

Contract K-2122-43

Public Transportation On-Board Vehicle Surveillance System

Attachment A – Scope of Services

1. The Consultant shall, in a good and first-class, workmanlike manner at his own cost and expense, furnish all labor, materials, tools, and equipment required to perform and complete said work in strict accordance with this Agreement, the RFP 2122-16 Public Transportation On-board Vehicle Surveillance System and specifications, and Consultant's Proposal all of which documents are on file in the Office of the Purchasing Agent of the City of Norman, and are made a part of this Agreement as fully as if the same were set out at length. Any such items or sections not listed or fully listed below shall in no way constitute a waiver of a requirement of said services being required by Consultant.

2. Project Requirements

- A. Provide a detailed solution for the whole system related to equipment, engineering, manufacturing, layout installation, and system testing. Individual designs and recommendations are provided for each of the twenty-eight vehicles floor plans. All wiring and installation shall be identical per chassis design.
- B. Perform a complete installation and provide documentation of specified systems, color printed wiring diagrams to include fuse sizing per circuit, subsystems, and components, including engineering interface with new equipment. Hardware installation shall be in the same location on each vehicle platform or as determined appropriate by Owner. Power and ground locations and/or taps shall be provided to and approved by the Owner prior to installation.
- C. Remove existing video camera equipment and unneeded wiring. Wiring removal will be from camera or device back to its origin with no unnecessary wire left behind. Any old video camera equipment shall be returned to Owner unless otherwise instructed. Any holes left in vehicles cause by removal shall require filling with a durable, weatherproof seal on outside of bus, and filled if internal (but not necessarily with weatherproof seal). Any hole that is filled should be color matched to color of vehicle where the hole(s) is/are located.
- D. Provide technical data, software, samples, and mock-ups for new items, as required and before installation.
- E. As possible, integrate with Owner's existing hardware and software systems to allow for event-to-action activation and metadata capture/recording, including braking, speed, signal indicators, GPS location, and passenger count data.
- F. Perform all qualification and acceptance testing.
- G. Provide an illustrated parts and maintenance manual in electronic format (PDF), including details of processes to update software and firmware.

Manual shall also include color printed wiring diagrams to easily trace installed system parts for future diagnostics and repairs.

H. Provide a minimum of three sets of any special tools, equipment, and diagnostic test equipment required for the new systems.

I. Include levels of advancement with the systems technology, including expandability options, and provide an estimate of any potential major software or hardware changes that could affect the performance or longevity of the proposed system.

3. System Requirements

A. Installation of new color, ruggedized, classification external cameras in weather and vandal-proof, rated to -22 °F to 140°F and capable of operating in all outdoor conditions, including low light. External cameras shall be of quantity and ability necessary to capture the vehicle's entire external proximity or as determined appropriate by Owner. Cameras and hard drives should be hot-swappable, plug-and-play capable. The forward facing camera used to capture the vehicle's entire external proximity may be mounted internally and not required to meet the external camera requirements. This shall include sufficient amounts of IPWS4000, and IPSMB2800 cameras for fixed route and demand response vehicles that allow Owner to view the entire front, street side, curbside and rear of vehicles.

B. Installation of new color, ruggedized, classification internal cameras in a vandal-proof, rated to -22 °F to 140°F and capable of operating in low light. Internal cameras shall be of quantity and ability necessary to capture the internal body of the vehicle for a view of passengers and vehicle operator, or as determined appropriate by Owner. On fixed route vehicles this would include front passenger door, rear passenger door (where applicable), driver area, passenger seating area facing towards the rear, and passenger seating area facing towards the front; on paratransit vehicles, this would include the front passenger door, driver area, and passenger seating area facing towards the rear. Cameras and hard drives should be hot-swappable, plug-and-play capable.

C. The system hardware shall support the simultaneous recording of all installed cameras and audio.

D. The hardware shall support independent audio channels that can be isolated during playback and export.

E. Include all needed Digital Video Recording (DVR) devices and network devices with Global Positioning System (GPS) information.

F. System shall be capable of video file offload from each vehicle. Minimum of 802.11ac or better onboard wireless, and any other necessary onboard components for download and remote viewing. Consultant will supply the wireless access points while Owner will supply power and network infrastructure to mounting locations for system Consultant provides.

G. DVR shall be capable of retaining a minimum of 240 hours of video and audio data.

H. Provide onboard DVR and networking equipment specifically designed for installation in the transit bus environment that can withstand the vibration and shock forces associated with transit vehicles, as well as temperatures from - 22 °F to 140°F.

I. Provide necessary fleet facility network infrastructure to wirelessly offload all required video daily for all buses while in the Owner's fleet facility. This wireless infrastructure must be Cisco Wireless APs that connect to a Cisco WLC that Owner will provide. All network equipment specified must be approved to be compliant with the Owner's existing IT infrastructure. The Owner will provide the power supply and network infrastructure to the mounting locations for each Wireless AP.

