



U.S. Department of Transportation
Federal Highway Administration

Notice of Funding Opportunity Number 693JJ318NF00001

“Development and Deployment of Innovative Asphalt Pavement
Technologies”

Notice of Funding Opportunity Issue Date: October 5, 2017

Application Due Date: To Be December 6, 2017

Estimated Cooperative Agreement Award: March 1, 2018

Notice of Funding Opportunity (NOFO) Summary Information

Federal Agency Name: U.S. Department of Transportation (US DOT)
Federal Highway Administration (FHWA)
Office of Acquisition and Grants Management
1200 New Jersey Avenue, SE
Mail Drop: E62-304
Washington, DC 20590
Attn: Angela A. Jones, HCFA-32

Funding Opportunity Title: “Development and Deployment of Innovative Asphalt Pavement Technologies”

Announcement Type: This is the initial announcement of this funding opportunity.

Funding Opportunity Number: 693JJ318NF0001

Award Type: Cooperative Agreement

Catalog of Federal Domestic Assistance (CFDA) Number: 20.200

Application Due Date: Applications Due by 11:00 pm ET on December 6, 2017 via Grants.gov (see Section D).

Questions: Submit Questions by November 20, 2017, 3:00 pm Eastern Time (ET) to: Angela.Jones@dot.gov

TABLE OF CONTENTS

<u>SECTION</u>	<u>TITLE</u>	<u>PAGE</u>
A	PROGRAM DESCRIPTION	4
B	FEDERAL AWARD INFORMATION	10
C	ELIGIBILITY INFORMATION	11
D	APPLICATION SUBMISSION INFORMATION	12
E	APPLICATION REVIEW INFORMATION	19
F	FEDERAL AWARD ADMINISTRATION INFORMATION	26
G	FEDERAL AWARDED AGENCY CONTACT(S)	34

Note: The FHWA uses www.Grants.gov for receipt of all applications. Applicants must register and use the system to submit applications electronically. Applicants are encouraged to register in advance of the submission deadline and to register to receive notifications of updates/amendments to this Notice. Approval of user registrations for the site may take multiple weeks. It is the Applicant's responsibility to monitor www.Grants.gov for any updates to this Notice.

SECTION A – PROGRAM DESCRIPTION

1. STATEMENT OF PURPOSE

The Federal Highway Administration (FHWA) has an ongoing Accelerated Implementation and Deployment of Pavement Technologies (AIDPT) Program, which includes the deployment of innovative technologies to improve pavement performance and reduce agency risk. A constant challenge in the transportation community is timely and efficient deployment of these new and innovative technologies. This is particularly true in the area of asphalt pavements. It often takes years, and sometimes decades, to change business practices, revise specifications, or refine production and construction practices.

The purpose of this Notice of Funding Opportunity (NOFO) is to select an applicant to enter into a cooperative agreement (Agreement) that will stimulate, facilitate, and expedite the deployment and rapid adoption of new and innovative technology relating to the design, production, testing, control, construction, and investigation of asphalt pavements. The proposed project is a cooperative effort between the FHWA and the Recipient to improve the quality and performance of asphalt pavements. In advancing 21st century solutions, we can improve performance and safety, and keep America moving forward.

Products will include developing marketing/implementation plans, engaging subject matter experts to aid in conducting forensic investigations pertaining to deployment and in the refinement of specifications and practices, developing web-based training tools, marketing of case studies, data analysis, market analysis, specification tracking, compilation of findings, and supporting stakeholder engagement. This effort will leverage the unique technology capabilities and facilities of the Recipient with FHWA's mission.

2. LEGISLATIVE AUTHORITY

In United States Code Title 23 – Highways, Section 503(c)(1)(A), the purpose of the **Technology Innovation and Deployment** program “shall be to significantly accelerate the adoption of innovative technologies by the surface transportation community.” Further, Section 503(c)(3), titled *Accelerated implementation and deployment of pavement technologies*, “[t]he Secretary shall establish and implement a program under the technology and innovation deployment program to promote, implement, deploy, demonstrate, showcase, support, and document the application of innovative pavement technologies, practices, performance and benefits.” The goals (Section 503(c)(3)(B)) of the program that directly apply to this NOFO are:

- (i) “the deployment of new, cost-effective designs, materials, recycled materials, and practices to extend pavement life and performance and to improve user satisfaction;
- (ii) the reduction of initial costs and lifecycle costs of pavements, including the costs of new construction, replacement, maintenance, and rehabilitation;
- (iii) the deployment of accelerated construction techniques to increase safety and reduce construction time and traffic disruption and congestion;
- (iv) the deployment of engineering design criteria and specifications for innovative practices, products and materials for use in highway pavements;

- (v) the deployment of new nondestructive and real-time pavement evaluation technologies and techniques;
- (vi) effective technology transfer and information dissemination to accelerate implementation of innovative technologies and to improve life, performance, cost effectiveness, safety and customer satisfaction.

The funding provided for this program is given in Section 6002(a)(2) of Public Law 114-94, “Fixing America’s Surface Transportation (FAST) Act.” Section 503(c)(3)(C) of United States Code Title 23 has been amended to state that “The Secretary shall obligate for each of fiscal years 2016 through 2020 funds made available to carry out this subsection \$12,000,000 to accelerate the deployment and implementation of pavement technology.”

