

**U.S. Department
of Transportation**

Pipeline and
Hazardous Materials
Safety Administration
(PHMSA)

Notice of Funding Opportunity (NOFO)

Pipeline Safety Research Competitive Academic Agreement Program (CAAP) Fiscal Year 2024

NOFO Issue Date:	March 18, 2024
Question Deadline:	May 11, 2024, 11:59 p.m. EST
Application Due Date:	May 17, 2024, 11:59 p.m. EST

Applicants must be registered at grants.gov to apply for the grant. It is highly recommended that applicants begin the registration process as soon as possible to avoid delays in submission. Additionally, applicants must maintain a valid Universal Entity Identifier (UEI) number and an active registration in the System for Award Management (SAM) at www.SAM.gov.

Furthermore, applicants must register for an account with FedConnect at www.fedconnect.net before applying. FedConnect is a messaging platform where applicants can communicate directly with PHMSA. Your organization's Marketing Partner ID number (MPIN), which can be retrieved from SAM, is required to create an account. For instructions on how to register in FedConnect and how it works, view the *FedConnect: Ready, Set, Go! Tutorial* on the FedConnect home page.

Assistance Listing Program Number (formerly CFDA): 20.724 - Pipeline Safety Research Competitive Academic Agreement Program (CAAP)

PHMSA Notice of Funding Opportunity Number: 693JK324NF0003

DEPARTMENT OF TRANSPORTATION**Pipeline and Hazardous Materials Safety Administration****Notice of Funding Opportunity for the Department of Transportation's FY 2023-2024****Competitive Academic Agreement Program (CAAP)**

AGENCY: Pipeline and Hazardous Materials Safety Administration, U.S. Department of Transportation

ACTION: Notice of Funding Opportunity (NOFO)

SUMMARY:

OVERVIEW OF KEY INFORMATION: Multimodal Project Discretionary Grant Opportunity	
Issuing Agency	Pipeline and Hazardous Materials Safety Administration (PHMSA), U.S. Department of Transportation
Program Overview	PHMSA seeks applications from nonprofit institutions of higher education for Competitive Academic Agreement Program grant funding to research innovative solutions in pipeline safety topic areas that improve safety to reduce potential human and environmental impacts. This kind of research will enhance the security of our infrastructure, people, and the environment. This program is authorized by Section 12 of the Pipeline Safety Improvement Act of 2002 (P.L. 107-355) and 49 U.S.C. § 60117(l).
Objective	The CAAP initiative is intended to spur innovation by enabling academic research focused on high technical risk and high payoff solutions for many safety challenges. The research may deliver solutions that can be transferred to PHMSA's Core Research Program for demonstration and deployment. The goal of CAAP is to validate proof of concept for a thesis or theory along a logical path toward commercialization.
Eligible Applicants (Varies by Program)	Applicants must be nonprofit institutions of higher education located either in the U.S. or a U.S. territory or possession. PHMSA encourages applications from eligible higher education institutions that partner with other higher education institutions, including minority serving institutions.

Eligible Project Types (Varies by program)	PHMSA is soliciting applications in primary research and development (R&D) focus areas based on fiscal year (FY) 2024 topics submitted through our open portal https://primis.phmsa.dot.gov/matrix/gapnew.rdm and identified from the November 2023 R&D forum which include: • Characterize Expected CO₂ Specification Ranges for Various Product Streams • Design a Modernized Database to Integrate Publicly Available Climate and Geohazard-Related Data into Existing Database Used for All Pipelines • Enhance Current Knowledge and Technology Solutions to Prevent and Mitigate Risks of Stress Corrosion Cracking (SCC) for Pipeline Integrity Management Specifics on the types of projects under each category are outlined in the FY 2024 NOFO.
Funding	Pursuant to § 22(b)(2)(C)(ii) of the PIPES Act of 2016 (Pub. L. 114–183), there is a mandatory minimum 20 percent cost-sharing requirement for CAAP agreements. The Federal Government will fund no more than 80 percent of the total cost of each approved project up to \$1 million.
Deadline	The deadline to submit a proposal is 60 days from the day of the issuance of the NOFO.

Table of Contents

MISSION	6
SECTION A – PROGRAM DESCRIPTION	6
Section A. 1: Statement of Purpose.....	6
Section A.2: Program Authority.....	7
Section A. 3-2: Background on the CAAP Initiative	7
Section A. 4: Research Topics	8
SECTION B – FEDERAL AWARD INFORMATION	12
Section B. 1: Funding.....	12
Section B. 2: Period of Performance	12
Section B. 3: Type of Award.....	12
SECTION C – ELIGIBILITY INFORMATION.....	12
Section C. 1: Eligible Applicants	12
Section C. 2: Cost Sharing	13
Section C. 3: Minimum Requirements	13
SECTION D – APPLICATION AND SUBMISSION INFORMATION.....	14
Section D. 1: Address to Request an Application Package.....	14
Section D. 2: Content and Form of Application Submission.....	14
Section D.3: Unique Entity Identifier (UEI) and System for Award Management (SAM)	18
Section D.4: Submission Dates and Times	19
Section D.5: Funding Restrictions	19
SECTION E – APPLICATION REVIEW INFORMATION	20
Section E.1: Criteria	20
Section E.2: Review and Selection Process.....	21
ADMINISTRATIVE REVIEW	21
TECHNICAL REVIEW	21
PROGRAMMATIC REVIEW	21
SECTION F – FEDERAL AWARD ADMINISTRATION INFORMATION.....	23
Section F.1: Federal Award Notices	23
Section F.2: Administrative and National Policy Requirements.....	23
Section F.3: Reporting.....	23
SECTION G – AGENCY CONTACT INFORMATION	25
SECTION H – OTHER INFORMATION	25

Program Summary

Federal Agency Name:	U.S. Department of Transportation (DOT) Pipeline and Hazardous Materials Safety Administration (PHMSA)
Funding Opportunity Title:	“Pipeline Safety Research CAAP – FY 2024”
Announcement Type:	Initial Announcement
Funding Opportunity Number:	693JK324NF0003

Dates:

NOFO Issue Date:	March 18, 2024
Question Deadline:	May 11, 2024
Application Due Date:	May 17, 2024

MISSION

The mission of the U.S. Department of Transportation (DOT or Department) is to ensure our nation has the safest, most efficient and modern transportation system in the world. DOT's Pipeline and Hazardous Materials Safety Administration (PHMSA) protects people and the environment by advancing the safe transportation of energy and other hazardous materials that are essential to our daily lives. To do this, PHMSA establishes national policy, sets and enforces standards, educates, and conducts research to prevent incidents. PHMSA also prepares the public and first responders to reduce consequences if an incident does occur by awarding grants to states, tribes, territories, localities, communities, and nonprofits to ensure pipelines operate safely and shipments arrive without incident.

