



## **DEPARTMENT OF TRANSPORTATION**

### **Federal Transit Administration**

#### **Competitive Funding Opportunity: Integrated Mobility Innovation (IMI) Demonstration Program**

**AGENCY:** Federal Transit Administration (FTA), U.S. Department of Transportation (USDOT). Funding opportunity number XXXXXXXXX; Catalogue of Federal Domestic Assistance (CFDA) No. 20.530.

**ACTION:** Notice of funding opportunity.

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**SUMMARY:** The Federal Transit Administration's (FTA) Integrated Mobility Innovation (IMI) Demonstration program's primary purpose is to fund projects that demonstrate innovative, effective approaches, practices, partnerships, and technologies to enhance public transportation effectiveness, increase efficiency, expand quality, promote safety, and improve the traveler's experience. This notice announces the availability of up to \$15 million in Fiscal Year (FY) 2017 and FY 2018 FTA research funds in the form of cooperative agreements for eligible projects. FTA may award additional funds, if available.

This IMI Notice of Funding Opportunity (NOFO) brings together three distinct areas of inquiry: Mobility on Demand (MOD) Sandbox demonstrations; FTA's Strategic Transit Automation Research (STAR); and Mobility Payment Integration (MPI). These areas are integrated in this NOFO to allow applicants to comprehensively plan multiple areas of mobility research. FTA requests that all applicants identify the specific area(s) for which they are applying.

The Integrated Mobility Innovation Demonstration program will also leverage FTA's leadership of the Accessible Transportation Technologies Research Initiative (ATTRI) to ensure that all activities conducted under this NOFO advance the vision of a Complete Trip for All. The Complete Trip concept reflects the understanding that a person's travel comprises a chain of steps beginning with an often-spontaneous decision to make a trip, through to planning an itinerary, traversing the built environment and its transportation networks (with or without a vehicle); navigating streets, intersections, facilities, stations, and stops to their destination—safely, efficiently, and carefree. The Complete Trip is the realization that if any part of the trip-making chain is broken, the trip cannot be completed, and an opportunity is lost.

**DATES:** Applications must be submitted by 11:59 PM Eastern Time [INSERT DATE 90 DAYS AFTER PUBLICATION IN THE FEDERAL REGISTER] through Grants.gov.

**FOR FURTHER INFORMATION:** Please send any questions regarding this notice to Mr. Hendrik Opstelten, Program Manager, Office of Research, Demonstration and Innovation, (202) 366-8094, or [hendrik.opstelten@dot.gov](mailto:hendrik.opstelten@dot.gov). A Telecommunication Device for the Deaf (TDD) is available for individuals who are deaf or hard of hearing at 202-366-3993. In addition, FTA will post answers to questions and requests for clarifications as well as information about webinars FTA will host to provide further guidance at <https://www.transit.dot.gov/imi>

**SUPPLEMENTARY INFORMATION:** Each section of this notice contains information and instructions relevant to the application process for IMI Demonstration projects, and all applicants should read this notice in its entirety so that they have the information required to submit eligible and competitive applications.

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### **A. Program Description**

FTA's Public Transportation Innovation program is authorized by Federal public transportation law at 49 U.S.C. § 5312. Under this authority, FTA may make grants, or enter into contracts, cooperative agreements, and other agreements for research, development, demonstration, deployment, and evaluation projects of national significance to public transportation that the Secretary determines will improve public transportation. The Integrated Mobility Innovation (IMI) Demonstration program was developed under this authority.

The IMI Demonstration program and its constituent areas of inquiry advance the Secretary's strategic goal to lead the development and deployment of innovative practices and technologies that improve the performance of the nation's transportation system and support economic growth. Further, this program follows FTA's vision of mobility for all - promoting equitable, accessible, and safe transportation for everyone. The program is built upon the opportunities offered by new mobility options that utilize public-private

partnerships, various local assets, and innovative approaches to enhance personal mobility. These new models offer travelers more options, more information, and greater temporal and geographic coverage, thus increasing the vibrancy of all American communities.

The IMI Demonstration program's goals include:

- Exploring new business approaches and emerging technology solutions that support transformational mobility services;
- Enabling communities to adopt innovative mobility solutions that enhance transportation efficiency and effectiveness; and
- Facilitating the widespread deployment of proven mobility solutions that foster expanded personal mobility.

All applicants are expected to suggest performance measures in their applications to gauge the success of the proposed solutions within the above goals. Applicants are also required to note the data that will be provided to the Department to evaluate performance as well as provide an overview of how a public data access plan will be developed.

This NOFO announces the availability of \$15 million in Fiscal Year (FY) 2017 and 2018 FTA research funds. The \$15 million will fund solutions in one or more of the three areas: Mobility on Demand (MOD), Transit Automation, and Mobility Payment Integration. FTA may make multiple awards (i.e., select multiple project teams) in each of these areas. Applicants should identify the area(s) in which they wish to have their proposal considered for funding. FTA reserves the right to ultimately determine which Area(s) of Inquiry apply to each proposal.

## ***1. MOD Sandbox Demonstration (\$8 million)***

FTA's Mobility on Demand (MOD) initiative envisions improved mobility through a traveler-centric approach that leverages innovations in technologies, service methods, and business models. FTA's MOD Sandbox Demonstrations provide a venue for integrated MOD concepts and solutions – supported through local partnerships – demonstrated in real-world settings.

In support of the Mobility on Demand vision, the Sandbox Demonstration program seeks to:

- Advance the transit industry's adoption of MOD;
- Enhance the transit industry's ability to formulate and implement MOD practices, with existing transit service as the backbone of an integrated mobility ecosystem;
- Validate the technical and institutional feasibility of innovative MOD business models and document best practices emerging from the demonstrations;
- Measure the impacts of MOD on travelers and transportation systems; and
- Examine requirements, regulations, and policies supporting the adoption of MOD.

