



U.S. Department
of Transportation

**Federal Highway
Administration**

Title: Accessible Transportation Technology Research
Initiative (ATTRI) Application Development

Broad Agency Announcement

A. INTRODUCTION

This Broad Agency Announcement (BAA) is written in support of the Accessible Transportation Technology Research Initiative (ATTRI) of the U.S Department of Transportation's (USDOT) Intelligent Transportation Systems Joint Program Office (ITS-JPO). Transportation is crucial for living in today's society. However, for people with disabilities (mobility, vision, hearing, and cognitive) inadequate transportation can hinder them from living a full life. The ATTRI improves the mobility of travelers with disabilities through research, development, and implementation of transformative technologies, applications, or systems for people of all abilities to effectively plan their personal and independent travel. ATTRI research focuses on the needs of three stakeholder groups: persons with disabilities, older adults, and veterans with disabilities.

The objective of ATTRI is to: (a) advance technology applications that enhance accessible transportation and independent mobility choices for travelers with disabilities; and (b) to improve opportunities for a seamless and complete trip that meets the diverse needs of travelers with mobility, vision, hearing and cognitive disabilities and provides them the ability to plan and execute an on-demand trip anytime of the day and from any location.

The acceptance and deployment of advanced transportation technologies is a complex process. Technology initiatives can address barriers and concerns related to independent travel documented by stakeholder user needs. For example, a network of ITS technologies can be used to reduce or eliminate the safety risks associated with street crossings by communicating to vehicles the presence and needs of a crossing pedestrian through communication between vehicles, pedestrians, and infrastructure. Accessible data can act as the foundation of many ATTRI applications by creating new and innovative solutions for users needing real-time, personalized information to conduct travel. These technologies should serve to reduce difficulty in commuting and be tailored to each individual's unique set of abilities and challenges through personalized portfolios. ATTRI, through continued research and application development continues to work toward improving the mobility of travelers with disabilities and provide enhanced capabilities for all travelers to reliably and safely execute independent travel.

A.1 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 Section 6002(a) of Public Law 114-94, the Fixing America's Surface Transportation Act (FAST Act).

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

Assistance agreement awards will be subject to a 20 percent cost sharing requirement (The authority to enter into assistance agreements for this effort and the costs sharing requirements is found under 23 U.S.C. § 502 - Surface Transportation Research, Development, and Technology, paragraph (b), which states: cooperation, grants, and contracts (see attached)).

A.2 OBJECTIVES AND DESCRIPTION

The FHWA in association with ITSJPO is soliciting proposals under the ATTRI program for technology applications that will lead to transformational changes and truly revolutionary advances in accessible transportation, personal mobility, and independent travel for all travelers, and lead to offering a totally new travel experience in intermodal surface transportation in the United States. These procurements will support scientific investigations, studies and application development, prototyping, demonstration and evaluation to advance the current knowledge and state-of-the-art in the sciences and technologies employed in the planning, design, construction, operation, maintenance and management of accessible transportation. Strategically, this research will enable and expedite the development of revolutionary approaches, methodologies, and breakthroughs required to drive innovation and greatly improve the efficiency of independent mobility options for people with disabilities and provide greater accessible transportation choices for all travelers.

A.3 PURPOSE

Under this BAA, ATTRI will award funds for the development of applications in each of the ATTRI priority application areas identified through robust stakeholder outreach and user needs assessment. Application areas (also referred to as topics) are broadly described as:

1. Smart Wayfinding and Navigation Systems
2. Pre-Trip Concierge and Virtualization
3. Safe Intersection Crossing

Each application developed should consider the four foundational considerations described below in section C.1. Awardees will also be expected to adequately collaborate with other application development areas under the ATTRI program including Smart Wayfinding and Navigation Systems, Pre-Trip Concierge and Virtualization, Safe Intersection Crossing, and Automation and Robotics. Awardees are also encouraged to coordinate with other relevant USDOT programs.

B. PROGRAM SCOPE

ATTRI conducts research to improve the mobility of travelers with disabilities through the use of ITS and other advanced technologies. ATTRI leads the research, development, and implementation of transformative technologies, solutions, applications, or systems for people of all abilities to effectively plan their personal and independent travel. ATTRI will identify, develop, and deploy new transformative technologies, applications or systems, along with supporting policies and institutional guidance, to address mobility challenges of all travelers, in particular, travelers with disabilities. ATTRI research focuses on the needs of three stakeholder groups: people with disabilities, Veterans with disabilities, and older adults. ATTRI will also develop technological solutions to lower or remove barriers to transportation according to four functional disabilities: visual, hearing, cognitive, and mobility.

ATTRI leverages recent advances in vehicle, infrastructure, and pedestrian-based technologies, as well as accessible data, mobile computing, robotics, artificial intelligence, object detection, and navigation. Visualize personalized technology applications, enabled by wireless communications that connects travelers and their mobile devices; vehicles; and infrastructure. Technologies conceived, developed and used by ATTRI should provide almost ubiquitous access to a wealth of real-time situational data sources, including data specific to transportation, municipalities, points of interest, crowd-sourced information, and, above all, accessible data. Five technology areas have emerged as ATTRI focus areas: wayfinding and navigation, assistive technologies, automation and robotics, data integration, and enhanced human service transportation.

In conducting research on accessible technology applications it is essential to document and consider in the development of new technological applications barriers experienced by potential stakeholders of these applications. For example, in 2010, the U.S. Census reported that approximately 56.7 million people in the U.S. (18.7 percent of the U.S. population) had some type of disability. In a similar study,ⁱ researchers found that over 6 million people with disabilities have difficulties obtaining the transportation they need and nearly one-third of people with disabilities reported having inadequate access to transportation. This is an important consideration for transportation agencies and officials as transportation has long been thought to be instrumental in enhancing access to education, jobs, healthcare, and the overall economic health of a communityⁱⁱ. This extends to persons with access and functional needs, including persons with disabilities, Veterans with disabilities, and older adults; a correlation that has been noted by many researchers including Rosenbloom, 2007.ⁱⁱⁱ Currently within this segment of the population there is a 63 percent unemployment rate, with half of the household income and three times the poverty rate of people without disabilities^{iv}, lending some credence to the relationship between disability and economic indicators. A robust user needs assessment on challenges faced by people with disabilities, Veterans with disabilities, and older adults regarding independent travel, conducted by the United States Department of Transportation's ATTRI, observed that needs and barriers vary by sub-population and type of disability, however, several themes

emerged regarding mobility needs of these populations including the needs for more information, options, assistance, and access.^v Particularly, the top barriers identified by stakeholders include lack of or inaccessible signage, maps and announcements navigation difficulties due lack of information on arrival times, transfer times and travel distance, and inconsistent accessible pathway infrastructure. Similarly, the top user needs identified were lack of amenity information, lack of real-time transportation information and lack of safety, security and emergency information.