SECTION A – PROGRAM DESCRIPTION

Section A. 1: Statement of Purpose

PHMSA hereby requests applications from nonprofit institutions of higher education for Competitive Academic Agreement Program (CAAP) grant funding to research innovative solutions in three pipeline safety topic areas. CAAP grant funding is subject to the availability of appropriations. PHMSA anticipates awarding up to \$2 million, subject to the availability of funds under CAAP in FY 2024, with federal funding not to exceed \$1 million per award. The research to be conducted under CAAP agreements will pursue a set of solutions for known pipeline integrity challenges. PHMSA anticipates the period of performance of each award will be no less than 12 months and will not exceed 36 months.

A strong transportation network is critical to the functioning and growth of the American economy. Our nation depends on the transportation network to move the goods we produce and facilitate the movements of workers who are responsible for that production. When the nation's highways, railways, and ports function well, they connect people to jobs, increase the efficiency of delivering goods, and thereby cut the costs of doing business, reduce the burden of commuting, and improve overall wellbeing.

The Department seeks to fund projects that advance the Departmental priorities of safety, equity, climate and sustainability, and workforce development, job quality, and wealth creation as described in the USDOT Strategic Plan, Research, Development and Technology Strategic Plan, and in executive orders³. PHMSA is working to advance equity by encouraging the participation and partnership with Minority Serving Institutions (MSIs) in the CAAP⁴. Also, PHMSA will share the publicly posted NOFO directly with MSIs, so all are aware of this funding opportunity.

³ Executive Order 14008, Tackling the Climate Crisis at Home and Abroad (86 FR 7619).

Executive Order 13985, Advancing Racial Equity and Support for Underserved Communities Through the Federal Government (86 FR 7009). Executive Order 14025, Worker Organizing and Empowerment (86 FR 22829), and Executive Order 14052, Implementation of the Infrastructure Investment and Jobs Act (86 FR 64335).

⁴ MSI's include Historically Black Colleges and Universities, Asian American and Native American Pacific Islander Servicing Institutions, Tribal Colleges and Universities, and Hispanic-Serving Institutions.

Section A. 2: Program Authority

PHMSA's Pipeline Safety Research and Development (R&D) Program was originally authorized pursuant to Section 12 of the Pipeline Safety Improvement Act of 2002 (Public Law 107-355). Congress reauthorized the program in the Protecting Our Infrastructure of Pipeline and Enhancing Safety (PIPES) Act of 2020 to ensure the integrity of pipeline facilities. PHMSA's authority to award grants and enter into cooperative agreements in furtherance of the objectives of 49 U.S.C. § 60101, et seq., is codified in 49 U.S.C. § 60117(l).

Section A. 3-1: Background on PHMSA's Pipeline Safety R&D Program

Pipeline infrastructure is the primary means of transporting natural gas and the majority of hazardous liquids from production basins and ports to areas of consumption. The importance of energy pipelines to the U.S. economy and our standard of living—as well as the risk posed to health, safety, and the environment—requires that these assets be maintained safely and reliably and, where appropriate, transitioned or expanded to meet our energy demands and contribute to the mitigation of global climate change.

R&D must play a larger role in finding solutions to national, regional, and local pipeline operational safety, reliability, and environmental challenges. Some of these challenges include ensuring that operators have the most suitable technology to efficiently and effectively meet or exceed federal and state regulatory requirements regarding the safety and integrity of pipelines. Other challenges include keeping critical industry consensus standards updated with the latest scientific information and knowledge to be effective and relevant to their purpose of supporting the safe design, construction, operation, maintenance, and repair of pipelines.

PHMSA's Pipeline Safety R&D Program continues to have an impact on developing technology, strengthening consensus standards, and creating and promoting general knowledge to decision makers. More performance details are available on PHMSA's Pipeline Safety R&D Program Web site at <http://primis.phmsa.dot.gov/rd/performance.htm>.

Section A. 3-2: Background on the CAAP Initiative

Section 12 of the Pipeline Safety Improvement Act of 2002 (Public Law 107-355) mandates that DOT and other designated federal agencies must “carry out a program of research, development, demonstration and standardization to ensure the integrity of pipeline facilities.” Specifically, PHMSA's Pipeline Safety R&D Program's mission is to sponsor R&D projects focused on providing near-term solutions that will improve safety, reduce the environmental impact, and enhance the reliability of the nation's pipeline transportation system. The goals and objectives of the CAAP initiative, as discussed below, directly support both this mission and the congressional mandate.

The CAAP initiative is intended to spur innovation by enabling academic research focused on high technical risk and high payoff solutions for many safety challenges. Such research will potentially deliver solutions that can be transferred to PHMSA's Core⁵ Research Program for demonstration and deployment. The goal is to validate proof of concept for a thesis or theory

⁵ The Core program is one of three pipeline research programs administered by PHMSA.

along a logical path towards commercialization.

Another goal of the CAAP initiative is to expose undergraduate and graduate research students to subject matter that is common to pipeline safety challenges, encourage them to participate in these subjects, and illustrate how their engineering or technical disciplines are highly sought after in the pipeline field. The ultimate benefit would be to cultivate new talent in all aspects of the pipeline sector.

Section A. 3-3: CAAP Performance Goals and Expected Outcomes

PHMSA's Pipeline Safety R&D Program is requesting projects through the Pipeline Safety Research Competitive Academic Agreement Program (CAAP – CFDA Number 20.724) that will seek to advance its mission through well researched solutions to known integrity threats. PHMSA will make awards for projects that have clear objectives and foster increased talent in all aspects of pipelining. Section A.4 outlines the performance goals PHMSA has put forth for 2023 CAAP awards.

Program staff will collect data on ongoing projects as outlined by Section F.3 to ensure that projects are on track to meet PHMSA's expectation. PHMSA staff will review data collected for indicators of variances from expected project outcomes. Furthermore, PHMSA staff will also track the number of positions sought by CAAP participants in pipeline engineering positions.