The 2016 MOD Sandbox program (<https://www.transit.dot.gov/research-innovation/mobility-demand-mod-sandbox-program>) offered a platform where transit providers formed partnerships with innovative mobility providers, technology suppliers, and other partners to demonstrate innovative concepts and solutions to deliver high-quality, transformative mobility options in a real-world setting. The eleven demonstration projects and complementary independent evaluations in the 2016 MOD Sandbox program are helping FTA and related stakeholders learn how to approach MOD-related policies, and identify which technologies and business models hold promise. This

NOFO solicits projects that build upon the existing knowledge base of the 2016 MOD Sandbox, and other demonstration and pilot projects, advancing the state of the practice and continuing to test MOD models across rural, suburban, and urban settings.

The state of practice for MOD has evolved since 2016. FTA is aware that a growing number of transit agencies and communities have partnered with private mobility providers to integrate new mobility options for transit users. Some agencies transformed their own operational and business practices to better meet passenger needs with new or enhanced services, such as new trip planning tools and applications; on-demand bus and microtransit operations; and other flexible service models.

The 2016 Sandbox projects are yielding valuable insights into how agencies can take advantage of new mobility options. These insights include the potential value for travelers, and some of the challenges or potential pitfalls in using these methods of service.

Some initial lessons learned include:

- Well-functioning first-mile/last-mile connections are essential to implementing effective MOD projects regardless of the MOD technology or business model demonstrated;
- Though MOD technologies and approaches can provide new and enhanced transportation options for all travelers and all communities, the benefits and impacts of new MOD service models may vary across different communities;
- Access to data and information on demonstration projects is essential to understanding the impacts of MOD, validating new MOD-focused metrics, and enabling transit agencies to make effective operational decisions. However,

potential hurdles exist to accessing MOD pilot project data, including privacy concerns, the protection of proprietary business information, and data accuracy issues;

- Business models must be sustainable for all project partners, throughout the pilot and beyond; and
- The flexibility inherent in research authority allows project adjustments to respond to changing realities or changing business priorities, minimizing risk to project participants.

To build on these initial findings, and to continue to advance the state of the practice, the MOD Sandbox Demonstration component of this NOFO will focus on the three key areas below, while encouraging other innovative models and ideas that may not fall into any one category.

Key MOD Sandbox Demonstration Areas:

- ***Projects that enhance traveler linkages (first mile/last mile) to transportation hubs***, enabling travelers to access existing transportation resources and foster personal mobility. This can include improved trip planning and payment mechanisms; new service models for linking travelers to transit stations and other transportation hubs; and innovative partnerships and approaches that provide new or expanded options for traveler linkages.
- ***Projects that explore new MOD accessibility models, approaches, and technologies, especially those that increase access to transportation choices*** for older Americans; school-aged populations traveling independently; persons with

disabilities; or other individuals with limited ability to access existing public transportation services.

- ***Projects that provide innovative approaches to data sharing arrangements and data collection methods, enabling increased understanding of impacts*** to travelers and the community. Innovative approaches include projects that provide open data platforms, open source technologies, and data sharing agreements that allow public and controlled access to project data. Innovative approaches can also include collecting relevant project data to understand MOD impacts such as crowdsourcing information, and incentive-based participation in data collection efforts. FTA expects demonstrations funded under this NOFO to provide a vital real-world testbed as FTA continues to develop a set of mobility metrics that support the vision of the IMI Demonstration program.

New MOD Sandbox demonstration projects selected and funded from this NOFO will be subject to current regulations and policies, the applicability of which is explained by FTA's Shared Mobility Frequently Asked Questions document at <https://www.transit.dot.gov/shared-mobility>. However, FTA understands that innovations proposed in the MOD Sandbox projects may require *new* Federal guidelines or changes to existing regulations and policies. Thus, FTA encourages applicants to identify in their applications any regulatory or policy challenges they expect to encounter in the implementation of the proposed demonstration. Such requests will be reviewed as part of the application process, and used to help FTA understand barriers to full implementation of MOD demonstrations. This corresponds to the Department's and FTA's commitment to supporting innovation by examining barriers to implementing

inventive and practicable demonstration projects in the transit sector, including examining policy and regulatory requirements.

**2. *Transit Automation (\$5 million, including \$3 million for Demonstration 1 and \$2 million for Demonstration 2)***

FTA developed the five-year Strategic Transit Automation Research (STAR) Plan (<https://www.transit.dot.gov/research-innovation/strategic-transit-automation-research-plan-report-0116>) to explore the use of vehicle automation technologies in bus transit operations. The transit industry is increasingly interested in the potential applications and benefits of automation, including safety and operational improvements, cost savings, and new forms of transit service that provide increased mobility, flexibility, and convenience. Additionally, an initial analysis confirmed there are several partial automation applications with a clear business case for transit agency investment. That is, the technology investment costs for these applications could readily be recouped through future operational savings (STAR Plan, Appendix D: Transit Automation Benefit-Cost Analysis Report. <https://www.transit.dot.gov/research-innovation/strategic-transit-automation-research-plan-report-0116>).

The goal of STAR is to advance transit readiness for automation by:

- Conducting enabling research to achieve safe and effective transit automation deployments;
- Identifying and resolving barriers to deployment of transit automation;
- Leveraging technologies from other sectors to move transit automation forward;
- Demonstrating market-ready technologies in real-world settings; and
- Transferring knowledge to the transit stakeholder community.

This NOFO solicits specific automation projects noted in the STAR plan roadmap, including:

- *Automated Advanced Driver Assistance Systems (ADAS) for Transit Buses*, which seek to demonstrate market-ready or near market-ready advanced driver assistance technologies (automation levels 0-2 as defined in Society of Automotive Engineers (SAE) J3016 [June 2018]) to support partial transit automation in revenue service. And
- *Automated Shuttles*, focusing on shuttle buses with Level 4 automation and with use cases including circulator and feeder bus service.

All automation projects must address a range of factors related to transit, including:

- System performance, capabilities, limitations, and effectiveness;
- Transit operations and maintenance;
- Service quality;
- Safety and security, including cybersecurity;
- Passenger experience, comfort, acceptance, and willingness to use;
- Communication and equipment needs and costs;
- Overall cost-effectiveness; and
- Transferability.

