

LANE TRANSIT DISTRICT



Request for Proposal (RFP) No. 2011-02 for Onboard Video and Audio Surveillance System

Date Issued:	January 18, 2011
Proposal Deadline:	February 18, 2011; 11:00 a.m., local time
Purchasing Manager:	Jeanette Bailor
Contract Administrator:	Leo Clark
Submit Proposal to:	Lane Transit District P.O. Box 7070 Eugene, Oregon 97401

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PART I

OVERVIEW

Lane Transit District (LTD) provides public transportation service to the residents of Lane County, Oregon, serving the cities of Eugene, Springfield, Coburg, Junction City, Veneta, Cottage Grove, Creswell, Lowell, Pleasant Hill, and portions of the county's unincorporated areas. LTD is organized as a County Transit Authority under the legal authority granted by the 1997 Oregon Revised Statutes (ORS) 267. LTD operates its fixed-route transit services in-house and contracts the operation of its Americans with Disabilities Act (ADA) paratransit services to a contractor, Special Mobility Services.

LTD operates a network of 34 fixed routes in a service area populated by approximately 348,850 persons. Service is provided weekdays from 4:47 a.m. to 11:26 p.m. Saturday service is operated from 6:25 a.m. to 11:26 p.m. Sunday service is operated from 7:25 a.m. to 8:11 p.m. LTD began service of its first Bus Rapid Transit (BRT) line on January 14, 2007. The EmX Green Line provides BRT service from the Eugene Transit Station to the Springfield Transit Station. LTD provides complementary paratransit service with 46 vehicles in operation.

LTD operates from a single maintenance and administration facility in Eugene, Oregon. Its fixed-route transit services are oriented around 11 transit centers located in the Eugene/Springfield area. The ADA paratransit services and coordinated human services call center are operated under the brand name RideSource out of a second maintenance and administrative facility owned by LTD and leased to Special Mobility Services.

LTD is seeking proposals for a highly qualified consultant to provide specifications in a Request for Proposal (RFP) format to design, furnish, and install an onboard video and audio surveillance system for its fleet.

Key components of the scope of work, presented in detail in Part V Special Provisions, Part VI, Technical Requirements, and Part VII Appendices of this RFP, include:

- Furnish and Install a central video management software system, hosted on network hardware provided by LTD and integrated with LTD network services;
- Furnish and install onboard systems on 16 fixed route vehicles that are currently in production. The onboard vehicle installation will occur following delivery of these vehicles to the Lane Transit administrative facility. The anticipated delivery date is August 1, 2011.
- Furnish and Install wireless access points at LTD facilities for transfer of video and surveillance data.
- Integrate with a Mobile Access Route (MAR), to be specified and procured by LTD under separate contract, to serve as a communications gateway for the onboard surveillance system and fulfill other LTD onboard network objectives. Integration of the MAR with the onboard surveillance system shall be performed by LTD in accordance with technical and performance requirements specified in this procurement. It is LTD's intent to implement the Onboard Video and Audio Surveillance System without the need for additional wireless antennas or vehicle roof/exterior penetrations.
- Integrate with LTD's existing TransitMaster Automatic Vehicle Location (AVL) system as the source for vehicle position data for the Onboard Video and Audio Surveillance System. It is

LTD's intent to implement the Onboard Video and Audio Surveillance System *without* the need for an additional GPS antenna or vehicle roof/exterior penetration.

A proof-of concept of the end-to-end system, including onboard installation of surveillance and MAR components and implementation of a wireless download link, will be performed as part of the evaluation of shortlisted vendors.

LTD envisions phased implementation of the new onboard surveillance system and MAR across the entire fixed route, EmX Bus Rapid Transit, and RideSource paratransit fleets as funding permits. LTD intends to enter a contract agreement of up to five (5) years with the selected vendor.

SECTION 1: STATEMENT OF PROPOSAL (SOP) SUBMITTAL AND CLOSING DATE

- 1.01 Submit five (5) copies of the Statement of Proposal (SOP). The SOP must be received by 11:00 a.m., local time, on February 18, 2011. A person authorized to bind the Firm to the proposal must sign the proposal. Neither late nor faxed submittals will be accepted. Firms submitting SOPs not in compliance with Section 4, SOP Requirements, will be considered non-responsive.

