



Department of Transportation

JANETTE SADIK-KHAN, Commissioner

July 8, 2013

Re: New York City Department of Transportation Drive Smart Technology Request for Expressions of Interest

PIN: 84114RFEI001

To Whom It May Concern:

I am pleased to invite you to submit a response to the New York City Department of Transportation (NYCDOT) Drive Smart Technology Request for Expressions of Interest (RFEI).

Please be advised that any inquiries concerning this RFEI should be directed by e-mail, under the subject line "Technology RFEI Q&A", to TechnologyRFEI@dot.nyc.gov. The deadline for submission of written requests for clarification is July 26th, 2013 at 4:00 p.m. EST. NYCDOT will circulate questions and answers to respondents who provide e-mail addresses no later than July 31st, 2013. DOT will also post answers to all submitted questions on the NYCDOT webpage: www.nyc.gov/dot.

You should deliver three copies of your submission, printed on both sides (double-sided) on paper with no less than 20% post-consumer material content, as well as one electronic copy in PDF form on CD or DVD to:

New York City Department of Transportation
Office of the Agency Chief Contracting Officer
55 Water Street 8th Floor, Room 826
New York, NY 10041
Attn: Junaid Syed, P.E., Executive DACCO

Final Submissions are due no later than **August 12th, 2013** at 4:00 pm EST. Please read the full RFEI before submitting a response and please do not include standard marketing materials. If you have any questions concerning this RFEI, please call (212) 839-9297.

Very truly yours,

Junaid Syed, P.E.
Office of the Agency Chief Contracting Officer

Enclosure

NYC Department of Transportation
Finance, Contracting and Program Management Division
Office of the Agency Chief Contracting Officer
55 Water Street, New York, NY 10041
T: 212.839.9292 F: 212-839-424

NYCDOT Drive Smart Technology RFEI:

Safety, money-saving and time-saving technology for drivers

1. Purpose of RFEI

This Request for Expressions of Interest (“RFEI”) is issued to invite interested vendors to help the New York City Department of Transportation (“NYCDOT” or the “agency” or the “City”) conduct an evaluation of mobile applications and services that draw data from vehicle on-board computers via the on-board diagnostic (OBD-II) port. This demonstration project, called Drive Smart, will provide several hundred New York City drivers with a suite of vendor-developed applications and services to help them save money, save time, and to drive more safely. These applications and services would be available through smartphone applications and the web. NYCDOT is seeking to evaluate the effectiveness of this program in terms of both driver and system benefits in the areas of time savings, reduced driver costs, traffic safety and system operations. The agency is also seeking to explore the possible role of NYCDOT in encouraging broader adoption of these applications and services and the opportunities these applications and services create for access to aggregated data on transportation system use.

NYCDOT previously issued an RFEI in 2011 as part of the initial planning for Drive Smart. Responses indicated that there was a high level of interest in participation in a demonstration project, and that recent advances in telematics technology, and a growth in consumer interest made such a demonstration project timely. These responses were used in further program development and in obtaining a FHWA Value Pricing Pilot Program (VPPP) grant that will underwrite the costs of this pilot deployment. This RFEI provides an opportunity for vendors to provide detailed information on their products and to indicate their interest in participating in the demonstration project at no cost. Parties that submitted information in response to the earlier RFEI are invited to submit responses to this RFEI as well, based on the system concept and criteria set forth below.

This RFEI seeks detailed product information from: (1) Usage Based Insurance (UBI) providers and (2) Driver Feedback Application (DFA) developers. Through Drive Smart, NYCDOT is seeking to offer participants a range of customized information, including feedback on travel choices and costs, real-time travel conditions, recent trip-making patterns, and safe driving. NYCDOT is also seeking to offer participants the option of UBI through one or more insurance providers. Respondents to this RFEI should state their interest in participating in the Drive Smart demonstration project and should discuss how their mobile application and/or UBI product takes into account the demanding New York City operating environment and leverages the opportunities of its driving population.