Additional factors that should be included are noted for each of the specific demonstration areas.

**Automated Advanced Driver Assistance Systems (ADAS) for Transit Buses (\$3 million)**

**- Demonstration 1**

In support of the STAR Plan's goal to demonstrate ADAS for Transit Buses (defined as a rubber-tired automotive vehicle used for the provision of public transportation service) projects are sought that will demonstrate use cases including, but not limited to:

- Smooth acceleration and deceleration;
- Automatic emergency braking and pedestrian collision avoidance;
- Curb avoidance;
- Object avoidance;
- Precision docking;
- Narrow lane/shoulder operations; and
- Platooning.

A project team may demonstrate one or more use cases. Applicants may also propose other ADAS use cases not identified above.

In addition to the factors related to automation demonstrations, generally, ADAS demonstrations must address:

- Human factors, including training drivers in ADAS operation, establishing understanding to avoid over-reliance on or under-utilization of ADAS, and evaluating the driver-vehicle interface; and
- Bus operator experience and acceptance.

*Eligible Projects:* FTA is seeking innovative projects to demonstrate market-ready or near market-ready advanced driver assistance technologies to support partial transit

automation in revenue service. Demonstrations can be conducted with technologies and vehicles that can be adapted or retrofitted to the purpose relatively quickly. Eligible activities include applicable project planning and systems engineering activities leading to the demonstration of ADAS use cases, such as requirements, architecture and design development, installation integration, and testing.

**Automated Shuttles (\$2 million)- Demonstration 2**

FTA will fund one or more projects that demonstrate the integration of automated shuttles into a transit system (e.g., connecting to existing transit stops or integrating with fare payment and trip planning systems) using a route (or several routes) in mixed traffic on public roads.

Demonstrations will utilize nearly market-ready automated shuttles to support transit automation (SAE Level 4). Preference will be given to projects operating in revenue service. Existing automated shuttle projects in the United States and abroad have demonstrated basic functionality and user acceptance, so appropriate projects should seek to demonstrate operations in more complex operating environments (e.g., in mixed traffic on public roads, including operations at intersections) and integrate with an existing transit service (e.g., a station feeder service or other new routes that provide links to existing transit stops), possibly including integration with payment and trip planning systems. For more information on the Department's voluntary guidance on automated driving systems at SAE levels 3-5 please refer to AV 3.0 at <https://www.transportation.gov/av/3>

Projects can include one or more automated shuttle use case including, but not limited to, circulator service and/or feeder service.

In addition to the factors related to automation demonstrations, generally, automated shuttle demonstrations must address:

- Human factors, including communicating shuttle intent and human-machine interface;
- Accessibility for people with disabilities, at a level which complies with the Americans with Disabilities Act, and beyond, ensuring contribution to an accessible Complete Trip;
- On-board attendant experience and acceptance; and
- Perceptions and acceptance by other road users, such as bicyclists and pedestrians.

Applicants should also provide information showing that any automated shuttles comply with the National Highway Safety Administration's (NHTSA) Federal Motor Vehicle Safety Standards (FMVSS) or are operating consistent with an exemption from those standards issued by NHTSA. If, conversely, an applicant wishes to use a vehicle that is not compliant and does not have an applicable exemption, the applicant should provide information concerning its plan to apply for the necessary exemption.

In addition, FTA may also select the Automated Shuttles Demonstration project for "twinning," which is an ongoing knowledge exchange, with a relevant European Commission-funded automated road transport research project.

*Eligible Projects:* FTA is seeking innovative projects to demonstrate nearly market-ready automated shuttles to support transit automation (SAE level 4). Eligible activities include

applicable project design and planning activities leading to the demonstration of automated shuttle use cases.

### ***3. Mobility Payment Integration (\$2 million)***

The Mobility Payment Integration (MPI) research area was developed from FTA's recognition of the emergence and rapid evolution of the mobility payment marketplace, its importance in managing and integrating mobility, and ultimately, its overall influence on mobility outcomes. Integrating payment for different types of transportation services in a region can facilitate seamless travel across a variety of modes, including public transportation, transportation network companies, car and bike sharing services, micro-transit providers, and even private vehicles. Payment integration will enable the full use and coordination of public-sector and private-sector mobility resources to expand mobility options in communities across America. In keeping with FTA's commitment to equity and accessibility, payment integration solutions funded under this NOFO will address universal usability by all people, including those with disabilities as well as those who are under-banked or unbanked.

Convenient, useful payment systems are a key provision of FTA's Mobility Innovation goals. To advance the state of the practice in this area, FTA seeks to assess the feasibility of different payment integration technologies and strategies through the MPI demonstrations. Key areas to explore will include back-office operational models (including financial and accounting systems), institutional collaboration and experience, user experience, and interoperability and sustainability of such systems. Furthermore, MPI is also structured to explore the feasibility and impact of integrating payment

services beyond the traditional mobility ecosystem, such as retail, banking, and health care industries.

This NOFO solicits demonstration projects in MPI with a focus on two topical areas:

*Payment Equity and Human Service Transportation Coordination; and Integrated Mobility and Beyond.*

*Payment Equity and Human Service Transportation Coordination*

An informal assessment of data suggests that between 10 and 50% of transit riders use cash as their primary method of payment, to include on-vehicle payment and at transit ticket vending machines. Reasons for cash only payments range from personal preference to lack of access to non-cash payment products or services. In addition, some American households do not have relationships with traditional financial institutions (i.e., they are unbanked). To address these populations, MPI Demonstration 1 will focus on the development and demonstration of mobility payment solutions for one or more of the following groups:

- a. Unbanked and underbanked populations;
- b. Populations without access to mobile devices and/or mobile data access; and
- c. Human service transportation users.