Proposals submitted will remain valid for a period of 60 days from closing date.

SOPs must be marked as "RFP 2011-02 Response" and addressed to:

Jeanette Bailor, Purchasing Manager
Lane Transit District
P.O. Box 7070
Eugene, Oregon 97401
Telephone: 541-682-6158
FAX: 541-682-6188

SOPs may be also be delivered to the administration office of Lane Transit District, 3500 East 17th Avenue, Eugene, Oregon 97403, addressed to Jeanette Bailor, purchasing manager, and clearly marked with "RFP 2011-02 Response."

SECTION 2: INQUIRIES

- 2.01 All contractual questions regarding this RFP shall be directed to:

Jeanette Bailor, Purchasing Manager
Lane Transit District
P.O. Box 7070
Eugene, Oregon 97401
Telephone: 541-682-6158
FAX: 541-682-6188
E-mail: jeanette.bailor@ltd.org

2.02 All technical questions regarding this RFP shall be directed to:

Leo Clark, Network Administrator
Lane Transit District
P.O. Box 7070
Eugene, Oregon 97401
Telephone: 541-682-6202
FAX: 541-682-6111
E-mail: leo.clark@ltd.org

2.03 If necessary, interpretation or clarifications in response to questions will be issued by addenda to all firms represented. Questions received less than three (3) working days prior to the due date shall not be answered. ONLY QUESTIONS ANSWERED BY FORMAL WRITTEN ADDENDA SHALL BE BINDING. Oral and other interpretations or clarifications shall be without legal effect.

Addenda may be issued to modify the proposed RFP document deemed advisable by LTD.

2.03 All related contact and questions regarding the proposed work and the selection process for the proposed work is to be directed only to this above-named individual.

2.04 Procurement Timeline

Provided below is the proposed procurement timeline. Unexpected events may cause the timeline to change. LTD reserves the right to revise the procurement timeline.

Date	Event
January 18, 2011	Project Advertised
January 25, 2011	Pre-proposal Meeting and Site Tour
January 31, 2011	Deadline for Vendor Questions
February 18, 2011	Proposals due at 11:00 a.m. local time
Week of February 28, 2011	Interviews of top-ranked Proposers
March 7, 2011	Shortlisted Proposers notified for onboard demonstration
March-May	Onboard Demonstration/Proof of Concept Testing
May 15, 2011	Vendor Selection
June 1, 2011	Contract Notice to Proceed (NTP) and Commencement of Final Design Phase
August 1, 2011	Anticipated Arrival of first wave of Gillig Vehicles at LTD for Onboard Surveillance System Installation
January-February 2012	Anticipated Arrival of second wave of Gillig Vehicles at LTD for Onboard Surveillance System Installation

2.05 Pre-Proposal Meeting and Site Tour

A Pre-Proposal Meeting and Site Tour will be held on Tuesday, January 25, 2011, beginning at 10:00 a.m. Pacific Time at the LTD Glenwood Administration Building, 3500 East 17th Avenue, Eugene, Oregon. Vendors will have the opportunity to inspect LTD vehicles and facilities related to the work under this

contract. Prospective Proposers are encouraged to attend the meeting and site tour. Travel expenses are the responsibility of those who attend. For logistical planning purposes, please RSVP by Monday, January 24, 2011, to Chris Thrasher at chris.thrasher@ltd.org to confirm the number of attendees at the pre-proposal meeting. Proposers may elect to participate in the meeting by teleconference. Teleconference information will be provided to vendors who RSVP to LTD by the above date.

SECTION 3: SPECIFICATIONS AND DELIVERY SCHEDULE

3.01 Requirements

Technical and Performance Specifications are included in Part V Special Provisions of this RFP.

3.02 Schedule

Time is of the essence in this contract. Assuming a NTP of not later than June 15, 2011, the selected vendor is expected to have satisfactorily completed design and mobilization activities in preparation for vehicle installation by August 1, 2011.