Section A. 4: Research Topics

PHMSA is soliciting applications in three primary R&D focus areas based on topic ideas submitted through our open portal⁶ and identified from the November 2023 R&D Forum. PHMSA seeks applications outlining research that addresses the shared interests of academic researchers, public interest advocates, and pipeline operators regarding pipeline safety and environmental mitigation technology topics with the goal of applying that research commercially.

The research objectives will establish solid scientific and engineering foundations on technology development towards the commercialization effort to promote pipeline safety and associated environmental mitigation. Researchers are expected to include the PHMSA-regulated industry operators in their work to ensure the research is relevant and commercially viable. PHMSA encourages faculties from different academic backgrounds and expertise to collaborate among universities and interact with one or more industrial partners to define the research objectives and form virtual industry-university groups. These groups will allow undergraduate and graduate students to participate in subjects that are critical and highly needed in the pipeline sector.

PHMSA will only consider applications that address technical gaps within the onshore safety program areas listed in this NOFO. Application submissions outside of the identified program areas listed below will not be reviewed or considered. The focus areas are intentionally ambitious and broad enough to allow for a wide spectrum of specific applications that strategically support PHMSA's mission of pipeline safety and environmental protection.'

Each applicant must address only one of the following primary safety program areas per

⁶ <https://primis.phmsa.dot.gov/matrix/gapnew.rdm>

application submission. Applicants may submit multiple applications. PHMSA intends to make one or more awards for each of the focus topic areas.

Topic 1: Characterize Expected CO₂ Specification Ranges for Various Product Streams

Main Objective: Comprehensively characterize the expected compositional ranges and product quality specification for upper and lower bound ranges for CO₂ product streams derived from diverse sources, including ethanol production, cement manufacturing, power-generation facilities, steel manufacturing, and direct air capture (DAC), with an emphasis on near-term emitters.

The lack of data characterizing the expected CO₂ streams from various sources in the carbon capture, utilization, and storage (CCUS) value stream is a significant gap in safety research related to CO₂ pipelines. Composition of the CO₂ stream is important to the management of transport via pipeline, including material compatibility, flow behavior, operational safety, blending strategies, and compression optimization. Compiling this data and creating a knowledge base will help establish common industry standards and best practices for pipeline transportation of CO₂, which will support the buildout of CCUS infrastructure. Results of this study are foundational to future research and will facilitate the development of further knowledge and promote the advancement of CO₂ pipeline safety.

The project scope must:

- Follow the developments of current PHMSA rulemaking related to CO₂ pipeline safety.
- Involve participation with standards organizations.
- Conduct a comprehensive review of existing literature, databases, industry reports, and other research efforts on the compositional variability and product quality specifications of CO₂ product streams from sources relevant to pipeline transport. Identify key findings and knowledge gaps regarding the impact of source-specific composition of various CO₂ streams on pipeline design, operation, and safety.
- Prioritize near-term emitters versus future emitters based on the literature review and an economic analysis of profitability of various emitters under the 45Q and 45V tax credit structure.
- Analyze existing and emerging product quality specifications for CO₂ used in pipeline transportation, considering relevant national and international standards, industry best and recommended practices, and specific downstream utilization requirements (e.g., for enhanced oil recovery or geologic storage). Identify key quality parameters impacting pipeline design, operation, and compatibility (e.g., moisture content or maximum allowable impurities).
- Determine the typical and variable components in the CO₂ product stream from each source, including major and minor impurities, potential contaminants, trace elements, and possible odorants. Analyze to identify trends, variations, and key differences.

- Develop a comprehensive and accessible knowledge base summarizing the characterization results for each source, including typical range values for key components, potential risks and mitigation strategies, and insights into influencing factors.
- Evaluate whether a new standard could be developed using the project results.
- Disseminate research findings through peer-reviewed publications, presentations at relevant conferences and workshops, and engagement with stakeholders in the CO₂ pipeline industry. Actively participate in standardization efforts to incorporate the new specification(s) into industry best practices and regulatory frameworks.
- Provide report within 12 months.

Topic 2: Design a Modernized Database to Integrate Publicly Available Climate- and Geohazard-Related Data into Existing Database Used for All Pipelines

Main Objective: Evaluate the process of assembling a quality data repository of publicly available data relating to climate and geohazard threats to pipelines, then propose a framework for modernized database.

Climate and geohazard related threats to pipelines (e.g., flooding, landslides, and severe storms) are rapidly evolving due to climate change, potentially leaving pipeline operators with outdated and ineffective data that is essential to evaluate risks. PHMSA is seeking research to investigate the feasibility of creating a repository of this critical data using publicly available sources, such as climate data from other government agencies and stakeholders. The research will determine what data is needed to effectively evaluate these threats, where this data can be found, and approaches for combining and periodically updating this data to best evaluate pipeline threats.

The project scope must:

- Conduct a review of literature and prior research prepared by various stakeholders relating to climate and geohazard threats to pipelines.
- Review any applicability to the American Petroleum Institute (API) Recommended Practice (RP) 1133 Managing Hydrotechnical Hazards for Pipelines Located Onshore or Within Coastal Zone Areas; API RP 1187 Landslide Integrity Management for Pipeline; International Organization for Standardization (ISO) 20074 Geological hazard risk management for onshore pipeline; and any other relevant standard identified.
- Determine what type of climate and geological data is needed to adequately evaluate pipeline risk, and determine if and where this data exists publicly.
- Introduce a modernized database framework that will integrate climate and geological data within the current database for pipeline system.
- Implement appropriate software measures and update the database as needed.
- Evaluate the identified data for resolution, quality, update frequency, coverage, and additional relevant factors to data usefulness.

- Determine the data format and requirements to automatically fit into the existing risk models used for pipeline integrity management.
- Utilize input from industry experts, standards organizations, and/or pipeline operators.
- Deliver results within 18 months.

Topic 3: Enhance Current Knowledge and Technology Solutions to Prevent and Mitigate Risks of Stress Corrosion Cracking (SCC) for Pipeline Integrity Management

Main Objective: Improve the understanding of pipeline SCC by investigating the causes of SCC, and developing and testing monitoring technique on SCC growth. The purpose is to develop the knowledge basis for updating existing operating and maintenance procedures to prevent and mitigate the risks of SCC in pipelines.