During the exploratory phase of the program, ATTRI conducted technology scans, a comprehensive user needs analysis of target populations and functional disabilities, solicited information through a Request for Information and conducted extensive stakeholder outreach. Based on this information, the USDOT has determined four priority areas (also referred to as topics) for the development of ATTRI applications:

1. Smart Wayfinding and Navigation
2. Pre-Trip Concierge and Virtualization
3. Safe Intersection Crossing
4. Shared Use, Automation, and Robotics (proposals are not being accepted for this priority area.)

Note: One note of importance is that a fourth application area identified by ATTRI research is that of shared use automation and robotics, which will be developed under coordination and resources with the Department of Health and Human Services through the Disability and Rehabilitation Research Projects (DRRP) Program of the National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR). NIDILRR is seeking to fund research on the use of automated and robotic technologies to improve transportation options for individuals with disabilities. In recent years, NIDILRR has supported the ATTRI through various collaboration and will continue this collaboration in carrying out and overseeing this research initiative, which will lead to the development, prototyping, demonstration, and evaluation of accessible transportation technologies in the field of automation and robotics.

In addition, ATTRI determined four foundational considerations that should be explored and considered for any application being developed under the ATTRI program. These foundational considerations are described in the section below.

C. APPLICATION AREA DESCRIPTIONS

The FHWA in association with ITS-JPO is soliciting proposals under the ATTRI program for technology applications that will lead to transformational changes and truly revolutionary advances in accessible transportation, personal mobility, and independent travel for all travelers, and lead to offering a totally new travel experience in intermodal surface transportation in the United States. These procurements will support scientific investigations, studies and application development, prototyping, demonstration and evaluation to advance the current knowledge and state-of-the-art in the sciences and technologies employed in the planning, design, construction, operation, maintenance and management of accessible transportation. Strategically, this research will enable and expedite the development of revolutionary approaches, methodologies, and

breakthroughs required to drive innovation and greatly improve the efficiency of independent mobility options for people with disabilities and provide greater accessible transportation choices for all travelers.

Application Area 1: Smart Wayfinding and Navigation Systems

Applications developed within the smart wayfinding and navigation realm will provide real-time, en-route assistance and situational awareness to ensure travelers can safely reach their destinations while traveling independently. These technologies could include, but are not limited to: wayfinding and navigation systems for indoor and outdoor use, beacons or electronic tags to interact with the built and pedestrian environment, transmittable data in multiple communication formats (visual, audible, haptic) including multiple languages, wearable technologies acting as discreet assistive navigation tools, connection with assistive mobile devices already in use (e.g. white cane, wheelchairs, smartphones), and the use of community volunteers providing accessibility data on neighborhoods, buildings, and infrastructure elements, including crowd sourced public/private maps for indoor and outdoor spaces for the real-time use of travelers with disabilities. Processes that affect wayfinding and navigation include: familiarization, localization and orientation, path planning, path traversal (locomotion), guidance, annotation, update and communication.^{vi}

Wayfinding and Navigation solutions will assist with waypoint navigation, path planning, advanced warning of events, recovery from route mistakes, navigation in unfamiliar locations and changes in environment by using Global Positioning System (GPS), geographic information system (GIS), Information and Communication Technology (ICT), and intelligent transportation system (ITS) equipment and technologies. These applications will then recognize and detect stationary objects (e.g., doors, elevators, stairs, crosswalks, and traffic lights), read and recognize important text and signage based on a user's query, and detect, track, represent moving objects and dynamic changes to a traveler's environment (e.g., people, shopping carts, doors opening, and moving vehicles), and provide one button push notification to send location information from a smartphone to a van or bus. Wearable sensors, such as cameras, three-dimensional orientation devices, and pedometers, may be used in conjunction with a display unit to provide auditory and tactile guidance.^{vii}

While there is useful data in existing map systems, they often lack critical data relevant to ATTRI stakeholders. For example, a Points of Interest database may give the location of a store, but not where the entry door is, whether there are steps at the door, or if a restaurant has an accessible bathroom. In addition, wayfinding and navigation systems can support the transition from paratransit to fixed route transit services.

Application Area 2: Pre-Trip Concierge and Virtualization

Technology solutions focusing on providing pre-trip concierge services and route virtualization could include, but are not limited to: providing pre-trip and en-route traveler information throughout the trip, design for people with blindness, low vision, cognitive and mobility issues, passengers having the ability to "see" their entire routes on an app with landmarks (to remove fear and facilitate independent mobility) and contextual details with augmented voice overlays,

and virtual caregiving technology which helps plan routes, track travelers movement and provide connectivity to caregiver and family members.

Applications in this area could include new technology solutions that assist travelers with activities in everyday life such as walking or getting to work seamlessly with unique traveler mobility needs and human transportation services to provide concierge services at different stages of travel. Applications could include improved personal mobility including the ability to learn and remember routes across the transportation network by integrating data, personal needs and profiles alongside available services. Applications could also relay traveler information for multiple transportation choices including cost, accessibility accommodations, distances, travel times, and integration with other modes for first mile, last mile options. Machine vision, Artificial Intelligence, assistive robots, and facial recognition software could help solve a variety of travel related issues for people with disabilities in vehicles, through the use of devices or at terminals creating virtual caregivers or concierge services helping guide travelers and assisting with decision making while connecting with their caregivers and family members. For example, if applications in this area were applied to transit systems and stations, virtual exploration devices could have the potential to help visually impaired travelers familiarize themselves with the layout of a building or of the overall transportation network.^{viii} In addition, for users of paratransit and taxicab type services, applications could track vehicle location and how long it would be before it arrives at the pickup location.

Additional examples of applications in this area could include: planning, reservations, and travel itinerary solutions for people with disabilities, pre-trip and en-route crowd-sourced traveler information, technical design solutions for people with blindness, low vision, cognitive and mobility issues, technologies which enable passengers “see” their entire routes on an app with landmarks, or virtual caregiver applications which help plan routes and track travelers movements including creation of voice assistant applications (such as Apple’s Siri) with a voice overlay of a family member to help those with cognitive disabilities. Applications in this area may leverage use of emoji’s for accessible transportation solutions for easier interpretation of information on smartphone apps and transportation infrastructure.

Application Area 3: Safe Intersection Crossing

Safe navigation of crosswalks can be a key challenge for people who need more time to traverse an intersection. If there is no safe island zone mid-intersection then signal light duration becomes very important, for example. Within this application area, providing safe intersection crossing assistance for all unique travelers as they interface with existing traffic, signals, all types of vehicles and assistive devices are key focus areas. It is imperative, then, that technological solutions including design, focus on assistive tools for people with blindness, low vision, cognitive and mobility issues. Assistive tools may be in the form of personal nomadic devices, wearable technologies and kiosks on streets corners to allow for ubiquitous access to connected services.