Projects selected under this MPI focus area will plan, develop, demonstrate, evaluate, and refine solutions to ensure equitable access to transit and mobility systems by: unbanked or underbanked populations; the technology disadvantaged; and vulnerable groups (low-income, minority, older adults, students and young travelers, and people with disabilities). Furthermore, projects should seek to validate payment integration's ability to enhance the experience of travelers from the targeted groups, thus enabling them to

more effectively use the mobility system to connect them with more economic, healthcare, educational, social, and recreational opportunities. This demonstration aims to uncover and showcase how public transportation agencies and mobility providers can ensure equity and accessibility when deploying integrated payment solutions.

### *Integrated Mobility and Beyond*

Multi-modal and multi-provider payment integration requires enabling technologies and institutional partnerships. Demonstration(s) in this topical area will focus on operationalizing an integrated single payment account across multiple public and private mobility services (i.e., some combination of single or multiple transit agencies plus transportation network companies, bikeshare, carshare, ride hailing, taxi, scooters, and/or microtransit). FTA welcomes applications that address the following opportunities for integration:

- Transportation adjacencies (e.g., tolling, parking, motor vehicle administrative transactions, electric charging stations);
- Specialized and demand-response transportation (e.g., human service transportation, faith-based transportation, non-emergency medical transportation, paratransit, volunteer-based transportation, closed or open-loop shuttle services, employee and campus transportation);
- Multiple non-transit/non-mobility services (e.g., retail, incentivization, loyalty programs);
- Social programs (e.g., travelers with disabilities, student discounts, transit benefits, social security, senior citizens, veteran benefits, human service programs); and

- Access and authorization (e.g., student cards, government IDs, campus/academic cards, library access, community and facility access, municipal programs, age-based program IDs).

Applicants wishing to pursue an integrated mobility demonstration should address practical and sustainable partnership models among multiple agencies and providers. Applicants will investigate effective system-wide mobility and business or technology partnerships. These partnerships should be supported by scalable and sustainable back-office procedures and operations. Institutional collaboration should address harmonization of business rules and fare policies, as well as collaborative incentivization strategies.

Due to the anticipated complexity of structuring and developing a multi-agency, multi-modal, multi-provider system, FTA recognizes that most applicants will plan and implement their respective mobility payment integration projects in phases beyond the scope of this demonstration. Phases can be structured to capture different aspects such as incremental expansion of service areas or regions, layering of different service providers (transportation, mobility, retail, government, etc.) over a period, expansion of interregional operations, or geography-agnostic interoperability, etc. This incremental approach can leverage lessons learned in each phase to refine and optimize subsequent strategies.

FTA requires that all applicants describe their vision and phased planning and implementation plan toward an integrated mobility payment system, and clearly indicate which phase(s) the requested funding will address.

## **B. Federal Award Information**

### ***1. Amount Available***

This notice makes available \$15 million under the Public Transportation Innovation program (49 U.S.C. § 5312(b)), which FTA intends to award in the form of cooperative agreements, to support the research, development, demonstration, deployment, and evaluation of research and technology of national significance to public transportation that the Secretary determines will improve public transportation.

### ***2. Award Size***

There is no minimum or maximum award amount. Rather, project scale will be bounded by each project's ability to complete all proposed planning and development activities and launch the demonstration within 12 months of project award. FTA intends to fund as many meritorious projects as possible. Only proposals from eligible recipients for eligible activities will be considered for funding. Due to funding limitations, applications that are selected for funding may receive less than the amount originally requested. In those cases, applicants must be able to demonstrate that the proposed projects are still viable and can be completed with the amount awarded.

### ***3. Type of Assistance Instrument***

Projects funded through this NOFO will be structured as cooperative agreements in which the federal government will have substantial involvement. The federal role will include active participation in the project activities by attending review meetings, commenting on technical reports, and maintaining frequent contact with the local project manager. FTA reserves the right to re-direct project activities and funding for projects supported under this NOFO and their related activities.

#### ***4. Previous Award***

Recipients of funding under the 2016 Mobility on Demand Sandbox demonstration program may apply for funding to support additional projects or enhancements to previously developed activities. To be competitive, the applicant should demonstrate the extent to which the newly proposed project is indeed a new effort, and not a continuation of a prior project.

#### ***5. Project Timelines***

Projects funded under the IMI Demonstration program will be allowed a maximum of 12 months for project planning. A minimum of 12 months of demonstration activity is required.

#### ***6. Restrictions on Funding***

The IMI Demonstration program is a research and development effort and, as such, FTA Research Circular 6100.1E (available at <https://www.transit.dot.gov/regulations-and-guidance/fta-circulars/research-technical-assistance-and-training-program>) rules will apply in administering the program.

### **C. Eligibility**

To be selected for the IMI Demonstration program, an applicant must be an *eligible applicant* and the project must be an *eligible project* as defined below:

#### ***1. Eligible Applicants***

*Eligible applicants* under this notice are providers of public transportation, including public transportation agencies, state/local government DOTs, and federally recognized Indian tribes. Eligible applicants must identify one or more strategic project partner(s)

with a substantial interest and involvement in the project. Applications must clearly identify the eligible applicant and all project partners on the project team.

*Eligible project partners* under this program may include, but are not limited to:

- private for-profit and not-for-profit organizations, including shared-use mobility providers, technology system suppliers and integrators, automated vehicle technology providers, property managers and developers, and others;
- private operators of transportation services, such as employee shuttle services, airport connector services, university transportation systems, or parking and tolling authorities;
- bus manufacturers;
- state or local government entities, including multi-jurisdictional partnerships, and organizations such as a Metropolitan Planning Organization; or
- other organizations including consultants, research consortia or not-for-profit industry organizations, and institutions of higher education.

The project team should include all project partners necessary to successfully carry out the prospective project, and structured to efficiently leverage Federal funds.

The applicant must be able to carry out the proposed agreement and procurements, if needed, with project partners in compliance with all applicable Federal, state, and local laws.

*Key Partners* can be designated by applicants. A key partner is defined as one that shares the costs, risks, and rewards of early deployment and demonstration of innovation. FTA may also determine that any identified project partner in the proposal is a key partner and

make any award conditional upon the participation of that key partner. A key partner is essential to the project as approved by FTA and is therefore eligible for a noncompetitive award by the applicant to provide the goods or services described in the application. The applicant shall clearly indicate whether each partner is a key partner. A key partner's participation on a selected project may not be substituted later without FTA's approval.