Pipeline operators need technological solutions to assess, detect, prevent, and mitigate the risks of SCC to pipeline integrity. PHMSA is seeking research to understand the causes of SCC, and develop innovative solutions to enhance existing preventative measures, repair criteria, and/or safe operating parameters to improve pipeline safety.

SCC typically afflicts older pipelines (more than 10 years old) subject to certain parameters—such as high stress and high temperature—and unfavorable conditions—such as disbonded coatings and improper cathodic protection. Additional factors—such as pressure cycling, temperature cycling, soil conditions, and metallurgy—are commonly suspected, but not proven, of impacting SCC susceptibility. Research projects must investigate multiple causal factors to understand their impact on SCC susceptibility; develop and test monitoring techniques on SCC growth due to these factors; and identify recommendations to enhance existing preventative measures, repair criteria, and/or safe operating parameters for at-risk pipeline segments.

The project scope must:

- Conduct a review of literature and prior research prepared by various stakeholders regarding SCC.
- Review any applicability of current industry standards and practices, including but not limited to, American Society of Mechanical Engineers (ASME) B31.8 Gas Transmission and Distribution Piping Systems; ASME B31.8S Managing System Integrity of Gas Pipelines; and National Association of Corrosion Engineers (NACE) SP0204.
- Investigate multiple factors that may impact SCC occurrence, such as pressure cycling, temperature cycling, soil conditions, metallurgy, and welding method (particularly low frequency electronic resistance welding).
- Develop and test innovative techniques on monitoring SCC growth and investigate the impacts of SCC to increase the knowledge base for pipeline operators. In addition, develop a better understanding of the causes of pipeline SCC, and implement recommendations for preventive and/or repair criteria.
- Utilize input from industry experts, standards organizations, and/or pipeline operators.

- Disseminate research findings through peer-reviewed publications, presentations at relevant conferences and workshops, and engagement with stakeholders in the pipeline industry. Actively participate in standardization efforts to incorporate the new specification(s) into industry best practices and regulatory frameworks.
- Deliver results within 36 months.

SECTION B – FEDERAL AWARD INFORMATION

Section B. 1: Funding

PHMSA anticipates awarding up to \$2,000,000 in CAAP funding for FY 2024, subject to the availability of funds, with the amount of federal funding not to exceed \$1,000,000 per award. Applicants may submit more than one application, but each individual application must not exceed \$1,000,000 in federal funding requested.

Section B. 2: Period of Performance

PHMSA anticipates a period of performance of between 12 months and 36 months from the date of award for each agreement. Modifications within the scope of the cooperative agreement will be handled between the parties on a case-by-case basis.

Section B. 3: Type of Award

All awards resulting from this announcement will be issued as cooperative agreements. For the purposes of the cooperative agreement, PHMSA's substantial involvement may include assistance with pipeline industry practices, history, data, methods, means, or requirements. PHMSA will advise, educate, and coordinate efforts to acquire relevant materials—such as pipe samples—for testing, and provide data and suggestions to aid in the successful completion of the research project. Further, while the collegiate institutions are likely unfamiliar with pipeline industry companies, trade associations, or principal contacts, PHMSA will advise and offer collaborative communication with key pipeline contacts to aid in the successful completion of the research project.

SECTION C – ELIGIBILITY INFORMATION

Section C. 1: Eligible Applicants

Applicants must be nonprofit institutions of higher education located either in the U.S. or a U.S. territory or possession. PHMSA encourages applications from eligible higher education institutions that partner with other higher education institutions, including MSIs. PHMSA will also consider an application from an eligible higher education institution that partners with other eligible recipients, the pipeline industry, and/or with any private organization, so long as the cost of the proposed partnership does not exceed 40 percent of the proposed amount of federal contribution to the project.

MSIs are encouraged to submit applications on their own and/or in collaboration with others. However, no portion of this requirement will be set aside or reserved exclusively for MSIs. Applicants should state whether the project is located in a disadvantaged community as identified in [USDOT's Equitable Transportation Community \(ETC\) Explorer \(arcgis.com\)](https://experience.arcgis.com/experience/0920984aa80a4362b8778d779b090723/page/ETC-Explorer---State-Results/)⁷ per [DOT's Strategic Plan](https://www.transportation.gov/sites/dot.gov/files/2023-01/USDOT%20RDT%20Strategic%20Plan%20FY22-26_010523_508.pdf)⁸.

Section C. 2: Cost Sharing

Pursuant to § 22(b)(2)(C)(ii) of the PIPES Act of 2016 (Pub. L. 114–183), there is a mandatory minimum 20 percent cost-sharing requirement for CAAP agreements. The federal government will fund no more than 80 percent of the total cost of each approved project up to \$1 million. Firm letters of commitment for resource sharing must be provided with the application. Applications without resource-sharing commitment letters will not be reviewed or considered for award. See Section D.2 for additional information regarding budget/cost applications.

Section C. 3: Minimum Requirements

The following are minimum requirements that all applicants must meet to be considered. Failure to meet these requirements at any time—whether pre- or post-award—will result in either removal of the application from further consideration or termination of the agreement. The application must include a letter on the submitting institution's letterhead that certifies these minimum requirements are understood and will be met. The letter must be signed by the dean or an authority of an equivalent level for that college, department, or program and must then be inserted as Appendix A for the technical application (the first page of the Appendix).

1. Eligible applicants are nonprofit institutions of higher education located in the U.S. or a U.S. territory or possession.
2. The academic research agreement will be with the institution and not with individual students, faculty, or staff.
3. The research scope must be executed by undergraduate, graduate, and/or PhD research students. Institution faculty/staff should design the scope and oversee student execution of the scope. *Applications that do not propose student involvement will be deemed non-responsive and will be removed from consideration. NOTE: Students must be identified no later than the first quarter of the period of performance.* Institution faculty, staff, and students who are proposed to be involved with the research agreement must be U.S. citizens, permanent residents, or possess current visas that will allow them to remain in the country long enough to complete the research project. If known, provide the proposed student's resume, curriculum vitae, or biography. Federal funding is solely for allowable costs necessary to execute the scope of the research, such as institution overhead, the procurement of expendables, and any required labor. Purchasing new or existing testing equipment with federal funds will be permitted. Federal funding cannot be used towards the construction of new facilities or the refurbishing of existing facilities.