SECTION 4: SOP CONTENTS

Proposals should completely and in detail address the elements specified above and include information outlined in this section and any supplemental information appropriate to establish the proposer's ability to fulfill the requirements of this contract.

NO COST INFORMATION SHALL BE INCLUDED IN THE TECHNICAL ELEMENT OF THE PROPOSAL; COST INFORMATION SHALL ONLY BE CONTAINED IN THE SEPARATE, SEALED PRICE PROPOSAL.

PART I: TECHNICAL PROPOSAL

PROPOSAL LETTER

The Proposal Letter should be addressed to Ms. Jeanette Bailor and should serve as both an introduction of the Proposer and an overview of the proposal. The letter shall not exceed two (2) pages in length. No price information shall be included in the Proposal Letter or any other portion of the Technical Proposal (Part I). The Letter shall include the RFP number and subject, the proposing firm's name, local address, telephone number, facsimile number, email address, name of contact person, and date.

State whether the Proposer has any pending litigation, and state whether the firm has had any litigation in the last five (5) years and the outcome of such litigation.

The Proposal Letter must confirm that the proposal and all price information is valid for a period not less than ninety (90) days from the proposal due date, and be signed by a representative of the firm authorized to enter binding contracts on its behalf.

TAB A. QUALIFICATIONS OF THE PROPOSER

1) Team Composition and Information: Provide the name and address of the lead and participating firm; the date each firm was established; a brief description of each firm's historical background, including type of ownership; and the number of professional staff employed at the servicing office.

In any multi-firm team, clearly state the lead firm. LTD requires a lead firm that will assume overall responsibility for the delivery of all systems and services under this contract.

2.) Financial Information: The Proposer shall provide financial statements and information demonstrating to LTD that it has the necessary financial resources to perform the contract in a satisfactory manner. Finance information such as financial statements should be provided in a separate envelope clearly marked "financial information" so that it may be kept confidential. Only one copy of financial statement or confidential financial information is needed. Note that all Price Proposal and Performance Security information is to be included only in the separately sealed Price Proposal (Part II).

TAB B. QUALIFICATIONS AND REFERENCES

- 1.) *Past Experience:* Proposers shall describe their past experience of projects of similar size, scope, and complexity. Preference will be given to Proposers who can demonstrate similar past experience with public transit properties in North America for a fleet of at least fifty (50) vehicles (combination of fixed route and/or demand responsive). Only proposers with at least one (1) successful installation (i.e., fully accepted and operational under normal operating experience for at least six [6] months) for a comparable public transit property will be considered for this project.
- 2.) *Past and Current Projects:* Provide a list of ALL of the Proposer's North American public transit onboard surveillance systems projects, completed or ongoing, involving at least fifty (50) vehicles in the past five (5) years. Please include a contact person's name and telephone number. LTD reserves the right to contact any public transit provider with whom the proposed has previously contracted, including projects that have been cancelled or suspended for any reason.
- 3.) *References:* Provide reference contact name, phone number, address, and email address for at least three (3) organizations for which you have provided similar services. Include project summary, length of contract, number of fleet vehicles, project start and completion dates, and location of installation. The project summary shall include a brief discussion of any major issues encountered and how they were resolved.
- 4.) *Mobile Access Router (MAR)/Transit Onboard Systems Integration Experience:* Proposers shall indicate previous experience in projects that have involved provisioning and/or integration of onboard surveillance systems and equipment with other third-party advanced public transportation applications, such as: Computer Aided Dispatch (CAD) / Automatic Vehicle Location (AVL); Vehicle Logic Units (VLU); Mobile Data Terminals (MDT); Global Positioning System (GPS); facilities surveillance; wireless networks; radio systems; and other central systems. Integration examples include direct system interfaces, sharing of metadata, integration of vehicle location data, or sharing of onboard devices with a third-party system. Proposers shall provide specific examples including third-party Proposer system(s) integrated for each example. Vendors should take particular care to demonstrate prior experience with Mobile Access Router and Automatic Vehicle Location system GPS position data integration, as these are key aspects of LTD's proposed implementation.