## ***2. Eligible Projects***

Eligible activities include all activities leading to the demonstration, such as planning and developing business models, obtaining equipment and service, acquiring or developing software and hardware interfaces to implement the project, operating the demonstration, and providing data to support performance measurement and evaluation.

FTA continues to seek bold and innovative ideas to advance the vision of MOD:

complete trips for all travelers using emerging technologies, applications, practices, and service models in concert with existing public transportation systems and resources.

Where applicable, eligible projects should consider how to address accessibility for persons with disabilities, including persons who use wheelchairs, and for older riders, affordability for individuals with lower incomes, impacts on the local community, broad access to mobility options for all travelers, as well as payment options that can accommodate all users, including the unbanked and underbanked. Planning activities should ensure that all stakeholders are involved, including people with disabilities.

Eligible demonstrations will consist of a minimum 12-month field test and must be implemented and operational within 12 months of project award.

It should be noted that the program description section of this NOFO contains additional eligibility information with respect to the transit automation programmatic area. All applicants should closely review the Program Description section of this NOFO.

### ***3. Cost Sharing or Matching***

The Federal share of project costs under this program is limited to 80 percent. Applicants may seek a lower Federal contribution. The applicant must provide the local share of the net project cost in cash, or in-kind, and must document in its application the source of the local match. Eligible sources of local match are detailed in FTA Research Circular 6100.1E. (available at <https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/FTACir6100.1E.docx4.08.2015%282%290.pdf>).

## **D. Application and Submission Information**

### ***1. Address***

Applications must be submitted electronically through GRANTS.GOV. General information for submitting applications through GRANTS.GOV can be found at the following URL: <https://www.transit.dot.gov/funding/grants/applying/applying-fta-funding> along with specific instructions for the forms and attachments required for submission. Mail and fax submissions will not be accepted. A complete proposal submission consists of two forms: the SF424 Application for Federal Assistance (available at GRANTS.GOV) and the supplemental form for the 2018 Integrated Mobility Innovation Demonstration program (available at GRANTS.GOV). Failure to submit the information as requested can delay review or disqualify the application.

### ***2. Content and Form of Application Submission***

*i. Submission*

The application must include the Standard Form 424 (Application for Federal Assistance), cover page, and the Project Narrative, with the Applicant and a Proposal Profile supplemental form attached. The application must include responses to all sections of the SF-424 mandatory form and the supplemental form unless a section is designated as optional. FTA will use the information on the supplemental form to determine applicant and project eligibility for the program and to evaluate the proposal against the selection criteria described in part E of this notice. FTA will accept only one supplemental form per SF-424 submission. FTA encourages applicants to consider submitting a single supplemental form that includes multiple activities to be evaluated as a consolidated proposal. If an applicant chooses to submit separate proposals for individual consideration by FTA, it must submit each proposal with a separate SF-424 and supplemental form.

An applicant may attach additional supporting information to the SF-424 submission and supplemental form submission, including but not limited to letters of support, project budgets, fleet status reports, or excerpts from relevant planning documents. Supporting documentation must be described and referenced by file name in the appropriate response section of the supplemental form, or it may not be reviewed.

Information such as applicant name, Federal amount requested, local match amount, description of areas served, etc., may be requested in varying degrees of detail on both the SF-424 form and supplemental form. An applicant must fill in all fields unless stated otherwise on the forms. If copying information into the supplemental form from another source, the applicant should verify that the supplemental form has fully captured pasted

text and that it has not truncated the text due to character limits built into the form. An applicant should use both the “Check Package for Errors” and the “Validate Form” validation buttons on both forms to check all required fields on the forms. An applicant should also ensure that the Federal and local amounts specified are consistent throughout the application.

*ii. Application Content*

The SF-424 Mandatory Form and the supplemental form will prompt applicants for the required information, including:

- a. Applicant name
- b. Dun and Bradstreet (D&B) Data Universal Numbering System (DUNS) number
- c. Key contact information (including contact name, address, email address, and phone)
- d. Congressional districts where the project will be carried out
- e. A description of the technical, legal, and financial capacity of the applicant
- f. A discussion of the overall goals of the proposed project, with proposed performance measures including the current state of mobility innovation in the community or service area of the proposed project, current challenges in providing robust, flexible, and accessible transportation options, integration challenges or gaps, and how the proposed project will address those needs. The discussion should include demographics for the areas expected to be served, a description of the current opportunities and need to improve mobility choices for all, and if applicable, recent local and/or national trends or developments that make this proposed project particularly timely. Additionally, all proposals should describe the extent to which

- the project builds, if applicable, on past research, innovation, or development efforts, and how this project will further advance innovative practices.
- g. A description of the project partners, both technical and institutional, their roles, and their anticipated contributions. Indicate which of the project partners are “key partners” essential to the success of the proposed project. Additionally, the project team is encouraged to provide letters of commitment or support from each of the project partners as well as any agreements among the project partners. Describe the business model, service model, or approach that will be used to implement the demonstration project and any public-private partnerships formed to achieve the project objectives. Specify any unique or innovative approaches used to coordinate and coalesce the project partners and local stakeholders.
  - h. A discussion of the expected outcomes and benefits of the proposed project to the individual travelers and the community; and how the goals and outcomes will be measured.
  - i. A description of the extent to which the proposed project is replicable in other communities, and the national significance of the project, if any.
  - j. A description of how, and the extent to which, the proposed project addresses accessible and equitable mobility service for all travelers, including persons with disabilities, older individuals, school age populations, and individuals with lower incomes or in underserved communities.
  - k. A description of any Federal, state, or local requirements or policies that the project team expects to present challenges to successfully implementing the proposed project.

