

Gwo-Wei Torng

Hello, everyone, thank you for joining FTA Integrated Mobility Innovation program webinar. This webinar is about a Notice of Funding Opportunity. For reference purpose the opportunity ID for this \$15 million NOFO is FTA-2019-008-TRI. In order for us to better prepare to answer any questions you may have and to provide as much clarity as we possibly can during the webinar we have assembled a team of staff members representing a wide range of knowledge and experience. The next slide.

Here we have a list of speakers who will share their thoughts with you for the next 30 minutes or so. And we do want to reserve some time for Q&A in the end of the webinar. Speaking of questions, feel free to use the chat box in your webinar screen to enter your questions. We will try to go through those questions after the presentations. So now the presenters we have for you. My name is Gwo-Wei Torng I'm the Director for the office of mobility innovation at FTA. We have for you Mary Leary, our Deputy Associate Administrator for Research, Rik Opstelten, the Program Manager for mobility on demand, Steve Mortensen, Program Manager for transit automation research, Murat Omay, Program Manager for mobility payment integration, Ariel Gold, Program Manager for research data from ITS Joint Program Office, and last, but not least Antoinette Quagliata, our Program Manager for mobility on demand.

Mary Leary:

Welcome everyone. We are absolutely thrilled. We have 650 lines reserved for this webinar and are oversubscribed. So this just shows how much interest there is across the industry in this really, really important area. We were talking the other day about the pace of change and public transportation. This is a pace of industry change I don't think many of us expected. So think about the streetscapes today we have bicycles, scooters, public transportation, transportation network companies, human services organizations, and pedestrians -- more pedestrian friendly environments and it's really, really an exciting time, but also a time of change with the challenges so we truly are hoping this investment of \$15 million will continue to seed a lot of wonderful opportunities to keep the ball moving and expand mobility for everyone.

One way the Federal Transit Administration improves public transportation, which is our overarching goal and vision for FTA is through research development and evaluation program. We are witnessing the over 7,000 public transportation systems in the U.S. grow and adapt to consumer preferences. For example, today it's very exciting to see the emerging public and private partnerships in the awareness there is so much resources out there, and so much resource needed. We have a lot of work to do around accessibility to increase access for everyone, and these new models can help. So to support this change our research vision is innovative technologies, projects, partnerships and world-class infrastructure promote economic growth, productivity, safety and improved quality of life in the community. FTA's research area of safety infrastructure mobility innovation are based on the DOT strategic goals to increase safety by reducing transportation -related fatalities and injuries across the transportation system, investing in infrastructure to ensure mobility and accessibility and stimulate economic growth, productivity and competitiveness for American workers. And lastly,

preparing for the future through innovation, which is where this Notice of Funding Opportunity comes from. So through these calls FTA's overarching research goals are to improve operational efficiency, and hence the traveler experience of mobility and drive economic growth. This new program, the Integrated Mobility Innovation, which we call IMI for short, is our flagship area for the mobility innovation priority and builds on years of research not only FTA, but across the U.S. Department of Transportation with programs like the Veterans Transportation Community Living Initiative, the Mobility Services for All Americans, Mobility on Demand Sandbox and many others. It has a vision based on the concept developed by the research community called the complete trip. So we are seeking applications for IMI that offer integrated solutions across three areas: mobility on demand, transit automation and mobility payment integration. We will explain in a lot more detail about those three areas. Next slide.

What is this complete trip? If you think about it we really want to kind of at the highest level and think about the individual because at the end of the day it's about service and serving people. We want people to feel confident and able to make a trip in all aspects so we want the system to serve them. We can think about complete trip in all parts of a trip chain. This is a trip chain in the era of real-time information at our fingertips. There's an expectation for all travelers of information and access points at all times your device like a smart phone or something on your wrist. Another important element is all parts of the trip must be accessible for everyone. This trip and is a complete trip if you will include the planning and booking of a trip, travel to start the trip wherever that is or whatever the mode is. And then taking that trip and all the communication needed. Perhaps an individual might need additional assistance during the trip in a way to do that seamlessly, easily and in real-time. Then safe pedestrian access and enough space for whatever is needed when we get nearby, whether mobility device or vehicle loading and unloading and finally, safe arrival at the final destination with a seamless ability to return home through some sort of application. Let's say you might want to stop at the grocery store or get something on the way home and a way to participate in all aspects and to be able to do that very, very quickly. So what is truly critical at each stage is that all information is easily available and all segments accessible, and all segments are efficient and timely. Next slide.

