

State of Connecticut, Department of Transportation
Request for Information (RFI) #DOT-07-7001
Video Distribution System

Date-August 10, 2007

RFI # DOT-07-7001

State of Connecticut
Department of Transportation

Request For Information
For
Traffic Camera Video Distribution System

Issue Date:
August 10, 2007

Question Cutoff Date:
August 24, 2007 @ 2:00 p.m. EST

Response Deadline:
September 10, 2007 @ 2:00 p.m. EST

Issued by:
Connecticut Department of Transportation
2800 Berlin Turnpike, P.O. Box 317546
Newington, CT 06131-7546

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Request for Information

Traffic Camera Video Distribution System
Connecticut Department of Transportation

REQUIREMENTS AND DEADLINES FOR QUESTIONS AND RESPONSES

This Request for Information (RFI) outlines the type of information being solicited from vendors and includes guidelines for content and format of responses. Vendor(s) choosing to respond to this RFI will have **four (4) weeks from the date of issuance (August 10, 2007)** to respond with questions.

All questions must be submitted in an electronic mail format and be addressed to: John.korte@po.state.ct.us by **no later than 2:00 p.m. EST on August 24, 2007.**

Parties desiring to respond to this RFI must do so in writing, providing one original and **five (5)** complete copies of the submitted response. Complete responses are due **no later than 2:00 p.m. EST on September 10, 2007.** Late responses may or may not be considered, depending upon the needs of the Department of Transportation. The postal address for RFI responses is:

**John F. Korte – Highway Operations Center
State of Connecticut Department of Transportation
2800 Berlin Turnpike, P.O. Box 317546
Newington, CT 06131-7546
Attn: RFI # DOT-07-7001**

Request for Information

Traffic Camera Video Distribution System Connecticut Department of Transportation

1. Subject

This Request for Information (RFI) seeks information for: the development of a video distribution system to disseminate traffic camera images from the Connecticut Department of Transportation (ConnDOT) advanced traffic management system.

2. Description

The department is planning the installation of a video distribution system to disseminate traffic camera images to Local Traffic Management Centers (LTMC), emergency responders, and motoring public via the Internet.

3. Purpose

The purpose of this RFI is to provide ConnDOT with sufficient information and knowledge required to develop and issue a formal Request for Proposals (RFP) to design and implement a video distribution system. In summary, the purpose of this RFI is to collect information on innovative methods to:

- Aggregate ConnDOT video imagery for redistribution.
- Disseminate live streaming video and video still-shots to other LTMC, emergency responders, and motoring public through a map-based webpage that is accessible from computers and handheld devices that have internet access.
- Allow for multiple users to access video from one or more cameras simultaneously.
- To supply ConnDOT with advertisement free still-shot image files of all cameras at no cost to ConnDOT and with no rights restrictions to redistribute the images.

4. Background

ConnDOT currently operates two traffic operations centers from which the video streams are to be aggregated. The first traffic operations center is located at State Police Barracks Troop G in the Bridgeport Operations Center (BOC). The second traffic operations center is located at ConnDOT Headquarters in the Newington Operations Center (NOC). It is known that the camera systems from which video is to be aggregated/disseminated will be NTSC analog color video. For a description of the

video architectures associated with these two operations centers, as well as associated documentation please see Appendix A.

The LTMC and emergency responders that will likely access the live streaming video web-page each have unique needs and are geographically dispersed across the state of Connecticut. Any approach proposed should provide for the capability of providing live streaming traffic video imagery efficiently and at minimal cost to these user groups. All LTMC, emergency responders, and motoring public should be able to view still-shots of cameras at no cost and without login credentials.

5. Requirements

System Deployment Options

As part of the response to this RFI, it is requested that, as is feasible, respondents provide two (2) options for system deployment and operation:

Option 1 – System is housed and operated from within both of the above-mentioned traffic operations centers. All equipment is owned by ConnDOT but maintained by the service provider.

Option 2 – System accesses video from both traffic operations centers video systems and makes it available for use via the service provider data center located offsite; using service provider infrastructure and bandwidth.

It is requested that any system suggested in response to any of the options listed above conform to the System Technical/Functional Requirements. As such, respondents should indicate whether any of their proposed approaches for implementing Option 1 or Option 2 is incapable of meeting the requirements found in this section. In cases where a respondent's proposed system is not capable of meeting a given requirement, an alternative requirement that can be met should be provided in its place.

In all cases, the respondent's solution must be operated independently of the existing video system, such that it will not disrupt or interfere with agency operations.

System Technical/Functional Requirements

Responses to this RFI should provide information concerning the manner in which each of the systems suggested by the respondent are capable of supporting the following system functionalities:

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Video Availability Requirements

- The system shall be capable of collecting and distributing video in real-time on a 24-hour-per-day, 7-days-a-week, 365-day-per-year basis.
- The system shall be operational at least 99.7% of the time.
- The system shall have no impact on current video distribution operations at each Traffic Operations Center.

