U.S. Department of Transportation

Notice of Funding Opportunity Number DTFH6116RA00002

"*Beyond Traffic: The Smart City Challenge*"

Issue Date: 12/7/2015

Application Due Date: 2/4/2016

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The FHWA is using www.grants.gov for issuance of this Notice of Funding Opportunity (NOFO). Applicants must register at grants.gov under NOFO Number DTFH6116RA00002 **to receive notifications of updates/amendments to this NOFO. It is the Applicant's responsibility to monitor the grants.gov site for any updates/amendments to this NOFO.**

Summary Information

Funding Opportunity Summary:		**Up to $40 Million in Federal Funding for a Mid-Sized City to Conduct a Smart City Demonstration**
Federal Agency Name:		U.S. Department of Transportation (USDOT) Federal Highway Administration (FHWA) Office of Acquisition and Grants Management 1200 New Jersey Avenue, SE Mail Drop: E62-204 Washington DC 20590 Attn: Sarah Tarpgaard, HCFA-32
Funding Opportunity Title:		Beyond Traffic: The Smart City Challenge
Announcement Type:		This is the initial announcement of this funding opportunity. This is not a follow-on notice.
Funding Opportunity Number:		DTFH6116RA00002
Type of Award:		Cooperative Agreements
Catalog of Federal Domestic Assistance (CFDA) Number:		20.200 Highway Research & Development
Application Due Date:		**Application**s **Due** by 2/4/2016 at **3:00 pm Eastern Time** by Email to SmartCityChallenge@dot.gov
Questions:		Submit Questions to: SmartCityChallenge@dot.gov

Funding Opportunity Informational Webinars

The United States Department of Transportation (USDOT) will host Informational Sessions regarding this Funding Opportunity focused on Beyond Traffic: The Smart City Challenge. Most of these sessions will be conducted in virtual forums and will focus on specific topics to help potential applicants gather additional information and ask specific questions. However, the Smart City Forum on December 15th will be hosted in–person at the U.S. Department of Transportation in Washington, DC (portions of this session will be available via webcast). Topics will range from discussing various technological strategies for advancing connected communities to specific questions regarding the application and award selection process.

Participation in any of these sessions is not mandatory in order to submit an application under this solicitation. However, we encourage potential applicants to take advantage of these opportunities to gather information regarding this specific funding opportunity.

Please note that in order to participate in any of the sessions - you must register. An email confirmation will be sent to all individuals who register. The USDOT will post all virtual session presentations at www.transportation.gov/smartcity.

Note: If necessary, the Government reserves the right to limit the number of participants from a party.

INFORMATIONAL SESSIONS: BEYOND TRAFFIC: THE SMART CITY CHALLENGE

SESSION:	**Virtual Webcast: The Smart City Challenge Launch with Secretary Anthony Foxx**
DATE:	12/8/2015
TIME:	3:15 pm Eastern Time
LIVE STREAM:	www.transportation.gov/smartcity

SESSION:	**In Person: Smart City Forum**
DATE:	12/15/2015
TIME:	9:00 am to 4:00 pm Eastern Time
LOCATION:	U.S. Department of Transportation (1200 New Jersey Ave SE, Washington, DC)
REGISTRATION:	https://www.surveymonkey.com/r/USDOTSmartCityForum

SESSION: **Virtual: Data, Architecture, and Standards**
DATE: 12/16/2015
TIME: 1:00 to 2:30 pm Eastern Time
REGISTRATION: By 12/15/2015, at https://connectdot.connectsolutions.com/admin/show-event-catalog?folder-id=1129241109

SESSION: **Virtual: Connected Vehicles and Automation**
DATE: 12/17/2015
TIME: 1:00 to 2:30 pm Eastern Time
REGISTRATION: By 12/16/2015, at https://connectdot.connectsolutions.com/admin/show-event-catalog?folder-id=1129241109

SESSION: **Virtual: The Sharing Economy, User-Focused Mobility, and Accessible Transportation**
DATE: 12/18/2015
TIME: 1:00 to 2:30 pm Eastern Time
REGISTRATION: By 12/17/2015, at https://connectdot.connectsolutions.com/admin/show-event-catalog?folder-id=1129241109

SESSION: **Virtual: The Smart City Challenge Application and Selection Process**
DATE: 12/21/2015
TIME: 1:00 to 2:00 pm Eastern Time
REGISTRATION: By 12/18/2015, at https://connectdot.connectsolutions.com/admin/show-event-catalog?folder-id=1129241109

Note: The USDOT will also consider conducting additional virtual and/or in person workshops regarding the Beyond Traffic: The Smart City Challenge Funding Opportunity.

SECTION A – PROGRAM DESCRIPTION

The USDOT is encouraging cities to put forward their best and most creative ideas for innovatively addressing the challenges they are facing. The vision of the Smart City Challenge is to demonstrate and evaluate a holistic, integrated approach to improving surface transportation performance within a city and integrating this approach with other smart city domains such as public safety, public services, and energy. The USDOT intends for this challenge to address how emerging transportation data, technologies, and applications can be integrated with existing systems in a city to address transportation challenges. The USDOT seeks bold and innovative ideas for proposed demonstrations to effectively test, evaluate, and demonstrate the significant benefits of smart city concepts.

The USDOT will make an award of up to $40 Million award for one mid-sized city that can demonstrate how advanced data and intelligent transportation systems (ITS) technologies and applications can be used to reduce congestion, keep travelers safe, protect the environment, respond to climate change, connect underserved communities, and support economic vitality.

The USDOT will issue two separate solicitations to carry out this challenge. This solicitation will result in selection of an estimated five Smart City Challenge Finalists who will receive funding to support concept development and planning activities. The follow-on second solicitation, which will be released in March 2015, will invite the Smart City Challenge Finalists to apply for funding to support implementation of their proposed demonstration.

This document is the first of the two solicitations. The purpose of this solicitation is to request applications from cities interested in conducting a Federally-funded Smart City Challenge in their jurisdiction. This solicitation describes the USDOT's high-level vision and goals for such a demonstration, and invites Applicants to submit their own high-level vision and goals for their proposed demonstrations.

The USDOT identified characteristics of a Smart City along with twelve vision elements – identified in the table below and defined in more detail in Section A of this funding opportunity. A successful Smart City Challenge would align with these characteristics and vision elements.

CHARACTERISTICS OF A SMART CITY

The ideal Smart City would have the following attributes:

- Population between approximately 200,000 and 850,000 people within city limits as of the 2010 Census;
- A dense urban population typical for a mid-sized American city;
- Represents a significant portion (more than 15%) of the overall population of its urbanized area using 2010 Census data;
- An existing public transportation system;
- An environment that is conducive to demonstrating proposed strategies;
- Continuity of committed leadership and capacity to carry out the demonstration throughout the period of performance;
- A commitment to integrating with the sharing economy; and
- A clear commitment to making open, machine-readable data accessible, discoverable and usable by the public to fuel entrepreneurship and innovation.

The Smart City is expected to improve safety, enhance mobility, and address climate change.

The city's vision would align with some, or all of, the USDOT's vision elements, and foster integration between elements. Vision elements for a Smart City include:

Technology Elements

- Urban automation
- Connected vehicles
- Intelligent, sensor-based infrastructure

Smart City Elements

- Architecture and standards
- Low cost, efficient, secure, and resilient Information and Communications Technology
- Smart land use

Innovative Approaches to Urban Transportation Elements

- Urban analytics
- User-focused mobility services and choices
- Urban delivery and logistics
- Strategic business models and partnering opportunities
- Smart grid, roadway electrification, and electric vehicles
- Connected, involved citizens

1. STATEMENT OF PURPOSE

Under this first solicitation, the USDOT hereby requests applications for assistance to result in awards to selected "Smart City Challenge Finalists". The USDOT estimates selection of five Finalists to receive fixed amount cooperative agreement awards of Federal funding in the amount of $100,000 each. The fixed amount awards will provide Federal funding for concept development and planning activities such as development of technical demonstration plans and budget plan documents, and performance of pre-implementation planning. Deliverables for these awards are described in more detail later in this document.