In order to carry out this program, Section 502(a)(7) of United States Code Title 23 states: “Except as otherwise provided in this chapter, the Secretary shall award, to the maximum extent practicable, all grants, contracts, and cooperative agreements for research and development under this chapter based on open competition and peer review of proposals.”

The Federal Government’s cost share requirements are provided in Section 6002(c) of Public Law 114-94 FAST Act: “Funds authorized to be appropriated by subsection (a) shall be available for obligation in the same manner as if those funds were apportioned under chapter 1 of title 23, United States Code, except that *the Federal share of the cost of a project or activity carried out using those funds shall be 80 percent*, unless otherwise expressly provided by this Act (including the amendments by this Act) or otherwise determined by the Secretary, and remain available until expended and not be transferable, except as otherwise provided in this Act.”

3. BACKGROUND

A primary goal of the FHWA AIDPT Program is the advancement of new and innovative technologies to design, specify, construct, and preserve pavements, which are supported by the advancement of superior practices for testing and evaluating materials. As such, the FHWA supports deployment of advanced research findings in pavements and materials through the National Cooperative Highway Research Program (NCHRP) and the Strategic Highway Research Programs (SHRP and SHRP2).

Once these research projects are completed, the FHWA requires assistance in the deployment of the technology, which often includes items such as, but not limited to: marketing, material testing, product demonstration showcases, and support of field trials. As part of this innovation deployment program, FHWA engages subject matter experts and stakeholders through Expert Task Groups (ETGs) and Technical Working Groups (TWGs) related to asphalt pavements comprised of industry, researchers/academia, and federal and state government representatives.

The ETGs and TWGs often require assistance in characterization, data analysis, and evaluation of asphalt materials and pavements in the advancement of specifications involving new technologies. To this end, the FHWA requires industry participation in the form of a preeminent asphalt testing laboratory with extensive test equipment and knowledge of asphalt pavement materials, asphalt binders, and mixtures to perform testing in support of the ETGs, TWGs, NCHRP, and SHRP

projects. In addition, the FHWA requires the assistance of an entity with access to a network of engineers, technical experts, and subject matter experts across the United States to successfully carry out tasks, field projects, forensic studies, and demonstration projects that will provide valuable information to improve performance of asphalt pavements for the betterment of the asphalt pavement community (e.g., owner agencies, industry, and academia) and the traveling public.

4. GOALS

The goals of an award that is made based on this NOFO are to promote the deployment and rapid adoption of new and innovative materials, design and construction procedures, specifications, practices, and methods by the asphalt pavement community to improve pavement performance and extend pavement life.

5. STATEMENT OF WORK

The Recipient shall support the deployment and rapid adoption, throughout the United States, of:

- New and innovative asphalt pavement materials;
- New and innovative resource-responsible (RR) use of materials for asphalt pavement systems;
- New and innovative design, specifications, and practices;
- New and innovative pavement preservation specifications and practices;
- New and innovative real-time pavement production and construction controls; and
- Forensic support and asphalt testing to support stakeholders.

The Recipient shall work in cooperation with the FHWA ETGs and TWGs associated with the defined Tasks.

During the period of performance, the FHWA and the Recipient shall meet, at a minimum, quarterly to discuss project activities. The location of the meeting shall be established in coordination with the Agreement Officer's Representative (AOR), in coordination with the Recipient. Quarterly meetings will be held in Washington, DC, the Recipient's primary office location, a mutually attended industry conference or meeting (e.g., an ETG meeting), or via web conference.

Delineation of Tasks

TASKS

1 Agreement Work Plan Process

- 1.1 The Recipient shall submit proposed work plans to support subtasks 1.2, 1.3, and 1.4 for innovations identified in Table A below. Work plans shall be submitted to the AOR for review in order to determine and prioritize which needs shall be addressed during the Agreement performance period. The Recipient shall submit yearly work plans (submitted on an annual basis). The Recipient shall revise the work plan(s) according to AOR comments

and submit the final version of the work plans to the AOR. Upon notification from the AOR, the Recipient shall proceed with the agreed upon tasks.

NOTE: The first year's draft annual plan shall be submitted with the technical proposal.

- 1.2 The Recipient shall develop, maintain, and execute an implementation/marketing plan for identified innovations, which may include, but is not limited to any or all of the following elements:
 - 1.2.1 Gap Analysis – Identify critical limitations, gaps, and needs in the current technology.
 - 1.2.2 Risk/Benefit Analysis – What is the risk or loss of not deploying the innovation? What are the benefits and gains to be had by deploying the innovation? This information shall be an integral part of the marketing effort.
 - 1.2.3 Target Audience – Clearly define the target audience. Who are the decision makers in advancing the innovation? Who is the target audience for technical training? Who are the end users?
 - 1.2.4 Market Summary – Within these Federal, State, and local agencies, what are the segments mostly likely to influence the adoption of the innovation?
 - 1.2.5 Key Message – Develop a clear vision, memorable message, and/or tag-line(s) that clearly capture the goal(s) of the deployment effort.
 - 1.2.6 Market Analysis – Benchmark and track current national product/material/process usage and estimate market potential.
 - 1.2.7 Barrier Analysis – Identify potential/perceived barriers with deployment.
 - 1.2.8 S.W.O.T. Analysis – Alternatively to the Barrier Analysis a Strengths-Weaknesses-Opportunities-Threats Analysis can be conducted.
 - 1.2.9 Performance Measures & Outcomes – Working with FHWA, establish agreed upon performance measures and outcomes for the deployment effort.
 - 1.2.10 Tools for Marketing & Communication – Develop and execute tools to effectively market and communicate the deployment of the innovation. Examples of tools include, but are not limited to: Presentations, Workshops, Conferences, Innovation Demonstrations, Peer-to-Peer Exchanges, Technical Briefs, Practice Guides, Articles, Q&A Webinars, Partnerships, and Case Studies. These tools shall be made publicly available, either through Recipient or FHWA avenues of communication.
 - 1.2.11 Training – Identify and address training needs for deployment in cooperation with FHWA. Develop curriculum and recommended training approaches: face-to-face Instructor-Led Training (ILT), distance ILT (webinar), web-based training tools, or a blended approach. The Recipient shall develop all training materials and supporting documentation.
 - 1.2.12 Refinement of Standards and Specifications – Identify, participate in, and/or lead efforts to enhance design, production, and materials testing standards and specifications. Efforts may include: ruggedness testing, inter-laboratory studies to establish precision and bias statements, as well as technical assistance as part of a FHWA-supported task force in the form of knowledge sharing, data exchange, etc.
- 1.3 Forensic Investigation(s) – The Recipient shall support and/or conduct Forensic Investigation to address challenges identified during the deployment. Forensic Investigation may include, but is not limited to: mechanistic-empirical structural assessment/analysis, construction

