert the Department of Public Works when they are full, saving staff resources. Smart parking meters have the potential to alert drivers to available parking spots. Dedicated Short-Range Communications (DSRC) radios will communicate with vehicles and improve safety and traffic flow. Finally, the City will be able to collect and analyze data to understand demographics, foot traffic, and other helpful metrics, and distribute this information throughout City departments and to other entities, allowing these entities to focus attention on areas of need.
- **Public Safety** – The smart poles and wireless networks will be utilized by the City to enhance public safety. Street cameras and gunshot sensors will keep public safety officers aware of immediate threats to safety, while police body cameras will be able to connect to the wireless networks and transmit video. Cameras, sensors, and other public safety devices will serve as a force multiplier, which will increase public safety, allow police officers to make more strategic decisions (reducing their exposure to risk), and save costs on the size of the police force.
- **Public Services** – The City seeks to build public Wi-Fi on top of its fiber network in key areas throughout the City. This service will provide better connectivity for residents and visitors, particularly for high-traffic events, such as concerts and festivals in the City’s major parks. It could also provide connectivity to various Smart City devices and sensors.

Together, these initiatives and their benefits can improve quality of life and government services for Atlanta’s residents and help keep the business environment competitive.

III. Information Requested

Participants must provide a short response of no more than **15 single-sided**, single spaced pages with font no smaller than 10-point, and must include the following:

1. **Cover Page:** Please include company name, address of corporate headquarters, address of nearest local office, contact name for response, and that person’s contact information (address, phone, cell, email, other). Keep response to one (1) page.
2. **Cover Letter:** Please describe the company or team providing the response to RFI; a short description with each service as to how it responds to the RFI questions contained herein, and include the description of the services proposed. Keep response to two (2) pages.

3. Summary of Project Approach:

- a. Describe the metrics you would use to evaluate the progress and success of an Autonomous Vehicle or V2I project in a major city area like the North Avenue smart corridor. Keep response to three (3) pages.
 - b. Describe the recommended infrastructure required to support Autonomous Vehicle and V2I systems including, but not limited to roads, roadside areas, power, networking, sensors, radios, and integrated or centralized computer systems. Describe which aspects of the infrastructure would be beneficial to construct during the North Avenue smart corridor project if no specific Autonomous Vehicle system is selected or scheduled for deployment, but which would enable future deployment. Keep response to three (3) pages.
 - c. Describe the types of Autonomous Vehicle and V2I systems that would be supported by the recommended infrastructure. Classify Autonomous Vehicle systems using the five levels of autonomous driving as defined by National Highway Transportation Safety Administration. What infrastructure components would be common among different types of Autonomous Vehicles? Keep response to two (2) pages.
 - d. Describe how you see the Autonomous Vehicle and V2I space evolving in the next five to 10 years. How would this infrastructure adapt to changes? What parts of the infrastructure are likely to require updates and changes? Keep response to two (2) pages.
 - e. Describe potential business models around this infrastructure and Autonomous Vehicle and V2I services. If your model involves a partnership with the City, describe the division of ownership and responsibility for the infrastructure and Autonomous Vehicle services. What funding and revenue models would be used? What data would be shared with third-party entities? Keep response to two (2) pages.
 - f. What legal and policy groundwork have you found to be beneficial in supporting an Autonomous Vehicle or V2I deployment? Keep response to one (1) page.
- 4. State of Autonomous Vehicles:** Describe the current readiness and capabilities of Autonomous Vehicle systems. Describe your vision of the systems that are ready to be deployed now (including research or test beds). If you are describing a testing or research system, describe how it might progress into a fully functional service and whether it is practical to deploy a test or research system in a busy, public area such as the North Avenue corridor. Describe the optimal role of the City and of others in a partnership. Also, describe how vehicle to infrastructure can best be phased and integrated along with vehicle to vehicle (V2V), infrastructure to infrastructure (I2I) and other autonomous vehicle approaches. How should/would these separate approaches (V2I, V2V, and I2I) work independently and how they should/would be integrated to achieve a robust vehicle strategy? Keep response to three (3) pages.

5. **Experience:** Provide relevant experience, including other municipal, government, or private sector experience. Elaborate on any experience specifically with V2I (vehicle to infrastructure) using V2I (using DSRC) for real-time communications between traffic signals and cars as well as the outcomes of any such project or endeavor.

Additional Information: Any additional information not specifically requested, but which the participant deems important and relevant may also be submitted. Appendices, tabs or separators will not be counted toward the page limit. Considerations for this additional information:

- a. Describe lessons learned from similar projects.
- b. Description of team/company projects and past or current services of similar scale of that being described.
- c. Any additional information not requested above, but which you deem important and relevant to this RFI.

IV. Submission of Responses

Responses must be submitted in sealed envelope(s) or package(s) and the outside of the envelope(s) or package(s) must clearly identify the name of the project: **FC-9338, Autonomous Vehicle Demonstration** and the name and address of the Respondent. Responses must be submitted to:

**Adam L. Smith, Esq., CPPO, CPPB, CPPM, CPP,
CIPC, CISCC, CIGPM, CPPC
Chief Procurement Officer
Department of Procurement
55 Trinity Avenue, S.W.
City Hall South, Suite 1900
Atlanta, Georgia 30303-0307**

Respondents must submit **six (6) copies** of the response. In addition to the hard copy submission, each Respondent must submit two (2) digital versions of its Response in Adobe Portable Document Format (“**PDF**”) on compact disk (CD) or USB Flash drive. CD One (1) version should be a duplicate of the hard copy of the response with no deviations in order or layout of the hard copy proposal. CD Two (2) version should be a redacted version of the response. Please refer to the Georgia Open Records Acts (O.C.G.A. § 50-18-72) for information not subject to public disclosure. If certain portions of your response are considered confidential and proprietary, we would recommend that you mark any portion of your proposal that you deem to be confidential as such, however, it cannot be guaranteed that the City will not have to disclose such information in accordance with its interpretation of the applicable public records laws.