Under the second follow-on solicitation, the USDOT intends to solicit applications for assistance to result in one award to provide funding support for the implementation of a Smart City Challenge, in the estimated Federal funding amount of $40 Million. The planned separate competition will be a set-aside with competition limited to Smart City Challenge Finalists selected hereunder.

The USDOT intends for the concept development $100,000 awards to support, prepare, and enable Finalists to submit detailed applications for demonstration implementation under the separately issued the USDOT solicitation. The USDOT intends for the concept development $100,000 awards to allow each recipient to further their own Smart City plans even if they do not receive the Smart City Challenge award. Finalists will participate in a number of planning, outreach and educational opportunities to further develop their plans.

The estimated timeline follows:

Estimated Date	**Action**
February 2016	Applications Due
March 2016	Selected Smart City Challenge Finalists Announced
March 2016	Awards Issued to Smart City Challenge Finalists
March 2016	The USDOT Solicits Applications from Finalists for Smart City Challenge Implementation
May 2016	Applications Due from Finalists
June 2016	Selected Smart City Challenge Implementation Awardee Announced

2. LEGISLATIVE AUTHORITY

Specific statutory authority for conducting this effort is found in the Intelligent Transportation Systems Research Program in 23 U.S.C. §516(a), which authorizes the Secretary of Transportation to "…carry out a comprehensive program of intelligent transportation system research and development, and operational tests of intelligent vehicles, intelligent infrastructure systems, and other similar activities."

Funding is authorized under §51001(a)(4) of Public Law 112-141, the Moving Ahead for Progress in the 21st Century Act (MAP-21) carry out sections 512 through 518 of 23 U.S.C.

The authority to enter into a cooperative agreement for this effort is found under 23 US Code § 502 - Surface Transportation Research, Development, and Technology, paragraph (b) (3) which states:

> "(3) **cooperation, grants, and contracts. —** The Secretary may carry out research, development, and technology transfer activities related to transportation—
>
> **(A)** independently;
> **(B)** in cooperation with other Federal departments, agencies, and instrumentalities and Federal laboratories; or
> **(C)** by making grants to, or entering into contracts and cooperative agreements with one or more of the following: the National Academy of Sciences, the American Association of State Highway and Transportation Officials, any Federal laboratory, Federal agency, State agency, authority, association, institution, for-profit or nonprofit corporation, organization, foreign country, or any other person."

3. BACKGROUND

In February of 2015, the United States Department of Transportation (USDOT) released "*Beyond Traffic 2045: Trends and Choices."* Beyond Traffic examines the long-term and emerging trends affecting our Nation's transportation system and the implications of those trends. It describes how demographic and economic trends, as well as changes in technology, governance, and our climate are affecting how people and goods travel today, and how they could affect travel in the future. It outlines choices that will require cities to think differently about how we move, how we move things, how we move better,

how we adapt, and how we align decisions and dollars. Smart cities are emerging as a concept that can be used to address these issues starting today. The trends identified in Beyond Traffic have major implications for cities. Cities deliver many benefits – greater employment opportunities, greater access to healthcare and education, and greater access to entertainment, culture and the arts. As a result, people are moving to cities at an unprecedented rate. Our population is expected to grow by 70 million over the next 30 years, and most of this population growth will be concentrated in metropolitan areas or cities. Growing urbanization will continue to put significant strain on city infrastructure and transportation networks.

Transportation is critical to making a city work. Many cities see advantages in urbanization, but these cities are also saddled with concentrated growth, shrinking revenues, and increased transportation demand. Inefficiencies in our transportation system cost Americans, on average, each over 40 hours stuck in traffic each year – an annual financial cost of $121 billion. At the same time, research indicates that cities account for 67% of all greenhouse gases (GHGs) released into the atmosphere. The transportation sector is the second-biggest source of GHG emissions, responsible for emitting 28% of GHGs into the atmosphere.

To overcome these challenges, cities must find ways to foster the emergence of technologies that have the potential to transform transportation. A number of trends in technology are taking place. How we collect and analyze data, how communications and mobile platforms evolve, and when connected and automated vehicle technologies emerge, are questions that hold the promise of making our future transportation system safer, more accessible and efficient, and more environmentally sustainable.

With Intelligent Transportation Systems (ITS) laying the groundwork for innovative transportation solutions, many cities are currently serving as laboratories for new types of transportation services. Smart cities are emerging as a next-generation approach for city management, taking the steps forward along the transportation technology continuum. Integrating ITS, connected vehicle technologies, automated vehicles, and other advanced technologies – along with new mobility concepts that leverage the sharing economy – within the context of a city provides the enhance travel experiences and make moving people and goods safer, more efficient, and more secure. By enhancing the effective management and operation of the transportation system, smart city solutions can leverage existing infrastructure investments, enhance mobility, sustainability, and livability for citizens and businesses, and greatly increase the attractiveness and competitiveness of cities and regions.

4. VISION AND GOALS OF A SMART CITY

This section describes the USDOT's vision of a successful Smart City, and the specific goals that collectively describe important elements of the planned demonstration.

The USDOT recognizes that each city has unique attributes, and each city's proposed demonstration will be tailored to their vision and goals. This section serves to present the USDOT's high-level vision and goals without making each item a requirement for award. Rather, this section is designed to provide a framework for applicants to consider in the development of a city's proposed demonstration.

Specific goals of the Smart City Challenge include:

- Identify the transportation challenges and needs of the citizen and business community and demonstrate how advanced technologies can be used to address issues in safety, mobility, and climate change, now and into the future.
- Determine which technologies, strategies, applications, and institutional arrangements demonstrate the most potential to address and mitigate, if not solve, transportation challenges identified within a city.
- Support and encourage cities to take the evolutionary and revolutionary steps to integrate advanced technologies – including connected and automated vehicle technologies – into the management and operations of the city, consistent with the USDOT vision elements.
- Demonstrate, quantify, and evaluate the impact of these advanced technologies, strategies, and applications towards improved safety, efficiency, and sustainable movement of people and goods.
- Examine the technical, policy, and institutional mechanisms needed for realizing the potential of these strategies and applications – including identifying technical and policy gaps and issues – and work with partners to address them.
- Assess reproducibility and qualify successful smart city systems and services for technology and knowledge transfer to other cities facing similar challenges.

The USDOT's vision for the Smart City Challenge is to identify an urbanized area where advanced technologies are integrated into the aspects of a city and play a critical role in helping cities and their citizens address challenges in safety, mobility, sustainability, economic vitality, and address climate change. These challenges in transportation will be met by advancements in ITS, connected and automated vehicles, to name a few. Management systems within a smart city – both within transportation and across other sectors of a city – share information and data to communicate between cities and their

citizens allowing citizens to achieve benefits by maximizing efficiencies based on the intelligent management of assets and sharing information using integrated technology solutions and use of this information by the public and industry.

The USDOT's ideal Smart City would be a mid-sized city with a population between approximately 200,000 and 850,000 people within the city (Census-designated place) limits using 2010 Census data; a dense urban population; an environment conducive to demonstrating proposed strategies; an existing public transportation system; and commitment to integrating transportation services with the sharing economy. This city (Census place) would ideally include a significant share (greater than 15%) of the population of its urbanized area. The ideal site would have continuity of committed leadership, authority, and capacity to carry out the demonstration throughout the period of performance and continue operation after the period of performance is over. The proposed site – or the geographic area of the demonstration – should generally be a separate and independent city preferably with a central business district. Cities with existing, robust advanced transportation infrastructure – including ITS equipment, an existing traffic management center (TMC), and shared use transportation options (e.g., bike share and car share) – are good candidates that have the groundwork needed for proposed demonstration sites to build upon. Cities with existing commitments to managing their data as a strategic asset and making open, machine-readable data available to the public – subject to applicable privacy, security and other safeguards – are also good candidates that have the necessary policy infrastructure to fuel entrepreneurship and innovation to improve citizens' lives, create jobs, and spur economic development.