Applications in this area should, for example, provide guidance, notifications and alerts in various communication formats that assist pedestrians and all users of the transportation system, navigate safely through intersections and focus on providing precise and concise information

when it is needed and at the right moment to promote decision making and actions. These applications should address and could include, but are not limited to the following components: pedestrians interface with traffic signals, vehicles, nomadic devices, and automated intersection crossing assistance, beacons or electronic tags to interact with the built and pedestrian environment including support for multiple languages and sharing of real-time information.^{ix} It should provide contextual information including GIS and crowdsourced based information on curb cuts, bus stop locations, side walk grade and slope, and any disruption of the built environment (damaged infrastructure, dead ends, potholed) to aid all travelers. Additional examples could include; futuristic and innovate approaches to solving this issue with automated intersection crossing assistance, technical design solutions for people with blindness, low vision, cognitive and mobility issues, or integrated beacons or electronic tags to interact with the built environment.

C.1 FOUNDATIONAL CONSIDERATIONS

The ATTRI application developmental process seeks to spur innovation among accessible transportation concepts to provide inclusive and seamless door through door independent mobility to all travelers including those with disabilities. These awards are expected to develop three specific applications (one from each priority areas described above). Foundational considerations should be considered together as elements of each application and work tangentially to the degree possible. Foundational considerations are listed below:

1. Standard Accessible Data Platform

Data standardization and interoperability is critical in developing applications which aspire to enhance the personal mobility of those with the greatest needs. Data must begin to work across service providers, utilize available real-time data sources and communicate in an efficient, succinct, and adaptable manner to meet individual user needs with various degrees of abilities. Technology applications to be considered for ATTRI development will provide almost ubiquitous access to a wealth of real-time, situational data sources, including data specific to transportation systems, municipalities, points of interest, crowd-sourced information in accessible formats utilizing inclusive information and communications technology (ICT). Applications may consider standardized data to create user profiles allowing smoother access and transferring between accessible transportation services.

2. Universal Design Standards

Universal design standards incorporate a philosophy that espouses to maximize the applicability of a technical solution to the needs of all user groups. In relationship to ATTRI application development, it is presumed that all work attributed to building applications for the use by ATTRI stakeholder groups pursue universal design principles including inclusive ICT solutions. Implementation of such principles in development could include leveraging existing solutions and enhancing them to meet the needs of all users, as such user center and responsive design approaches, personalization techniques are expected to be followed for applications including implementing multiple communication formats (visual, audible, haptic) where possible. Likewise, consideration should be given to incorporate user profiles and documented needs from all stakeholder

and ability groups, and creating user experiences with information sharing on any display associated with such applications in built and pedestrian environments including wearable and nomadic devices. The feasibility of mainstream adoption of such technological solutions being developed for ATTRI should also be considered for all functional disabilities types.

3. Integrated Payment Solutions

Integrated payment systems typically incorporate interoperable electronic fare payment media and technologies that can be utilized across all modes of transportation, at all times, perhaps for multiple consumer purposes, including leisure, recreational and healthcare expenses. The vision for a multimodal integrated payment system is to deliver, for travelers in the transportation ecosystem, the ease of use and convenience that comes from one real-time electronic payment system and extend that ease across modes and through institutional and technical collaborations. Integrated payment solutions should accommodate all users, including those with mobility, vision, hearing, and cognitive disabilities. In such cases where possible, consideration should be given to integrate payment solutions with any application or device such as embedding it on a power wheelchair or on a robotic device.

4. Leverage Existing Technologies

To maximize the impacts of ATTRI and to respond most effectively to the needs of all users and stakeholders, any application being developed under ATTRI should leverage, to the degree possible, existing technologies, including but not limited to ITS-JPO, Application Program Interface (API), Software Development Platform, Software Development Kit, on-demand technologies, data standards, innovative smartphone and mobile technology, wearable technology, accessible transportation technologies, and other assistive and enabling technologies, operations, and/or techniques whether currently being pursued in research, or readily available in the market.

For additional information on the ATTRI program please visit the program website:

<http://its.dot.gov/attri/>.

D. ATTACHMENTS

1. Attachment 1 – Three Phase Development Sample

ⁱ U.S. DOT Bureau of Transportation Statistics, Issue Brief: Transportation Difficulties Keep Over Half a Million Disabled at Home, 2003

ⁱⁱ Thomas W. Sanchez, “The Connection Between Public Transit and Employment,” 1998, available at:

<http://reconnectingamerica.org/assets/Uploads/Public-Transit-Employment.pdf>

ⁱⁱⁱ Rosenbloom, Sandra, “Transportation Patterns and Problems of People with Disabilities,” Contained within *The Future of Disability in America*, Washington (DC): National Academies Press (US); 2007

^{iv} Cornell University, 2012 Disability Status Report (United States), 2012,

http://www.disabilitystatistics.org/StatusReports/2012-PDF/2012-StatusReport_US.pdf

^v Accessible Transportation Technologies Research Initiative (ATTRI), User Needs Assessment Report, U.S.DOT, Final Report — March XX, 2016, FHWA-JPO-16-354. Interim report available at: www.its.dot.gov/index.htm

^{vi} Accessible Transportation Technology Research Initiative (ATTRI): Assessment of Relevant Research, FHWA-JPO-16-352.

^{vii} Accessible Transportation Technology Research Initiative (ATTRI): Innovation Scan, FHWA-JPO-16-351.

^{viii} Accessible Transportation Technology Research Initiative (ATTRI): Assessment of Relevant Research, FHWA-JPO-16-352

^{ix} Accessible Transportation Technology Research Initiative (ATTRI): Assessment of Relevant Research, FHWA-JPO-16-352



U.S. Department
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**Federal Highway
Administration**

Title: Accessible Transportation Technology Research
Initiative (ATTRI) Application Development

Broad Agency Announcement

Instructions to Offerors

I. OVERVIEW

A. This Broad Agency Announcement (BAA) is soliciting proposals under the ATTRI program for technology applications that will lead to transformational changes and truly revolutionary advances in accessible transportation, personal mobility, and independent travel for all travelers, and lead to offering a totally new travel experience in intermodal surface transportation in the United States. These procurements will support scientific investigations, studies and application development, prototyping, demonstration and evaluation to advance the current knowledge and state-of-the-art in the sciences and technologies employed in the planning, design, construction, operation, maintenance and management of accessible transportation. Strategically, this research will enable and expedite the development of revolutionary approaches, methodologies, and breakthroughs required to drive innovation and greatly improve the efficiency of independent mobility options for people with disabilities and provide greater accessible transportation choices for all travelers.

B. Federal Agency Name: United States Department of Transportation, Federal Highway Administration (FHWA)

C. Opportunity Title: Accessible Transportation Technology Research Initiative (ATTRI) Application Development

D. Opportunity Number: DTFH6116R00022

E. Authority: This BAA is issued under Federal Acquisition Regulations (FAR) Part 35.016 (c). This is not a Federal Acquisitions Regulations Part 15 procurement.