2. Background

NYCDOT’s Strategic Plan commits the agency to a series of initiatives for improved mobility and transportation choice, safer streets, greening and public space, and reduced impact on global climate. Agency initiatives include innovative street designs to improve safety and strengthen transit, pedestrian

and cycling options, parking pricing strategies, technologically advanced traffic management, and provision of traveler information including real time traffic cameras and traffic speed data on the NYCDOT website. These initiatives have been highly successful, as evidenced by the increasing number of New Yorkers using faster and more reliable bus services, new bike lanes and public spaces, and by the reduction in motor vehicle crashes. Concurrent with the implementation of these improvements, traffic speeds in Midtown Manhattan have been stable or increasing, as documented by the agency's use of taxi GPS speed data.

While NYCDOT's initiatives have primarily focused on the design and operation of City-owned infrastructure—in which the agency has extensive experience and expertise—NYCDOT also recognizes that recent advances in in-vehicle communications technology combined with the proliferation of smartphones can also further the agency's goals. These technologies create new opportunities to provide New Yorkers with customized information on travel choices and costs, real-time travel conditions on roadways, highways, and the transit system, and personalized feedback that can save motorists time and money, and help them drive more safely. In addition, the advent of UBI offers motorists the opportunity to reduce driving costs and provide incentives to consolidate trips and use transit where available. The integration of social media also provides further opportunities to improve the efficiency of transportation networks.

Wider deployment of these technologies and programs can help New Yorkers make better use of the City's multimodal transportation system and can make the system more efficient. Many of these services are still emerging and would benefit from integration and user-interface testing. Given the projected growth in population in New York City, and understanding the City's limited ability to build new road infrastructure, it will become more important for the City and its residents to make smarter, more efficient use of existing roadway capacity through intelligent programs such as those planned for in the DriveSmart demonstration project.

3. Project Overview

The new technologies discussed above have the potential to deliver tangible benefits to drivers individually and transportation system users collectively through better, smarter use of the City's multimodal transportation system. NYCDOT envisions user benefits such as:

- Cost savings based on UBI and feedback to drivers on the costs of driving
- Time savings via real time traffic data and travel time comparisons across modes
- Safety benefits through feedback on unsafe driving behaviors and distracted driving prevention applications

Broader adoption of Drive Smart-type services could produce benefits for all road users, including:

- Congestion reduction based on more efficient road use and better trip planning

- Crash reductions based on safer driving behaviors
- Improved system analytics in the areas of congestion and safety

The City plans to kick-off the Drive Smart demonstration project in Fall 2013 and is currently working to refine the demonstration project's system design. NYCDOT will review the RFEI responses and will engage interested respondents in further discussions regarding possible partnerships for the demonstration project. The City's 8.4 million residents, 6,000 miles of streets, and wide range of transportation choices provide an ideal environment to demonstrate the effectiveness and readiness of individual and multiple components.

NYCDOT seeks detailed product information from interested firms on two types of services: UBI services and DFA applications. Respondents should also indicate their interest in participating in the Drive Smart demonstration project. The demonstration project will provide a suite of UBI and DFA services to a group of several hundred New York City drivers and evaluate the impact of these services on variety of metrics related to time savings, reduced cost, traffic safety and system operations.

System Design

The Drive Smart demonstration project will draw relevant data via a user's OBD-II port, including vehicle speed, miles travelled, and other indicators, and use that data to power DFA, UBI, and other services. User data will be transmitted from the OBD-II device to either the user's smartphone or directly to a cloud server, hosted by NYCDOT for the purposes of the demonstration project. (In future applications, NYCDOT envisions a third party hosting the user database). Users would have direct access to their data via smartphone applications and the web. DFA and UBI providers would have access only to the user data needed to provide their services. User data privacy and security, a key concern of NYCDOT, would be maintained through a set of access protocols to the cloud server. In all cases, NYCDOT envisions that the city would not have access to personally identifiable information. A preliminary plan of the Drive Smart system is shown in the schematic in Appendix A. NYCDOT's Drive Smart system will rely on commercially available off-the-shelf (COTS) equipment, which will be purchased through a separate procurement. The system will also make use of an open architecture so that users can run multiple applications with a single OBD-II device and so that developers can offer new services to drivers over the life of the demonstration project. NYCDOT expects the demonstration project to launch in the fall of 2013 and to last one year. Depending on the results, the agency will decide how to best advance Drive Smart.