TAB C. PROJECT MANAGEMENT AND STAFFING PLAN

- 1.) *Management Plan:* Discuss the Proposer's project management approach to ensure adequate technical and administrative oversight over the work and to manage project schedule and budget. Describe the proposed procedures for technical and administrative communications between the Proposer and LTD. Discuss proposed quality control/quality assurance measures procedures and any certifications pertaining thereto. Discuss tools and procedures for engineering management of system design and requirements finalization, revisions and change management, software configuration, etc.
- 2.) *Team Organization:* Describe the Proposer's staffing and organizational plan, including relationships, roles and distribution of responsibilities among Contractors, Sub-Contractors, and Suppliers.
- 3.) *Organizational Chart:* Provide an Organizational Chart and identify the Contractor Project Manager and other Key Personnel who will be assigned to the work under this contract, including task leads for critical elements of system design, development, installation, testing, training, and maintenance. Indicate the primary work location(s) for Key Personnel.
- 4.) *Qualifications of Staff:* Describe the direct qualifications, experience and training of each key individual or group of individuals. This discussion should explicitly cross-reference the involvement and specific roles of the proposed Contractor Project Manager in completed and ongoing projects described in the Qualifications and Reference section of the Proposal (Tab B).
- 5.) *Availability of Project Staff:* Indicate the percentage time commitment of the Contractor Project Manager and other key staff to both the LTD project and other project commitments. Discuss how responsibilities of the Contractor Project Manager and other key staff will be managed and balanced over the course of the project.

6.) *Location of the Work:* Describe the locations of the work during its various phases, as well as coordination between off-site facilities and on-site installation work, including work performed by LTD, the Contractor, Sub-Contractors, and Suppliers. Proposers shall identify the location(s) of off-site engineering design, software development, and testing during all phases of the Work. Describe expectations for facilities, personnel, access, assistance, etc. provided by LTD.

7.) *Project Schedule:* Proposers shall provide a preliminary project schedule illustrating major activities and milestones from project notice to proceed through final system acceptance.

8.) *Training and Documentation:* Describe the Proposer's approach to providing system documentation and training for technical personnel, maintenance staff, system administrators and end users.

TAB D. SYSTEM DESCRIPTION AND TECHNICAL APPROACH

1.) *Project Understanding:* Describe Proposer's understanding of the Scope of Services and the appropriateness of the proposed methodology to provide the required systems and services. Present a logical plan for providing the services described herein.

2.) *System Overview and Architecture:* Describe the overall technical solution being proposed, including a high level system architecture, primary subsystems, components, and communications systems. Describe any features unique to the Proposer's solution, as well as features that contribute to its scalability, robustness, ability to integrate with third-party systems, ease of maintenance, and overall cost-effectiveness. Vendors should take particular care to describe their approach for integrating with a Mobile Access Router and Automatic Vehicle Location system GPS position data, as these are key aspects of LTD's proposed implementation.

3.) *Onboard Systems:* Provide an onboard system architecture and description of onboard components and interfaces with existing and future onboard Smart Bus systems, including serial inputs to record vehicle systems metadata (brakes, lights, etc.). Describe the proposed onboard video and audio surveillance devices and their performance specifications. The Proposer is expected to demonstrate the suitability of the proposed solution for operations in ambient optical and acoustic conditions that would typically be expected in transit bus operations.

4.) *Surveillance Central Systems:* Describe the required central hardware systems to support onboard surveillance system management, configuration, and archiving.

5.) *Software:* Describe required software applications and functionality for monitoring, configuring, and managing the onboard surveillance system, as well as functionality and features available to end users for retrieving, viewing, tagging, and managing surveillance data and confirm that all such software be it Proposer or third-party create, will be supplied and licensed to LTD as required to fulfill the obligations of this Contract. Describe other software applications or licenses (e.g. operating systems) that LTD is expected to provide in support of the system. Describe security features of the software and surveillance data to prevent unauthorized access, manipulation, or deleting of data to preserve its integrity for operational and law enforcement purposes.