⁷ <https://experience.arcgis.com/experience/0920984aa80a4362b8778d779b090723/page/ETC-Explorer---State-Results/>

⁸ https://www.transportation.gov/sites/dot.gov/files/2023-01/USDOT%20RDT%20Strategic%20Plan%20FY22-26_010523_508.pdf

4. Applications must meet the cost-sharing requirements stipulated in Section C.2. Failure to meet the required 20 percent cost-sharing threshold will result in an application being removed from consideration.

Additional Requirements (if applicable):

1. Applicants should state whether the project is located in and/or if it benefits a disadvantaged community as identified in the ETC Explorer [USDOT Equitable Transportation Community \(ETC\) Explorer \(arcgis.com\)](#)?
2. Applicants should state whether the academic institution is considered a MSI.

SECTION D – APPLICATION AND SUBMISSION INFORMATION

Failure to comply with the requirements described in this section shall result in an application not being approved. Further, please note that PHMSA’s agreement officers and grant specialists may request additional information pertaining to your application during the application review/evaluation process in order to comply with the DOT’s Guide to Financial Assistance and the requirements of 2 CFR Part 200, Subpart E.

Section D. 1: Address to Request an Application Package

PHMSA requires applicants for this funding opportunity to apply electronically through www.grants.gov. Applicants must download the application package associated with this funding opportunity by following the directions provided at grants.gov. To request a hard copy of the application package, please contact:

Dwayne Cross
 Agreements Officer
 Acquisition Services Division
 The Pipeline and Hazardous Materials Safety Administration
 1200 New Jersey Avenue SE,
 East Building E22-305
 Washington, DC 20590
 E-mail: Dwayne.Cross@dot.gov

If you are hearing-impaired, please contact the FR/TTY at 1-800-877-8339 or e-mail PHMSA-Accessibility@dot.gov.

Section D. 2: Content and Form of Application Submission

Applicants are required to submit their complete applications through www.grants.gov. To submit an application, applicants must be registered at www.grants.gov. **Please note that new user registrations for grants.gov can take up to two weeks to complete.** For additional questions on how to register, contact grants.gov support.

Additionally, applicants must register for an account with FedConnect at: www.fedconnect.net

before submitting an application. Your organization’s Marketing Partner ID number, which can be retrieved from the System for Award Management (SAM) at www.SAM.gov, is required to create an account. For instructions on how to register with FedConnect and how it works, view the *FedConnect: Ready, Set, Go! Tutorial* on the FedConnect home page.

Standard Forms

The following forms are found on www.grants.gov, under the FY 2024 CAAP Funding Opportunity, and must be completed by the applicant:

1. Standard Form (SF)-424 – Application for Federal Assistance.
2. SF-424A – Budget Information.
3. Lobbying Form – Certifications Regarding Lobbying.
4. Standard Title VI/Non-Discrimination Assurances – Civil Rights Assurances.

Applicant Attachments

All required forms must be created by the applicant and uploaded to www.grants.gov under the FY 2024 Competitive Academic Agreement Program (CAAP Funding Opportunity). Guidance for submitting the project narrative and budget narrative is listed in the following section:

1. PHMSA Technical Application Template
2. Project Narrative attachment.
3. Budget Narrative attachment.
4. Indirect Cost Agreement and/or Statement claiming 10 percent de minimis (if applicable).
5. Letters of Support from partner organizations (if applicable).
6. Additional optional attachments (if applicable).

Applications should be well written and free of mathematical errors in the line-item budget and budget narrative. Program narratives should have clearly identified sections and follow the structure requested in this NOFO. Application forms, templates, and detailed instructions on the application process are available under the “Related Documents” tab at www.grants.gov.

Please reference Section E to ensure the application addresses the criteria PHMSA will use to evaluate each.

Sharing of Application Information – Except for the information properly marked as described in Section H, the Department may share application information within the Department or with other federal agencies if the Department determines that sharing is relevant to the respective program’s objectives.

Lobbying (Standard Form)

Funds may not be used in direct support of litigation, lobbying, direct advocacy for or against a pipeline construction or expansion project or other pipeline policy matters, or activities associated with regulatory compliance or typical operations and maintenance of pipeline facilities. To be considered for award, each application must include a signed Standard Form of Disclosure of Lobbying Activities.

Standard Title VI/Nondiscrimination Assurances (Standard Form)

Applicants must sign, date, and return with their application the Standard Title VI/Non-Discrimination Assurances. The completed documents should be submitted as an attachment with the other application materials.

Technical Application Template (PHMSA Template)

In preparing their technical application, applicants must use the Technical Application Template provided in the www.grants.gov NOFO package, which includes instructions regarding required content and information. Applicants must only apply for funding that can reasonably be spent within the proposed period of performance.

Technical application requirements are summarized below and described in detail in the provided template. Failure to follow these requirements shall result in the removal of an application from consideration.

1. All information supporting the evaluation criteria must be 20 pages or less, which does not include the Cover Page, the Technical Application Information Page, or the Appendix.
2. The Certification Letter of Minimum Requirements must be the first page in the Appendix.
3. The Appendix may include additional information; however, this information will not be used by reviewers in evaluating the application (except to determine that each applicant has submitted a certification letter regarding minimum requirements; ref: Section C.03).
4. All documents must be formatted as follows: Times New Roman, 12-point font, and 1.15 line and paragraph spacing for the body of the text.
5. Technical applications in the format prescribed by Attachment A must be uploaded to the Project Narrative section of the www.grants.gov application.

Unmanned Aerial Systems

Unmanned Aerial Systems (UAS) purchased or acquired for usage in proposed research project must be designed and constructed in the United States. UAS may not be designed, developed, manufactured, or supplied by persons owned by, controlled by, or subject to the jurisdiction or direction of foreign governments.

Budget/Cost Application and Budget Narrative (Standard Form)

Applicants must use Standard Form 424A to submit their budget/cost application through www.grants.gov. The budget should reflect the applicant's best terms, from a cost and technical standpoint, to perform the work. No fee or profit should be proposed, as this is a resource-sharing arrangement.

Additional budgetary information, broken out as described in Subparagraphs A through G below, must provide detailed information on each cost element, consistent with the applicant's cost-accounting system. The amounts requested for each budget category must be justified in a Budget Narrative document and uploaded to the Budget Narrative section of the application.