J. System must capture data from the transit bus metadata stream and the panic button triggered automated events.

K. Consultant is providing its hosted server and PRO8CMS software and app that will integrate with the Owner's existing technology infrastructure to allow the viewing, storage, and archiving of saved captured video to PC, DVD, USB flash drive, or potential mobile device. Archived storage will retain a minimum of 13 months of video. Video uploads from DVR to server have a resume feature that will allow uploads to continue where they are left off in case of disconnection from the network. This portion includes an annual fee for the storage and access of this data.

L. As an add on at option of Owner the Consultant will provide optional service for the video system to have the capability for live tracking and streaming into the on-board cameras. This live system option should include alarm capabilities that will notify dispatch of a situation, triggered via a panic button. The live system should be able to access hardware as needed while vehicles are in route. The live system should have hotspot capabilities.

M. Spare equipment provided includes: (2) HCHDDTRAY; (4) HDD1TB; IPI2500; IPX4000; IPWS4000, IPSMB2800; and IPI4000.

N. The video management system allows download requests to be prioritized as needed capable of viewing of software system, scheduling video downloads, live viewing, video export, system health/diagnostics, and DVR system firmware updates.

O. All wiring will be appropriately sized and colored for the intended circuit. The same wiring color will not be used more than once in the wiring harness, save for "red" positive and "black" negative circuits. All connections will be soldered and adhesive heat shrunk. All items passing through a bulkhead will have an appropriate style and sized grommet installed to protect the circuit. All wiring that has the propensity to be damaged, chafed or overheated due to its proximity with another object will be covered in an appropriate sized and style wire loom for the length of the circuit. All added

circuits shall have an appropriate sized and enclosed ATC fuse housing and fuse installed inline as close to the power source as feasibly possible as well as the circuit name labeled accordingly on the fuse housing. No interior or exterior body or trim panel

shall be drilled or altered in any way without the written approval from the Fleet Division representative.

P. All work completed by the Consultant will be inspected and signed off on by a qualified City of Norman technician before it is deemed complete and/or accepted by the Owner.

4. Warranty

A. All equipment (onboard surveillance equipment, backend equipment, software, and other accompanying equipment) has a 5-year warranty from the date of initial acceptance of work. Labor warranty is for 3 years.

B. The Consultant completely warrants the service documentation provided to Owner and that it accurately reflects the operation and maintenance of the equipment and software. All information necessary to maintain the system will be provided to Owner by Consultant.

C. Hardware will be replaced at the sole cost of Consultant for any hardware reaching end-of-life within the first three years of use due to technology and component updates out of the Owner's control.

5. Maintenance

A. Consultant shall provide software patches and upgrades to software and firmware free of charge. Preventive Maintenance option is being provided for years one through five. Technical support access information has been provided by Consultant to Owner.

B. Consultant shall notify Owner at least 45 days in advance of installation when new software releases become available and providing release notes. The Consultant will notify Owner at least twelve months in advance when it is expected that the current release and related systems will no longer be supported. The consultant shall submit a plan at least six months in advance before it is expected that current systems are no longer supported with all necessary information to move to a supported system. This plan may be rejected by the Owner's designee at no cost to owner.

C. Consultant will ensure that all existing software configurations are protected after the system has been upgraded for the entire duration of the time that Owner uses the system. These changes must be reported to Owner. The Consultant's Preventative Maintenance option during years one through five includes an option to perform a system wide health check at Owner's request.

D. Consultant will notify Owner two (2) business days before any wirelessly transmitted software update(s) takes place.

6. Technical Support and Training

A. Consultant will provide Owner with technical support to assist the Owner with any technical issues or questions. Consultant will conform to the service and return processes it has communicated to the Owner. Minimum response time for technical questions will be within 24 hours from when the question was first submitted.

B. Consultant will provide diagnostic access in the form of a CP4 Touchscreen monitor, which interacts with the system for diagnostic purposes.

C. Consultant will submit a detailed training plan that describes the procedures employed to adequately accomplish training related to the implementation and full utilization of the system. Video tutorials will be provided to the Owner specific to the purchased hardware and software for new hire and employee refresher training. Training shall be provided to personnel designated by Owner. Training for all hardware and software must be fully documented with video tutorials, provided on-site, and include all of the following information:

A. Name and phone number of the person responsible for training.

B. How to install or set up a computer as a viewing station.

C. How to operate the software to zoom, pan, and focus.

D. How to record and retrieve data.

E. How to record and retrieve pre-recorded video information according to time stamps.

F. How to search, schedule, and retrieve video from the server.

G. How to remove and reinstall the camera from the casing.

H. How to install and secure DVR and networking hardware.

I. How to export video in Windows format.

J. How to use diagnostic tools to perform health checks and update system firmware.

K. How to set up email alerts to notify of system issues.