This brings us to the three goals for the IMI program. First to explore and test these business approaches to mobility using the best and most appropriate emerging technologies processes and systems that transform and enhance mobility for everyone. Second in developing these new models we want to make sure the models are cost-effective that they are a good return on investment and efficient and enhance operational excellence in a public transportation system. Finally, an IMI solution will facilitate ease of research to practice. It's important the Federal Transit Administration with the investments we make in research that we always have an eye for making it easy to get information about research to practices that have been proven. We have a preference to invest at the local level. We really want and encourage everyone be sure with the solution that that solution can easily be widely deployed and foster expanded accessible personal mobility. There's a really interesting concept called diffusion so you think about how gas can expand like a good idea perspective organically grows at a

grassroots level and drives widespread adoption and innovation. We want your creativity, we want your good ideas to easily be spread across all public transportation system, so with that I'm going to turn it over to our next speaker's and thank you all so much for being on the call today.

Rik Opstelten

Thank you very much Mary and thank you to all of our participants today so my name is Rik as you saw earlier on the screen and I will begin by giving a quick overview again of the three areas of emphasis being supported through this demonstration program. So we are bringing together these three areas of mobility on demand research, a follow-on to our successful 2016 investment of some \$8 million in projects across the country that helped us to demonstrate the potential for mobility solutions to serve the country and provided for complete trips for the level of access and equity in excess that are hallmarks. Further we will describe and have our friends joining me around the table speak with you in further detail about our efforts under the strategic transit automation research, or STAR for short, to bring some new advancement and automation technologies into the provision of public transportation services in a way again that is supportive of the larger goals we have of complete trips for all. And others from the team will discuss the mobility payment integration efforts that are looking at how we can smooth those points that Mary talked to about having an integrated system that seamlessly allows for mobility, how would the payment of fares and transportation cost can be done in a way that is simple, so those trips are complete. I will note before we dive in further detail into the areas of inquiry that those of you who are considering applying for the program can select from one, or several or all three of these areas and identify for us where you think your program, your effort, your project fits in these areas of inquiry. Again, it's an integrated effort, so people will come forward with projects that would integrate various parts of this, if you will. So, again, the first of the three areas of inquiry as the mobility on demand side of things. As I said this is a follow-on to the 2016 opportunity and we are really looking here to expand our portfolio in particular to help us to understand how a new mobility solutions can be constructed in ways that enhance first and last mile connectivity to transportation hubs, that the addition of new services new possibility could be done in a way that connects to the existing services and provides as Mary pointed to the level of efficiency and service provision for people. To further that point we are very dedicated as you've seen if you read the NOFO to ensuring the accessibility of all under this program for all people. So we are looking at approaches and technologies that increase access to choices regardless of circumstances and impairments and the like. And the point to which my friend Ariel will be speaking shortly we are looking as well to find innovative ways to understand the data that is generated by these kinds of partnerships and provisioning of solutions to be able to collect and analyze and understand the impact that mobility has on the communities, and the people. So with that I will turn to my friend from the automation side of things and asked them to take us further into detail on the automation component.