F. The FHWA anticipates that proposals funded would be awarded after September 2016.

G. Proposal due date and delivery location:

Due Date and Time: August 11, 2016 / 12:00pm EST

Location:

FEDERAL HIGHWAY ADMINISTRATION
OFFICE OF ACQUISITION & GRANTS MGMT
OFFICE OF CONTRACTING OPERATIONS -
1200 NEW JERSEY AVENUE, SE
LOCATION: E62-204
WASHINGTON DC 20590

Email: dewhyte.mcpherson@dot.gov

II. SPECIFIC RIGHTS RESERVED FOR THE GOVERNMENT UNDER THIS BAA

The Government reserves specific rights, in addition to rights described elsewhere in this document or by law or regulation, including:

1. The right to award multiple awards, a single award, or no awards.
2. The right to make award without discussions, or to conduct discussions and/or negotiations, whichever is determined to be in the Government's interest.
3. The right to accept proposals in their entirety or to select only portions of proposals for award.
4. The right to select for award an instrument type that is appropriate to the specific development context, partner relationship, and proposal selected for award. Instruments types include but are not limited to contracts, grants, or cooperative agreements.
5. The right to request any additional, necessary documentation upon initial review. Such additional information may include, but is not limited to, a further detailed proposal, budget, and representations and certifications.
6. The right to fund or co-invest in proposals in phases, with options for continued work at the end of one or more of the phases.
7. The right to remove proposers from award consideration should the parties fail to reach agreement on award terms, conditions, and cost/price within a reasonable time, the proposer fails to timely provide requested additional information, or the Government believes it is in its best interest

III. INSTRUCTIONS FOR SUBMISSION OF PROPOSALS:

ADMINISTRATIVE INFORMATION: Offerors are required to follow the guidance contained herein. The following sections provide information on proposal format, the submission process, evaluation and funding processes, and other general information. Proposals not meeting the format described in this BAA will not be reviewed.

All administrative correspondence or questions on this BAA should be directed to the Contracting Officer at the following email address: dewhyte.mcpherson@dot.gov.

FHWA will provide responses to questions received through July 31, 2016 cut-off date. FHWA may not respond to questions received after the cut-off date.

IV. EVALUATION CRITERIA:

The FHWA may select for award approximately three to nine proposals.

Evaluations will be performed using the following criteria:

1) Technical

Overall scientific and technical merit of the proposal, including the potential to result in increased understanding/knowledge and capabilities in ATTRI technology. Overall capabilities, including the qualifications and experience of the key personnel and organizational structure who are critical in achieving the proposal objective; the offeror's qualifications, capabilities, and experience in related technical areas; and the offeror's facilities and demonstrated ability for achieving the proposal objectives; overall capability to manage the effort, including plans to objectively develop and implement ATTI technologies in the advancement of the national highway system.

- 2) Fund Availability:** Cost/Price realism and reasonableness in meeting performance objectives will be assessed and evaluated to the extent appropriate. Availability of adequate funding for the proposed effort must exist as well as projected funding for any optional phases (if proposed).
- 3) Importance to Agency Programs:** In providing foundational research and development that promotes research investment in applying technology, process improvements or policy solutions that could lead to significant innovations in ATTRI. The proposed anticipated result's importance to the FHWA will be assessed and evaluated.
- 4) Past Performance:** Past performance will be evaluated on a "Pass/Fail" basis for the purposes of making a determination of acceptable or unacceptable risk and responsibility.
- 5) Small Business Subcontracting Plan:** The Small Business Sub-Contracting Plan (required by all Offerors who are other than Small Business entities) will be evaluated on a "Pass/Fail" basis.

NOTE: Required for other than small businesses with proposals over \$700,000 only.

The number of awards, and their dollar value, will vary depending on the merit of proposals received.

V. GENERAL INFORMATION REGARDING THE PROPOSAL PROCESS

Proposals will be evaluated by FHWA against the evaluation criteria outlined above. The FHWA may make more than one award for each of the topics listed in the BAA.

Offerors may submit more than one proposal; however each one must be in response to a single topic on the BAA. The topic of the proposal must be clearly identified in the proposal title on the cover page.

It will be of added value for the proposing organization's management to demonstrate flexibility in support of this approach. Examples of support are strong internal backing with matching funds, innovative approaches in contracting and leveraging current and past technology development efforts that support this program.

Awards under this program subject to the requirements of Section 508 of the Rehabilitation Act, depending on the type of final products or reports to be delivered under each award. The Act requires that all electronic products prepared for the Federal Government be accessible to persons with disabilities, including those with vision, hearing, cognitive, and mobility impairments. Proposers can view [Section 508 of the Rehabilitation Act \(http://www.access-board.gov/508.htm\)](http://www.access-board.gov/508.htm) and the [Federal IT Accessibility Initiative \(Home Page\) \(http://section508.gov/\)](http://section508.gov/) for detailed information.

The Paperwork Reduction Act of 1995 (PRA): Offerors are advised that any activities involving information collection (i.e., surveys, questionnaires, etc.) from 10 or more non-Federal entities, including States, are subject to PRA requirements and may require the FHWA to coordinate an OMB Information Collection Clearance, a process that generally takes six months or more.

VI. PROPOSAL FORMAT AND CONTENT

Format

All proposals should be submitted in Microsoft® Word 2010 (compatible) or text searchable Adobe® Portable Document Format (PDF). Pricing data shall be submitted in Microsoft Excel 2010 (compatible).

The format of the proposal volumes discussed below shall be as follows:

- (a) Proposals shall be prepared on 8½ x 11 inch paper.
- (b) A page is defined as one side of an 8 ½ by 11 inch sheet of paper. Therefore, a sheet with printing on both sides is considered two pages.
- (c) Text shall be printed using a Times New Roman or Arial font, size no less than 12 point font.
- (d) Page margins (exclusive of headers and footers) shall be a minimum of 1 inch top, bottom and each side. Columns shall not be used as they are difficult to read electronically.
- (e) Footnotes, legends, or labels associated with tables or diagrams, and other information that is ancillary to the main text, may be presented in a font size smaller than 12 point font---provided that any such smaller font is fully legible.

Delivery Format

Note: The FHWA requests offerors submit each original proposal in the form of a three-ring loose-leaf binder at the left margin with one CD and one separate electronic (email) copy. Do not use paper clips or staples as binding.

Proposal Volumes	Original Proposal Format	Electronic Proposal Format
Volume I	One original proposal with a CD. Proposal must be broken out into the 17 parts. The CD must contain the volume parts as separate files.	Email with each proposal part attached as individual files. Email size must not exceed 5 mb.
Volume II	One original proposal with a	

	CD. Proposal must be broken out into the five parts. The CD must contain the volume parts as separate files.	The subject line must read: “Proposal for DTHF6116R00022” *Do not zip your files.
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Proposals shall consist of two separate volumes and the parts as listed below:

Volume I must be no longer than 38 pages in length. The contents of any appendices/exhibits shall NOT count against the 38-page limit. If items are included in an appendix, which is not explicitly discussed, in the basic proposal, the proposal may not be reviewed. Proposals with Volume I in excess of 38 pages may not be reviewed. Proposals with less than the maximum number of allowed pages will not be penalized. Offerors are encouraged to submit concise, but descriptive, proposals.