The specific requirements of the system elements are as follows:

- **Driver's Smartphone:** NYCDOT will recruit participants who already own a smartphone and have a cellular data contract. NYCDOT is open to two configurations: (1) the smart phone may communicate directly via Bluetooth or WiFi with the OBD-II device and then transmit relevant user data to the cloud server; or (2) the smart phone may communicate via cellular data directly with the cloud server.

- **An in-vehicle OBD-II device:** NYCDOT will purchase through a separate procurement OBD-II devices. NYCDOT is open to two configurations: (1) the OBD-II device will store the user’s data on internal memory and then periodically batch upload this data to the user’s smart phone via Bluetooth or Wi-Fi; the smart phone would then transmit relevant data to the cloud server; or (2) the OBD-II would have cellular communications capability and would communicate directly with cloud server. NYCDOT may also consider devices that have an internal GPS and accelerometer and may opt to deploy more than one type of device during the demonstration project. Devices will be returned to NYCDOT at the conclusion of the demonstration project.
- **Back-end Server for Data Processing:** the back-end server will be hosted by NYCDOT or a company contracted by NYCDOT. User data privacy and security will be accomplished through a set of protocols governing UBI provider, DFA developer, and NYCDOT access to user data. The agency will only have access to aggregated and anonymized data. In any future expansion of Drive Smart, it is envisioned that a third party separate from NYCDOT would host the server.

NYCDOT envisions that this system architecture would enable UBI and DFA providers selected for the Drive Smart demonstration project to provide Drive Smart participants with the following range of applications and services:

Usage-Based Insurance:

- Usage-based insurance through one or more insurance carriers;

Driver Feedback Applications:

- Mobile applications that provide opportunities for additional financial savings to drivers, such as personalized feedback on fuel efficiency and information on the total costs of alternative routes and modes;
- Mobile applications that provide “Smart Motorist” information (e.g., fastest route or most reliable route based on real-time traffic conditions, pre-trip traffic alerts, personalized feedback on safety, text blocking and other distracted driver prevention functions, summaries of overall travel covering mileage, travel time, estimated delay, fuel usage, etc.);
- Mobile applications or features within applications for drivers interested in “greening” their travel; and
- Mobile applications that provide opportunities to “gamify” driving behavior by allowing users to compare their fuel efficiency, safe driving, and cost savings with other drivers via anonymized data comparisons or social networks. These applications may be linked to coupons and other direct benefit schemes.

Finally, the technology and programmatic elements need to be developed in concert with the following principles:

- The participating DFA and UBI providers in the demonstration project will be responsible for customer care related to their product or service, regardless of the precise shape and dimension of the public-private partnership;
- An open architecture that lends itself to participation by multiple DFA developers and UBI providers in the public and private sectors; and
- The system will include robust protections of user data security and privacy and include options for users to maintain appropriate levels of control of their personal information. NYCDOT will not have access to personally identifiable information.

4. The Role of this RFEI and Points of Interest to NYCDOT

This RFEI will allow NYCDOT to engage with DFA developers and UBI providers who are developing or marketing products relevant to the Drive Smart demonstration project. NYCDOT's interaction with potential partners will be iterative including written responses to this RFEI, follow up interviews and meetings, and opportunities for field tests, and will have an overall focus on:

- Improving the City's understanding of the available DFA and UBI products and services currently on the market or in development;
- Refining the proposed Drive Smart system architecture;
- Evaluating the technological opportunities and challenges each partner presents to the project; and
- Selecting industry partners for the Drive Smart demonstration project.

Key questions and response guidelines for each of the areas are shown below:

4.1 Questions and Response Guidelines for DFA Developers

- 4.1.1 What information and services does your application currently provide to users? What additional functions might be added to the application in the future? How do you envision drivers using your application? Provide a description of your user interface and application features.
- 4.1.2 How are the services and data metrics provided to the user intended to aid driver decision-making? Does the application provide an opportunity for an incentive system, such as incentives for safe driving or driving less? Does the application include a social networking component?
- 4.1.3 What data does your product use to provide its services and data metrics and where is this data drawn from? How does your application draw data from a vehicle's on-board computer? Does your application require a proprietary OBD-II device or can it be paired with a COTS device? What functions (GPS, accelerometer, etc.) must the OBD-II device include? Where is user data stored?
- 4.1.4 Provide a schematic of the system architecture that supports your application, including the OBD-II device, user smartphone, cloud server, and other elements as appropriate. What advantages does your firm see to this system configuration?