The USDOT identifies twelve vision elements that comprise a Smart City. A successful proposal would align to some or all of the USDOT's vision elements and foster integration between the elements. Through alignment with these vision elements, the Smart City Challenge is expected to improve safety, enhance mobility, and address climate change. The vision elements reflect the strategic priorities and themes put forth in the USDOT's ITS Strategic Plan 2015-2019 (http://www.its.dot.gov/strategicplan/). Vision elements were derived from foundational research conducted by the ITS JPO's

EXPECTED OUTCOMES OF THE CHALLENGE

- **Improve Safety** – By using advanced technologies, including connected vehicle technologies, to reduce the number of collisions, fatalities, and injuries.
- **Enhance Mobility** – By providing real-time traveler information and emerging mobility services to improve personal mobility for all citizens.
- **Address Climate Change** – By implementing advanced technologies and policies that support a more sustainable relationship between transportation and the environment through fuel use and emissions reductions.

Connected Cities Research Program and communicated to 570 stakeholders during a free public webinar held by the ITS JPO on February 26, 2015. The USDOT vision elements build on enablers defined by the Smart Cities Council (http://smartcitiescouncil.com/smart-cities-information-center/the-enablers). The twelve vision elements include:

TECHNOLOGY ELEMENTS

This group of three Vision Elements includes technologies that are of the highest priority by the USDOT.

Vision Element #1: Urban Automation. Automated transportation offers tremendous possibilities for enhancing safety, mobility, accessibility, equity, and the environment. The Smart City can provide national leadership through its demonstration and assessment of automated transportation applications and systems for the movement of goods and people. There are many ways to incorporate automated transportation into a Smart City. For the purpose of illustration, some examples of automated transportation in an urban environment include:

- Self-driving vehicles coupled with smart infrastructure;
- Driver-assisted automation could reduce fuel use and congestion enabling closer spacing and narrower lanes for vehicles;
- Self-driving shuttles and other forms of fully automated vehicles could operate at low speeds enabling new mobility options for services such as first/last mile travel to local destinations and access to public transportation; and
- Fully automated trucks and buses may also be used in intermodal facilities, such as ports, depots, and maintenance facilities to improve driver and vehicle efficiencies.

The aforementioned examples are not intended to express preference for the purpose of evaluating proposals. Applicants are encouraged to propose innovative automation strategies that demonstrate safety, mobility, and/or environmental benefits in an urbanized area.

Vision Element #2: Connected Vehicles. Connected vehicles use vehicle-to-vehicle (V2V) and vehicle-to-infrastructure (V2I) communications to provide connectivity that will enable countless safety, mobility, and environmental applications. Connected vehicle technologies allow vehicles to send and receive information about their movements in the network – offering cities unprecedented opportunities to provide more responsive and efficient mobility solutions in real-time and in the long term. Data derived from connected vehicles provide insights to transportation operators helping to understand

demand and assist in predicting and responding to movements around a city. A successful Smart City may demonstrate safety, mobility, and/or environmental applications. These applications – which can increase efficiency and accessibility, enhance safety and reduce congestion – may provide more responsive mobility solutions in real-time. In deploying connected vehicle and infrastructure services, Smart Cities may seek to integrate a variety of commercially available communication technologies including cellular, satellite, Wi-Fi and others. At the same time, Dedicated Short Range Communication (DSRC) technology operating in the 5.9GHz range may be used to expand demonstrations of V2V and V2I applications based on DSRC[1]. For more information on the USDOT's Connected Vehicle Research Program, visit: http://www.its.dot.gov/research.htm.

Vision Element #3: Intelligent, Sensor-Based Infrastructure. Smart cities contain and use a collective intelligent infrastructure that allow sensors to collect and report real-time data to inform every day transportation-related operations and performance and trends of a city. These data allow city operators to know how the city is operating and how the operation of facilities, systems, services, and information generated for the public can be enhanced. Intelligent infrastructure includes sensors that collect traffic, pedestrian, bicyclist, environmental data, and other information available throughout the city. A successful Smart City would integrate these data with existing transportation data and operations, allowing the city to improve operations of the transportation network. Additionally, these infrastructure could be used to monitor transportation assets to improve infrastructure management, reduce maintenance costs, prioritize investment decisions, and ensure a state of good repair.

INNOVATIVE APPROACHES TO URBAN TRANSPORTATION ELEMENTS

This group of six Vision Elements includes innovative approaches to urban transportation and is categorized as a high priority by the USDOT.

Vision Element #4: Urban Analytics. This vision element includes platforms for understanding and analyzing data to address complex urban challenges (e.g., personal safety and mobility, network efficiency, and environmental sustainability) and/or measure the performance of a transportation network. In a data-rich environment, cities and citizens are increasingly able to share, use, and leverage (previously unavailable) datasets to address complex urban problems or to improve current operations or capabilities. Urban analytics create value from the data that is collected from connected

[1] Specifically, IEEE P1609, 802.11p , and, SAE J2945/1 and J2735 standards

vehicles, connected citizens, and sensors throughout a city or available from the Internet using information generated by private companies. Analytics that utilize data from across various systems in a city have tremendous potential to identify new insights and unique solutions for delivering services, thereby improving outcomes. These analytics can also be used to address complex urban challenges (e.g., personal safety and mobility, network efficiency, and environmental sustainability) and/or measure the performance of a transportation network. Analytics can be used to predict future conditions and the potential benefits of implementing different operational strategies, control plans and response plans coordinated among agencies and service providers. Furthermore, analytics can be applied across sectors to create new and different applications. One example might be an application of travel demand management that also factors in environmental and energy consumption as part of the optimization – providing more context to citizens' personalized recommendations. Additionally, data analytics can also be used to understand the potential benefits of deployed solutions. To do so, transportation-related performance measures and evaluation are needed to quantify the intended and measured impact of all proposed solutions on personal safety and mobility, network efficiency, and environmental sustainability, representing the priorities of this challenge. For example, performance measurement may indicate greater access to jobs and services; reduction in congestion and delays; increase in transit, walking, or cycling; a reduction in crashes, injuries, and or fatalities; improved incident response and clearance times; and reductions in emissions.

Vision Element #5: User-Focused Mobility Services and Choices. This vision element consists of strategies, initiatives, and services that increase transportation choices and options by supporting and improving mobility for all travelers, including aging Americans and persons with disabilities. A major component includes advanced traveler information systems that provide real-time traffic, transit, parking, and other transportation-related information to travelers. Smart cities support sustainable mobility using traveler-oriented strategies that deliver innovative solutions across all transportation modes, including transit, bicycling, electric vehicles, and shared use mobility services, to improve the mobility of all travelers, including older Americans as well as people with disabilities. Shared-use transportation has grown tremendously in recent years with the increase in smartphone applications. The sharing economy and new transportation services are providing people with more options, helping to overcome barriers to the use of non-driving forms of transportation, and shifting individuals' travel choices. Advanced technology and services deployed throughout a city will allow people to adopt "car-free" and "car-light" lifestyles with dramatically less driving. For people to be willing to share assets there must be a seamless, low-friction way to do so. Mobility on Demand (MOD) is an emerging concept built on shared use approaches and a shift in mass transit. It augments public transportation and supports

the efficient movement of people. Open data and technology enable the efficient coordination, use, and management of all mobility services in the system. From the user's perspective, travel choices are simplified through open data and communications technology that provides personalized information – including traveler information, travel options, and integrated mobile payment – directly to the user. In smart cities, the integration of new technologies into the transportation system facilitates a dynamic supply of mobility services and operations by leveraging emerging mobility services, integrated transit networks and operations, real-time data, connected travelers, and cooperative ITS. The result is a more traveler-centric, transportation system-of-systems approach, providing improved mobility options to all travelers and users of the system.