Budget Narratives must address the following items:

1. **Personnel:** List individually all personnel and include for each the requested hours to be funded and the respective compensation rates (salary/wages and fringe benefits).
2. **Fringe Benefits:** Applicants must provide a copy of or a Web link to the university's policy stating the appropriate fringe rates for each labor classification.
3. **Travel:** Proposed travel must be directly related to the performance of the project. In the Budget Narrative, state the reason(s) for travel, the type and duration of the travel, and its relation to the project. Additionally, recipients may anticipate travel requested by PHMSA to present their findings up to once each 12 months of the project. Provide an itemized list of associated travel costs.
4. **Supplies:** Provide an itemized list of proposed supplies. Include individual costs for each item exceeding \$5,000 and the basis of estimating the cost (e.g., vendor quotes, catalog prices, prior invoices, etc.).
5. **Equipment:** Provide an itemized list of proposed equipment. Include individual costs for each item and the basis of estimating the cost (e.g., vendor quotes, catalog prices, prior invoices, etc.).⁹
6. **Contractual (Consultants/Subcontractors):** List the names of consultants and describe the activities to be performed, the duration of the service, and the compensation involved. Provide the hourly or daily rate along with the basis of the rate. Furnish resumes or similar information regarding qualifications and experience. Provide at least two invoices reflecting hourly or daily rates charged to customers other than the federal government. You must provide a statement signed by the consultant certifying his or her availability and salary. If travel or incidental expenses are to be charged, give the basis for these costs. For proposed subcontractors, provide their total cost per year. Detailed subcontractor costs should appear in the subcontractor's budget explanation. The total cost of consultants and/or subcontractors must not exceed 40 percent of the proposed federal contribution to the project. Contractual agreements must comply with the procurement standards in 2 CFR §§ 200.317-300.326.
7. **Other Direct Costs:** Provide an itemized list with associated costs for any other item proposed as a direct cost that is not included in another category. State the basis for each proposed item.
8. **Indirect Charges:** Provide a copy of or a Web link to the university's negotiated Indirect

⁹ The development of PHMSA's Research, Development, and Technology Center at the Transportation Technology Center is currently on hold pending the completion of the Pipeline Safety Testing Enhancement Study as required by Section 105 of the Protecting Our Infrastructure of Pipelines and Enhancing Safety Act of 2020 (PIPES Act of 2020). The Center will not be available for CAAP project testing.

Rate Agreement. Explain or demonstrate how the total indirect charges were calculated.

9. **Grant Funds, Sources, and Uses of Project Funds:** Project budgets should show how different funding sources will share in each activity and present those data in dollars and percentages. The budget should identify other federal funds the applicant is applying for, has been awarded, or intends to use. Funding sources should be grouped into three categories: non-federal, CAAP funds, and other federal with specific amounts from each funding source.
10. **Cost Sharing or Matching:** All resource-sharing or matching contributions, including cash and third-party contributions, must meet the criteria in 2 CFR § 200.306. These criteria state that viable resource-sharing or matching contributions are:
 - a. Verifiable from the non-federal entity's records.
 - b. Not included as contributions for any other federal award.
 - c. Necessary and reasonable to accomplish the project or program objectives.
 - d. Allowable under Subpart E – Cost Principles of 2 CFR Part 200.
 - e. Not paid by the federal government under another federal award, except where the federal statute authorizing a program specifically provides that federal funds made available for such a program can be applied to matching or cost-sharing requirements of other federal programs.
 - f. Provided for in the approved budget (when required by the federal awarding agency).
 - g. In accordance with other provisions of 2 CFR Part 200, as applicable.
11. **Safety:** Applicants must address how their proposed research project provides substantial safety benefits. If applicable, applicants should include a discussion of how their proposed research project will not negatively impact the overall safety of the traveling public.
12. **Equity:** If partnering with an MSI, applicants should describe the role the MSI will play (or the extent of the MSI's participation) in the proposed research project. If applicable, applicants should also describe how their proposed research could generate benefits to disadvantaged communities. The USDOT Equitable Transportation Community (ETC) Explorer can be useful to determine disadvantage community status.

Section D. 3: Unique Entity Identifier (UEI) and System for Award Management (SAM)

PHMSA may not make an 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 PHMSA is ready to make an award, PHMSA may determine that the applicant is not qualified to receive an award and use that determination as a basis for making an award to another applicant. PHMSA recommends that applicants review the SAM database at <https://sam.gov/content/home> to ensure that their UEI is updated.

Each Applicant is required to:

- Register in SAM (SAM.gov) before submitting its application.
- Provide a valid UEI number in its application.

- Maintain an active SAM registration and UEI with current information when it has an active federal award or an application under consideration.

For new users, go to www.grants.gov/web/grants/applicants.html or go to the main page at www.grants.gov/ and select “Register.” New user registrations for grants.gov can take up to two weeks to complete. For additional questions on how to register, contact grants.gov support at 1-800-518-4726 or e-mail support@grants.gov.

Section D. 4: Submission Dates and Times

Complete applications must be received electronically via www.grants.gov by **11:59 p.m. EST on May 17, 2024**. No late applications will be considered for evaluation. Applicants will receive an automated receipt from grants.gov of the date and time of application submission.

Section D. 5: Funding Restrictions

The following costs are not eligible for reimbursement:

- Any costs disallowed or stated as ineligible in 2 CFR Part 200
- Pre-award costs are not permitted without PHMSA’s prior written approval consistent with 2 CFR § 200.458
- Construction is not an allowable activity under this announcement

SECTION E – APPLICATION REVIEW INFORMATION

Section E.1: Criteria

DOT is prioritizing projects that help to address transportation insecurity, which is the inability for people to get to where they need to go to meet the needs of their daily life regularly, reliably, and safely due to either the high cost of transportation, lack of access or lack of safe transportation options. When identifying projects applicants should consider how the project will increase safety.

PHMSA developed evaluation criteria to rate and select competing applications. Submission of an application is not a guarantee of award. PHMSA may at its discretion award a cooperative agreement based on an application in its entirety. The award amount will be based on the evaluation of the application but will not exceed \$1,000,000.

PHMSA will evaluate applications through administrative, technical, and programmatic reviews based on the evaluation criteria outlined in the next few pages.