project records review, material sampling/coring, material testing, technology evaluation, data analysis, and other pavement/materials work required to complete the investigation.

- 1.4 Reporting – The Recipient shall submit an interim report on an annual basis, summarizing the activities, actions, and findings of the subtasks associated with Task 1.1. The interim report shall be submitted to the AOR for technical review and shall be submitted by FHWA to the ETGs and TWG in order for individuals on those advisory groups to provide input.

2 Support Deployment and Rapid Adoption of Innovations

- 2.1 The Recipient shall conduct the agreed-upon annual work plan(s) according to Task 1.1 for innovations identified in Table A.

Table A: Innovations. Reference number is intended for tracking purposes only. They are not chronological in nature.

Reference Number	Innovation Area / Innovation
A	Materials
A.1	Advancement of Innovative Binders for Asphalt Pavement Systems
A.2	Other New & Innovative Materials as Agreed Upon
B	Resource Responsible (RR) use of Materials for Flexible Pavement Systems
B.1	High Reclaimed Asphalt Pavement (RAP) Mixtures
B.2	Reclaimed Asphalt Shingle- (RAS) modified Binders and Mixtures
B.3	Asphalt Rubber-modified Binders
B.4	Other New & Innovative RR Systems as Agreed Upon
C	Design, Specifications, and Practices (DS&P)
C.1	Asphalt Mixture Performance-based Design Technical Refinement and Deployment Support
C.2	Deployment and Technical Support of Refined Superpave Binder Specification
C.3	Technical Support of Refined Superpave Volumetric Mixture Design & Specification
C.4	Increased Pavement Density Initiative Support
C.5	Deployment and Technical Support of MSCR Binder Specifications
C.6	Deployment and Technical Support of Delta Tc Binder Parameter and Specifications
C.7	Asphalt Materials Quality Assurance Practices

C.8	Other New & Innovative DS&P as Agreed Upon
D	Pavement Preservation (PP) Specifications and Practices
D.1	New & Innovative PP Specification and Practices as Agreed Upon
E	Real-time Pavement Production and Construction Controls
E.1	New & Innovative Real-time Production and Construction Controls as Agreed Upon
F	Forensic Support and Asphalt Testing to Support Stakeholders
F.1	Asphalt Pavement Analysis, Binder and Mixture Testing, and Data Analysis
F.2	On-site Field Investigations

3 Gathering Input and Information from FHWA Technical Stakeholder Groups

- 3.1 The Recipient shall work in cooperation with stakeholder groups identified in Table B, below, to vet and collaborate in ongoing deployment activities and findings. Activities may include: preparing and delivering presentations on project activities, and obtaining and refining reports and other documents based on input from stakeholder groups identified in Table B.

Table B: FHWA Sponsored Stakeholder Groups

Reference Number	Group
B.1	Asphalt Mixture & Construction ETG
B.2	Asphalt Binder ETG
B.3	Other Groups as Agreed Upon to Support Work Plan(s) Objectives

SECTION B – FEDERAL AWARD INFORMATION

1. FUNDING

The total amount of funding that the Government expects to award through this notice is \$3,000,000.

NOTE: Application preparation costs are not an allowable charge under any award made based on this NOFO.

2. NUMBER/TYPE OF ASSISTANCE INSTRUMENT

The Government anticipates awarding up to one (1) cooperative agreement as a result of this notice.

3. PERIOD OF PERFORMANCE

The Government anticipates a project start date of March 1, 2018. The period of performance for this Cooperative Agreements will not exceed sixty (60) months from the effective date of award.

4. DEGREE OF FEDERAL INVOLVEMENT

FHWA anticipates substantial Federal involvement between FHWA and the Recipient during the course of this project. The FHWA anticipates the Federal involvement will include:

- Technical assistance and guidance to the Recipient;
- Close monitoring of performance;
- Involvement in technical decisions;
Review and approval of work plan (including outreach and dissemination plan), and course materials;
- Performance reporting and financial reporting to ensure that the objectives and terms and conditions of the Agreement are met;
- Ability to redirect project activities;
- Participation in status meetings including kick-off meeting and annual technical and budget reviews; and
- Review and comment on draft documents as appropriate.