6.) *Wireless Communications Network:* Describe the technical approach for designing and implementing an 802.11n wireless network and commercial cellular data, via a Mobile Access Router, for downloading onboard surveillance data at various LTD facilities as specified herein. Describe how these systems will be integrated with the existing LTD communications infrastructure to provide backhaul to central systems, and how migration to newer technologies in the future can be accomplished.

7.) *LTD Central System Interfaces and Integration:* Describe the necessary interfaces with existing LTD enterprise IT network, software, and communications systems. Describe the Proposer's approach for coordinating the work with LTD Information Systems Department staff during design, implementation, and testing of these interfaces.

8.) *Installation Plan:* Describe the proposed installation plan and schedule. For installation planning purposes, proposals shall be submitted with the assumption that installation and/or testing activities will be required outside of normal business hours. Work by the Proposer shall not disrupt normal LTD operations or operation of scheduled revenue service. LTD anticipated completion of on-site onboard installation work within eight (8) weeks of formal Notice to Proceed.

9.) *Testing Plan*: Proposer shall describe its approach for meeting the testing requirements outlined herein. Work by the Proposer shall not disrupt normal LTD operations or operation of scheduled revenue service.

10.) *Priced Option Features*: Proposer shall describe proposed solutions in response to Priced Options described in the Scope of Work. Proposer shall provide a technical overview of the proposed solution and a discussion of how the proposed solution addresses LTD's operational objectives.

TAB E. COMPLIANCE WITH TECHNICAL REQUIREMENTS

Proposers shall complete and submit the completed technical requirements compliance matrix defined in Section VI: Technical Requirements.

The Compliance Matrix Form (a copy of Section VI: Technical Requirements provided in electronic format to Proposers) shall be signed by an Authorized Representative of the Proposer with authority to enter binding contracts on the Proposer's behalf. Proposal responses that are missing appropriate signatures shall be considered unresponsive. LTD reserves the right to request additional information or clarification for all responses.

Proposals submitted without a completed compliance matrix that adheres to the above instructions may be considered non-responsive.

TAB F. WARRANTY AND SERVICE AGREEMENT

Proposers shall provide a description of their approach to meeting the System Warranty requirements described in the Technical Requirements. This description shall include the following:

- 1.) *Coverage*: Confirm that a complete system warranty, valid through the warranty period shall be provided and identify any items that the Proposer classifies as exempt from warranty.
- 2.) *Terms*: Describe Warranty terms for major system components
- 3.) *Preventative Maintenance*: Describe the preventative maintenance requirements for LTD personnel.
- 4.) *Remedial Maintenance*: Describe remedial maintenance response time for Warranty and Service Agreement issues.
- 5.) *Service Agreement Procedures*: Describe procedures for swap-out, repair, and replacement of components.
- 6.) *Availability*: Describe availability and location of trained technicians and parts, as well as availability of remote technical support and estimated repair times.
- 7.) *Spare Parts*: Anticipated on-site spare reserves during the term of the Service Agreement.
- 8.) *Upgrades*: Describe treatment of hardware, firmware, and software enhancements and upgrades.
- 9.) *Engineering Services*: Other engineering maintenance support services requested by LTD.

Tab G. Exceptions or Deviations

Describe any commercial or technical exceptions or deviations from the requirements set forth in the RFP. Technical exceptions or deviations shall be segregated from exceptions or deviations to the contractual terms and conditions. Where the Proposer wishes to propose alternative technical approaches, these alternatives shall be thoroughly explained.

TAB H. REQUIRED CERTIFICATIONS

Provide all required Certifications as included in Part I of the RFP document

TAB I. SUPPORT MATERIALS

Proposers may include supporting technical information in this section, including drawings, product data sheets, or other technical information that will assist LTD in evaluating the responsiveness of the proposed solution to the agency's requirements.