Volume I – Technical Proposal and Management Approach

- Part A – *Cover Page* – Not to exceed 2 pages.
- Part B – *Executive Summary* – Not to exceed 3 pages.
- Part C – *Innovative Claims* – Not to exceed 2 pages.
- Part D – *Vision* – Not to exceed 2 pages.
- Part E – *Technical Rationale* – Not to exceed 6 pages.
- Part F – *Statement of Work (SOW)* – Not to exceed 9 pages.
- Part G – *Schedule, Milestones, and Evaluation Metrics* (appendices/exhibits) – No page limit.
- Part H – *Deliverables and Products* – Not to exceed 2 pages.
- Part I – *Innovative Claims* – Not to exceed 2 pages.
- Part J – *Management Plan* – Not to exceed 2 pages.
- Part K – *Technology Transition Plan* – Not to exceed 1 page.
- Part L – *Facilities* – Not to exceed 2 pages.
- Part M – *Experience* – Not to exceed 2 pages.
- Part N – *Key Personnel* – Not to exceed 1 page.
- Part O – *Qualifications* – Not to exceed 2 pages.
- Part P – *Other Proposals* – Not to exceed 2 pages.
- Part Q – *Bibliography* – Not to exceed 1 page.

Volume II – Cost Proposal and Business Information

- Part A – Cost/Price Information
- Part B – Subcontracts/Consultants
- Part C – Other Financial/Organizational Information
- Part D – Subcontracting Plan
- Part E – Past Performance – Not to exceed four pages.

The proposals shall be prepared in the following format: 8.5 x 11 inches, one and one-half line spacing or double-spaced, in at least 10-point font.

Volume I

Volume I of the proposal shall include the following sections, each starting on a new page

(Part A) *Cover Page*: This must include the BAA number, proposal title, project duration, type of business (large business, small disadvantaged business, other small business, educational institution, or other nonprofit), complete list of subcontractors, technical and administrative points of contact including addresses, telephone numbers, and electronic mail addresses.

(Part B) *Executive Summary*: The summary should include:

1. Description of the proposed visionary technology or system and how the proposed effort will meet the objectives of the BAA,
2. Description of the significant innovative ideas proposed,
3. Comparison of these innovative ideas with current approaches and the current state of the art,
4. The expected impact of the research if successful,
5. Brief description of the technical approach and the key technology and system development milestones for proof of concept
6. The process and metrics recommended for measuring the impact of the developed technologies and system, and
7. Summary of the anticipated program deliverables.

(Part C) *Innovative Claims (optional)*: Provide a summary of significant innovative technical claims. Identify any innovative technologies and technical ideas to be pursued and the expected impact on the state of the art if the proposed efforts are successful.

(Part D) *Vision*: Describe the proposed technology or system and how the proposed effort will meet the objectives described in the application areas in the BAA. Describe the impact and relevance of this proposed research or technology development effort to the creation of a revolutionary concept/design/component(s)/system for the nation's intermodal transportation systems. Describe the contribution and relevance of this proposed effort to related FHWA and highway programs and activities, where appropriate.

(Part E) *Technical Rationale*: The technical rationale section must include technical arguments to substantiate the technical quality and merit of the claims made in Sections (B), (C), and (D), provide a summary description of the technical approach, consistent with Sections (F) and (G), and also provide a comparison with other ongoing research indicating both advantages and disadvantages of the proposed effort/approach. Describe and order the two or three most challenging technical areas and activities related to the proposed research or technology development. Indicate approaches for mitigating technical and schedule risk should proposed technologies produce weaker than anticipated results. Describe any parallel or alternative development approaches or technologies, and the rationale for their use. Indicate the potential impact of these alternatives on the performance goals and objectives described for the topic in the BAA.

(Part F) *Statement of Work (SOW)*: This section must detail the relevant background information, the objective(s) of the proposed effort, the overall planned scope of the effort, and the technical approach for accomplishing the proposed effort. A chart of the proposed Work Breakdown Schedule (WBS) must be provided to describe both the high level tasks and the subtasks at a level of detail sufficient to ensure that individual subtasks are clearly identified and allocated to a single project group or functional group within the proposing organization or to a single clearly identified subcontractor. For each task and subtask, provide a description of the proposed effort, significant timing constraints associated with the specific task and subtask to be performed (such as, "this task y can only be initiated after successful completion of task x"), the anticipated duration in both calendar time (weeks) and in resource time (person-hours and person-weeks), the planned specific utilization of personnel from specific project groups, functional groups and subcontractors, and also the anticipated results, products, or deliverables associated with the completion of each tasks and subtasks.

Note: Topics 1, 2, 3, and 4 anticipate successful results in an initial phase before moving into one or more subsequent phases. For these topics, proposals shall include a detailed work scope for the initial phase. Where the approach of subsequent phases is dependent on the work of the initial phase, proposers should use their best judgment to outline a likely approach, schedule, deliverables, key personnel, etc.

(Part G) *Schedule, Milestones, and Evaluation Metrics*: This section must provide a summary of the schedule, milestones, and associated evaluation metrics for the proposed effort. Please refer to Exhibits one and two for samples.

(Part H) *Deliverables and Products*: This section must consist of two subsections: Deliverables and Products. The deliverables subsection must describe and enumerate the anticipated deliverables for the proposed effort, both preliminary and final.

The products subsection must describe and enumerate any additional anticipated results or products, including transferable technology expected for users on this program or for developers or users on related programs. This section should address specific innovative approaches the offeror will take to facilitate technology transition. This subsection should contain a clear description of how results will be made sharable to other funded highway research programs and what use these results might be to these other activities. Any restrictions on software, other data, or hardware developed under proposals that would affect this practice should be clearly identified in this section. The government expects to obtain no less than Government Purpose License Rights to all software delivered as a part of these funded efforts. All software deliveries, preliminary and final, will include as a minimum, well-documented source code in electronic readable format, overall software architecture documentation, overall and individual module interface documentation, and a user operations manual. All hardware deliveries will include all documentation necessary to reproduce (assemble) and operate the delivered hardware system(s).

Note: FHWA seeks research that encourages continued research and development by providing reasonable and broad access to products such as models, algorithms, software, or data.

(Part I) *Proprietary Claims*: This section must provide a summary of any proprietary claims to results, software, hardware, prototypes, or systems supporting and/or necessary for the use of the research, results, software, hardware, prototype, or system proposed for development under this BAA. Any claims made in other parts of the proposal, such as in sections (C) and (H) above, which would impact the claims in this section must be identified in a cross-reference table in this section. As mentioned in section (h) above, the government expects to obtain no less than Government Purpose License Rights to all software delivered as a part of these funded efforts. If there are no proprietary claims this section shall consist of a statement to that effect.

Note: Exploratory advanced research can lead to unexpected inventions and processes. Accordingly, FHWA may ask for disclosure of inventions and new processes that result from Program awards in order to discuss and advise the research team on how the results could continue through the research and development process and be taken up by the highway transportation industry or by other industries.

