

CITY OF KNOXVILLE

REQUEST FOR INFORMATION

Intelligent Transportation System (ITS) Platform

**Submissions to be Received by 4:30 p.m., Eastern Time
January 15, 2021**

Submit to:
City of Knoxville
Office of the Purchasing Division
City/County Building
Room 667-674
400 Main Street
Knoxville, Tennessee 37902

**CITY OF KNOXVILLE
Request for Information**

Intelligent Transportation System (ITS) Platform

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**City of Knoxville
Request for Information
Intelligent Transportation System (ITS) Project**

I. Statement of Intent

To develop specifications for the future solicitation of an Advanced Traffic Management System (ATMS), the City of Knoxville is requesting information from potential ATMS providers to assess the current state of practice. The City requests existing ATMS providers submit information to detail and demonstrate their software functions/capabilities and discuss how to fulfill the needs of the City to enhance the management and control of the traffic signal system. The purpose of this RFI is to meet the following objectives:

1. Opportunity for the City to review / assess the current software available to meet the needs and requirements of the ATMS
2. Allow ATMS software providers to see the scope and magnitude of the planned ATMS project
3. City to assess the interoperability of ITS software with existing traffic system controllers
4. City to assess the expected level of customization need to meet requirements
5. Provide data for City to build specifications for future solicitation of ATMS

Interested providers must have existing deployments available for demonstration which significantly or completely satisfy the system requirements listed in this RFI.

This RFI is not to be confused with an official solicitation process. The RFI presentations provide by ATMS providers are solely for use by the City to develop the future solicitation. Any notes, comments, or evaluations created during the RFI period will not be used in the scoring and evaluation of a future solicitation. No short-list of ATMS providers will be made at the end of the RFI presentations. Any discussion related to costs to complete an ATMS enhancement of this scale shall only be used to establish planning level budgets and will not be used or referenced as a quote from any ATMS provider.

II. RFI Time Line

Availability of RFIDecember 15, 2020

Deadline for questions to be submitted in writing to the
Purchasing DivisionJanuary 8, 2021

Responder Submitted Information Due DateJanuary 15, 2021

ATMS Presentations..... January - February, 2021

This timetable is for the information of submitting entities. These dates are subject to change. **However, in no event shall the deadline for submission of the information be changed**

except by written modification from the City of Knoxville Purchasing Division.

III. Background/Overview

The City seeks knowledge of state-of-the-art central traffic signal management systems capable of monitoring and controlling traffic signals and ITS infrastructure. Through this RFI, the City will evaluate available traffic servers (computer equipment and related software) and interoperability with our existing controller equipment and communication systems and our traffic controller equipment located at each intersection. The City desires a future system that provides remote control and communication with the entire system, to include signals, message signs, etc. with an ultimate goal of having our entire system connected via high-speed communications and use of these communication improvements to provide a real-time operational control over the system.

Desired functions include the following:

- Achieve traffic efficiency by minimizing traffic problems; manage traffic flow more efficiently
- Reduce travel time of commuters while enhancing safety and comfort
- Provide real-time running information
- Manage existing traffic control infrastructure
- Data collection with precise location information
- Requires wireless connectivity
- Preference of a manufacturer-neutral software that can work with our standardized equipment

A detailed list of Required, Preferred, and Considered functions that will be used to assess demonstrations and develop our specification may be found in Exhibit A.

The City's current system operates 392 traffic signalized intersections utilizing the following:

Existing System Details	
Controllers	Approximately 2/3 of the controllers have been converted to Trafficware 980ATC TS2 Type 2 controllers. Also, the City has converted 357 CMU's to Trafficware TS2 MMU's.
Firmware	All Trafficware controllers use the v.76 Patriot firmware
Communications	Cradlepoints in all master cabinet locations using AT&T

IV. General Conditions

4.1 The following data is intended to form the basis for submission of information on

Intelligent Transportation System (ITS) platforms for the City of Knoxville.

4.2 This material contains general conditions for the review process, the scope of service the City desires to review, and instructions for submissions of information. The RFI should be read in its entirety before preparing the submission.

4.3 All materials submitted pursuant to this RFI become the property of the City of Knoxville and will be considered to be public records available for the public.

4.4 To the extent permitted by law, all documents pertaining to this Request for Information shall be kept confidential until the evaluation is complete. No information about any submission of information shall be released until the process is complete, except to the members of the Evaluation Committee and other appropriate City staff.

4.5 Any inquiries, suggestions or requests concerning interpretation, clarification or additional information pertaining to the RFI shall be made **in writing and be in the hands of the Purchasing Agent by the close of the business day on January 8, 2021**. Questions can be submitted by letter, fax (865-215-2277), or email to powens@knoxvilletn.gov. The City of Knoxville is not responsible for oral interpretations given by any City employee, representative, or others. The issuance of written addenda is the only official method whereby interpretation, clarification, or additional information can be given. Any addenda issued to this Request for Information, will be posted to the City's website at www.knoxvilletn.gov/bids. Submitting organizations are strongly encouraged to view this website often to see if addenda are posted.