- 4.1.5 Does your application allow for an open application architecture via an Application Programming Interface (API) or other integrated data feed? If so, do you envision encouraging developers to tap into your API?
- 4.1.6 What stage of development is your application currently in? Has your application been tested in the field? When do you expect your product will be ready for a limited roll out to 400-500 drivers?
- 4.1.7 Given the Drive Smart approach outlined in this document, how do you envision integrating your application into the proposed Drive Smart demonstration project system architecture? Are there any issues and/or needs in integrating your product into the demonstration project that would need to be resolved?
- 4.1.8 How has your team dealt with issues in first run or beta field tests and what best practices and lessons learned can you bring to this program? What role can the City play in dealing with issues you have faced in the past?
- 4.1.9 Have you had experience in integrating public and private stakeholder needs during your product's lifecycle? If so, how has that experience informed your approach in defining roles for private and public entities?
- 4.1.10 How has your company addressed the privacy concerns outlined above?
- 4.1.11 Respondents should indicate interest in participating in field tests at no cost to the City, with proposed scope and timeframe.

4.2 Questions and Response Guidelines for UBI Providers

- 4.2.1 Please describe your company's UBI product, including its pricing structure. What factors does your company use to determine how much a driver will save on his or her insurance premium? Is there a cap on customer savings under the program? Can premiums rise based on data collected during enrollment in the UBI program?
- 4.2.2 Is your company currently approved to offer UBI in the State of New York? If not, when do you expect your UBI product be approved?
- 4.2.3 What data or "events" does your product use to provide its services and where is this data drawn from? How does your application draw data from a vehicle's on-board computer? Does your application require a proprietary OBD-II device or can it be paired with a COTS device? What functions (GPS, accelerometer, etc.) must the OBD-II device include? Where is user data stored?
- 4.2.4 Provide a schematic of the system architecture that supports your application, including the OBD-II device, user smartphone, cloud server, and other elements as appropriate. What advantages does your firm see to this system configuration?
- 4.2.5 Would your company be amenable to using OBD data collected by a third party system (e.g. mobile application) in order to provide your UBI product?
- 4.2.6 Does your application allow for an open application architecture via an API or other integrated data feed? If so, do you envision encouraging developers to tap into your API?
- 4.2.7 What stage of development is your UBI product currently in? Has your UBI product been customer tested? How many customers currently use your UBI product?

- 4.2.8 Does your company provide any companion services, such as a driver feedback application, along with its UBI product? If so, please provide a description of these companion applications.
- 4.2.9 Given the Drive Smart approach outlined in this document, how do you envision integrating your UBI product into the proposed Drive Smart system architecture? Are there any issues and/or needs in integrating your product into the demonstration project that would need to be resolved?
- 4.2.10 How has your team dealt with issues in first run or beta field tests of your UBI product and what best practices and lessons learned can you bring to this program? What role can the City play in dealing with issues you have faced in the past?
- 4.2.11 Respondents should indicate interest in participating in field tests at no cost to the City, with proposed scope and timeframe.

5. Submission Requirements

5.1 Content

All submittals (“Submittals”) must be in writing and in electronic format (CD or DVD) and delivered **by-hand or by a nationally recognized express mail carrier** to NYCDOT at the address designated in Section 5.2 below. Submittals must not exceed 25 pages and should include the information listed below:

- Respondent’s Information
 - Provide contact information, including, the legal name of your firm or entity, business address, name of contact, telephone and email.
 - Provide a summary of your firm’s background and experience related to the development and deployment of in-vehicle device technology and related systems. Please do not submit standard marketing materials. (Limit: 5 pages)
- Response to NYCDOT Points of Interest
 - Address the questions listed in Section 4 and provide any other information you deem critical and responsive to the City. (Limit: 20 pages)

5.2 Submission Details

Any inquiries concerning this RFEI should be directed by e-mail, under the subject line "Technology RFEI Q&A", to TechnologyRFEI@dot.nyc.gov. **Final Submissions are due August 12th, 2013 at 4:00 pm EST.**