(Part J) *Management Plan*: This section must describe the overall approach to management of this effort, including a brief discussion of the proposed organization and the use of personnel and other resources. Provide a description of how the proposed effort, as described in the Work Breakdown Structure (WBS), will be executed. Refer to significant tasks and subtasks identified in the SOW (section (F) above) and to the Schedule, Milestones, and Evaluation Metrics (section (Part G) above) and provide a rationale for allocation of resources to proposed project groups, functional groups, and subcontractors. Indicate planned government research and facility interfaces, and planning, scheduling and control practices. This section should also describe the partnership structure between the entity proposing work and other public and private sector entities funding or otherwise substantially participating in the work, including State Departments of Transportation, Metropolitan Planning Organizations, Universities, Foundations, etc.

Note: The Management Plan and Technology Transfer plan (section (K), next) should provide some discussion on how FHWA will know the work is successful. Project evaluations will be conducted at key mid-point milestones or at completion to document accomplishments.

(Part K) *Technology Transition Plan*: The technology transition plan should describe the plans and capabilities to accomplish technology transition. It should describe the anticipated stage of development of the technology at the completion of the proposed effort, describing how the research is anticipated to result in an increased understanding/expansion of the knowledge base for the topic, and the anticipated overall approach to advancing the technology further, either through further applied research, commercialization or other mechanisms.

Note: For Proposals that result in awards, FHWA intends the transition plan to be a living document during the conduct of research for proposals that result in awards.

(Part L) *Facilities*: This section should include a description of the facilities that would be used for the proposed effort.

Special Note for Smart Wayfinding and Navigation: FHWA anticipates that investigators may want to conduct part of the research taking advantage of expertise, facilities, and equipment

located at the Nondestructive Evaluation Laboratory in McLean, Virginia. For more information, see <http://www.fhwa.dot.gov/research/tfhrc/labs/nde/>. Research Teams may contact the Federal laboratory manager to discuss possible access to laboratory facilities that could be included in a proposal. Discussions with and inclusion of research conducted at the Non-Destructive Evaluation Laboratory does not guarantee acceptance of the proposal. Proposals will be reviewed by an independent expert panel. See below for more information about the review criteria. Proposals that include experiments at TFHRC do not need to include FHWA associated costs, which will be funded separately.

(Part M) *Experience*: This section should include a description of relevant capabilities, work, and significant accomplishments in areas associated with proposed research area or in closely related areas. Associate the described relevant experience to the specific project group or functional group in the proposing organization or to the specific proposed subcontractor(s).

(Part N) *Key Personnel*: This section should include a list of key personnel, with title and identification of association to a specific project or functional group within the proposing organization or to a specific proposed subcontractor. Indicate the proposed amount of effort (person-hours) to be expended by each person during the proposed program (by both calendar year and by fiscal year). Resumes shall be provided for ONLY key personnel. Resumes shall not exceed one page, and are not included in the total page limitation for this part of the proposal.

(Part O) *Qualifications*: This section should include a concise summary of the relevant qualifications of all personnel proposed along with other major sources of support for them (limited to no more than one page per key person). If necessary, the government will request additional resume and qualification related information. **Note: This section is not included in the page limit.**

(Part P) *Other Proposals*: This section must include a summary list of all current and pending proposals being executed or proposed to be executed with the support of personnel proposed in this effort. This list should be ordered by the size of the effort and should include start and end dates, total project cost, and the average amount of time (person-hours per month) planned or currently being expended on each effort. The list should be organized by names of the key personnel and other significant senior personnel. If the summary list is greater than 2 pages long, indicate at the bottom of the second page the number of additional current and pending proposals and the total project cost associated with these remaining efforts. If required, a request for the complete list will be made.

(Part Q) *Bibliography*: This section should include a bibliography of relevant technical papers and research notes which support the technical concepts and innovative ideas described in this proposal.

Volume II

a. Award Type

The FHWA may award either contracts or assistance agreements as a result of this Broad Agency Announcement (BAA). In consultation with the technical evaluators, the Contracting Officer (CO) will make the determination whether a contract or assistance agreement will be awarded. Three factors affect the decision to award a procurement contract or assistance award, and if an assistance award, a grant or cooperative agreement. The three factors are:

- Legislative authority
- Principal purpose
- Degree of federal involvement

Assistance agreements differ from contracts in several key ways:

The primary goal of a procurement contract is to procure goods or services for the use of or to directly benefit the federal awarding agency; whereas the primary goal of an assistance agreement is to further a public purpose.

Procurement contracts allow for the vendor/supplier to make a profit, while assistance agreements are cost-reimbursable agreements in that the only permissible charges are actual costs that are directly related to the project and an amount of indirect costs based on an agreed-upon rate.

Procurement contracts require “deliverables” that the CO or Contracting Officer’s Representative (COR) must test and accept. Assistance agreements do not include deliverables, but may require other submissions described in the award document.

Although the Government encourages cost sharing for both cooperative agreements and contracts, all applications submitted for an assistance agreement consideration must include a 20 percent or greater non-federal cost share.

Volume II of the proposal does not have a page limit. If necessary, the government will request additional cost back-up information, as appropriate. Offerors may propose using any of the pricing methods (Cost Reimbursable, Fixed Price, Time & Materials) outlined below. However, proposing using firm fixed pricing is encouraged as it lowers the risk to the Government.

All offerors shall include in the proposal the following mandatory business information regarding your business or institution:

- a. Business Size
- b. Federal Tax Identification Number (TIN)
- c. Dun & Bradstreet Number
- d. Name and contact information (mail address, telephone, and email address) of your authorized business representative/point of contact

Volume II – Business and Cost/Price (Parts I-VI) consist of the following:

- Part A – Cost/Price Information
- Part B – Other Financial/Organizational Information
- Part C – Subcontracting Plan (not included for assistance agreement)
- Part D – Past Performance – Not to exceed four pages.

A. Cost/Price Information

Volume II information shall include annual and total costs with a baseline period of performance up to 12 months, and if needed, with one or more options, each no longer than 12 months.

A.1 Funding

The total amount of federal funding (federal share) that is available for each of the three application areas is \$2.5 million for a total of \$7.5 million.

IMPORTANT: Offerors may propose their preferred pricing based on the directions below. However, the Contracting Officer will make a determination based on the proposals risk and performance certainty. As such, you are encouraged to propose using the fixed price instructions below.

B. Cost Reimbursable Proposal

A detailed cost break-down showing costs by each major cost category, including (as applicable) direct labor, fringe benefits, subcontract costs, other direct costs (travel, equipment, etc.), and indirect costs for the initial phase of the proposed effort.

Provide a *separate* and fully detailed cost breakdown for *each* optional future phase proposed.

NOTE: Some application areas anticipate successful results in an initial phase before moving into one or more subsequent phases. In these cases, proposals shall include a fully detailed cost breakdown for the initial phase. Where the approach of subsequent phases is dependent on the work of the initial phase, proposers should use their best judgment regarding the levels of direct and indirect costs and categories of personnel.