SECTION C – ELIGIBILITY INFORMATION

1. ELIGIBLE APPLICANTS

This competition is open to all entities.

2. COST SHARING OR MATCHING

The Federal share of the cost of this project shall be 80 percent. The Applicant shall provide a minimum 20 percent (\$750,000) cost share of total project cost. Program Income must be handled in accordance with Section F.

NOTE: The “cost of the project” consists of the Federal share and the cost share combined. Accordingly, the Federal share must be a maximum of 80 percent of the cost of the value of Federal share and cost share combined. The Federal share of the cost of the project can be less than 80 percent, but cannot exceed 80 percent.

See Legislative Authority in NOFO SECTION A for specific citations.

SECTION D - APPLICATION AND SUBMISSION INFORMATION

1. ADDRESS TO REQUEST APPLICATION PACKAGE

Applicants may obtain application forms at [Grants.gov](https://www.grants.gov) under the Notice of Funding Opportunity Number 693JJ318NF00001.

The Applicant must complete and submit all forms included in the application package for this Notice as contained at www.grants.gov.

2. CONTENT AND FORM OF APPLICATION SUBMISSION

- Applications must be prepared on 8½ x 11-inch paper except for foldouts used for charts, tables or figures, which must not exceed 11 x 17 inches. Foldouts must not be used for text, and will count as two pages.
- A page is defined as one side of an 8 ½ by 11-inch paper. Therefore, a piece of paper with printing on both sides is considered two pages.
- Text must be printed using a font size no less than 12-point font (Arial or Calibri).
- Tables are permitted and text in tables must be doubled spaced.
- Text in captions below charts, tables or figures must be not less than 10 characters per inch, and can be 2 lines of text long (limited by the width of the chart, table or figure) and single spaced.
- Page margins must be a minimum of 1 inch top, bottom and each side.
- Page numbers may be located within the 1 inch margins.
- A Header or Footer identifying the Applicant/Team and the Volume, may be located within the 1 inch margins.
- Resumes are limited to one page each.
- No cost/price data will be included in Volume I, but must be included in Volume II.

The application package must consist of the following in this order:

Volume 1 – Technical Application as described below – 35-page limit

- Part I – Technical Approach (*included* in the pages limitation)
- Part II – Staffing and Management Approach (*included* in the pages limitation; resumes are *not included* in the pages limitation and may be an Attachment to Volume I)
- Part III – Experience (*included* in the pages limitation))

In the event a technical application exceeds the page limitation, the Government will evaluate only the pages identified within the limitation above.

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

- Part I – Application Forms
- Part II – Cost Information and Other Financial Information

Submit your application in the following format:

Volume 1 - Technical Application

Volume 1 – Technical Application as described below (see page limitations above)

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 – TECHNICAL APPROACH:** Provide a detailed description of the technical plan of how the Recipient would proceed if awarded this Agreement. Discuss and describe the ability of the proposed project to meet the purpose and goals of this program, an annual work plan for year one (1), and the manner in which they will be addressed by your project.
- b. **Part II – STAFFING AND MANAGEMENT APPROACH:**
 - Provide a project organizational chart identifying proposed staff members assigned to the project. The chart must be supported with narrative text to include the title and a brief description of each position's responsibilities, as well as the proposed level of effort and allocation of time (% in relation to their other duties) for each position on a yearly basis and in summary format. The level of effort may be displayed (single spaced) in a table format. One table can be presented if the level of effort will be constant over all years, and the table is annotated as such. The hours in this table must be consistent with the information presented in Volume II, Parts I and II, as part of the detailed budget plan.
 - Provide resumes for the proposed Program Manager/Principal Investigator and other key personnel to include name, experience, education and proposed role in project. Explain why the personnel possess the qualifications to perform the proposed positions. Resumes shall not exceed one page each.
 - A contingency plan to replace personnel over the period of performance without adversely affecting performance.
 - Describe the project management plan and approach to ensure successful and timely completion of the task order.
 - Include an organizational chart to demonstrate a sound approach to project organization, identifying project team roles and their relationships to each other.
- c. **Part III – EXPERIENCE:** A summary of the Applicant's experience relevant to this project, listing projects of similar size and complexity over the past five years, and show which of the named key staff, were involved in those projects. List the following information for a minimum of three specific past projects in which the Applicant participated as project leader and/or member of project team:

- Project title, description, value, and dates;
- Sponsor/customer point of contact to include sponsor/customer name, title, organization, email address, phone number;
- Role of Applicant in project;
- Explanation of why or how the project is considered relevant or similar to the effort required by this Notice of Funding Opportunity; and
 - Note: In determining relevancy, consideration should be given, but not limited to, such things as product/service similarity, size and complexity, Agreement type, division of company proposing, and sub-Recipient interaction.
- Explanation of the project goals accomplished and any cost growth or schedule delays encountered. For any projects which did not/do not successfully achieve its goals, a brief explanation of the reason(s) for such shortcomings and any demonstrated corrective actions taken to avoid recurrence.
- If subcontractors are needed to conduct some of these tests and practices, a list of subcontractors should be supplied. While not required, the technical evaluation will assign an advantage in this section to Applicants with these capabilities, assuming all else is equal. Laboratory accreditation is also not required, but Applicant's with AASHTO resource (formerly AASHTO Materials Reference Laboratory) accreditation in the following tests and practices will be given an advantage in this section, assuming all else is equal:

Asphalt Binder: AASHTO R 28, R 29, T 240, T 313, T 315, T 316, T 350

Asphalt Mixture: AASHTO R 35, T 166, T 209, T 269, T 312

Note: Prior to award, FHWA may contact past sponsor/customers to support the agency's risk assessment of the application.