Steve Mortensen

Thank you, Rik. My name is Steve Mortensen, I co-manage the research program

along with Danyell Diggs here at FTA. As was stated, this solicitation includes funding opportunities for strategic transit automation research specifically to transit bus automation demonstrations. As you will see these are demonstrations one and two outlined in our strategic transit automation research plan which you can find on FTA's website. So with respect to demonstration one, the automation of advanced driver assistance systems the scope of this project is to demonstrate market ready or near market ready transit automation technologies. These are at SAE 3016 level 0-2. Which is partial automation -- partial transit automation and revenue service so the demonstration would be in revenue service. I'd like to pause a second to clarify what we mean by level zero. As defined in the SAE standards. We are not talking about systems that provide alerts to bus operators where the bus operator has to take the action. We are talking about where the vehicle would automatically take the action. Example of that is a use case in our star plan which is automatic emergency braking for example. The demonstration must address human factors including the human machine interface with other items and bus operators experience and acceptance. Demonstration 2 is automated shuttles. It's defined in the star plan and set SAE level four and full transit automation in a complex operating environment such as mixed traffic or navigating through intersections. For this demonstration it's preferably in revenue service. Like demo one we want the demonstrator to address human factors. Vehicles must comply with the Americans with Disabilities Act. It will address onboard attendant experience and acceptance, perceptions and expectations by other road users. Automated vehicles used in this demonstration must comply with the National Highway Traffic Safety Administration, the Federal motor vehicle safety standards or with appropriate exemption issued by them. Next slide, please.

Handing it over to the MPI speaker.

Murat Omay

Hello, everyone. Thank you, Steve. I will talk about the mobility payment integration program today. It is a fairly new program compared to the others in the program. It was developed to leverage on the advancements of the transportation technology and the needs to transform transit and finally, mobility as a new way of looking at transportation, which we see at the integration platform. And there are two topical areas that are listed in the NOFO and these topical areas were selected based on the feedback as a result of extensive stakeholder engagement during the initial stages of the program development. We listened to a lot of the stakeholders through forums, roundtables and through presentations and industry events and during the webinars we had web forums and we decided to focus on the payment equity and integrated mobility and beyond as the topic areas. Topical area one, payment equity actually covers many cross-sections of the transportation users starting from the human service transportation users and expanding through paratransit, specialized transit, fixed route transit so it's a combination of all these mobility services that would be under one umbrella. It also expands on populations that are un-banked in under banked by choice or involuntarily and it also covers the populations without access to mobility devices or mobile data. So all these three groups are going to be covered under this and what we are trying to achieve with this topical area is to demonstrate that one doesn't need to have access to

technology or credit cards and bank accounts in order to use the mobile payment system. We need solutions that integrate those populations into the mobility system seamlessly so that's we are looking for. In the second topical area integrated mobility and beyond we try to focus on the integration so that it is integration across model or a cross agency or of cross provider including cross access and cross service platforms and what we meant by that is covered pretty much the beyond portion of the title. So we are looking for an integration platform that extends to for instance, government access or ideas to be integrated into the payment system or retail to be integrated into this payment system. It can be an accounting system or a [inaudible] system. So, again, the focus here is integration of these systems together not the technology itself individually. They are focused on the integration of those technologies and obviously one of the primary goals we have in these integration models is to be sustainable and be technology agnostic so we can expand those ideas and platforms on a nationwide level. That is pretty much what I have for these topical areas and I'm looking forward to reviewing the applications.

Rik Opstelten

Thank you very much. So you have heard the overview of the areas in which we are focusing this NOFO and the areas in which applicants can indicate your focus. Also as part of the whole integration efforts we are undertaking, provide you some of the programs that Mary mentioned earlier into which we are integrating our work through those efforts as well. So those of you who have read the NOFO and listen to speak today will know we are very concerned about ensuring universal access to whatever is funded through this program. Therefore, we are encouraging applicants to become very familiar with accessible transformation technology research and mobility services for all Americans. The website listed here has available a great deal of resources about currently in development prototypes that support wayfinding and navigation types of solutions in the streetscape well as indoor environments. Tools to facilitate the safe crossing of intersections for people with a variety of impairments, trip planning and familiarization tool and a variety of others that might be useful in some way in projects that are put forward through this NOFO. There's also extensive research available that speaks to the particular needs as a result of work that was done in understanding the needs of travelers with disabilities that can be very informative and useful to those structuring programs as part of IMI.