PART II: PRICE PROPOSAL AND PERFORMANCE SECURITY

PRICE PROPOSAL

1.) *Price Proposal:* All PRICE PROPOSAL information shall be contained within a *separately sealed envelope* clearly labeled as "PRICE PROPOSAL" with the Proposer's name, RFP number and RFP title on the outside. The Price Proposal shall be presented using the PRICE PROPOSAL FORM included as Attachment A. Each page of the PRICE PROPOSAL FORM shall be fully completed and signed by an officer of the company authorized to contractually bind the Proposer. Proposers may provide additional supporting cost breakdown information as separate sheets; however in case of any discrepancies, information on the PRICE PROPOSAL FORM shall be deemed correct.

2.) *Performance Bond:* The Price Proposal shall also include certification that a performance and payment bond of one-hundred percent (100%) of the proposed cost shall be provided by the Proposer as performance security.

Prior to the execution of the Contract, furnish Bonds covering the faithful performance of the Contract and the payment of all obligations arising thereunder secured through the Bidder's usual sources as may be agreeable to the Parties. The Premiums shall be paid by the Bidder.

The Performance Bond and separate Labor & Materials Payment Bond shall be the bond of a surety company authorized to transact business in the State of Oregon.

The Bonds shall contain all those provisions required by law applicable to contractors performing public work, particularly ORS 279.510(1).

Time of Delivery and Form of Bonds:

The Bidder shall deliver the required Bonds to the Owner not later than the date of execution of the Contract, or if the Work is commenced prior thereto in response to a Letter of Intent, the Bidder shall, prior to commencement of the Work, Submit Evidence satisfactory to the Owner that such Bonds will be furnished.

It is agreed that the bidder to whom the contract is awarded shall, within 10 days from the date of receiving the contract and performance bond forms prepared and ready for execution, deliver the contract and bond forms fully and properly executed by the Contractor and the surety, to the Owner.

Within a reasonable time after such delivery of the contract and bond forms by the Contractor, and after approval thereof by the Owner, the Owner will execute the contract and forward a fully executed copy to the Contractor.

Unless otherwise specified in the Bidding Documents, the Bonds shall be written in the form of AIA Document A311, Performance Bond and Labor and Material Payment Bond.

The Bidder shall require the Attorney-In-Fact who executes the required Bonds on behalf of the Surety to affix thereto a certified and current copy of his Power of Attorney.

3.) *Rates for Additional Engineering, Training, and Technical Support:* Proposer shall provide a schedule of fully-burdened hourly rates (excluding travel or other direct expenses), by labor category, for additional engineering, training, and/or technical support services that may be requested by LTD as an additional task order in association with this procurement.

TAXES

LTD is not subject to taxation; no federal or other taxes (excise, luxury, transportation, sales, etc.) shall be included in quoted prices.

SECTION 5: SOP EVALUATION AND SELECTION

5.01 Evaluation Criteria

EVALUATION AREA	WEIGHTING
Proposer Qualifications, Reputation, and Financial Stability	15 Points
Project Management Approach	10 Points
Quality of the Technical Solution and its Responsiveness to LTD Performance and Technical Requirements	40 Points
Installation, Testing, and Training Approach	10 Points
Warranty and Service Agreement	5 Points
Price Proposal/Cost	20 Points
TOTAL POSSIBLE	100 Points

The following items will be taken into consideration by LTD in each Evaluation Area:

Proposer Qualifications, Reputation, and Financial Stability

- Overall experience, qualifications, and capabilities of the Proposer
- Reputation for providing high-quality products and services
- References from previous and existing customers
- Financial stability and condition of the Proposer

PROJECT MANAGEMENT APPROACH

- Strength of the Proposer's management practices and control of quality, cost, schedule for all phases of design, engineering, installation, testing, training, warranty, and service
- Plan for technical and management coordination with LTD
- Proposed project schedule
- Training and documentation approach
- Qualifications and availability of the Contractor Project Manager and other Key Personnel
- References on Contractor Project Manager from previous and existing customers

QUALITY OF THE TECHNICAL SOLUTION AND ITS RESPONSIVENESS TO LTD PERFORMANCE AND TECHNICAL REQUIREMENTS

- Proposer's overall understanding of LTD's needs and objectives
- Suitability of the proposed technological solution to LTD requirements
- Ability to integrate with LTD's IT network systems, hardware, policies, and shared services