Vision Element #6: Urban Delivery and Logistics. This vision element includes innovative solutions supporting efficient goods movement in ways that use data or deploy technology to create opportunities for a more efficient supply chain approach that delivers safer logistics management, improved on-time pickups and delivery, improved travel time reliability, reduced fuel consumption, and reduced labor and vehicle maintenance costs. As populations increase and urbanization continues, cities will need to identify innovative ways to effectively and efficiently move goods – including food, energy, and manufactured goods – into cities. Cities will need to investigate how innovative technology solutions may support more efficient urban goods movement. The Smart City may consider improving urban goods movements by including freight-specific information exchanges that enable dynamic travel planning to improve freight movement efficiency, including load matching and drayage operations. Additional strategies may leverage urban delivery hubs that use connected urban delivery vehicles and flexible (shared use) commercial delivery solutions. The aforementioned examples are for illustration purposes and are not intended to express preference for the purpose of evaluating proposals. Applicants are encouraged to propose innovative urban delivery strategies that demonstrate safety, mobility, and/or environmental benefits in an urbanized area.

Vision Element #7: Strategic Business Models and Partnering Opportunities. Opportunities exist to leveraging creative strategic partnerships that draw in stakeholders – including private sector, non-profit, foundation/philanthropic, academia/University Transportation Center (UTC), and other public agencies – to advance smart city solutions. The private sector is pushing innovation, especially by creating new opportunities to partner with government. The public sector is also pushing innovation, creating new opportunities/models for governance and interagency partnerships. Successful implementation of a Smart City will likely rely on strategic partnering opportunities between public agencies and the private sector – especially for cities that have limited resources to bring to bear on the challenges they face.

Innovative partnerships among city or local government, planning organizations, the private sector, vehicle manufacturers, academia, associations, and other stakeholder groups are needed to advance smart city solutions. Through cooperation, city governments may partner with non-governmental organizations that can bring resources to the city. Applicants are encouraged to use innovation to leverage Federal resources through cost share, in-kind donations, and partnering. The USDOT encourages Applicants to make robust use of partnerships, including partnerships that significantly leverage Federal resources, work already underway, and the technical capabilities of universities and other stakeholders who provide services to public agencies. In particular, cities are encouraged to partner with a University Transportation Center (UTC) or member of a UTC consortium to leverage product and service development assets and develop the workforce (http://www.rita.dot.gov/utc/).

Vision Element #8: Smart Grid, Roadway Electrification, and Electric Vehicles. This vision element includes strategies and initiatives that leverage the smart grid – a programmable and efficient energy transmission and distribution system – in an effort to support the adoption or expansion of roadway electrification, and electric vehicle deployment. As electric vehicles become more prevalent, opportunities exist for the vehicle to interact with the smart grid. Opportunities also exist for the integration of intelligent transportation systems with the smart grid and other energy distribution and charging systems. For example, smart-grid technology can enable electric vehicle-charging [grid-to-vehicle (G2V)] load to be shifted to off-peak periods, thereby flattening the daily load curve and significantly reducing both generation and network investment needs. Likewise, wireless inductive charging technologies provide opportunities to address range anxiety concerns associated with electric vehicles, allowing electric vehicles to charge their batteries wirelessly while the vehicle is stopped or in motion.

Vision Element #9: Connected, Involved Citizens. Connected citizens generate, share, and use data and information in new and useful ways. This vision element consists of strategies, local campaigns, and processes to proactively engage and inform citizens at the individual level by deploying hardware, software, and open data platforms in an effort to increase personal mobility. Advanced technologies would be used to enhance overall mobility for all citizens including people with disabilities, older adults, and young Millennials who will act as an important engine of the future economy. One example of connected, involved citizens is leveraging the use of crowdsourcing. Crowdsourced data provides communication conduits through mobile technologies to connect citizens with city operators about a myriad of topics. In a successful Smart City, citizens would provide user-generated content to cities. Another example of connected, involved citizens includes leveraging broad access to open government data providing a

platform for citizens to serve as co-creators and co-producers of new and innovative transportation services.

SMART CITY ELEMENTS

This group of Vision Elements includes three smart city elements and is categorized as a priority by the USDOT.

Vision Element #10: Architecture and Standards. This vision element emphasizes architectures – governed by rules, documentation, and standards – that may be extended to a nationwide or broader deployment. Because vehicles and travelers move broadly across regions, uniform operation that is accessible to everyone is essential for safe and efficient transportation operations. Interoperable regional ITS architectures that can be extended to a nationwide or broader deployment based on accessible, well-defined standards is needed for consistent implementations that will lead to the required uniformly accessible operation. The National ITS Architecture is a mature architecture that provides a common framework for the ITS community to plan, define, and integrate ITS solutions. The Connected Vehicle Reference Implementation (CVRIA) was developed to extend the National Architecture to include detailed information to support development of fully interoperable regional connected vehicle architectures. The CVRIA and the associated SET-IT software tool will be fully integrated into the National ITS Architecture and software toolset to support development of interoperable regional architectures including complete ITS infrastructure and connected vehicle capabilities along with interface information needed for standards selection. The USDOT envisions that the Smart City stakeholders will use the CVRIA, the National ITS Architecture, and published and under-development ITS standards to demonstrate interoperable ITS capabilities which are nationally extensible.

To the extent viable, the USDOT envisions the Smart City will define and demonstrate integration of ITS systems with other systems which comprise a smart city. As part of this effort, the nature of required interfaces to other systems should be defined to utilize existing networking or other standards when available. Where new standards are needed, these needs should be fully documented. Further, to the extent viable, these interfaces should be documented using the CVRIA system architecture tools and feedback should be provided to the USDOT to facilitate expansion of CVRIA to accommodate these additional interfaces. To support nationwide deployment of ITS infrastructure and connected vehicle technologies, the demonstration site should use existing ITS standards, architectures, and certification processes for ITS and connected vehicle based technologies whenever viable, and document those cases where such use is not viable. To provide information required to refine ITS architecture and

standards in support of nationwide deployment, the demonstration site should also document their experiences and cooperate with architecture and standards developers to improve the quality of these products based on lessons learned in deployment.

Vision Element #11: Low-Cost, Efficient, Secure, and Resilient Information and Communications Technology (ICT). This vision element includes strategies and practices that advance information and communications technology (ICT) that is affordable, adaptable, efficient, secure and resilient, including integrated telecommunications platforms, enterprise software, storage, and visualization systems. This will include ICT that contributes to one common operating platform to inform city government decision-making. ICT infrastructure, technologies, and services are a critical part of a Smart City. ICT consists of unified communications and the integration of telecommunications, computers as well as necessary enterprise software, storage, and visualization systems, which enable users to access, store, transmit, and manipulate information. The success of a Smart City depends upon affordable ICT, from both a public, and personal perspective. The ICT in a Smart City, including telecommunications and computing, needs to be resilient, secure and respectful of privacy. Resilient design includes supporting standards common technology architectures and integrative policies. If one part of the system fails or is compromised, the entire system should not collapse, and the gap in service should be bridged effectively and restored quickly.

Privacy and security play a critical role in enabling smart cities because they build trust with people. Privacy and security constitute practices that safeguard data, privacy, and physical assets. Private information relates to any data emitted, collected, or stored about individuals. A key concept in privacy analysis is Personal Identifiable Information (PII). PII is any information that can be used to distinguish or trace an individual's identity. PII is not specific to any category of information or technology; each case and associated risks must be individually examined for context and the combination of data elements that are provided or obtainable. The Smart City needs to determine the extent to which their system or systems will collect or store PII and PII-related information, and ensure that there is a legitimate need for this information to meet the goals of the system and that the data is only accessible for and used for these legitimate purposes.