Another effort we are steering people to become familiar with this mobility services for all Americans. This is as was referenced before an effort to better utilize the extensive resources in the human service transportation area to provide more more responsive more efficient solutions as Mary spoke to. We believe as well that there is particular applicability of this concept in smaller communities in particular and therefore, we are encouraging would be applicants to have a look at some material that's developed there. So please do investigate further in that direction.

With that, I will ask Ariel Gold to speak for a moment about some of the data considerations present in this NOFO.

Ariel Gold

Hi, everybody. I'm Ariel Gold and I'm with the intelligent transportation system at the department focusing on data. As has been referenced before data is a very important part of this funding opportunity. It's the way we can understand the impacts of the work to be conducted and there are several references to data throughout the NOFO that we encourage you to take a look at. We do plan on talking more about this in the future, but of particular note you should see there is a preliminary data management plan as part of the application and we intend to release a template and guidance on how to put those together. In the meantime you can follow the reference national transportation library guidance for pulling those together. We wanted to share with you today a little more information particularly an important part of planning your application with regards to data and that is where the data that you provide to the U.S. DOT for purposes of evaluation will be stored and how you will provide access to data for the department. We make reference to some of this data in a controlled access collaborative data system. We anticipate that many of you in the data proposed providing for evaluation will include data that contain some components of personally identifiable information and/or confidential business information. The department has a system called Secure Data Common that is referenced here in the link that we are using currently to conduct evaluation of other research projects which contain PII as well as to do collaborative analytics research on third-party data sets provided by other companies so we are considering this as an option and you can consider. This as an option to propose where you provide data for the purpose of DOT evaluation. However, we also have left open the possibility that you can designate an appropriate third-party system where you will provide the DOT the same opportunity to conduct their work and this would be with FTA approval. So we are encouraging you to describe how any third-party system you are proposing to use that will enable privacy protection, controlled access and collaboration of DOT system. We want the balance for security and protection of data with the needs you conduct innovative analysis and to meet the spirit of this funding opportunity. We have asked you to budget for the cost of data storage and sharing in your proposal because the DOT does want to understand the cost and benefits of different approaches again balancing the different needs and we will be looking holistically what you propose when ultimately deciding on how data will be managed. Again we will talk more about this in the future and encourage you to be thoughtful and putting together your data management plans.

Antoinette Quagliatta

Hello, everyone my name is Antoinette. I work on the mobility on demand program [inaudible] and I will touch a little bit on the application process itself and all the details of which are outlined in the NOFO. So as with the original mobility on demand sandbox we are encouraging transit agency to bring partner to the table through the proposal process and also encouraging flexible innovative thinking on projects within the constraints of the NOFO. So as you can see eligible applicants include providers of public transportation and they are required to identify one or more strategic project partners. As far as eligible activities we have a list here including planning and developing business models, obtaining equipment and service, acquiring or developing software or hardware interfaces for project implementation, operating for demonstration

and providing data to support performance measurements and evaluation. Generally the program allows for one year of planning time with a minimum of one year of demonstration service. Next slide, please.

So all the applications that we receive will be reviewed on the five criteria here, project impact and outcomes, innovation, transferability and technology transfer, project approach, team capacity, experience, and commitment. If you refer to the NOFO we go into more detail these criteria what they mean and what they include. Also in the application form the questions you see will be grouped based on the five criteria as well. Next slide, please.

As far as the application goes it will include a standard form 424 and a supplemental form, all of these documents are available. There are links to them on our website and that bottom right corner of the slide you can see there. And the supplemental form is our application form. It's a fillable template with as I said questions that will be sorted based on the five criteria. Please note if you are copying and pasting into each of these boxes to make sure each box captures everything and we've had some issues with that in the past. And lastly, some of the questions will request supporting documentation be attached and included. Please read that carefully and include what is needed and also feel free to attach other supporting documentation that supports your project as well. Next slide, please.