(1) The detail shall include:

Direct Labor:

- Personnel by name or labor category
- Number of hours proposed (commercial organizations) or percent of effort (organizations subject to OMB Circulars)
- Hourly unburdened labor rate (commercial organizations) or salary rate and basis (9 or 12-month basis) (organizations subject to OMB Circulars)

- Fringe Benefits Rates applied
- Profit percentage and amount

- (2) *Other Direct Costs.* Other Direct Costs shall be supported by explanation of estimating factors and other relevant supporting details. For example, travel costs shall be supported by detail on the estimated trips, number of travelers, and associated costs for airfare, per diem, other transportation, etc. A similar level of detail shall be provided for any meeting costs, equipment, duplication/printing charges, and other direct costs.
- (3) *Indirect Costs.* Discuss your proposed rates for all years. Identify the various specific indirect rates and what they are based on (e.g., labor overhead based on direct labor dollars) and how they are applied/calculated. State any differing rate applications (for example if there is a different proposed rate when applied to travel or material purchases than when applied to subcontractor costs). Offerors must provide dollar values as well as percentages.
- (4) Subcontractor costs should be fully detailed, and the information used by the proposer to analyze the price of the subcontract shall be provided. An SF1411 is not required for this submission of your proposal.
- (5) Details of any cost sharing to be undertaken by the offeror shall also be included in the cost section. Describe the type of funds (cash, in-kind, etc.) and its contribution and relationship in enhancing the proposed effort.

Volume II must also include a separate breakdown of costs by major task area. Use the same task or subtask numbers as described in the SOW submitted as part of your Technical proposal in Volume I.

If necessary, the government will request additional cost back-up information, as appropriate.

B.1 Fixed Price Proposal

Provide a *separate* and fully detailed cost breakdown for *each* optional future phase proposed.

NOTE: Some application areas anticipate successful results in an initial phase before moving into one or more subsequent phases. In these cases, proposals shall include a fully detailed cost breakdown for the initial phase. Where the approach of subsequent phases is dependent on the work of the initial phase, proposers should use their best judgment regarding the levels of direct and indirect costs and categories of personnel.

- (1) The price proposal detail shall include:
- Labor categories, their descriptions, and fully burdened hourly rates.
 - Number of hours proposed, by task and labor category, and hourly rate.
 - Travel and Other Direct Costs assumptions.
 - Sum total of all labor, travel, and other direct costs

- A detailed cost break-down showing costs by each major cost category, including (as applicable) other direct costs (travel, equipment, etc.),

(2) Offerors shall submit, under a separate tab, all (if any) assumptions or conditions upon which the Price Proposal is based. Note that assumptions or conditions that are non-conforming to the Government terms and conditions may result in a higher cost risk assessment.

(3) Provide adequate detail in supporting documentation of how the total price for each milestone payment and total was reached (i.e., proposed labor category: proposed hourly price multiplied by the proposed number of hours, which equals the subtotal price. Then clearly show how the subtotals are calculated to arrive at the Grand Total Price (sum of subtotals).

(4) Any information submitted must support the price proposed. Include sufficient detail or cross-references to clearly establish the relationship of the information provided to the price proposed. Support any information provided by explanations or supporting rationale as needed to permit the Government to evaluate the documentation. Such information is not considered cost or pricing data, and will not require certification in accordance with FAR 15.403.

(5) You are encouraged to consider building in milestone payments into your price proposal. However, in order for proposed milestone payments to be acceptable, they must follow the guidelines below:

- a. Associated with only final deliverables.
- b. Payments may not be made for draft deliverables, progress reports/meetings, kickoff meetings.
- c. Payments must be commensurate with the value of the deliverable being submitted.

B.3 Time & Material Proposal

Provide a *separate* and fully detailed cost breakdown for *each* optional future phase proposed.

NOTE: Some application areas anticipate successful results in an initial phase before moving into one or more subsequent phases. In these cases, proposals shall include a fully detailed cost breakdown for the initial phase. Where the approach of subsequent phases is dependent on the work of the initial phase, proposers should use their best judgment regarding the levels of direct and indirect costs and categories of personnel.

(1) The price proposal detail shall include:

- Labor categories, their descriptions, and fully burdened hourly rates.
- Number of hours proposed, by task and labor category, and hourly rate.

- Travel and Other Direct Costs assumptions.
- Sum total of all labor, travel, and other direct costs
 - A detailed cost break-down showing costs by each major cost category, including (as applicable) other direct costs (travel, equipment, etc.),

(2) Offerors shall submit, under a separate tab, all (if any) assumptions or conditions upon which the Price Proposal is based. Note that assumptions or conditions that are non-conforming to the Government terms and conditions may result in a higher cost risk assessment.

(3) Any information submitted must support the price proposed. Include sufficient detail or cross-references to clearly establish the relationship of the information provided to the price proposed. Support any information provided by explanations or supporting rationale as needed to permit the Government to evaluate the documentation. Such information is not considered cost or pricing data, and will not require certification in accordance with FAR 15.403.

B.4 Other Financial / Organizational Information

Provide the following information:

(1) Standard Form LLL - Submit a completed Standard Form LLL, Disclosure of Lobbying Activities, included as Exhibit 5.

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

(3) A completed copy of Section K in this RFP, if the offeror is not registered and completed their representations and certifications in the System for Award Management.

(4) Conflicts of Interest - The Offerors shall provide a brief statement in its proposal that describes in a concise manner all past, present or planned organizational, contractual or other interest(s), which may affect the Offerors' ability to perform the proposed contract in an impartial and objective manner. The Contracting Officer will review the statement and may require additional relevant information from the Offerors. In accordance with FAR Subpart 9.5, all such information, and any other relevant information known to DOT, will be used to determine whether an award to the Offerors may create an actual or potential conflict of interest. If any such conflict of interest is found to exist, the Contracting Officer may (a) disqualify the Offerors, or (b) determine that it is otherwise in the best interest of the United States to contract with the Offerors and include appropriate provisions to mitigate or avoid such conflict in the contract awarded.

(5) The offeror must state that they agree to all terms and conditions of the model contract of this solicitation, which consists of the RFP Sections A through J, including all documents, exhibits, and all other attachments that are incorporated therein by reference and made a part thereof, or provide an explanation for any exceptions.

(6) The original proposal must be signed by an official authorized to bind your organization and must stipulate that it is predicated upon all the terms and conditions of this RFP. Your proposal shall be submitted in the number of copies, to the address and marked as indicated in I.H above. Proposals shall be reproduced on letter-sized paper, and legible in all required copies.

(7) If subcontractors and/or individual consultants will be used in carrying out the requirements of this project, the following minimum information concerning the subcontractor shall be furnished:

- (a) Name and address of the subcontractor or consultant.

C - Subcontracting Plan

Subcontracting Plan:

Proposals for CONTRACT awards that are received from other than small businesses and that exceed \$700,000 must include a Small Business Subcontracting Plan in accordance with the Federal Acquisition Regulation Part 19.7. The Subcontracting Plan does not count against the page limit for Volume II.

Each prime offeror who is other than a small business shall include within its proposal a complete copy of the prime offeror's Master Subcontracting Plan, satisfactorily addressing all of the administrative requirements set forth in FAR section 52.219-9.