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55 Water Street 8th Floor, Room 826
New York, NY 10041
Attn: Junaid Syed, P.E., Executive DACCO**

6. Additional Information

- 6.1 This RFEI is not intended as a formal offering for the award of a contract or for participation in any future solicitation.
- 6.2 NYCDOT does not intend to grant or issue any contracts on the basis of this RFEI.
- 6.3 NYCDOT, the City and their officials, officers, agents and employees make no representation or warranty and assume no responsibility for the accuracy of the information set forth in this RFEI.
- 6.4 Neither NYCDOT nor the City shall be liable for any costs incurred by any respondent in the preparation, submittal, presentation or revision of its submission. Neither NYCDOT nor the City shall be obligated to pay and shall not pay any costs in connection with the preparation of such submissions.
- 6.5 All submittals become the property of the City of New York and NYCDOT. Submittals will generally be made available for inspection and copying by interested parties upon written request, except when exempted from disclosure under the New York State Freedom of Information Law.
- 6.6 NYCDOT is subject to the New York State Freedom of Information Law, which governs the process for the public disclosure of certain records maintained by NYCDOT. (*See: Public Officers Law, Sections 87 and 89*). Individuals or firms that submit materials to NYCDOT may request that NYCDOT except all or part of such materials from public disclosure, on the grounds that the materials contains trade secrets, proprietary information, or that the information, if disclosed, would cause substantial injury to the competitive position of the individual or firm submitting the information. Such exception may extend to information contained in the request itself, if public disclosure would defeat the purpose for which the exception is sought. The request for such an exception must be in writing and state, in detail, the specific reasons for the requested exception. It must also specify the materials or portions thereof for which the exception is

requested. If NYCDOT grants the request for exception from disclosure, NYCDOT shall keep such materials or portions thereof in secure facilities.

6.7 NYCDOT at its sole discretion reserves, without limitation, the right to:

6.7.1 Withdraw the RFEI at any time;

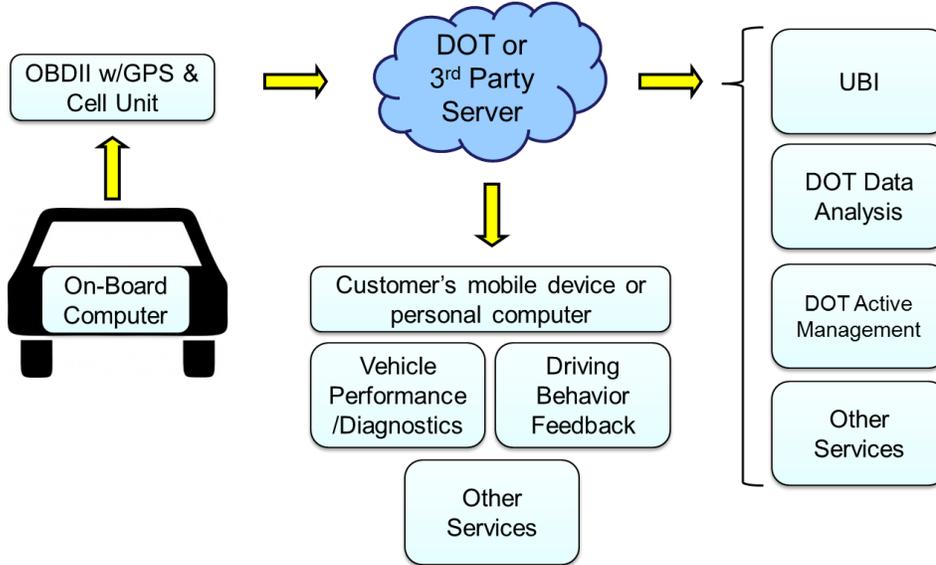
6.7.2 Use the ideas and/or submissions in any manner deemed to be in the best interests of NYCDOT and the City, including but not limited to soliciting competitive submissions relating to such ideas or proposals; and

6.7.3 Change any terms of the RFEI.

Appendix A

1. System Architecture and Design

1.1. OBD-II to Cloud Server Model



1.2. OBD-II to Smart Phone Model