- l. A preliminary data management plan (DMP) which details the types of data that will be generated, and how the project team will provide access for FTA or its designee to this project-related data for purposes of evaluation, and a subset to the public.
- m. A detailed description and supporting evidence (e.g., signed memorandum of understanding, executed data agreements, detailed plans on what and how to share data between partners, etc.) related to project data collection, management, sharing, and usage.
- n. A timeline of project implementation detailing all significant milestones and the roles of the responsible project partners. The timeline should include elements such as when the project will start, when it will be fully operational, and the length of time for anticipated data collection activities.
- o. Financials and Budget
  - Identify funding requirements for the proposed project, noting the specific sources and uses for the funds proposed, with enough detail to indicate the various key components of the project.
  - Document the matching funds, including amount and source of the match (may include local or private sector financial participation in the project), or documents supporting the commitment of non-Federal funding to the project, or a timeframe upon which those commitments would be made.

Applicants may attach to the supplemental form supporting materials and documentation as appropriate. Applicants are encouraged to clearly reference all attachments in the

Applicant and Proposal supplemental form. Suggested attachments include graphics, maps, letters of support, and other documents to support the proposal.

***3. Dun and Bradstreet Universal Numbering System (DUNS) Number and System for Award Management (SAM)***

Each applicant is required to: (i) Be registered in SAM before submitting its application; (ii) provide a valid DUNS number 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 under consideration by FTA. FTA may not make a grant award to an applicant until the applicant has complied with all applicable DUNS and SAM requirements. FTA will review an applicant's SAM registration status to make responsibility determination.

These requirements do not apply if the applicant: (1) Is an individual; (2) is excepted from the requirements under 2 CFR 25.110(b) or (c); or (3) has an exception approved by FTA under 2 CFR 25.110(d). FTA may not make an award 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 FTA is ready to make an award, FTA may determine that the applicant is not qualified to receive an award and use that determination as a basis for making a Federal award to another applicant. All applicants must provide a unique entity identifier provided by SAM. Registration in SAM may take as little as 3–5 business days, but there can be unexpected steps or delays. For example, the applicant may need to obtain an Employer Identification Number. FTA recommends allowing ample time, up to several

weeks, to complete all steps. For additional information on obtaining a unique entity identifier, please visit [www.sam.gov](http://www.sam.gov).

#### ***4. Submission Dates and Times***

Project proposals must be submitted electronically through GRANTS.GOV by 11:59 p.m. Eastern Time on [INSERT DATE 90 DAYS AFTER PUBLICATION IN THE FEDERAL REGISTER]. Mail and fax submissions will not be accepted.

FTA urges applicants to submit applications at least 72 hours prior to the due date to allow time to correct any problems that may have caused either GRANTS.GOV or FTA systems to reject the submission. Proposals submitted after the deadline will only be considered under extraordinary circumstances not under the applicant's control.

Deadlines will not be extended due to scheduled website maintenance. GRANTS.GOV scheduled maintenance and outage times are announced on the GRANTS.GOV website.

Within 48 hours after submitting an electronic application, the applicant should receive two email messages from GRANTS.GOV: (1) Confirmation of successful transmission to GRANTS.GOV; and (2) confirmation of successful validation by GRANTS.GOV. If the applicant does not receive confirmation of successful validation or receives a notice of failed validation or incomplete materials, the applicant must address the reason for the failed validation, as described in the email notice, and resubmit before the submission deadline. If making a resubmission for any reason, applicants must include all original attachments regardless of which attachments were updated and check the box on the supplemental form indicating this is a resubmission.

Applicants are encouraged to begin the process of registration on the GRANTS.GOV site well in advance of the submission deadline. Registration is a multi-step process, which

may take several weeks to complete before an application can be submitted. Registered applicants may still be required to update their registration before submitting an application. Registration in SAM is renewed annually and persons making submissions on behalf of the Authorized Organization Representative (AOR) must be authorized in GRANTS.GOV by the AOR to make submissions.

#### ***5. Executive Order 12372 (Intergovernmental Review)***

The regulations effectuating Executive Order 12372 regarding intergovernmental consultation on Federal programs and activities apply to this NOFO.

#### ***6. Funding Restrictions***

Funds under this NOFO cannot be used to reimburse projects for otherwise eligible expenses incurred prior to FTA award of a Cooperative Agreement unless FTA has issued a “Letter of No Prejudice” for the project before the expenses are incurred.

The Integrated Mobility Innovation Demonstration program is a research, development, and demonstration effort and as such FTA Research Circular 6100.1E rules will apply in administering the program.

#### ***7. Other Submission Requirements***

FTA encourages applicants to identify scaled funding options in case insufficient funding is available to fund a project at the full requested amount. If an applicant indicates that a project is scalable, the applicant must provide an appropriate minimum funding amount that will fund an eligible project that achieves the objectives of the program and meets all relevant program requirements. The applicant must provide a clear explanation of how a

reduced reward would affect the project budget. FTA may award a lesser amount regardless of whether the applicant provides a scalable option.

## **E. Application Review**

### ***1. Selection Criteria***

Project proposals will be evaluated by FTA per the following five selection criteria. FTA strongly encourages each applicant to demonstrate the responsiveness of a project to all criteria shown below with the most relevant information that the applicant can provide.

The five selection criteria are:

- i. Project Impact and Outcomes* – FTA is seeking projects that address demonstrated mobility needs in the local community and uncover the potential of integrated mobility innovation to benefit the mobility of all users, including those with a range of functional abilities. Applicants should provide adequate contextual information about the nature of these needs (supported with statistical analysis, operational data, maps, and/or diagrams, where relevant) and clearly articulate how their proposal is designed to address those challenges, and meet FTA’s goals for Mobility Innovation.

Applications should indicate how they expect to use the data they collect to evaluate the impact of their project, recognizing that ultimately this will involve collaboration between the applicant and an independent evaluator. Specifically, an essential element of all applications is a set of performance measures that clearly notes how success with the goals of the proposal will be measured and how the data will be collected.

- ii. Innovation* – The application should discuss the expected utility of new service models, systems, and technologies in ways that advance FTA’s mobility goals and the

state of the practice. Applications that test multiple innovative approaches will be given higher consideration.