To support the overall security and privacy of participants in this Challenge, the USDOT is developing a prototype security credential management system (SCMS) which will be available for use in DSRC-based communications. The SCMS will provide digitally signed certificates that can be used to ensure trusted DSRC communications between connected vehicle devices, roadside devices and the SCMS. The USDOT will provide

technical support for interfacing with the prototype SCMS, as well as tools intended to support the Smart City.

Physical security of the deployed devices and security for non-DSRC communications are not covered by the SCMS and should be addressed through other means in the demonstration. Rigorous, proven processes are needed to ensure that security mechanisms are embedded in systems and infrastructure to protect against attacks. Secure solutions must be integrated into architecture designs and security risks must be continually managed. Challenge sites are expected to use industry best practices as they relate to objects and interfaces used in their installations.

Vision Element #12: Smart Land Use. This vision element includes strategies and practices that ensure land use is optimized through a combination of planning and innovation deployments, altogether designed to lead to a better connected community that expands the range of transportation choices and access to employment, housing, education and health services. A successful Smart City ensures that land use is efficiently optimized. Urban land use concentrates growth in compact walkable urban centers to avoid sprawl. It also advocates compact, transit-oriented, walkable, bicycle-friendly land use, including neighborhood schools, complete streets, and mixed-use development with a range of housing choices. Smart land use values long-range, regional considerations of sustainability with the goals of achieving a unique sense of community and place; expanding the range of transportation, employment, and housing choices; equitably distributing the costs and benefits of development; preserving and enhancing natural and cultural resources; and promoting public health.

The following table summarizes and provides priority levels for each of the twelve Vision Elements.

Vision Element	**Priority**
Technology Elements	
Vision Element #1: Urban Automation	Highest Priority
Vision Element #2: Connected Vehicles	Highest Priority
Vision Element #3: Intelligent, Sensor-Based Infrastructure	Highest Priority
Innovative Approaches to Urban Transportation Elements	
Vision Element #4: Urban Analytics	High Priority
Vision Element #5: User-Focused Mobility Services and Choices	High Priority
Vision Element #6: Urban Delivery and Logistics	High Priority
Vision Element #7: Strategic Business Models and Partnering Opportunities	High Priority
Vision Element #8: Smart Grid, Roadway Electrification, and Electric Vehicles	High Priority
Vision Element #9: Connected, Involved Citizens	High Priority
Smart City Elements	
Vision Element #10: Architecture and Standards	Priority
Vision Element #11: Low-Cost, Efficient, Secure, and Resilient Information and Communications Technology	Priority
Vision Element #12: Smart Land Use	Priority

The USDOT is encouraging Applicants to consider these twelve elements in developing ideas for developing their city's vision for a Smart City. The city's vision should address real-world issues and challenges citizens and cities are facing. Specifically, Applicants should consider how emerging transportation data, technologies, and applications can be integrated with existing systems across a city, helping both cities, citizens, and businesses achieve goals for safety, mobility, sustainability, and economic vitality in an increasingly complex, interdependent and multimodal world.

5. DELIVERABLES

The selected Smart City Challenge Finalists will receive a fixed amount cooperative agreement award for Concept Development in the amount of $100,000 that will require the following milestones/deliverables:

Deliverable	Due Date	Section 508 Compliant?
Kick-off Meeting – conduct a kickoff meeting at the USDOT.	Within two weeks after award	No
Monthly Progress Reports – submit progress reports to document technical activities performed (concept development activities, technical and budget documentation development activities, application development activities, and pre-implementation planning activities). See Monthly Progress Reports clause below.	Monthly	No
Participation in informational webinars or meetings to be conducted by USDOT personnel for Finalists.	TBD	No
Participation in Oral Presentations to USDOT representatives.	TBD	No
A three-minute video presenting the proposed demonstration.	Within 3 months after award	Yes
A final report that incorporates stakeholder inputs and documents plans to implement the vision in the future and lessons learned during the process.	Within 5 months after award	Yes

Note: Section 508 requirements are included in NOFO Section F's General Terms and Conditions available online at: http://www.fhwa.dot.gov/aaa/generaltermsconditions.cfm.

SECTION B – FEDERAL AWARD INFORMATION

1. FUNDING AND NUMBER OF AWARDS

The USDOT estimates making five awards for Concept Development as a result of this Notice of Funding Opportunity. Each award will be a fixed amount award in the amount of $100,000 in Federal funding. Each awardee is designated a Smart City Challenge Finalist.

The USDOT anticipates making one award for the Smart City Challenge, which will result from a separately issued Notice of Funding Opportunity, with competition limited to Smart City Challenge Finalists. The USDOT anticipates Federal funding in the amount of up to $40 Million to be available for the one Smart City Challenge award.

The USDOT has funding available for the five Concept Development Awards. Funds are not presently available for the Smart City Challenge Finalist Award. The Government's obligation under the awards is contingent upon the availability of appropriated funds from which payment for agreement purposes can be made. No legal liability on the part of the Government for any payment may arise until funds are made available by the Agreement Officer for this award and until the awardee receives notice of such availability, to be confirmed in writing by the Agreement Officer.

Estimated funding by year is:

FY 16:	$15 Million
FY 17:	$15 Million
FY 18:	$10 Million
Total	**$40 Million**

2. TYPE OF AWARD

The planned award type for the estimated five Concept Development awards is a fixed amount cooperative agreement.

The planned award type for the one planned Smart City Challenge award is a cost-reimbursable cooperative agreement.

3. PERIOD OF PERFORMANCE

The estimated period of performance for the Concept Development cooperative agreements is six months.

The estimated period of performance for the one planned Smart City Challenge award is up to four years. The USDOT expects the demonstration to be implemented and tested within three years. The fourth year is expected to be used for finalizing the evaluation of the demonstration.

4. DEGREE OF FEDERAL INVOLVEMENT

The USDOT anticipates substantial Federal involvement between it and the Concept Development awardees ("Recipients") during the course of this project. The anticipated Federal involvement will include technical assistance, education and guidance to the Recipient.

SECTION C – ELIGIBILITY INFORMATION

1. ELIGIBLE APPLICANTS

This funding opportunity is limited to State and local governments, tribal governments, transit agencies and authorities, public toll authorities, metropolitan planning organizations, other subdivisions of a State or local government, or a multijurisdictional group applying through a single lead Applicant. Multijurisdictional group means a combination of State or local governments, metropolitan planning agencies, transit agencies, or other subdivisions of a State or local government comprised of at least 2 members, each of whom is an eligible Applicant under the terms of this paragraph.

2. COST SHARING OR MATCHING

Cost sharing or matching is NOT required for the Concept Development fixed amount awards resulting from this solicitation.

In the follow-on second solicitation for the planned Smart City Challenge award, cost sharing or matching will NOT be required but will be encouraged. If proposed, the degree of cost share and leveraging of non-federal funds will be considered beneficial to break ties among applications with equivalent ratings after evaluation against all other factors.

SECTION D – APPLICATION AND SUBMISSION INFORMATION

1. APPLICATION SUBMITTAL

The USDOT will issue two separate solicitations to carry out this challenge. This, first solicitation, will result in selection of an estimated five Smart City Challenge Finalists who will receive funding to support concept development and planning activities. The second follow-on solicitation, which will be released at a subsequent date, will invite the Smart City Challenge Finalists to apply for funding to support implementation of their proposed model deployment.

Applications for this first solicitation are due by 2/4/2016 at 3:00 pm Eastern Time by Email to SmartCityChallenge@dot.gov. Applications for this first solicitation shall reflect a high-level vision for the city's proposed deployment. A high-level vision need only include the framework and initial concepts of the Applicant's proposed model deployment. A detailed approach and a detailed budget are not required under this first solicitation. The second follow-on solicitation, which will be released at a subsequent date, will require a detailed technical and management approach to implementing the proposed model deployment, as well as a detailed budget to include cost share planned.