Rik Opstelten

All right, well thank you very much. We will soon move into the questions and answers period of our time this afternoon but I did want to just make two final notes before everybody gets to typing in those questions, soon to be available question answer pod on your screen. We will do another webinar on June 18 at 2:00 p.m. Eastern that will be an opportunity for us to review some of the more Frequently Asked Questions. We've received a number of questions from you in the audience so thank you for that. We will be posting FAQ responses to our website. The next webinar on June 18th we will provide additional information into the mechanics of how the application process works the grants.gov system and additional detail as Ariel referenced about the data requirements. So, again, we encourage you to visit transit.DOT.gov/IMI for the funding notice, application length, program information and FAQs as available. We are now going to begin a period of Q&A. We have a few questions we received so far. That we are going to begin with. And in the meantime we will ask you to fill in the questions there. So the first question I will direct to my friend Steve. This is -- I'm saying we applied for transit bus partnerships earlier in the year. Will this impact our ability to apply for NOFO funding?

Steve Mortensen

Thank you, Rik. The strategic partnership is one of three tracks outlined in our research plan and the idea there is there were several entities already out there conducting automated vehicle pilots. So they were ahead of us before we had an opportunity to implement our first and second demonstration so we thought by partnering with them that we could gather information and lessons learned, impacts to

information and then to report out on that and make the information available to the transit community. So to answer your question, no. So if you applied for our selected the strategic partnerships does not preclude you from the application for demo one or demo two or preclude you from being selected as one of those demonstration budgets however, you would hope the projects would be different from the ones we proposed and entered into an agreement with the strategic partnership and you would either add to that phase wise or capability wise.

Rik Opstelten

Thank you very much appreciate that. Another question we received or several questions related to the eligibility and like software licensing fees, marketing expenses, [inaudible]. One question asks how can a local match come from project partners, and can that be done. For that I would ask Gwo-Wei to provide an answer.

Gwo-Wei Torng:

Sure. I think the second question is easier to answer. The answer is yes. The local match can come from the applicants itself or any of the project partners. The first question is about eligible project activities. I would like to refer you to either of the webinar slide which you will have the webinar slides online in the next -- within the next few days so one of the slide you mentioned about talking about the eligible activities in addition to the slide you can also refer to the NOFO Notice of Funding Opportunity in front of me under eligibility. That talks about eligible activities. Essentially if an item is eligible, in other words, it's considered eligible activity and it is included in your project scope, it can be counted toward the required match. One thing we want to note is the local match requirement 20 percent or higher has to be nonfederal source so that is the caveat you need to pay attention to.

Rik Opstelten

Thank you. We are receiving many questions over the chat box at the moment and I'm actually going to -- see if we have the ability to push those. Okay, we've had some questions around for example, this is an eligibility question but if a university would provide campus transit services are they eligible to apply similarly if you are providing free shuttle services what I would say in response here is that it's clearly on the FAQs and what is public transportation and the key to that is the service be available in open-door fashion so not associated with the institution involved so if you have a university providing services to the community at large then if that's an ongoing fashion as well, but generally speaking an open door service available year-round that would be within the definition of a public transportation provider and therefore, the applicant potentially eligible, but for these kinds of things look closely at the eligibility requirements and make a determination as to whether you fit within that space.

Another question, in one of the slides we break down the \$15 million in these three areas. The \$8 million for the sandbox \$5 million automation integration and \$2 million. The question is do different funding levels indicate a priority. I would like to ask Gwo-Wei to answer.

Gwo-Wei Torng

Sure Rik. Thank you, this is an interesting question so the way that -- the reason we break down the \$15 million into three is primarily for the purpose of being transparent so you can see the funding source where \$15 million would come from. If you dive into the three programs you will realize those three programs not at all mutually exclusive and as a matter of fact I think one of the slides says that we anticipate applications that have multiple priorities -- touch on multiple of those priorities. As far as if that would be a factor for project selection I would refer to the project selection criteria. Those are the criteria that we will be using in selecting projects. I kind of can understand the question being asked and whether or not it implies any sort of priority. I will leave it up to your interpretation. It is what you think it is. But for us I can share with you these all three are our priorities and we are sharing that information primarily for the purpose of transparency.