Merit Criteria

Applications will be evaluated against the following evaluation criteria:

1. Within the application, demonstrate the extent to which the project will meet the research topic area needs.
2. Within the application, demonstrate the extent to which the project solution can be readily implemented or transferred to the Core Research Program for demonstration and deployment.
3. Within the application, demonstrate the extent to which the project will identify the research partnership(s) and subject matter expert(s) involved, as well as how involved the identified partner(s) will be in the project.
4. Within the application, demonstrate the extent to which the project will establish work scope, tasks, milestones, and estimated project costs that align with project goals and objectives, as well as whether any potential risks have been identified and mitigated.
5. Within the application, demonstrate the extent to which the project involves students and defines their specific tasks and commitment to the project.
6. Within the application, demonstrate the extent to which the project will be conducted in a disadvantaged community as identified in the ETC Explorer [USDOT Equitable Transportation Community \(ETC\) Explorer \(arcgis.com\)](#).

These criteria are intended to identify projects that target high technical risk areas, offer well-defined plans, and produce results that are measurable and transferable to further investigations in CAAP or PHMSA's Core Research Program. In addition, PHMSA expects the proposed results of the projects to be factual, unbiased, verifiable, and repeatable to the extent practicable. Applicants should be aware that a grant award will not convey any authority to grant recipients to

secure information or cooperation from pipeline operators.

Selection Considerations

After completing the merit review, among projects of similar merit, PHMSA may prioritize projects that provide the following:

1. Safety – PHMSA may consider how the proposed grant funded activities provide substantial safety benefits. PHMSA may prioritize applications that clearly demonstrate the project:
 - Provides substantial safety benefits compared to existing conditions.
 - Does not negatively impact the safety of the traveling public, and any relevant group applicable to the program.
2. Equity – PHMSA may prioritize applications that clearly demonstrate the project:
 - Will create positive outcomes and improve safety for disadvantaged communities. Applicants are strongly encouraged to reference the [USDOT Equitable Transportation Community Explorer tool](#) to understand the five areas transportation projects impact, and more importantly, what disadvantages their specific project area is experiencing.

Section E.2: Review and Selection Process

Administrative Review

PHMSA will conduct an administrative review to ensure the application meets the eligibility criteria outlined in Section C: Eligibility Information. Each application will be reviewed for completeness to ensure it includes all the required elements to qualify for the grant. If the application does not meet the required elements, the application will likely be rejected.

Technical Review

PHMSA will conduct a technical review of the application to assess how the proposed work is to be performed and whether the application is responsive to the applicable program requirements, such as performance measurement, methodology, and technical merit. PHMSA reserves the right to use outside expertise to perform application evaluation.

Programmatic Review

PHMSA will conduct a programmatic review to assess programmatic factors, which are relevant and essential to the process of selecting applications that best achieve the program objectives, in accordance with applicable statutes, regulations, policies, and guidelines. Other programmatic factors may include history of performance, program priorities, and other modal needs, such as disadvantaged communities as identified in [USDOT's Equitable Transportation Community \(ETC\) Explorer \(arcgis.com\)](#) per [DOT's Strategic Plan](#). The programmatic review will also address the Administration's priorities, as applicable.

Ratings Guidelines

Based on the results from each review, each application will receive one of the following overall ratings:

Highly Recommended. The application demonstrates that the NOFO requirements are very well understood, and the approach will likely result in extremely high-quality performance. The application clearly addresses and exceeds requirements with no weaknesses. The application contains outstanding features that meet or exceed the expectations of the federal government on multiple dimensions. The application scope aligns very well with DOT objectives and priorities. The risk of poor performance is extremely low.

Recommended. The application demonstrates that the NOFO requirements are understood, and the approach will likely result in satisfactory performance. The application addresses and meets requirements with some minor but correctable weaknesses. The application demonstrates requisite experience, qualifications, and performance capabilities. The application scope aligns with DOT objectives and priorities. The risk of poor performance is low.

Acceptable. The application demonstrates that the NOFO requirements are mostly understood, and the approach will likely result in satisfactory performance for part of the requirements. The applicant addresses some of the requirements, with some weaknesses. The applicant demonstrates some experience, qualifications, and/or performance capabilities. The application partially aligns with DOT objectives and priorities. The risk of poor performance is moderate.

Not Acceptable. The application does not meet the NOFO requirements. The application fails to address many requirements. The applicant may be ineligible to apply for the grant. The application could not satisfy critical requirements without a major revision and/or a rewrite of the application or a major redirection effort. The application scope does not align with DOT objectives and priorities. The risk of poor performance is high.

Selection Process

PHMSA will recommend applications for award based on the final overall rating as described above. Final award recommendations will be made by the PHMSA Associate Administrator for the Office of Pipeline Safety after taking into consideration recommendations made during the administrative, technical, and programmatic review and how well the applications address PHMSA's safety priorities. The PHMSA Administrator will make final award recommendations.

Section E. 3: FAPIIS Review

Prior to making an award, PHMSA is required to review and consider any information about the applicant that is in the designated integrity and performance system accessible through SAM (currently FAPIIS) (see 41 U.S.C. § 2313). An applicant may review and comment on any information that a federal awarding agency previously entered. PHMSA will consider any comments by the applicant, in addition to the other information in the designated integrity and performance system, in making a judgment about the applicant's integrity, business ethics, and record of performance under federal awards when completing the review of risk posed by applicants as described in 2 CFR § 200.205.

Applicants must maintain an active registration in SAM at www.SAM.gov. The SAM registration number will be utilized by PHMSA to confirm the applicant in FAPIIS.

SECTION F – FEDERAL AWARD ADMINISTRATION INFORMATION

Section F. 1: Federal Award Notices

Following the selection process, PHMSA will contact the selected applicants via e-mail indicating that they have been selected for award. This e-mail will include the financial assistance award, which will incorporate the terms and conditions and will require bilateral signatures to be fully executed. PHMSA anticipates awarding the agreements during the fourth quarter of FY 2024.