2. FORMAT OF APPLICATION SUBMISSION

a) Applications must be prepared on 8½ x 11 inch paper. Foldouts must not be used.
b) Text must be printed using a font size no less than 12 point font.
c) Tables are permitted and text in tables and captions may be doubled spaced and may be 10 point font.
d) Page margins must be a minimum of 1 inch top, bottom and each side.
e) Page numbers may be located within the 1 inch margins.
f) A Header or Footer identifying the Applicant Name may be located within the 1 inch margins.

3. CONTENT OF APPLICATION SUBMISSION

Applicants shall submit an application consisting of the following:

1. Part 1 – VISION NARRATIVE (1 file, page limit of 30 pages)
2. Part 2 – APPLICATION STANDARD FORMS AND ORGANIZATIONAL INFORMATION (1 file, no page limit)

Note: An Applicant may include, at their option, to facilitate displaying the organization of their application, a one-page cover page, and a second page to include both a Table of Contents and/or a Listing of Tables/Figures. These pages are for orienting evaluators to the contents of the application package and will not be evaluated and are not included in the page limitation.

Note: Any letters of commitment shall be included in Part 1 of the application and will not count against the 30 page limit.

Part 1 – VISION NARRATIVE

Provide a technical narrative of the Applicant's proposed vision and goals for a Smart City Challenge. The "Vision" document shall include a high-level summary of the following:

1. Define your vision for your Smart City. Describe your city's challenges and how the proposed elements of this proposed project can be used to address those challenges. The vision should define your approach for implementing and operating the demonstration project, including your program management approach.
2. Describe the population characteristics of your city and show how it aligns with the USDOT's characteristics for a Smart City, including:
    a. Mid-size city with population between approximately 200,000 and 850,000 people in the city limits;
    b. Dense urban population; and
    c. Represents a significant portion (preferably more than 15%) of the population of your local urbanized area.

Note: City population and density should be based on the city's Census-designated place (CDP) population in the 2010 Decennial Census. The city's urbanized area is defined as the Census Urbanized Area (UZA) to which it was assigned during the 2010 Census. Definitions of Urbanized Area and Census-

Designated Place are provided by the US Census Bureau at: https://www.census.gov/geo/reference/frn.html

Your city's 2010 CDP and UZA population can be viewed using the *2010 Urban Area to Place Relationship File* at: https://www.census.gov/geo/maps-data/data/ua_rel_download.html

Your city's density should be calculated using its 2010 CDP population divided by its 2010 land area in square miles, as provided by the US Census Bureau.

3. Describe other characteristics of your city and show how it aligns with the USDOT's characteristics for a Smart City, including:
    a. Existing public transportation system;
    b. Environment that is conducive to demonstrating proposed strategies;
    c. Continuity of committed leadership and capacity to carry out the demonstration throughout the period of performance;
    d. A commitment to integrating with the sharing economy; and
    e. A clear commitment to making open, machine-readable data accessible, discoverable and usable by the public to fuel entrepreneurship and innovation.
4. Provide an Annotated Preliminary Site Map. The map shall identify the specific geographic location being proposed for the Challenge and indicate locations related to key issues, proposed roadside technology locations, connected automated vehicle operations, and other explanatory features to support strategies that align with the USDOT vision elements. The map shall be no larger than one page (up to 11 inches by 17 inches is acceptable for this item only) when printed.
5. Describe how your holistic, integrated approach aligns to the twelve USDOT vision elements described in this solicitation. For each vision element, describe your approach including the technology solutions proposed. Illustrate how the proposed technology solutions can synergistically combine to create measurable impact while reducing costs associated with both deployment and operations.
6. Identify and rate key technical, policy, and institutional risks associated with the deployment vision and discuss plans for mitigating those risks.
7. Outline team partners, key stakeholders, and demonstration governance processes. Describe existing and future public and/or private partnerships, including university research partnerships.

8. Describe existing transportation infrastructure and system features in your city, including:
    a. Arterial miles
    b. Freeway miles
    c. Transit services
    d. Shared-use mobility services
    e. Information and communication technology (ICT)
    f. Intelligent Transportation Systems (ITS) including transportation management centers and field equipment
    g. Smart Grid Infrastructure including electric vehicle charging infrastructure
9. Define the data your city currently collects. Describe how these data, along with new data to be collected and shared during the demonstration may be used by the lead agency, project partners, other agencies and stakeholders to further address city challenges. Describe how transportation data could integrate with other functions or services in a city (such as public safety, human services, transit, and public works) to improve the management and operations of the city. Likewise, describe how other data could be integrated with transportation data to improve transportation operations. Describe any existing policies and identify their sources (local executive order or policy, local ordinance or state legislation, etc.) applicable to the proposed data to be collected and shared as part of the proposed project. Submissions describing cross-cutting partnerships to advance smart city technologies, related programs and policies are encouraged, but not required. If you plan to partner with outside organizations (nonprofits, universities, corporations, etc.) you should address whether and specify how (e.g., limitation on sharing or use) data from those organizations or interests will be collected, managed, and shared across sectors or with the public, if appropriate. Identify candidate data that is expected to be shared, used, and used for other purposes by the participating project partners or with the public. Describe the terms and conditions that exist or will be established and managed in partnership agreements, data or information sharing agreements, agency specific policies and operating procedures to establish and maintain the systems and interfaces to maintain the integrity of the data and share the information identified in the proposal.
10. Describe your approach for using existing standards, architectures, and certification processes for ITS and connected vehicle based technologies and plans for documenting experiences and cooperating with architecture and standards developers to improve the quality of these products based on lessons learned in deployment.

11. Provide measurable goals and objectives for your vision and describe your approach for monitoring the impact of the demonstration on mobility, safety, efficiency, sustainability, and climate change.

    Note: The selected city for the demonstration will be responsible for identifying a set of targeted performance measures that relate to the primary impact of their proposed deployment. The system deployed must be capable of generating the data needed to calculate these measures over time – that is, to show how well the system is performing with respect to these target measures. Independent evaluation will also be required to validate site system performance with respect to the targeted measures, to collect or infer contextual data that allows for the isolation and mitigation of confounding factors, and to provide supplementary evaluation with respect to a broader set of safety, environmental, mobility and public agency efficiency measures of interest to USDOT. Sites are responsible for supporting the independent evaluator's access to the site and to site staff to conduct evaluation-related experiments, interviews, and surveys.

12. Provide evidence that establishes your capacity to take on a project of this magnitude, including executive commitment, workforce capacity, degree of infrastructure readiness, data and performance management capabilities.
13. Describe any opportunities to leverage Federal resources through cost share, in-kind donations, and partnering.

Part 2 - APPLICATION STANDARD FORMS AND ORGANIZATIONAL INFORMATION (no page limit)

Standard Forms (SF): Available Online at
http://www.grants.gov/web/grants/forms/sf-424-family.html#sortby=1

1. SF424

Note: Applicants may leave fields 5a, 5b, 6, 7, and 13 blank on the form.

2. SF424A

Note: Section A:
- Block 1(a): Print opportunity title listed on page 1;
- Block 1(b): Print CFDA number listed on page 1;
- Block 1(c): Print $100,000 for Federal funds,
- Block 1(d): Leave Total Cost Share in dollars blank, and leave columns (e), (f), and (g) and rows 2, 3, and 4 blank.

3. SF424B

4. SFLLL

Note: The form must be completed and submitted even if no lobbying to report. If no lobbying to report insert none or n/a in the relevant blocks.