The offeror shall also submit a subcontracting plan in accordance with the instructions/format Exhibit 6 to this BAA. In the event that the Offeror has no such plan, the form shall be submitted with "no plan identified" indicated on the form as applicable and the offeror shall submit a statement of circumstances supporting that determination.

D - Past Performance

The offeror shall submit in its proposal past performance references for no more than two relevant contracts or subcontracts performed by the offeror, its predecessor companies, its key personnel who have relevant experience, or its performance as a subcontractor performing major or critical aspects of the requirement, relevant contracts/subcontractors are those similar in nature to the requirements of the solicitation and performed within the last three years. Each past performance reference shall not exceed two pages for a total maximum page count of four pages. Each past performance reference must contain contact information (name, agency or business, title, telephone number, and email address) for the CO and COR if a federal contract or subcontract, or equivalent positions if non-federal, as well as the contract number with agency or

business name, total potential value, value of work completed, description of the work performed by the offeror, and the period of performance. Each reference must indicate clearly whether the work was performed by the offeror as a prime or a subcontractor, by a predecessor company, or by key personnel.

F - Special Instructions for Assistance Agreement Applicants

IMPORTANT NOTE: The FHWA may award either contracts or assistance agreements as a result of this BAA. Due to the requirements of Public Law 114-94, Section 6002(a), the FHWA requires a cost share of at least 20 percent from non-federal sources of funding.

In addition to the information above, proposals eligible for cooperative agreement awards shall also complete and submit the following forms (available at www.grants.gov or <http://grants.nih.gov/grants/funding/424/index.htm>).

Volume 2 – Budget Application as described below - no page limit

OPTIONAL: 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 Volume I page limitation.

a. Part I - APPLICATION FORMS

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 Total Federal Funds Requested in dollars; and,
- Block 1(d): Print Total Cost Share in dollars, 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.

b. Part II – COST INFORMATION AND OTHER FINANCIAL INFORMATION

Provide a separate detailed budget plan for each year and summarize the information for all years for all activities. Spreadsheets can be formatted similarly to the format in DOT Form 4220.44, located at: http://www.fhwa.dot.gov/aaa/pdfs/frm4220_44.pdf.

The detailed budget plan must include each of the following items/sub-items:

1. Detailed excel (or compatible) workbook containing spreadsheets/tabs (formatted to be printed out) and supporting information clearly delineating and supporting all estimated costs: with columns for Federal Share, Cost Share (if applicable) and Total Costs (per year and in summary form) as follows::
 - a. Labor Rates- Direct labor-by-labor categories to include hours, rates and escalation. Anticipated promotions for any personnel must be included with the escalation calculation. The annual direct labor escalations rate and its basis should be clearly stated with the proposal. Discuss your proposed rate as compared to historical experience and include when and how escalation will be calculated/implemented.
 - b. Indirect Rates- Discuss your proposed rates for all years. Identify all the various specific indirect rates including what they are (pool and base), and what they are based on (e.g.; labor overhead based on direct labor dollars) and how they are applied/calculated. Provide dollar values as well as percentages. Please also provide any audit information to support these rates (for example, a copy of signed Department of Health of Human Services rate agreement).

Note: Per 2 CFR 200.414(f), Indirect (F&A) Costs, an Applicant may elect to propose a de minimis indirect rate of 10% of modified total direct costs.
 - c. Other Direct Costs- Applicants must provide a breakout and justification of Other Direct Costs by Category (travel, equipment, etc.)
 - d. If subcontractors/sub-recipients (lower-tiered organizations and/or individual consultants) will be used in carrying out this project, the following minimum information concerning such, must be furnished:
 - i. Name and address of the organization or consultant.
 - ii. Description of the portion of work to be conducted by the organization or consultant.
 - iii. Cost details for that portion of work.
 - iv. **Applicant's cost/price analysis of each sub-recipient/contractor(s) showing how their price is fair and reasonable; and Applicant's cost/price analysis of each sub-recipient/contractor(s) showing how their price is fair and reasonable (this includes any sub-recipient/contractor(s) that will be included in the Federal share or the non-Federal share); and**
 - v. Letter of commitment from each sub-recipient/contractor(s) (this includes any sub-recipient/contractor(s) that will be included in the

Federal share, the non-Federal share or in a non-paid (volunteer capacity).

- e. Provide detail and support for cost share as part of overall project budget.
 - f. Clearly delineate cost share match versus Federal share.
2. 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.
 3. 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.
 4. 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.
 5. 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 contract 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 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.
 6. 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.
 7. 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.

8. Describe how your organization will obtain the necessary resources to fund and fulfill the proposed cost share, as applicable.
9. 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.
10. 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).
11. If a nonprofit or not-for-profit status, please provide evidence of this status preferably from the Internal Revenue Service

G. OTHER ADMINISTRATIVE INFORMATION: It is the policy of the FHWA to treat all proposals as competitive information and to disclose the contents only for the purposes of evaluation. The Government may use selected support contractor personnel as special resources to assist in administering the evaluation of the proposals. These persons are restricted by their contracts from disclosing the proposal information or using it for other than performing the administrative task. Contractor personnel are required to sign non-disclosure statements. By submission of your proposal, you agree that your proposal information may be disclosed to those selected contractors for the limited purpose stated above.

This announcement constitutes the Broad Agency Announcement as contemplated by FAR 6.102(d)(2). A formal Request for Proposals or other solicitation regarding this announcement will not be issued. Requests for same will be disregarded.

The Government reserves the right to select for award any, all, part, or none of the proposals received in response to this announcement. In addition, the Government reserves the right to award either contracts, grants, or other instruments determined to be of benefit to the government in achieving the goals of this program.

This BAA is an expression of interest only and does not commit the Government to pay any proposal preparation costs. All responsible sources capable of satisfying the Government's needs may submit proposals, which will be evaluated. Historically Black Colleges and Universities

(HBCU) and Minority Institutions (MI) are encouraged to submit proposals and join others in submitting proposals. However, no portion of this BAA will be set aside for HBCU and MI participation due to the desire to solicit ideas as broadly as possible

VII. LIST OF DOCUMENT, EXHIBITS, AND OTHER ATTACHMENTS

1. **SAMPLE DELIVERABLES SCHEDULE**
2. **SAMPLE PERFROMANCE REQUIREMENTS SUMMARY**
3. **OF-17, OFFER LABEL** (also available at <http://www.fhwa.dot.gov/aaa/pdfs/of17.pdf>)
4. **SAMPLE PRICING TEMPLATE**
5. **STANDARD FORM LLL, DISCLOSURE OF LOBBYING ACTIVITIES** (also available at <https://www.whitehouse.gov/sites/default/files/omb/grants/sflllin.pdf>)
6. **FORMAT FOR SMALL BUSINESS SUBCONTRACTING PLAN**
7. **SAMPLE SCHEDULE OF SERVICES**
8. **REQUIREMENTS FOR 508 STANDARDS ACCEPTANCE**