Rik Opstelten

Thank you very much for the answer. Sorry, I'm being told to speak more directly into the microphone so I'm moving the microphone closer to me. The next question we have here is if autonomous vehicles are proposed as part of the demonstration will they provide a waiver to operate the Autonomous Vehicle.

Steve Mortensen

Thank you, Rik. This is Steve Mortensen. So this issue is under the jurisdiction of other USDOT agencies, such as the National Highway Traffic Safety Administration, not FTA. However FTA we do work with them. So the answer to that question is it depends on the vehicle type and where the automated vehicle is operating, but if it does not meet the federal motor vehicle safety standards and you need to apply for an exemption you will need to do that and I believe in the Notice of Funding Opportunity it states please if you are in that situation to specify your plans on how you are going about that. I do want to say that we will not do that on your behalf you will need to apply for that exemption on your own behalf.

Rik Opstelten

Thank you very much for the explanation, Steve. We have another question here that is asking whether the cost of -- whether we can fund low-cost vehicles for mobility on demand services as part of this project. Gwo-Wei, would you mind answering that question?

Gwo-Wei Torng

By the question itself it is hard to make that determination. I would actually refer again back to section C .2 eligible projects if after you go through that eligible activities that include a variety of things including I'm just reading this, eligible project could include obtaining equipment and service. If after reading through the NOFO you are still not clear please feel free to submit your questions through the e-mail in the NOFO. Then we will provide greater clarity. But we do need more information to answer that question.

Gwo-Wei Torng

To that point we do welcome questions via e-mail. We will again respond to questions we receive via e-mail that might be a greater length than discussion we can afford here. We will also be publishing as I mentioned frequently updated Frequently Asked Questions documentation on the IMI website. So Gwo-Wei, I'm going to turn to you once again, question, proposals do need to be issued our applications made by public transit agency, Native American, or state transportation agency and does that also imply that suppliers -- maybe you could discuss the relationship between agencies contracting for the provision of services and those that might do it themselves.

Gwo-Wei Torng

Sure. I am assuming the question may be two parts of the question the first part refers us to the eligible applicants. They have to be a provider of public transportation. I think the example you gave here public transit agency probably most they all provide a public transportation. Other entities, such as state and local DOTs, it probably depends on whether or not -- again the point is, a provider public transportation. So you may ask what is public transportation, we go by the legal definition statutorily defined in the Federal Transit law that you can get that from FTA website if you type in FTA public transportation definition. It's actually in section 5302 of chapter 49 and that has a clear definition of public transportation. So, if you are providing that, you are a provider of public transportation. The second part of the question touched on the suppliers, consulting partners that work with public transit agencies or state DOTs or local DOTs. One of the requirements of this NOFO is we asked the applicant to be a provider of public transportation, and to have one or more strategic partners so certainly suppliers and consulting partners are eligible to be partners. One thing before I finish my response is I encourage you to look at the section under C .1 it does have some discussion about key partner provisions. There is a paragraph on key partner that is important for you to pay attention to. If you designate your project partner being a key partner, it has a legal implication on our side.

Rik Opstelten

All right, thank you. I will ask a question now to Steve on autonomous vehicles and how will we be looking at [inaudible] in regards to Buy America and ADA requirements? If you could answer that.

Steve Mortensen

Yes, there is clear guidance that FTA has with respect to Buy America and Americans With Disabilities Act requirements. I'm not an attorney that works at the Office of Chief Counsel I won't get into the details of that, but with respect to Americans With Disabilities Act typically if the automated vehicles are operated on a fixed route that vehicle must be ADA compliant, including many different components related to that like the vehicle has to have a ramp, wheelchair securement device automated announcement or the bus driver needs to make those announcements and things like that. If it will be operating in a general public demand response capacity the vehicle does not need to be ADA compliant, but there needs to be equivalent service provided. With Buy America in general if the funding is not going to be used to procure capital

then it does not need to be Buy America, but I really want to have someone from the Office of Chief Counsel to provide a response to that which is more authoritative.