Interface Requirements

- A custom interface shall be developed to allow users to select desired camera images from camera icons placed on a roadway map of Connecticut.
- The custom interface for viewing video shall be accessible via the Internet
 - Users shall not need macromedia flash or other plug-ins/software to view live streaming video or still shots – just a standard, commonly utilized web-browser
 - The developer should keep in mind that live streaming video and still shots will need to be viewed from mobile devices such as blackberry, palm trio, Iphone, etc. These devices need to access the video without plug-ins or added software.
 - Interface shall be secure and password protected
 - a. Individual user ids and passwords shall be generated for use by each user that requires streaming video access.
 - b. System shall log use by individual users
 - c. Log in credentials will determine if users have rights to view blocked camera feeds during incidents. All public still-shots will be blocked by default during an incident.
 - CCTVs shall be represented by individual icons on the map – clicking on an icon shall open up a separate window with the live streaming video feed from that camera.
 - The map shall be navigable with slide bars and zooming capability.

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- Each live streaming video user shall be able to view up to four (4) video feeds simultaneously. Users should have zooming capabilities on any and all video streams.
- The live streaming video feed from any CCTV covered by the system shall be viewable by LTMC and emergency responders simultaneously.
- Streaming Video shall be provided at a minimum fifteen frames-per-second rate with options for higher frame rates according to login credentials. Streaming video must not drop below fifteen frames-per-second regardless of the actual number of internet viewers accessing the camera.
- Still shots shall be provided at a minimum of one frame every two seconds and not change regardless of the actual number of internet viewers accessing the camera.
- The proposed system shall offer ConnDOT and State Police Troop G the ability to block specific live streaming video feeds and all still-shots from being distributed via the system interface
- The interface shall provide the user with information concerning the location and direction in which the CCTV(s) being viewed are pointed (i.e., NB, SB, EB, WB). This shall be accomplished without adding descriptions to ConnDOT's existing video equipment.
- The interface shall have a configurable timeout function that disconnects selected users from selected live streaming video feeds after a pre-set amount of time.

System Expandability

- The system shall be scalable so as to be capable of being modified in the following ways without the need for major system re-design:
 - The addition of video from supplementary cameras – both from NOC and BOC.
 - Interface shall be capable of being expanded to allow an increase in the number cameras and users who can access the system.

Monitoring and Control Requirements

- The system shall be designed such that ConnDOT is capable of realtime monitoring of access dates/times by LTMC and emergency responders that view live streaming video.

6. Sample Response Outline

The following is a suggested outline for each response to this RFI. The outline is intended to minimize the effort of the respondent and structure the responses for ease of analysis. However, respondents are free to develop their responses as they see fit.

Section 1 – Project Description

Provide a summary of the proposed approach based upon option 1 or option 2 or both. Provide detail on how each option meets ConnDOT's requirements and Identify which option is preferred based upon the requirements of ConnDOT.

Section 2 – Feasibility Assessment

Briefly describe the feasibility of each option and any design tradeoffs involved with choosing one option over the other.

Section 3 – Hardware and Software Specifications

Provide detailed hardware and/or software recommendations and specifications for each of the two options. Hardware and software recommendations should include but not limited to the following:

- Video Distribution system hardware and network architecture(s)
- Telecommunication bandwidth and equipment requirements
- Physical space requirements needed at each traffic operations center.
- Maximum number of users able to access the live streaming video distribution system at any time.
- Maximum number of users able to access a particular video feed at any time.

Section 4 – Cost and Schedule Estimates

Provide cost estimates for each option. Identify all annual and/or reoccurring costs for ConnDOT and identify all reoccurring costs for live streaming video access to emergency responders and LTMC. Estimate repair and maintenance for a period of five years.

Section 5 – Deployment Schedule

Give a timeline estimating system setup, testing, and deployment time.

Section 6 – Vendor- Proprietary Elements

Please identify any proprietary elements of each proposal.

Section 7 – Corporate Expertise

Briefly describe your company, products and services, history, ownership, financial information, and other information you deem relevant.

In particular, please describe any projects you have been involved in that are similar in concept to what is described in this RFI. Include a reference name with contact information for any system that is similar in concept to what is described in this RFI. Include any comments on the structure of the requirements for a formal RFP response.

Section 8 – Additional Material

Please provide any other materials, suggestions and discussions you deem appropriate.

7. Information Exchange Meetings

The Department may consider meeting individually with interested potential respondents. If you are interested in requesting such a meeting, please respond to the contact provided in Section 9 below.

8. Disclaimer

This RFI is issued solely for information and planning purposes and does not constitute a solicitation. All information in response to this RFI that is marked Proprietary will be handled accordingly. Responses to the RFI will not be returned. Responses to this notice are not considered to be an offer and cannot be accepted to form a binding contract. This solicitation of information should not be considered an opportunity to market to the Department, or to any entity for the State of Connecticut. Responders are solely responsible for all expenses associated with responding to this RFI.

9. Contact Information

Following is the Point of Contact for this RFI, including follow-up meetings:

John F. Korte – Highway Operations
State of Connecticut Department of Transportation
2800 Berlin Turnpike, P.O. Box 317546
Newington, CT 06131-7546
john.korte@po.state.ct.us
Phone: (860) 594-3459
Fax: (860) 594-3476

Appendix A – NOC and BOC CCTV System Information

A. NOC System Information

- 130 Active Cameras (expandable to 200)
- American Dynamics 1024 Analog Video Switch

B. BOC System Information

- 153 Active Cameras (expandable to 210)
- Vicon 4400 series Analog Video Switch

***Note: Respondents should also consider that these two CCTV camera networks will be expanded in the near future.**