

Request for Partnership

Date: January 6, 2016

Project: **Work Zone Traveler Information Application**

Introduction

The Michigan Department of Transportation (MDOT) is looking for potential partners to support MDOT in disseminating real-time, location-based information regarding the I-275 work zone for the 2016 construction season.

Michigan's construction season typically occurs between April and November. During these months, considerable congestion is caused on the State's roadway network by the large number of active construction projects. Safety and protection of workers in work zones is of paramount importance to MDOT. As construction work continues during each project, a variety of infrastructure details regarding each work zone change on a daily and sometimes hourly basis. These details can include the number of lanes open in a specific section of roadway, the start and end points of the work zone, lane shifts and weight restrictions, the speed limit, workers present, and of course the level of traffic congestion, queue length, and existence of any secondary incidents or crashes.

MDOT intends to populate and maintain real-time, high-resolution work zone information in 2016 for the major I-275 reconstruction project beginning in April. I-275 runs north/south connecting I-75, I-94, and I-96 while also passing directly west of the Detroit Metropolitan Airport. Currently MDOT collects and stores basic data regarding work zone projects across the State. For this pilot project, MDOT intends to partner with a third party or parties to collect, store, and disseminate higher resolution data on this work zone and update the information much more frequently than typical. This information will then be made available via a real-time data feed to our partner(s) third party traveler information application(s) for mobile devices, and/or in-vehicle applications to then be shared with your customers on behalf of MDOT.

This is a tremendous opportunity for testing in a real world environment and is open to those interested parties with applications, equipment, etc. There are two critical opportunities that exist with the I-275 construction project;

The first is to provide real time traveler information to motorists in the area. A majority of the motoring public does not have vehicles equipped with technology to receive real-time information directly into their vehicle. Partners will have the opportunity to receive real-time work zone information from the MDOT data feed and disseminate it to the general public via safe and effective communication methods, e.g. mobile device applications, in-vehicle applications.

The second is to allow the opportunity for companies, of all technology fields, to test their technology in a live environment, communicate with equipped vehicles, test with other

manufacturers, receive information from MDOT regarding the work zone, and disseminate that information to other applicable resources.

Requirements

At this time, MDOT has not limited the testing to a specific set of technologies for a connected vehicle or connected traveler system for real-time sharing of work-zone related data. MDOT is interested in soliciting suggestions from potential partners for solutions for collecting, storing, and updating necessary high-resolution data related to work zones, as well as receiving MDOT generated work zone information, and then providing information to travelers.

Some potential solutions could include:

- Direct link from a traveler's in-vehicle device to a roadside device that is broadcasting real-time, location-specific information made available by MDOT
- Cellular connection from the traveler's device or vehicle system to a real-time, location-aware data service made available by MDOT
- High-resolution, real-time details of work zone characteristics are collected by third-party application users and shared with other application users and MDOT

Any approach for data acquisition, processing, storage, and dissemination which could reduce the cost and level of effort of public agencies to support the dissemination of real-time, high-resolution work zone information to travelers is highly desirable. Innovative methods of information dissemination and data collection which does not cause driver distraction is of critical importance. The goal of MDOT is to reach the largest possible pool of end-user travelers in the region through this partnership.

This is open to any and all interested parties.

This is not a competitive request. MDOT reserves the right to begin discussions with any, all, or none of the Respondents. MDOT may or may not, at its discretion, issue one or more Requests for Proposal (RFPs) related to this subject at a future date.

If you have questions and/or are interested in participating as a partner with MDOT in this unique opportunity please email the MDOT Project Manager, Michele Mueller at muellerm2@michigan.gov.

Michigan Department of Transportation

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Due to the nature of the construction timeline the due date for submitting your 1-2 page letter of interest to participate is due no later than COB on Friday, January 22, 2016.

Background

Michigan has made impressive strides over the past decade in improving the mobility of motorists and reducing the number of traffic fatalities on our roads. However, in recent years, the trend of sharp declines in fatalities has “leveled out”. Michigan has adopted the Towards Zero Death initiative, and believes that Connected Vehicle and Connected Traveler technologies will be at the forefront of accomplishing this goal.

MDOT continues to be aggressive in research, planning and implementation of a connected vehicle (vehicle-to-infrastructure) communication system. Partnerships have been instrumental, and will continue to be, as a true connected vehicle environment will exceed the capabilities of any one agency, automobile company, or technology company.

Working in partnership with automobile manufacturers and suppliers, universities, local agencies and a number of others in the public and private sectors, MDOT has set a vision for a connected vehicle environment encompassing a large segment of southeast Michigan, centered along the freeway and surrounding arterial network in the metropolitan Detroit area. This corridor goes through the heart of Michigan’s automotive and technology development area, and links to several other connected vehicle Pilot deployments, including the USDOT’s test bed in Oakland County, a deployment in the City of Detroit, and the Safety Pilot Model Deployment / Ann Arbor Connected Vehicle Test Environment in Ann Arbor. The connected vehicle environment is envisioned to encompass the four basic foundations of any connected vehicle system; supporting infrastructure, equipped vehicles and/or motorists, data and applications, and the communications network needed to support the system.

MDOT’s connected vehicle vision over many years of sustained investment eventually expands outside of the metropolitan Detroit area, resulting in “connected regions”, and a “connected state”. This vision is shared at both regional and national levels which is demonstrated through continued support and partnership with the USDOT and partner states in AASHTO and the V2I Coalition.

MDOT recently deployed an initial 17 roadside units on a high volume freeway that is readily used by current company fleets and has real safety and mobility challenges that can be addressed by a connected vehicle environment. This deployment also provides benefit to the users as it ties into the existing USDOT testbed in Oakland County.

The connected vehicle environment is envisioned to include a variety of available communications technologies including Dedicated Short Range Communication (DSRC), cellular, fiber optic and others as necessary to deploy and support various system applications. Initially, MDOT will focus on the installation of communications infrastructure as well as equipping MDOT and other State of Michigan fleet vehicles with devices that will interact with the smart corridor infrastructure. MDOT will also be coordinating with other Southeast Michigan fleet owners to consider the installation of connected vehicle devices. While MDOT’s initial focus is on the deployment of DSRC infrastructure, we are actively seeking partnerships that will allow MDOT to minimize the level of public sector financial investment in infrastructure needed while continuing to pursue the latest proven technologies.

MDOT has also made a significant investment in a Data Use Analysis and Processing (DUAP) system, which is focused on utilizing connected vehicle and other mobile observations, in

conjunction with other traditional MDOT data sets, to populate a series of applications used by the transportation agency. These applications address the safety, mobility, and asset management goals of MDOT. A single “connected vehicle” has the potential to anonymously generate literally thousands of data points for every minute it’s running, creating a potential deep well of useable information for transportation agencies. It is expected that this data has value to other partners of the connected vehicle system as well, including private entities.