Rik Opstelten

Thank you and, again, to the point many of the questions are being asked are on a fairly detailed nature and requires further investigation before we offer a [inaudible], so for that reason I suggest you e-mail the address listed which is mine to ask those questions and we will provide answers again through a variety of means including website and the next webinar in June. I also apologize because we've received so many questions that it's a bit of a show around the table as we are trying our best to answer as many questions as we have. So the need to prepare the specific funding for the fortune of inquiry. We expect applicants to provide a detailed cost proposal as to the structure and organization of their demonstration program that would allow us to identify specifically how the firms would be utilized so this would help us to make determinations about the appropriateness of budgets and the purposes proposed.

Rik Opstelten

Another question asked a few moments ago was whether planning for a transportation network company partnership would be eligible under the funding for the mobility on demand segment and for that I would ask Gwo-Wei.

Gwo-Wei Tornq

I think we actually have quite a bit of eligible activity by now so if I may, Rik I'm going to read this under eligible activities just really quick. So eligible activity include all activities leading to the demonstration such as planning and developing business models equipment and service, acquiring or developing software and hardware interfaces to implement the project, operating the demonstration and providing data and -- to support performance management and evaluation. So it is rather broad. I think it answered the question about the planning because that's been referenced in the eligible activity. But I do encourage you, like Rik said, if any particular concerns or uncertainty you have feel free to submit your question in writing.

Rik Opstelten

Thank you. Another question that was asked someone has written they understand when a proposal can address 1-3 areas of inquiry but what about [inaudible] a solution that addresses almost every other goal for improving public transit and what I would say is this program is meant to focus on those areas of inquiry and specific things we aim to achieve and describe very clearly in terms of our objectives to each of these three areas so I would direct you to formulate your proposals in response to the objectives in the notice. Alright, a question has asked to allow you to speak again -- [Off Mic] Can you please just speak for a moment about the un-banked in under banked population?

Murat Omay

Sure, this is Murat Omay. Un-banked populations are folks who have no bank accounts or access to credit cards or other types of premium banking and financial

services either by choice or involuntarily. The under banked populations are the ones who have limited access to either some level of banking and financial services or credit cards, but more like a secondary type of financial services which are considered a little costlier and doesn't have the full spectrum of high-quality financial service such as checking and savings accounts and interest savings accounts and that nature.

Rik Opstelten

Thank you. We are again going through the process of weeding through the very many questions and thank you to everybody for all these questions. So a question raised in the chat boxes our ideas more aligned with transit automation, but primarily for safety purposes with implications is this appropriate for this NOFO? Steve can you answer that?

Steve Mortensen

Certainly. Yeah, so in the IMI there is reference to mobility improvements and for the demo one of those use are primarily to improve safety or efficiently and that has an indirect impact to mobility so those do apply here. I would recommend there is a list in the NOFO to take a look at the start of plan technology package one has a list of use cases we are considering and your project does not have to include one of those if you had something else we would be happy to consider it.

Rik Opstelten

Thank you, Steve. Next question we have is related to the work of mobility [inaudible] concerning that area has any consideration been given to block chain Smart contract payment models to offer other payment options for un-banked as referenced here questions. Are you able to answer that?

Murat Omay

I think the question is asking if you consider certain technologies and, you know, having done the exploratory research we did come across many different technologies and solutions and block chain and contactless payments and biometric payments and media are some of the examples that we came across. However, as I mentioned during my presentation they are not necessarily focused on the technology itself but the integration part of the technology and system so, you know, I can't emphasize enough to clarify that part because technology will advance and try to be as technology agnostic as we can but we are focused on the integration of different technology that systems and service and provider scent that is our primary goal.

Rik Opstelten

Thank you, Murat. A question was asked regarding are there any page limits on the application and we will get into more the applications of the mechanic process at the next webinar but Antoinette can you make a quick reference to in terms of the limitation to the providers?

Antoinette Quagliatta

The application itself includes the supplemental form and when you open it up you will

see it's a fillable form with questions and text boxes some of them probably do have varying character limits so that will be the application itself and, again, as far as attachments to document you can attach what you like.