4.6 All expenses for making a submission and demonstration of products shall be borne by the submitting entity.

4.7 **INCLEMENT WEATHER:** During periods of inclement weather, the Purchasing Division will enact the following procedures with regard to solicitations and weather delays:

- If City offices are closed due to inclement weather on the date that bids/proposals/qualifications/letters of interest/RFIs are due into the Purchasing Office, all solicitations due that same day will be moved to the next operational business day.
- The City of Knoxville shall not be liable for any commercial carrier's decision regarding deliveries during inclement weather.

4.8 No obligation to buy. The issuance of this RFI does not obligate the City to award a contract or otherwise enter into a contract with any respondent. The City reserves the right to refrain from contracting with any vendor. The release of this RFI does not compel the City to purchase.

V. Instructions to Submitting Entities

These instructions ensure that (1) submissions contain the information and documents required by the City's RFI and (2) the submissions have a degree of uniformity to facilitate evaluation.

5.1 General

RFI documentation may be obtained on or after December 15, 2020, at no charge from:

City of Knoxville Purchasing Division
City/County Building
400 Main Street, Room 667
Knoxville, Tennessee 37902

between 8:30 a.m. and 4:30 p.m. (Eastern Time), Monday through Friday or by calling 865/215-2070. Forms and RFI information are also available on the City web site at knoxvilletn.gov/purchasing where it can be read or printed using Adobe Acrobat Reader software.

5.2 Submission Information and Format

Responses to the RFI shall be submitted electronically in MS Word or .pdf format and emailed to powers@knoxvilletn.gov by January 15, 2021 at 4:30 p.m. Exhibit A is provided in an Excel format for ease of completion and shall be submitted in Excel format. A signed Submission Form S-1 shall be included. RFI responses are limited to twenty-five (25) typed pages. No font size smaller than 12 points is allowed

Information submissions shall be structured as follows. Numbered items listed below should have a numbered tab page:

1. Title Page and Company Overview
2. Table of Contents
3. Similar Projects within the past three years with references
4. Software Overview
5. Project Understanding & General Approach for ATMS replacement
6. Anticipated Customizations Required
7. Response to Exhibit A (does not count toward page count)
8. Submission Form S-1 (does not count toward page count)

NOTE: All required submission forms may be found in this solicitation document.

No award shall be made for the information received as a response to this RFI. The RFI is for information gathering purposes only. All information provided by submitters shall be at no cost and without obligation to the City.

5.3 Review of RFI Responses

RFI responses will be reviewed by a City of Knoxville evaluation team and the City will invite ATMS providers to on-site presentation and discussion. The identification of the invited ATMS providers for in-person demonstrations will be largely based on the following evaluation criteria:

1. Qualification and similar project experience
2. System functionality based on response to Exhibit A
3. Required customizations and ease of integration with existing infrastructure
4. References
5. Level of implementation and ongoing support

If an invited submitter chooses not to participate in demonstrations, the City may fill the open position with other another submitter. If a RFI responder is not selected for one of the in-person demonstrations, it does not disqualify the ATMS provider from responding to future solicitations.

5.4 Demonstrations.

Invited firms will be provided the opportunity to participate in an interview and product demonstration. Selected proposers shall provide a software solution to be evaluated for a time period of ten (10) business days with first day for setup and training on use and last day for removal. Demonstrations will be performed in a closed system environment at the Public Works Complex Traffic Engineering office at 3131 Morris Avenue, Knoxville, Tennessee. The test environment will include six (6) networked stations consisting of five (5) various brands of NEMA ATC Traffic Signal Controllers and one controller by the proposing vendor platform. The City will also provide three (3) MMU's on the networked system. Demonstrations shall provide the following tests:

Demo Testing 1

- Monitor test to simulate the interaction with MMU's to show functionality and connectivity including retrieving logs and failures
- Show ATC or NTCIP functionality across the major controller manufacturers
 - How are patterns displayed C/O/S
 - Pattern Table
 - Action Table
 - TOD Plans
 - Basic timing operation
 - Preemption Testing
 - Show compatibility between selected controllers and various firmware
- Testing should confirm that system hardware, software, and integration implemented successfully, are in compliance with the functional requirements, and exhibit stable and reliable performance. The test should also demonstrate how the software is capable of managing the traffic signals with no functional regressions in traffic flow.

Demo Testing 2

- Show upload and download capabilities of NTCIP assigned data objects
 - Ensure proper data is placed in correct TOD and Coordination parameters
- Real Time Status
 - Ring/barrier operation

- Alarms and faults
 - Communication Status
 - Ability to adjust polling to certain parameters
- Demonstrate grouping
- Demonstrate mapping
 - GIS components
 - Third Party Mapping

Demo Testing 3

- User Reports
 - Demonstrate the user configuration capability
 - Controller Printouts
 - Detector Issues
 - Alarm Failures

Submission Forms

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Submission Form S-1

**Submissions to be Received by 4:30 p.m., Eastern Time; January 15, 2021; in Room 667-674,
City/County Building; Knoxville, Tennessee.**

Please complete the following:

Legal Name of Proposer: _____

Address: _____

Telephone Number: _____

Fax Number: _____

Contact Person: _____

Email Address: _____

DUNS #: _____

Signature: _____

Name and Title of Signer: _____