Organizational Information

In addition to the forms, provide answers to the following organizational information questions in a pdf format:

a. Identify any exceptions to the anticipated award terms and conditions as contained in Section F, Federal Award Administration Information. Identify any preexisting intellectual property that you anticipate using during award performance, and your position on its data rights during and after the award period of performance.
b. The use of a Dun and Bradstreet (D&B) Data Universal Numbering System (DUNS) number is required on all applications for Federal grants or cooperative agreements. Please provide your organization's DUNS number in your budget application.
c. A statement to indicate whether your organization has previously completed an A-133 Single Audit and, if so, the date that the last A-133 Single Audit was completed.
d. A statement regarding Conflicts of Interest. The Applicant must disclose in writing any actual or potential personal or organizational conflict of interest in its application that describes in a concise manner all past, present or planned organizational, contractual or other interest(s), which may affect the Applicants' ability to perform the proposed project in an impartial and objective manner. Actual or potential conflicts of interest may include but are not limited to any past, present or planned contractual, financial, or other relationships, obligations, commitments or responsibilities, which may bias the Applicant or affect the Applicant's ability to perform the agreement in an impartial and objective manner. The Agreement Officer (AO) will review the statement(s) and may require additional relevant information from the Applicant. All such information, and any other relevant information known to DOT, will be used to determine whether an award to the Applicant may create an actual or potential conflict of interest. If any such conflict of interest is found to exist, the AO may (a) disqualify the Applicant, or (b) determine that it is otherwise in the best interest of the United States to contract with the Applicant and include appropriate provisions to mitigate or avoid such conflict in the agreement pursuant to 2 CFR 200.112.
e. A statement to indicate whether a Federal or State organization has audited or reviewed the Applicant's accounting system, purchasing system, and/or property control system. If such systems have been

reviewed, provide summary information of the audit/review results to include as applicable summary letter or agreement, date of audit/review, Federal or State point of contact for such review.

f. Terminated Contracts - List any contract/agreement that was terminated for convenience of the Government within the past 3 years, and any contract/agreement that was terminated for default within the past 5 years. Briefly explain the circumstances in each instance.
g. The Applicant is directed to review Title 2 CFR §170 (http://www.ecfr.gov/cgi-bin/text-idx?c=ecfr&tpl=/ecfrbrowse/Title02/2cfr170_main_02.tpl) dated September 14, 2010, and Appendix A thereto, and acknowledge in its application that it understands the requirement, has the necessary processes and systems in place, and is prepared to fully comply with the reporting described in the term if it receives funding resulting from this Notice. The text of Appendix A will be incorporated in the award document as a General Term and Condition as referenced under this Notice's Section F, Federal Award Administration Information.
h. Disclose any violations of Federal criminal law involving fraud, bribery, or gratuity violations. Failure to make required disclosures can result in any of the remedies described in 2 CFR 200.338 entitled Remedies for Noncompliance, including suspension or debarment. (See also 2 CFR Part 180 and 31 U.S.C. 3321).

4. UNIQUE ENTITY IDENTIFIER AND SYSTEM FOR AWARD (SAM)

The Applicant is required to: (i) be registered in SAM before submitting its application; (ii) provide a valid unique entity identifier in its application; and (iii) continue to maintain an active SAM registration with current information at all times during which it has an active Federal award or an application or plan under consideration by a Federal awarding agency.

The Federal awarding agency may not make a Federal award to an Applicant until the Applicant has complied with all applicable unique entity identifier and SAM requirements. If an Applicant has not fully complied with the requirements by the time the Federal awarding agency is ready to make a Federal award, the Federal awarding agency may determine that the Applicant is not qualified to receive a Federal award and use that determination as a basis for making a Federal award to another Applicant.

5. SUBMISSION DATES AND TIMES

The application must be received by Email by the application due date/time listed on page 3 of this Notice of Funding Opportunity.

The deadline stated on page 3 is the date and time by which the agency must receive the full and completed application, including all required sections.

6. INTERGOVERNMENTAL REVIEW

An application under this Notice of Funding Opportunity is not subject to the State review under E.O. 12372.

7. FUNDING RESTRICTIONS

The USDOT will not reimburse any pre-award costs or application preparation costs under the proposed cooperative agreements.

8. USE OF INFORMATION FOR OTHER DEPARTMENTAL PURPOSES

Information collected from all applicant submissions may be used for government purposes, including to understand the range of Smart City activities planned and ongoing in cites, and to determine maturity of cities within this framework. In addition, information gathered through this Notice may be used to conduct outreach and engagement related future similar opportunities."

SECTION E – APPLICATION REVIEW INFORMATION

1. CRITERIA FOR SELECTION OF SMART CITY CHALLENGE FINALISTS

The Government will evaluate applications on following criteria, which are of equal importance.

TECHNICAL MERIT:

- Degree that the proposed city and demonstration site align with the USDOT's Desired Characteristics, relevant to: (i) population size, (ii) population density, (iii) population share of urbanized area; (iv) an existing public transportation system, (v) environment conducive to demonstrating proposed strategies; and (vi) continuity of committed leadership and capacity to carry out the demonstration throughout the period of performance, (vii) commitment to integrating with the sharing economy; and (viii) commitment to making open, machine-readable data accessible, discoverable and usable by the public to fuel entrepreneurship and innovation.
- Demonstration of a sound, innovative, integrated, and holistic vision of the Applicant's Smart City program consistent with the USDOT's goals and twelve vision elements as defined in Section A
- Extent that the Applicant's vision and goals address issues identified in *Beyond Traffic 2045*.
- Likelihood of success in implementing the demonstration, including commitment from public and private sectors, and technical capability to perform.

2. REVIEW AND SELECTION PROCESS

The USDOT will utilize the following merit review process to evaluate applications:

A panel of agency experts will evaluate all eligible applications using the merit criteria listed above. The panel will individually evaluate the applications. The panel will then collectively assign a rating to each eligible application using the following merit ratings: Recommended, Not Recommended.

The USDOT reserves the right to use outside expertise and/or contractor support to perform application evaluation.

A panel of agency experts will conduct a risk assessment of the Applicant prior to award.

The Government will award the applications that are considered the most advantageous to the Government using the criteria cited above, and subject to the results of an Applicant risk assessment. Applications selected for possible award using the technical merit criteria cited above, will undergo the following risk assessment prior to award. The Government reserves the right to not make an award to an Applicant based on the results of the risk assessment.

The Secretary of Transportation is the official responsible for final award selections. The Government is not obligated to make any award as a result of this notice.

Risk Assessment

The Government will assess the risks posed by an Applicant before they receive an award. This Risk Assessment will include evaluation of some or all of the following items relative to the Applicant and/or sub-applicants as applicable:

(1) Applicant's financial stability;

(2) Applicant's quality of management systems and ability to meet the management standards prescribed in 2 CFR Part 200;

(3) Applicant's history of performance;

Note: History of performance includes the Applicant's record in managing Federal awards, if it is a prior Recipient of Federal awards, including timeliness of compliance with applicable reporting requirements, conformance to the terms and conditions of previous Federal awards, and if applicable, the extent to which any previously awarded amounts will be expended prior to future awards. The Government will evaluate the relevant merits of the Applicant's history of performance based on its reputation and record with its current and/or former customers with respect to quality, timeliness and cost control. The history of performance will be reviewed to assure that the Applicant has relevant and successful experience and will be considered in the risk assessment. In evaluating history of performance, the Government may consider both written information provided in the application, as well as any other information available to the Government through outside sources.

(4) Applicant's audit reports and findings from audits performed on the Applicant pursuant to 2 CFR Part 200 Subpart F—Audit Requirements or the reports and findings of any other available audits;

(5) Applicant's ability to effectively implement statutory, regulatory, or other requirements imposed on non-Federal entities;

(6) Applicant's potential for conflict of interest if applicable; and

Note: The FHWA will review information provided by the Applicant, and any other relevant information known to DOT, to determine whether an award to the Applicant may create an actual or potential conflict of interest. If any such conflict of interest is found to exist, the AO may (a) disqualify the Applicant, or (b) determine that it is otherwise in the best interest of the United States to award to the Applicant and include appropriate provisions to mitigate or avoid such conflict in the Agreement pursuant to 2 CFR 200.112.