Note: If an Applicant does not have a history relevant experience, or if past experience information is not available, the Applicant will receive a neutral past experience rating.

Volume 2 - Budget Application

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:

Note: Applicants must use DOT F 4220.44, Contract Pricing Summary located at http://www.fhwa.dot.gov/aaa/pdfs/frm4220_44.pdf, to present the information requested below.

- 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 application. 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).
 - vi. Provide detail and support for cost share as part of overall project budget.
 - vii. 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 Applicant's ability to perform the proposed Agreement 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.

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.

3. 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.

4. SUBMISSION DATES AND TIMES

The application must be received electronically through www.grants.gov by the application due date/time listed on page 1 of this Notice of Funding Opportunity.

The deadline stated on page 1 is the date and time by which the applicant must submit the full and completed application to www.grants.gov, including all required sections.

A late application will not be reviewed or considered unless the Agreement Officer (AO) determines that doing so is in the FHWA's best interest.

5. INTERGOVERNMENTAL REVIEW

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

6. FUNDING RESTRICTIONS

The FHWA will not reimburse any pre-award costs or application preparation costs under this proposed Agreement.

7. OTHER SUBMISSION REQUIREMENTS

In the event of system problems or technical difficulties with the application submittal, Applicants should contact the FHWA points of contact designated on page 1. If Applicants are unable to use the system due to technical difficulties, Applicants must e-mail applications to the FHWA points of contact listed on page 1 no later than the application deadline cited above.

SECTION E - APPLICATION REVIEW INFORMATION

The Government will evaluate the Application for responsiveness to the funding opportunity announcement once the applicant has demonstrated that it meets the eligibility criteria (see Section C).

1. EVALUATION CRITERIA

FHWA will evaluate applications on the following criteria: Technical Merit and Cost.

These criteria are distinct from eligibility criteria (see Section C) that are addressed before an application is accepted for review.

TECHNICAL MERIT: FHWA will evaluate and rank the Technical applications against the following criteria in order of descending importance:

1. Demonstration of Technical Competence and Understanding of Requirements.

- a. Demonstrated experience such as published technical articles, Government-funded research projects, reports and/or direct field experience with innovations. Applicant should also demonstrate complete familiarity with asphalt concrete testing standards and referenced documents, as well as have a working knowledge of the fundamental asphalt concrete and materials testing which are covered by ASTM, AASHTO, Superpave mixture design, and those listed in Table 1. The Applicant should also designate current capabilities to address tests and practices in Table 2, if applicable.

Table 1. Required Asphalt Binder, Mixture, and Aggregate Tests and Practices

ASTM Designation	AASHTO Designation	Title
D 95	T 55	Water in Petroleum Products and Bituminous Materials by Distillation
D 36	T 53	Softening Point of Bitumen (Ring and Ball Apparatus)
D 92	T 48	Flash and Fire Points by Cleveland Open Cup
D 2042	T 44	Solubility of Bituminous Materials
D 5404	T 319	Quantitative Extraction and Recovery of Asphalt Binder from Asphalt Mixtures
D 4402	T 316	Viscosity Determination of Asphalt Binder using Rotational Viscometer
D 7175	T 315	Determining Rheological Properties of Asphalt Binder using a Dynamic Shear Rheometer (via parallel plate and concentric cylinder geometry)

D 6648	T 313	Determining Flexural Creep Stiffness of Asphalt Binder Using Bending Beam Rheometer
	T 308	Determining the Asphalt Binder Content of Hot-Mix Asphalt by the Ignition Method
D 2872	T 240	Effect of Heat and Air on a Moving Film of Asphalt (Rolling Thin Film Oven Test)
D 2171	T 202	Viscosity of Asphalts by Vacuum Capillary Viscometer
D 2170	T 201	Kinematic Viscosity of Asphalts (Bitumens)
D 1754	T 179	Effect of Heat and Air on Asphalt Materials (Thin Film Oven Test)
D 2172	T 164	Quantitative Extraction of Bitumen from Bituminous Paving Mixtures
D 1461	T 110	Moisture or Volatile Distillates in Bituminous Paving Mixtures
D 6521	R 28	Accelerated Aging of Asphalt Binder Using a Pressure Aging Vessel
D 7405	T 350	Multiple Stress Creep Recovery Test of Asphalt Binder Using a Dynamic Shear Rheometer
	T 342, TP 79, PP 61	Determining Dynamic Modulus of Hot-Mix Asphalt (HMA)
	TP 107	Determining the Damage Characteristic Curve of Asphalt Mixtures from Direct Tension Cyclic Fatigue Tests
D 3497		Dynamic Modulus of Asphalt Mixtures
C 136	T 27	Sieve Analysis of Fine and Coarse Aggregate
C 117	T 11	Materials Finer Than 75-mm (No. 200) Sieve in Mineral Aggregates by Washing
D 5821		Determining Percentage of Fractured Particles in Coarse Aggregate
	T 304	Uncompacted Void Content of Fine Aggregate
D 4791		Flat Particles, Elongated Particles, or Flat & Elongated Particles in Coarse Aggregate
	T 176	Plastic Fines in Graded Aggregates and Soils by Use of Sand Equivalent Test
D 6925	T 312	Preparing and Determining the Density of HMA Specimens by Means of the Superpave Gyratory Compactor
	R 30	Mixture Conditioning of Hot-Mix Asphalt (HMA)
D 140	T 168	Sampling Bituminous Paving Mixtures
	T 329	Moisture Content of Hot-Mix Asphalt (HMA) by Oven Method

