

**DETERMINATION AND FINDINGS
FOR
A SINGLE AVAILABLE SOURCE CONTRACT**

Agency: District Department of Transportation

Contract Caption: ITS-on-Call Technical Support for System Integration

Contractor: Virginia Tech

1. AUTHORIZATION:

D.C. Official Code § 2-303.05(a)(1), 27 DCMR 1702

2. MINIMUM NEED:

The District of Columbia's Office of Contracting and Procurement (OCP), on behalf of the District's Department of Transportation (the "District" or "DDOT") perform ITS technical support services by implementing system integration of tunnel-operation Dynamic Message Signs (DMS), mobile CCTV system and conducting traffic data analysis and visualization during the calendar year of 2014.

Based on the needs of DDOT and the directives from the Federal Highway Administration, the following eight tasks will be conducted under this contract:

- 1) Integrate nine tunnel operation DMS in the District downtown area and two legacy DMS on I-295 into CapTOP
- 2) Integrate 12 mobile CCTV into CapTOP and enhance the CapTOP website by integrating the newly-deployed roadway patrol AVL system;
- 3) Perform traffic data analysis and develop roadway performance measures based on the newly-installed Permanent Count Stations (PCS) and Vehicle Detection Station (VDS) data; perform traffic data visualization on the GIS map.
- 4) Enhance the social media analysis program to improve the accuracy of incident information; include additional social media types into the analysis.
- 5) Develop a secure website for other government agencies and public to download the traffic and incident data
- 6) Develop an asset management system to monitor the real-time operational status of ITS devices in the District;
- 7) Develop a mobile app/website for monitoring of traffic conditions by interacting with the CapTop system for users in remote locations especially DDOT staff.
- 8) Implement an information panel for displaying real-time traffic data in the DDOT headquarter building.

DDOT requires the services of a contractor to supply software and ITS professional(s) with the technical expertise that can meet the following requirements

- (a) Be familiar with the current DDOT traffic management system and DDOT TMC operations;
- (b) Previous work experience with the source code of the current DDOT traffic management system (CapTOP) and be able to revise it to build new functionalities to meet the needs of DDOT traffic operations and incident management;
- (c) Be very familiar with the ITS standards NTCIP 1201, 1202, 1203 and the STMP/SNMP technologies in order to establish the data communications between the central system and the NTCIP-complaint ITS devices;
- (d) Understand the API provided by the mobile CCTV vendor and be able to use it for integration of mobile CCTV feeds into the CapTOP map interface.
- (e) Have traffic research/engineering background and at least five-year experience in development of roadway performance measures.
- (f) Shall provide at least one personnel for onsite support three days a week for entire duration of the contract.
- (g) Understand the API of social networks like Twitter and Instagram and ability to integrate it with the CapTOP system

3. ESTIMATED FAIR AND REASONABLE COST:

\$178,000 which includes the labor cost of \$170,500 and device cost of \$7,500

4. SOLE SOURCE JUSTIFICATION:

Project Background

In this project, DDOT will process and analyze the real-time traffic data from newly-installed vehicle detection stations and permanent count stations for traffic operations and planning purpose. DDOT will benefit from the major investment of the traffic detection system by developing the performance measures and visualizing the congestion levels on the GIS interface. DDOT will also share the traffic data with FHWA and MWCOG for transportation planning in the nation's capital city.

Another important task of this project is to enhance the CapTOP website by improving the AVL system to monitor all 13 roadway patrol trucks. The AVL system will significantly improve the efficiency of incident management and traffic management, because the TMC operators will be able to know the real-time location of patrol vehicles and dispatch the closest patroller to the incident scenes. The project team has implemented communication links for the AVL devices. The project team will improve the system based on the new requirements by the DDOT Traffic Management Center manager.

Integration of tunnel operation Dynamic Message Signs (DMS) and mobile CCTV cameras into the traffic management system will allow DDOT achieve maximum benefits from legacy and new ITS systems. DDOT will perform system integration of legacy tunnel operation DMS by providing interface for TMC operators to program and send messages.

Why a Single Available Source

Considering multiple factors such as prior work experience of DDOT traffic management system, requirements to meet the FHWA and MWCOG requests and the available tight budget, we intend to pursue a single available source contract and grant it to Virginia Tech. Justifications for this action are stated as follows:

- (1) Virginia Tech is the only external entity who understands the source code of current TMC traffic management system and knows how to expand it for new functionalities. The current system was originally developed in-house by DDOT ITS engineers. Due to limited resources, its design was not well documented. Understanding of the system source code will be very complex and time-consuming for other consulting firms. Virginia Tech has been working on system enhancements since January 2010, and their personnel have mastered the source code and know how to build new modules within it. They have provided quality services in the past year.
- (2) The Virginia Tech team is knowledgeable of Intelligent Transportation System standards and protocols such as NTCIP. Therefore, allowing Virginia Tech to work on this project will help us deliver high-quality system for incident management and traffic operations. Having Virginia Tech to work on this project will also help timely fulfill the mandate by transportation law SAFETEA-LU.
- (3) With the available budget being very tight, it will be for our best interest to keep Virginia Tech personnel continue with providing ITS technical support for system integration as opposed to hiring a new consulting firm.

5. CERTIFICATION BY AGENCY HEAD:

I hereby certify that the above findings are true, correct and complete.

Date

Terry Bellamy
Director
District Department of Transportation

6. CERTIFICATION BY CONTRACTING OFFICER:

I have reviewed the above findings and certify that they are sufficient to justify the use of the sole source method of procurement under the cited authority. I certify that the notice of intent to award a sole source contract was published in accordance with 27 DCMR 1304 and that no response was received. I recommend that the Chief Procurement Officer approve the use of the sole source procurement method for this proposed contract.

Date

William Teague
Chief Contracting Officer

DETERMINATION

Based on the above findings and in accordance with the cited authority, I hereby determine that it is not feasible or practical to invoke the competitive solicitation process under either Section 402 or 403 of the District of Columbia Procurement Practices Reform Act of 2010 (D.C. Law 18-371; D.C. Official Code § 2-354.02 or 2-354.03). Accordingly, I determine that the District is justified in using the sole source method of procurement.

Date

James D. Staton, Jr.
Chief Procurement Officer