(7) Applicant's eligibility to receive Federal funding. Per the guidelines on government-wide suspension and debarment in 2 CFR Part 180, the Government will confirmation that the Applicant and any named sub-applicants are not debarred, suspended or otherwise excluded from or ineligible for participation in Federal programs or activities.

Pursuant to 2 CFR Part 200.205, prior to making a Federal award, the Federal awarding agency is required to review information available through any OMB-designated repositories of government-wide eligibility qualification or financial integrity information, such as Federal Awardee Performance and Integrity Information System (FAPIIS), Dun and Bradstreet, and Sam.gov. The Government's review of this information will occur as part of the risk assessment.

3. ANTICIPATED ANNOUNCEMENT AND FEDERAL AWARD DATES

The USDOT anticipates announcing the selected Smart City Challenge Finalists in March 2016.

The USDOT anticipates awarding concept development fixed priced agreement awards to selected Finalists in March 2016.

SECTION F – FEDERAL AWARD ADMINISTRATION INFORMATION

1. FEDERAL AWARD NOTICES

If your organization's application is selected for award, you will be notified and sent an award document for signature. Applicants not selected for award will be notified in writing by the USDOT.

Only the Agreement Officer (AO) can commit the USDOT. The award document, signed by the AO, is the authorizing document. Only the AO can bind the Federal Government to the expenditure of funds.

Notice that an Applicant has been selected as a Recipient does not constitute approval of the application as submitted. Before the actual award, the USDOT will enter into negotiations if necessary. If the negotiations do not result in an acceptable submittal, the USDOT reserves the right to terminate the negotiation and decline to fund the Applicant.

2. ADMINISTRATIVE AND NATIONAL POLICY REQUIREMENTS

General terms, conditions, and governing regulations that apply to this agreement are available online at: http://www.fhwa.dot.gov/aaa/generaltermsconditions.cfm

The online list dated March 6, 2015 of "GENERAL TERMS AND CONDITIONS FOR ASSISTANCE AWARDS" shall apply to the resulting award.

Special terms and conditions follow. These terms will be included in the resulting award.

A. PUBLIC ACCESS TO DOCUMENTS

The Recipient agrees that the resulting deliverables/documentation submitted to the USDOT under this Agreement may be posted online for public access and/or shared by USDOT with other interested parties. The USDOT anticipates the documents cited herein may be posted on a USDOT website or other appropriate website.

B. PERSONALLY IDENTIFIABLE INFORMATION (PII)

Personally Identifiable Information (PII) as defined at CFR Part 200.79 and 2 CFR 200.82 at will not be requested unless necessary and only with prior written approval of the AO with concurrence from the Agreement Officer's Technical Representative (AOR).

C. AVAILABLE FUNDING

Currently, Federal funding in the amount of $100,000 is obligated to the award for performance. This award is fully funded. The USDOT's liability to make payments to the Recipient is limited to those funds obligated under this Agreement as indicated herein and any subsequent amendments.

D. KEY PERSONNEL

Pursuant to 2 CFR 200.308(c)(2), the Recipient must request prior written approval from the AO for any change in Key Personnel specified in the award. The following person(s) are/have been identified as Key Personnel:

Name	**Title/Position**
(* to be filled in at award ***)**	

E. PROGRAM INCOME

Pursuant to 2 CFR 200.307, Program income earned during the agreement period must be added to the Federal award and used for the purposes and under the conditions of the Federal award, unless otherwise approved by the AO. Program income must not be used to offset the Federal or Recipient contribution to this project.

F. SUBAWARDS

Note: Recipients with a procurement system deemed approved and accepted by the Government or by the AO are exempt from the requirements of this clause. See 2 CFR 200.317 through 200.326.

Unless described in the application and funded in the approved award, the Recipient must obtain prior written approval from the AO for the subaward, transfer, or contracting out of any work under this award. This provision does not apply to the acquisition of supplies, material, equipment, or general support services.

The following subawards are currently approved under the Agreement:

Name
(*** to be filled in at award ***)

Approval of each subaward is contingent upon a fair and reasonable price determination, and approval by the AO for each proposed subcontractor/sub-recipient. Consent to enter into subawards will be issued through a written approval from the Agreement Officer.

G. DESIGNATION AS RESEARCH OR NON-RESEARCH AGREEMENT

This agreement is designated as: RESEARCH

H. CONFERENCE SUPPORT RESTRICTIONS

The Recipient must obtain written approval from the AOR prior to incurring any costs for conference support. See the definition of conference as contained in 2 CFR 200.432.

Food and beverage costs are not allowable conference expenses for reimbursement under this Agreement.

Note: Costs of meals are allowable as a travel per diem expense for individuals on travel status and pursuant to the Travel clause of this Agreement.

I. AGREEMENT PERFORMANCE REQUIREMENTS SUMMARY

N/A

J. DISPUTES

The parties to this Agreement will communicate with one another in good faith and in a timely and cooperative manner when raising issues under this provision. Any dispute, which for the purposes of this provision includes any disagreement or claim, between the FHWA and the Recipient concerning questions of fact or law arising from or in connection with this Agreement and whether or not involving alleged breach of this Agreement, may be raised only under this Disputes provision.

Whenever a dispute arises, the parties will attempt to resolve the issues involved by discussion and mutual agreement as soon as practical. In no event will a dispute which arose more than three months prior to the notification made under the following paragraph of this provision constitute the basis for relief under this article unless FHWA waives this requirement.

Failing resolution by mutual agreement, the aggrieved party will document the dispute by notifying the other party in writing of the relevant facts, identify unresolved issues and specify the clarification or remedy sought. Within five working days after providing written notice to the other party, the aggrieved party may, in writing, request a decision from one level above the AO. The AO will conduct a review of the matters in dispute and render a decision in writing within thirty calendar days of receipt of such written request. Any decision of the AO is final and binding unless a party will, within thirty calendar days, request further review as provided below.

Upon written request to the FHWA Director, Office of Acquisition and Grants Management or designee, made within thirty calendar days after the AO's written decision or upon unavailability of a decision within the stated time frame under the preceding paragraph, the dispute will be further reviewed. This review will be conducted by the Director, Office of Acquisition and Grants Management. Following the review, the Director, Office of Acquisition and Grants Management, will resolve the issues and notify the parties in writing. Such resolution is not subject to further administrative review and to the extent permitted by law, will be final and binding. Nothing in this Agreement is intended to prevent the parties from pursuing disputes in a United States Federal Court of competent jurisdiction.

3. REPORTING

ADDRESSES FOR SUBMITTAL OF REPORTS AND DOCUMENTS

The Recipient must submit all required reports and documents, under transmittal letter referencing the Agreement number, as follows:

Submit an **electronic copy** to the Agreement Officer at the following address: <To be filled in upon award>

Submit an **electronic copy** to the AOR at the following address: <To be filled in upon award>

MONTHLY PROGRESS REPORTS

The Recipient must submit an electronic copy of the Research Performance Progress Report (SF-RPPR), to the AOR and the Agreement Officer on or before the 30th of the month following the calendar quarter being reported. Final RPPRs are due 90 days after the end of the Agreement period of performance. The SF-RPPR content directions and budget formats are available online:

http://www.nsf.gov/bfa/dias/policy/rppr/format_ombostp.pdf

The Progress Report must include the required certification pursuant to 2 CFR 200.415.

Submit an electronic copy to the ITS JPO at the following address: ITSProjects@dot.gov.

SECTION G – FEDERAL AWARDING AGENCY CONTACTS

Address any questions to:

SmartCityChallenge@dot.gov