D 3549		Standard Test Method for Thickness or Height of Compacted Bituminous Paving Mixture Specimens
	T 166	Bulk Specific Gravity of Compacted Bituminous Mixtures Using Saturated Surface Dry Method
D 2726		Bulk Specific Gravity and Density of Non-Absorptive Compacted Bituminous Mixtures
D 2041	T 209	Theoretical Maximum Specific Gravity and Density of Hot-Mix Asphalt Paving Mixtures
D 3203	T 269	Percent Air Voids in Compacted Dense and Open Asphalt Mixtures
D 6857		Maximum Specific Gravity and Density of Bituminous Paving Mixtures Using Automatic Vacuum Sealing Method
	T 283	Resistance of Compacted Bituminous Mixtures to Moisture Induced Damage
N/A	N/A	Loaded Wheel Tracking Device for Rutting and Moisture Susceptibility Analysis

Table 2. Preferred (Not Required) Asphalt Binder, Mixture, and Aggregate Tests and Practices

ASTM Designation	AASHTO Designation	Title
	M 81/M 82	Specification for Cutback Asphalt
	M 140	Specification for Emulsified Asphalt
	M 226	Specification for Viscosity-Graded Asphalt Cement
D 7460	T 321	Determining Fatigue Life of Compacted HMA Subjected to Repeated Flexural Bending
D 6931	T 322	Determining the Creep Compliance and Strength of Hot-Mix Asphalt (HMA) Using the Indirect Tensile Test Device
D 4123		Standard Test Method for Indirect Tension Test for Resilient Modulus of Bituminous Mixtures
D 7313		Determining Fracture Energy of Asphalt-Aggregate Mixtures Using the Disk-shaped Compact Tension Geometry
N/A	N/A	Semi-circular Bending Test for Cracking Analysis

- b. Demonstrated experience and working knowledge of the following materials: neat and polymer-modified binders, emulsions, binders modified with polyphosphoric acid (PPA), reclaimed asphalt pavement (RAP) and reclaimed asphalt shingles (RAS) materials, re-refined engine oil bottom (REOB)-modified binders, and binders modified with oils or other recycling agents.
- c. Demonstrated experience and familiarity with performing all the necessary managerial and administrative aspects of conducting laboratory experiments, materials characterization projects, and field demonstration projects. This includes coordinating communication with prospective State highway agencies and industry groups, arrangement for dissemination of information in reports, articles, and refereed journals of a technical nature, as well as the ability to apply new technology.
- d. Demonstrated relationships with asphalt producers, manufacturers, and affiliated businesses. Demonstrated relationships with FHWA, State highway agencies, academia, and Federal, State, and local government.
- e. Demonstrated experience developing and presenting national training on advanced asphalt design and testing systems, preferably with an adult learner focus.

2. Indication of Sufficient Resources to Complete Requirements Satisfactorily.

- a. Documented evidence of facilities including laboratory space for necessary testing equipment, specimen fabrication and conditioning, storage, testing, and analysis. Facilities and equipment shall be capable of conducting the procedures in Tables 1 and, if applicable, Table 2.
- b. Relevant education and experience of any proposed Program Manager (PM), Principal Investigator(s) (PI), and Senior Engineer(s) (SE) in the Agreement technical areas of asphalt testing. Documented availability and commitment of the PM and PI over the Agreement period is also required.
- c. Diverse network of engineers, technical experts, and subject matter experts throughout the United States, with documentation of which geographic and technical areas are represented by this network of experts.
- d. Documented education, qualifications, and field experience of the proposed staff in the Agreement technical areas of asphalt testing (general/field engineers, and technicians). Documented qualifications and certifications of technicians that will be performing testing. Documented evidence of staff resources to coordinate and conduct laboratory experiments and demonstration field projects, including any proposed subcontractor entities.

- e. Documented evidence of capabilities to produce technically and aesthetically robust reports, graphics, visual aids, brochures, and marketing tools for use in information dissemination at ETG and TWG meetings, industry conferences, and/or similar events.

3. Offeror's Responsiveness to the Technical Requirements of the Notice of Funding Opportunity.

- a. Demonstrated completeness of the application in concisely addressing the work to be performed in each task and an overall grasp of the Agreement goals and requirements.
- b. Demonstrated understanding of the necessity of meeting schedule requirements in a timely and professional manner.

COST: Relative cost will be considered in the award decision. The budget application will be analyzed to assess cost reasonableness and conformance to applicable cost principles. This evaluation factor will not be rated.

If applicable, the degree of cost share and leveraging of non-Federal funds will be considered in the award decision. Applicants must provide the required matching funds, and supporting detail for these funds. Additional cost sharing will be considered beneficial to break ties among applications with equivalent ratings after evaluation against all other factors.

2. REVIEW AND SELECTION PROCESS

FHWA will utilize the following merit review process to evaluate applications under this NOFO:

A panel of agency experts will evaluate all eligible technical applications using the merit criteria listed above. The panel will individually evaluate the technical applications. The panel will then collectively assign an adjectival rating to each eligible technical application using the following merit ratings: Exceptional, Satisfactory, Marginal, and Unsatisfactory.