- iii. Transferability and Technology Transfer* – Since knowledge transfer is a key goal of demonstrations, proposals that have a high degree of transferability to other public transportation agencies and locations or are otherwise scalable will be given priority. Additionally, applicants should note how they will support technology transfer of their findings, and are encouraged to note outreach mechanisms to support information sharing.
- iv. Project Approach* – The proposed project must be explained in sufficient detail and clarity to engender confidence in its eventual success. The proposal should present a realistic and detailed description of the overall project workflow, delineating project roles and responsibilities, and noting potential project risks and mitigations. The project budget should be supported by documentation on the source and credibility of the estimates. Sources of local matching funds should be clearly identified and documented, noting any restrictions or limitations to use. A robust evaluation framework should be provided, including details on how relevant demonstration data will both be collected, stored, and shared, with assurances that there are no contractual or other impediments to sharing data with FTA and the independent evaluator. FTA favors applications that evidence detailed readiness (such as a signed data agreement) among all project partners for project data collection, management, sharing, and use. Applications that demonstrate strong commitment to share data with FTA, in a way that addresses confidential business information (CBI) or Personally Identifiable Information (PII) concerns, will be viewed more positively.

v. *Team Capacity, Experience, and Commitment* – Applicants should provide information on the experience and capabilities of the project management team and implementation staff, and the extent of local commitment to the project and any relevant partnerships, including with other public-sector entities. Applications must evidence an understanding of the current state of the practice in mobility. Applicants are advised to submit information on partners’ qualification and experience as a part of the application. FTA is seeking proposals that minimize project risk through appropriate staffing and robust community support. However, prior experience with similar projects is not required.

Each selection criterion will be judged in the frame of the Area of Inquiry identified by the applicant. Therefore, applicants should clearly reference how their proposal advances the specific goals, objectives, and other intents of the applicable Area of Inquiry as they address the selection criteria.

## ***2. Review and Selection Process***

A technical evaluation panel comprising FTA, other Departmental, and/or Federal agency staff will review project proposals against the selection criteria listed above. The technical evaluation committee may seek clarification from any applicant about any statement made in a proposal. FTA may also request additional documentation or information to be considered during the evaluation process. After the evaluation of all eligible proposals, the technical evaluation committee will provide project recommendations to the FTA Administrator. The FTA Administrator will determine the final list of project selections, and the amount of funding for each project. Geographic diversity, diversity of project type, the applicant's receipt of other Federal funding, and

projects located in or that support public transportation service in a qualified opportunity zone designated pursuant to 26 USC 1400Z-1 may be considered in FTA's award decisions. FTA may prioritize projects proposed with a higher local share.

In addition to the criteria and considerations outlined in this section, the FTA Administrator will consider the following key Departmental objectives:

- Supporting economic vitality at the national and regional level;
- Leveraging Federal funding to attract other, non-Federal sources of investment, including value capture;
- Using innovative approaches to improve safety and expedite project delivery; and
- Holding grant recipients accountable for their performance and achieving specific, measurable outcomes with supporting data.

## **F. Federal Award Administration**

### ***1. Federal Award Notice***

The FTA Administrator will announce the final project selections on the FTA website.

### ***2. Administrative and National Policy Requirements***

#### ***i. Independent Evaluation***

Projects funded under this announcement will be subject to evaluation by an independent evaluator selected and funded separately by FTA. Recipients will be required to coordinate with the independent evaluator to assist in developing an evaluation plan; and collecting, storing, and managing data required to fulfill that evaluation plan.

#### ***ii. Draft Mobility Metrics***

Projects funded under this announcement will be required to support the efforts of FTA or its designee to evaluate the project and its outcomes against a set of in-development Mobility Metrics, which will be shared with selected project teams upon award.

*iii. Data Access and Data Sharing*

Projects funded under this announcement will be required to gather and share all relevant and required data with the FTA within appropriate and agreed-upon timelines, to support project evaluation.

The Department may make available a secure data system to store data for evaluation (more information available at <https://its.dot.gov/data/secure/>), or projects may suggest an appropriate third-party system where Departmental analysts can conduct their work, with FTA approval. Applicants should budget for the costs of data storage and sharing as appropriate.

In response to the White House Office of Science and Technology Policy memorandum dated February 22, 2013, entitled *Increasing Access to the Results of Federally Funded Scientific Research*, the Department is incorporating Public Access requirements into all funding awards (grants and cooperative agreements) for scientific research. All work conducted under the Integrated Mobility Innovation Demonstration program must follow the Department data policies outlined in the DOT Public Access Plan at: <https://ntl.bts.gov/public-access/how-comply>. Recipients are required to include these obligations in any sub- awards or other related funding agreements.

The FTA expects Recipients to remove CBI and PII before providing public access to project data. Recipients must ensure the appropriate data are accessible to the FTA

and/or the public for a minimum of five years after the award period of performance expires.

Additionally, information submitted as part of or in support of an IMI Demonstration program-funded project shall make every attempt to 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. FTA recognizes that certain partnerships may pose a challenge to data sharing and will work with each recipient to develop an appropriate data management plan (DMP) building upon the preliminary DMP submitted in the application.

Recipients must make available to the Department copies of all work developed in performance of a project funded under this announcement, including but not limited to software and data. Data rights shall be in accordance with 2 CFR 200.315, Intangible property.

If the submission includes information the applicant considers to be trade secret or confidential commercial or financial information, the applicant should do the following: (1) note on the front cover that the submission “Contains Confidential Business Information (CBI)”; (2) mark each affected page “CBI”; and (3) highlight or otherwise denote the CBI portions. FTA protects such information from disclosure to the extent allowed under applicable law. If FTA receives a Freedom of Information Act (FOIA) request for the information, FTA will follow the procedures described in the Department’s FOIA regulations at 49 CFR part 7.