Section F. 2: Administrative and National Policy Requirements

The administration of this award by PHMSA and the recipient will be based on the following federal statutory and regulatory requirements:

1. The recipient must comply with 2 CFR Part 200: Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards.
2. The recipient must comply with 49 CFR Part 20: New Restrictions on Lobbying. 49 CFR Part 20 will be incorporated by reference into any award under this program and is available at www.gpoaccess.gov/ecfr/ by clicking on Title 49 CFR Part 20.
3. The recipient must comply with Civil Rights requirements and Title VI. As a condition of a grant award, grant recipients should demonstrate the recipient has a plan for compliance with civil rights obligations and nondiscrimination laws, including Title VI of the Civil Rights Act of 1964 and implementing regulations (49 CFR Part 21); the Americans with Disabilities Act of 1990 (ADA) and Section 504 of the Rehabilitation Act; and all other civil rights requirements and accompanying regulations. This should include a current Title VI plan, completed Community Participation Plan, and a plan to address any legacy infrastructure or facilities that are not compliant with ADA standards. DOT's and the applicable Operating Administrations' Offices of Civil Rights will work with awarded grant recipients to ensure full compliance with federal civil rights requirements.
4. The recipient must comply with 49 CFR Part 32: Government-Wide Requirements for Drugfree Workplace (Financial Assistance), which implements the requirements of Public Law 100-690, Title V, Subtitle D: Drug-free Workplace Act of 1988. 49 CFR Part 32 will be incorporated by reference into any award under this program and is available at www.gpoaccess.gov/ecfr/ by clicking on Title 49 CFR Part 32.

Section F. 3: Reporting

The following reporting and presentation obligations will apply to each award recipient:

1. Kickoff Meeting will be held at the beginning of the research project.
2. Annual Performance Progress Reports (format/content in accordance with Standard Form for Research Performance Progress Reports) must be submitted via e-mail and uploaded to PHMSA's R&D Management Information System (MIS) no later than 30 days after reporting period ends*.

3. Quarterly Progress Reports must be submitted via e-mail and uploaded to the MIS no later than 30 days after reporting period ends*.
4. Research Project Poster must be presented at designated government and/or public event up to one time per year; travel may be necessary.
5. Final Research Report must be submitted via e-mail and uploaded to MIS no later than 90 days prior to agreement expiration. The report will be updated based on PHMSA comments and resubmitted.
6. Closing Presentation must be delivered to a PHMSA-designated audience (typically Web based) no later than 30 days prior to agreement expiration.
7. Annual Federal Financial Reports (SF-425) must be submitted via e-mail and uploaded to MIS within 90 days after the reporting period ends.
8. Performance and Program Evaluation: As a condition of grant award, grant recipients may be required to participate in an evaluation undertaken by DOT or another agency or partner. The evaluation may take different forms such as an implementation assessment across grant recipients, an impact and/or outcomes analysis of all or selected sites within or across grant recipients, or a benefit/cost analysis or assessment of return on investment. DOT may require applicants to collect data elements to aid the evaluation and/or use information available through other reporting. As a part of the evaluation, as a condition of award, grant recipients must agree to: (1) make records available to the evaluation contractor or DOT staff; (2) provide access to program records, and any other relevant documents to calculate costs and benefits; (3) in the case of an impact analysis, facilitate the access to relevant information as requested; and (4) follow evaluation procedures as specified by the evaluation contractor or DOT staff. Recipients and subrecipients are also encouraged to incorporate program evaluation including associated data collection activities from the outset of their program design and implementation to meaningfully document and measure their progress towards meeting an agency priority goal(s). Title I of the Foundations for Evidence-Based Policymaking Act of 2018 (Evidence Act), Pub. L. No. 115-435 (2019) urges Federal awarding agencies and Federal assistance recipients and subrecipients to use program evaluation as a critical tool to learn, to improve equitable delivery, and to elevate program service and delivery across the program lifecycle. Evaluation means “an assessment using systematic data collection and analysis of one or more programs, policies, and organizations intended to assess their effectiveness and efficiency.” 5 U.S.C. § 311. Credible program evaluation activities are implemented with relevance and utility, rigor, independence and objectivity, transparency, and ethics (OMB Circular A-11, Part 6 Section 290).

For grant recipients receiving an award, evaluation costs are allowable costs (either as direct or indirect), unless prohibited by statute or regulation, and such costs may include the personnel and equipment needed for data infrastructure and expertise in data analysis, performance, and evaluation (2 CFR Part 200). This paragraph does not authorize pre-award costs, and grant recipients must separately obtain PHMSA’s written approval to fund pre-award costs consistent with 2 CFR § 200.458.

*Note: The reporting period begins on the effective date of the grant.

SECTION G – AGENCY CONTACT INFORMATION

NOTE: All questions related to the content of this funding opportunity can be submitted via the Message Center on FedConnect.

For technical issues or questions related to FedConnect only:

Choose one of the following options:

1. E-mail fcsupport@unisonglobal.com.
2. Submit questions through the portal on their Web site at fedconnect.net.
3. Call 1-800-899-6665, option 2.

NOFO-Related Questions:

Dwayne Cross
 Agreements Officer
 Acquisition Services Division
 The Pipeline and Hazardous Materials Safety Administration
 1200 New Jersey Avenue SE
 East Building, E22-305
 Washington, DC 20590
E-mail: Dwayne.Cross@dot.gov

Program Contact:

Nusnin Akter
 CAAP program manager
 Phone: 839-273-0528
 E-mail: Nusnin.akter2@dot.gov

For technical issues or questions related to www.grants.gov only:

Choose one of the following options:

1. E-mail support@grants.gov
2. Call 1-800-518-4726

SECTION H – OTHER INFORMATION

Given the complexity of some aspects of the application process, technical assistance is available to rural, underserved, inexperienced, or disadvantaged applicants to help with the application process. Please contact the program point of contact listed in Section G for technical assistance.

Protection of Confidential Business Information - All information submitted as part of or in support of any application shall use publicly available data or data that can be made public, and methodologies that are accepted by industry practice and standards, to the extent possible. If the applicant submits information that the applicant considers to be a trade secret or confidential

commercial or financial information, the applicant must provide that information in a separate document, which the applicant may cross-reference from the application narrative or other portions of the application.

For the separate document containing confidential information, the applicant must do the following:

1. State on the cover of that document that it “Contains Confidential Business Information (CBI).”
2. Mark each page that contains confidential information with “CBI.”
3. Highlight or otherwise denote the confidential content on each page.
4. At the end of the document, explain how disclosure of the confidential information would cause substantial competitive harm.

DOT will protect confidential information complying with these requirements to the extent required under applicable law. If DOT receives a Freedom of Information Act (FOIA) request for the information that the applicant has marked in accordance with this section, DOT will follow the procedures described in its FOIA regulations at 49 CFR § 7.29. Only information that is in the separate document, marked in accordance with this section, and ultimately determined to be confidential under § 7.29 will be exempt from disclosure under FOIA.