Agency personnel from the FHWA Office of Acquisition and Grants Management will evaluate the cost criteria listed above, and conduct a risk assessment of the Applicant prior to award as described below.

The Government will accept the application(s) that is (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 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.

Funding availability will also be considered in the award decision.

The AO is the official responsible for final award selection. 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 “Do Not Pay.” The Government’s review of this information will occur as part of the risk assessment.

Note: If an applicant is determined to be high risk additional reporting requirements or other special conditions may apply to the resulting award to mitigate risks.

3. ANTICIPATED ANNOUNCEMENT AND FEDERAL AWARD DATES

FHWA anticipates, but does not guarantee, making an award on or about March 1, 2018.

SECTION F – FEDERAL AWARD ADMINISTRATION INFORMATION

The following terms and conditions will apply to any award made based on this NOFO.

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 FHWA.

Only the AO can commit the FHWA. 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, FHWA will enter into negotiations concerning such items as program components, staffing and funding levels, and administrative systems, if necessary. If the negotiations do not result in an acceptable submittal, the FHWA 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 entitled, "General Terms and Conditions for Assistance Award (for award effective after June 22, 2015)," shall apply to the resulting award.

3. PUBLIC ACCESS TO DOCUMENTS

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

4. INDIRECT COSTS

Indirect costs are allowable under this Agreement in accordance with the Recipient's Federally Negotiated Indirect Cost Rates as documented in writing and approved by the Recipient's cognizant Government agency. In the absence of such Government-approved indirect rates, the following rates are hereby approved for use under this Agreement as shown below:

<i>Type*</i>	<i>Indirect Rate</i>	<i>Period</i>	<i>Rate (%)</i>	<i>Base</i>
(*** Information to be filled in at award ***)				

*Types of Rates: Pred - Predetermined; Fixed - Fixed; Final – Final; Prov: Provisional/billing; or De minimus.

In the event the Recipient determines the need to adjust the above listed rates, the Recipient will notify the AO of the planned adjustment and provide rationale for such adjustment. In the event such adjustment rates have not been audited by a Federal agency, the adjustment of rates must be pre-approved in writing by the AO.

This Indirect Cost provision does not operate to waive the limitations on Federal funding provided in this document. The Recipient's audited final indirect costs are allowable only insofar as they do not cause the Recipient to exceed the total obligated funding.

5. DATA RIGHTS

The Recipient must make available to the FHWA copies of all work developed in performance with this Agreement, including but not limited to software and data. Data rights under this Agreement shall be in accordance with 2 CFR 200.315, Intangible property.

6. PERSONALLY IDENTIFIABLE INFORMATION (PII)

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

7. AVAILABLE FUNDING

The total estimated amount of Federal funding that may be provided under this Agreement is \$_____ (to be filled in at award) for the entire period of performance, subject to the limitations shown below:

(1) Currently, Federal funds identified on page 1 of the award document, are obligated to this Agreement.

(2) Subject to availability of funds, and an executed document by the AO, the difference between the current funding and the total estimated amount of Federal funding may be obligated to this Agreement.

(3) The Government's liability to make payments to the Recipient is limited to those funds obligated under this Agreement as indicated above and any subsequent amendments.

8. 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
TBD	Principal Investigator (PI)

TBD	Program Manager (PM)
-----	----------------------

NOTE: The Government believes the above disciplines and/or expertise to be necessary for the successful completion of the project. The Applicant, however, may propose additional staff as key personnel if deemed essential to meet the program requirements and objectives. The Government may list proposed staff as key personnel if deemed essential to meet the program requirements and objectives.

9. 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.

10. 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 formal amendment to the Agreement.

11. ORDER OF PRECEDENCE

The Recipient's technical and budget applications are accepted, approved, and incorporated herein as Attachments A and B. In the event of any conflict between this Agreement document and the Recipient's proposal and/or application, this Agreement document shall prevail.

12. DESIGNATION AS RESEARCH OR NON-RESEARCH AGREEMENT

This Agreement is designated as: NON-RESEARCH

A. AGREEMENT PERFORMANCE REQUIREMENTS SUMMARY

Not Applicable.

13. 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.

14. 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.

15. CLOSEOUT OF AGREEMENT FILE

The Government will initiate the administrative closeout of the Agreement after receiving evidence that all technical work and administrative requirements have been completed. The Recipient shall furnish all required documents in support of the closeout of the Agreement within the timeframes requested by the Government. The Government anticipates the timeframe to complete administrative close out of this Agreement will not exceed six (6) months.

16. REPORTING REQUIREMENTS

NOTE: To ensure accountability and transparency in Government spending, FHWA wants to document implementation of technologies through performance measures. Applicants may propose performance measures specific to tasks in the Work Plan or for technologies within the Work Plan for FHWA approval. FHWA reserves the right to include performance metrics tailored to specific tasks in any Work Plans developed under the Agreement.

A. PERFORMANCE REPORTING

A.1 Performance Measure Data Collection. The Recipient shall collect the data necessary to report on each performance measure that is identified in the Performance Measurement Table in Attachment A.