*iv. Knowledge and Technology Transfer*

Project teams may be asked to participate in information exchange meetings, webinars, or outreach events to support FTA's goal of advancing the state of the practice. Project teams will be required to work with FTA to support knowledge transfer by participating in a relevant community of practice or similar activity. Applicants should allocate a portion of their budgets to support such work, which may include travel or presentations at key industry gatherings, such as conferences of the American Public Transportation Association (APTA), Community Transportation Association of America (CTAA), American Association of State Highway and Transportation Officials (AASHTO), Intelligent Transportation Society of America (ITSA) America, Transportation Research Board (TRB), and the Department, among others.

Projects with significant potential impacts on the mobility of persons with disabilities will be specifically encouraged to participate in FTA-supported cross-program coordination efforts. Such collaboration will bring together experts from the public, private, government, and academic sectors who share information and lessons learned from the development of technologies and business models with the potential to reduce the mobility barrier facing those with disabilities. The intent of this participation is to promote the success of projects funded under this NOFO, and to transfer knowledge and practices specific to accessibility.

*v. Equity and Accessibility Planning*

Funded projects will be required to produce, within 4 months of award, a draft equity and accessibility plan. Such plans will clearly identify the steps to be taken to ensure the usability of the proposed service or technology by people with disabilities, as well as

those who are unbanked or have lower incomes. As part of these plans, projects will be required to engage a stakeholder group comprised of representatives of impacted communities, and to clearly identify how stakeholder input will be garnered and utilized in the project's development.

*vi. Pre-Award Authority*

FTA will issue specific guidance to recipients regarding pre-award authority at the time of selection. FTA does not provide pre-award authority for discretionary funds until projects are selected, and even then, there are Federal requirements that must be met before costs are incurred. For more information about FTA's policy on pre-award authority, please see the FY 2018 Apportionment Notice published on July 16, 2018. <https://www.govinfo.gov/content/pkg/FR-2018-07-16/pdf/2018-14989.pdf>.

*vii. Planning*

FTA encourages applicants to notify the appropriate State Departments of Transportation and Metropolitan Planning Organizations (MPO) in areas likely to be served by the project funds made available under these initiatives and programs.

*viii. Standard Assurances*

The applicant assures that it will comply with all applicable Federal statutes, regulations, executive orders, directives, FTA circulars, and other Federal administrative requirements in carrying out any project supported by the FTA agreement. The applicant acknowledges that it is under a continuing obligation to comply with the terms and conditions of the grant or cooperative agreement issued for its project with FTA. The applicant understands that Federal laws, regulations, policies, and administrative

practices might be modified from time to time and may affect the implementation of the project. The applicant agrees that the most recent Federal requirements will apply to the project, unless FTA issues a written determination otherwise. The applicant must submit the Certifications and Assurances before entering into a grant or cooperative agreement if it does not have current certifications on file.

*ix. Buy America*

FTA requires that all capital procurements meet FTA's Buy America requirements per 49 U.S.C. 5323(j), which require that all iron, steel, or manufactured products be produced in the United States. Federal public transportation law provides for a phased increase in the domestic content for rolling stock. For FY 2019, the cost of components and subcomponents produced in the United States must be more than 65 percent of the cost of all components. For FY 2020 and beyond, the cost of components and subcomponents produced in the United States must be more than 70 percent of the cost of all components. There is no change to the requirement that final assembly of rolling stock must occur in the United States. FTA issued guidance on the implementation of the phased increase in domestic content on September 1, 2016 (81 FR 60278). Applicants should read the policy guidance carefully to determine the applicable domestic content requirement for their project. Any proposal that will require a waiver must identify in the application the items for which a waiver will be sought. Applicants should not proceed with the expectation that waivers will be granted, nor should applicants

assume that selection of a project under the Low-No Program that includes a partnership with a manufacturer, vendor, consultant, or other third party constitutes a waiver of the Buy America requirements applicable at the time the project is undertaken. Consistent with Executive Order 13858 Strengthening Buy-American Preferences for Infrastructure Projects, signed by President Trump on January 31, 2019, applicants should maximize the use of goods, products, and materials produced in the United States, in Federal procurements and through the terms and conditions of Federal financial assistance awards. Additional information on Buy America requirements can be found at <https://www.transit.dot.gov/buyamerica>.

#### **G. Federal Awarding Agency Contacts**

For further information concerning this NOFO, please contact Mr. Hendrik Opstelten by phone at 202-366-8094, or by e-mail at [hendrik.opstelten@dot.gov](mailto:hendrik.opstelten@dot.gov). A TDD is available for individuals who are deaf or hard of hearing at 800-877-8339. In addition, FTA will post answers to questions and requests for clarifications on FTA's website at <https://www.transit.dot.gov/imi>. To ensure applicants receive accurate information about eligibility or the program, the applicant is encouraged to contact FTA directly, rather than through intermediaries or third parties, with questions.

Issued in Washington, DC.

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K. Jane Williams,  
Acting Administrator.

**Address Name**  
**Address Line 2**  
**City, State, Zip**

Dear **Name**:

Thank you for your letter supporting the application submitted by **Applicant** under the U.S. Department of Transportation's Fiscal Year (FY) 2019 Integrated Mobility Innovation (IMI) Demonstration program.

The IMI Demonstration program is administered by the Federal Transit Administration (FTA), and funded under Federal public transportation law (49 U.S.C. § 5312) through the Federal Public Transportation Innovation program. FTA expects to award several cooperative agreements up to a total of \$15 million under this program.

The IMI Demonstration program's primary purpose is to fund projects that demonstrate innovative, effective approaches, practices, partnerships, and technologies to enhance public transportation effectiveness, increase efficiency, expand quality, promote safety, and improve the traveler's experience. The program will fund solutions in one or more of the three areas identified in the notice of funding opportunity: Mobility on Demand, Transit Automation, and Mobility Payment Integration.

All properly submitted applications for this funding will receive full and careful consideration. FTA will announce final project selections after the review process is complete.

Your interest in this program is appreciated.

Sincerely,

**Signatory**

[FR Doc. 2019-09269 Filed: 5/7/2019 8:45 am; Publication Date: 5/8/2019]