REQUEST FOR INFORMATION (RFI)

RFI # 2518C006

IP CAMERAS FOR TRAFFIC MONITORING

Issued By
STATE OF ALASKA
Department of Transportation & Public Facilities
Central Region Supply & Services
2200 E 42ND Ave
Anchorage, AK 99508

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RESPONSE DUE DATE: AUGUST 18, 2017 by 3:00pm Alaska Time

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IP Cameras for Traffic Monitoring

The State of Alaska, Department of Transportation & Public Facilities, Central Region Traffic Safety Division (DOT & PF), seeks cameras for viewing traffic on all 4 legs of an intersection with sufficient resolution to identify vehicles at ½ mile, while minimizing the transfer of video data for the areas off-roadway. This is NOT a request for proposals nor is it a solicitation for services or products. We encourage vendors to submit information on cameras that meet the objectives and requirements for evaluation. Vendors may be requested to submit samples for evaluation.

OVERVIEW

DOT & PF and MOA have recently upgraded their communications networks to accommodate more video. The video is used to time traffic signals and to advise maintenance personnel and the public of roadway and traffic conditions. Between the DOT&PF and the MOA, we expect to be purchasing approximately 100 cameras in the next two years.

OBJECTIVE

In order to track platoons of vehicles from intersection to intersection we desire to be able to identify that a vehicle is part of a platoon at about ½ mile and we desire to be able to monitor the intersection activity at the same time on all 4 legs. Although we have increased the bandwidth of the network, it would still be possible to overwhelm the network by streaming 360 degree views at the required resolution. We desire high resolution of the roadway at low bandwidth.

GENERAL REQUIREMENTS

We are prepared to balance some of these requirements to best meet our objectives.

The camera will be mounted on signal poles. Please include information on the attachment hardware and the environmental protection. The camera or housing and attachment hardware should be able to withstand 110 mph winds and be stable for viewing in 60 mph winds. Wind-blown grit may damage the plastic protective “domes”. The clear plastic portion of the housing should be inexpensively and easily replaceable in the field.

The camera and environmental enclosure should permit operation from -25F to 140F. The “dome” should not be subject to fogging or frosting over this range. Information and owner references about the reliability of installations in these weather extremes will be required.

The camera should have 4 independently aimed sensors. An incorporated PTZ is desirable. Each sensor/PTZ should be individually IP addressable. The only cables to the camera should be Ethernet and low voltage. From our review of “fish-eye” single-lens solutions it is unlikely that they will best achieve our objectives.

The camera should be configurable and operable from Edge, Mozilla, and Chrome browsers.

The camera should operate on POE. The video data will be transmitted from an RJ45 or similar fitting via Ethernet from the camera directly to an Ethernet switch (perhaps though a POE injector). We will consider independent low voltage power supplies for the operation of the environmental enclosure, if required.

The camera should support ftp client and server modes. Automatic periodic upload at a different resolution than the viewing mode should be supported. Supported upload/download formats should include at least jpeg or other open source format compatible with the DOT's Linux based web server. The unmasked minimum available sensor hardware resolution for upload/download should 240x360 or less, with resolutions in the range of 192x256 being preferable. Client mode should be able automatically send images over the range of 5 seconds to 30 seconds.

Roadways appear in the sensors as "vertical" elements. In order to get the highest resolution achievable in the vertical direction for a given sensor, it seems that the pixels of the sensor should be the maximum in the vertical direction. This would imply a 90 degree rotation of the most commonly available aspect ratios. We are aware that there are cameras that allow the physical rotation of the sensors to achieve this. In addition we need the ability to mask unwanted horizontal portions of the image at the sensors, not in the viewing software. The number of vertical pixels of each sensor should be about 1280. Horizontal pixels are expected to be less.

The Ethernet connection should be at least 100Mbps.

Frame rates should be available from 1/second to 15/second.

The Axis P3707 is typical of the kind of camera we think can meet the above objectives and requirements.

CONTENT OF YOUR RESPONSE

This is not a request for a bid or proposal, nor does the issuance of this Request for Information in any way imply that a request for bid or proposal will be issued. Responses are voluntary and shall not bind either the interested respondent or AK DOT&PF in any way. This Request for Information may be used to assist in preparing any future solicitation or alternate procurement.

DISCLAIMER

The State of Alaska, Department of Transportation is not liable for any cost incurred by respondents. All costs incurred by respondents in preparation of their responses, including shipping, travel and personal expenses are to be borne by the respondents. The department will in no way will be liable for any personnel or equipment involved in this test.