Rik Opstelten

Thank you very much. Another question has been asked in terms of selecting project partners is it necessary for an agency to have a competitive procurement or is it's self-sufficient. We made earlier reference to the fact that this program allows applicants to come in as a team through the identification of key partners so organizations that are coming together and identified in that way are not -- they are not going through the traditional procurement process that are being considered as a complete package in the application review inclusive of those partners.

Let's see here ... we have quite a number. Actually we are running a bit short on time.

Gwo-Wei Torng

If I may add to what Rik just explained about the key partner. The key partner provision part of FTA so if you are an agency that requires you to do competitive to select your partner we have no say -- it is your agency's requirement that you have to comply with your agency's requirement. We pretty much speak for FTA requirement that if you come in as a team we select your proposal you can use the key partner provision. So if that makes sense. Whether you need to go through competitive procurement is dependent on your agency's policy.

Rik Opstelten

Thank you for that clarification. Again all of these can be very nuanced questions so, again, thanks for this and if you wish to send of questions after the fact. We are coming up on 3:00 o'clock now and I don't wish to go beyond the time we had allotted. What I will say in response to one question asked about whether the materials will be posted online. This presentation is being recorded and within a few days' time that will be made available online. And given that we are so close to the end I would like to actually ask for a few sort of summary words about our activities and thank you all again for listening and look forward to having more interactions with you, soon.

Mary Leary

Thanks, Rik, and thanks for being on the call today. I hope you are very excited and charged up and ready to get creative. I also want to thank the team of people in this room today and all of our team members here at the Federal Transit Administration working so hard on this please know we have a cracker Jack group of people with a lot of deep expertise and there are a lot of questions we couldn't get to today we will get back to everyone with those questions and be posting them on our website so please go back often and take a look.

I wanted to just highlight we've covered a lot of things today so just the major points to walk away with number one you are the laboratory of democracy up there. Your ideas, your suggestions, your solutions. We are trying to connect with you so please get your

teams together we are really looking for solutions that go across all the landscapes small urban, large urban, frontier, tribal, suburban. We've got many, many different types of solutions that's why we said go with the most appropriate technology. What might be innovative for one group might be different for another group so, you know, look at innovation in terms of what is real for you and what's real for your community if we've seen one community, right, we've seen one community. Everyone is different, but we are looking for opportunity to enhance efficiencies through innovative programs like mobility on demand, transit automation and integrated payment. A few words to kind of highlight it's all about the complete trip. This concept of a seamless plan, faithfully navigate, start over again, all accessible equitable and available to everyone. Integration is very key. Ariel talked about data. Being able to integrate information from many different sources is incredibly important and we at the Federal Transit Administration have a major initiative right now in the research side in data and data integration and we have Dave Schneider in the room with us as well and we are looking to see what we learned by just kind of looking through and creating our own business database and harvesting what that tells us. Partnerships are key here and by that we mean public and private. Private taxis network company's human services company connecting across all modes rail, air, commuter rail, every kind of mode that you can think of we are really looking at how do people travel and how do we connect all of those entities together. Sustainability really, really important. We really are asking for you to help us identify the most sustainable implementable solutions that will help not just your community but help the community at large across the United States as we will be asking for if an applicant is successful assistance to promote what you learned very broadly again using these concepts and practice diffusion whatever just really getting the word out in helping us get the word out, so on behalf of all of us on behalf of the Federal Transit Administration and Office of Research thank you so much for being on the call today. Please don't hesitate to send us your questions and we will get back to you expeditiously. This is our flagship as I started with and we are here to support you and getting really good applications in the door so thank you all.

Rik Opstelten

Indeed. Thank you, Mary, and thank you to those in the audience we look forward as I said to hearing more from you. And we are taking questions from the chat room and as Mary said we will do our best to respond as quickly as we can to your questions. We apologize for those of you that we've not had a chance to answer in the webinar today. Thank you and have a good rest of your afternoon.