A.2 Work Plan Performance Measurement Report. The Recipient shall submit to the FHWA a proposed Performance Measure with the Work Plan Proposal. The Recipient shall submit to FHWA a Pre-Work Plan Performance Measurement Report no more than 30 Days after the award date. The Report shall contain, for each relevant Work Plan task:

(1) baseline data for each performance measure that is identified in the Performance Measurement Table in Attachment A, accurate as of the Pre-Work Plan Measurement Date that is stated in Attachment A; and

(2) a detailed description of the data sources, assumptions, variability, and estimated levels of precision for each measure.

A.3 Interim Performance Measurement Reports. After project completion, the Recipient shall submit to the FHWA, on an annual basis, (to be specified in the Performance Measurement Table in Attachment A), an Interim Performance Measurement Report containing data for each performance measure that is identified

in that table, accurate as of the final date of the measurement period specified in that table.

A.4 Project Outcomes Report. The Recipient shall submit to the FHWA, on or before the Work Plan Outcomes Report Date that is stated in Attachment A, a Work Plan Outcomes Report that contains:

- (1) a narrative discussion detailing project successes and the influence of external factors on Work Plan expectations;
- (2) all baseline and interim performance measurement data for tasks that the Recipient reported in the Pre-Work Plan Performance Measurement Report and the Interim Performance Measurement Reports; and
- (3) an *ex post* examination of technology effectiveness relative to the baseline data that the Recipient reported for the tasks in the Pre-Work Plan Performance Measurement Report.

B. QUARTERLY PROGRESS REPORT

The Recipient will submit an electronic copy of the SF-PPR, to the AOR and the Agreement Specialist on or before the 30th of the month following the calendar quarter being reported. Final PPRs are due 90 days after the end of the agreement period of performance.

<u>Calendar quarters are defined as :</u>	<u>Reports due on or before:</u>
1 st : January – March	April 30 th
2 nd : April – June	July 30 th
3 rd : July – September	October 30 th
4 th : October – December	January 30 th

The quarterly submittal will consist of the SF-PPR cover page and the following required attached information:

To fulfill the SF-PPR Block 10, Performance Narrative requirement, the Recipient shall complete the Quarterly Reporting Template (expand as necessary) that will provide a formatted report of:

- a. A tabulation, clearly delineated by Federal share, cost share and total, of the current and cumulative costs expended by cost element (labor, travel, indirect costs, subrecipient/subcontractor, etc.) by quarter versus budgeted costs;
- b. Invoicing Summary that includes as a minimum:
 - i. A listing of all submitted invoices, invoice amounts, payment status, and obligated Federal funds balance
- c. A summary that includes as a minimum:
 - i. Period of performance.
 - ii. A summary on a task by task basis for all work that includes:
 1. A clear and complete account of work performed on each task during the reporting period, and an outline of the work to be accomplished during the next reporting period.
 2. Identified risks and plan to mitigate identified risks.
 3. Project schedule status based on opinion of PM/PI, shown as red (major delays and significant impact overall), yellow (slight delay to schedule but minimum impact overall), and green (on schedule).
- d. A description of any problem encountered or anticipated that will affect the completion of any individual task within the period of performance and/or budget constraints as set forth in the award, together with recommended solution to such problem(s); or, a statement that no problem was encountered.

In the SF-PPR Block 11, Other Attachments, include the following information as attached pages:

- SF-425, Federal Financial Report, and
- SF-425A, Federal Financial Report Attachment (if applicable).

The SF-PPR and SF-425 forms are available online at
http://www.whitehouse.gov/omb/grants/grants_forms.html

C. ADDRESSES FOR SUBMITTAL OF REPORTS AND DOCUMENTS

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

Submit an electronic copy to the Agreement Specialist at the following address:

Angela.Jones@dot.gov

Submit one electronic copy to the AOR at the following address:

Federal Highway Administration
 To be filled in at award

Attention: (to be filled in at award)

17. ANNUAL BUDGET REVIEW AND PROGRAM PLAN

The Recipient will submit an electronic copy of the Annual Budget Review and Program Plan to the AOR and one electronic copy to the Agreement Specialist 60 days prior to the anniversary date of this agreement. The Annual Budget Review and Program Plan will provide a detailed schedule of activities, estimate of specific performance objectives, include forecasted expenditures, and schedule of milestones for the upcoming year. If there are no proposed deviations from the Approved Project Budget, the Annual Budget Review will contain a statement stating such. The Recipient will meet via teleconference or web conference with FHWA to discuss the Annual Budget Review and Program Plan. Work proposed under the Annual Budget Review and Program Plan will not commence until Agreement Officer's written approval is received.

18. TRAVEL

Travel and per diem authorized under this Agreement will be reimbursed in accordance with the travel costs section of 2 CFR Part 200, as applicable based on recipient or subrecipient type. In the absence of an acceptable, written institution policy regarding travel costs, the rates and amounts established in the Federal Travel Regulations in effect at the time of travel will apply.

SECTION G – FEDERAL AWARDING AGENCY CONTACTS

Questions shall be submitted electronically by email to the Agreement Specialist identified below. The due date for communications and questions concerning this NOFO is 3:00 pm (ET) on November 20, 2017. Questions received after the cut-off date will generally not be considered.

Primary point of contact:

Angela A. Jones, Agreement Specialist
Federal Highway Administration
Office of Acquisition and Grants Management
Email: Angela.Jones@dot.gov
Phone: (202) 366-4255

Secondary point of contact:

Rick Murray, Agreement Officer/Acting Team Leader
Federal Highway Administration
Office of Acquisition and Grants Management
Email: Rick.Murray@dot.gov
Phone: (202) 366-4250