- Scalability and robustness
- Quality and performance of hardware and components
- Software features and functionality
- Features unique to the Proposer's solution
- Reliability and maintainability as evidence by use of a proven design
- Ability to reasonably demonstrate a valid technical approach to integrate with the Mobile Access Router, TransitMaster AVL vehicle position signal, and other onboard technologies/networks
- Suitability of alternative approaches proposed
- Suitability of the proposed solution in terms of LTD's organizational objectives and requirements as outlined in the Concept of Operations and Performance Specifications
- Degree of compliance with the Technical Requirements
- Impact of non-compliant features on overall system functionality and value
- Impact of features that exceed requirements on overall system functionality and value

INSTALLATION, TESTING, AND TRAINING APPROACH

- Demonstration of a well-considered installation approach
- Potential impact of installation, testing, and commissioning on LTD operations
- Proposed installation timeline
- LTD resource requirements to support installation
- Testing plans and procedures
- Quality and completeness of the proposed Training program

WARRANTY AND SERVICE AGREEMENT

- Items covered and not covered by the Proposer's Warranty and Service Agreement
- Preventative maintenance plan
- Remedial maintenance response time
- Availability of trained technicians and parts
- Enhancements and upgrades
- Engineering maintenance and support services

BEST AND FINAL OFFER (BAFO): After determination of the Shortlisted Proposers, LTD shall determine whether acceptance of the most favorable initial proposal(s) without discussion is appropriate, or whether discussions/negotiations should be conducted with one or more shortlisted Proposers. If award determination is made based upon the most favorable initial proposal(s), the LTD reserves the right to perform or have performed a price analysis of the apparent successful proposal(s) before determining to proceed with a recommendation for award.

LTD reserves the right to make minor related changes to the RFP during BAFO negotiations. All shortlisted Proposers shall be notified of any changes in order to prepare their BAFO.

If the LTD elects to enter into discussions with one or more Proposers, the Proposer(s) may be requested to submit a BAFO at the conclusion of discussions and negotiations. Any changes to the Proposer's initial technical or price proposals, including any issues addressed in discussions, must be submitted in writing during BAFO in order to be considered. Following an independent and final evaluation utilizing the evaluation criteria described below, the evaluation committee will make a recommendation for award. Scores from the first phase of the evaluation have no bearing on the final, BAFO evaluation, and the recommendation for award will be based solely on the scores from the BAFO evaluation.

ORAL PRESENTATION AND DEMONSTRATION: Proposers may be asked to make an oral presentation and demonstration of their product(s) during the proposal evaluation process. Such presentations and/or demonstrations will be conducted at LTD in Eugene, OR. Proposers are responsible for all travel expenses incurred. LTD reserves the right to award a contract without Proposer presentations.

BENCH PROOF-OF-CONCEPT AND ONBOARD DEMONSTRATION TEST: Shortlisted Proposers may be asked to provide a proof of concept 'bench test' of the integrated Onboard Surveillance System and Mobile Access Router to verify successful integration and communications of surveillance system data across the MAR to the LTD wireless and/or commercial cellular networks. LTD also anticipates a thirty (30) day onboard demonstration of the proposed surveillance solution on an LTD vehicle prior to final selection. In any of the proof-of-concept or demonstration tests, the Mobile Access Router (MAR) shall be supplied by LTD following a separate evaluation of MAR devices. Additional requirements for MAR integration will be provided to proposers in advance of the onboard test. This test will allow the LTD evaluation committee and staff hands-on experience evaluating system performance, hardware, maintenance, and software functionality of the end-to-end system in the LTD operating environment. Proposers selected for the onboard demonstration shall receive written notification and shall each be provided with one identical LTD fixed-route vehicle. On-site space will be provided to set up and dismantle the test setup using Proposer staff and at the Proposer's sole expense. Proposers shall be entitled to return of all equipment, devices, accessories, and software following completion of the test. Proposers are responsible for all travel and expenses related to the onboard demonstration. Specific information regarding demonstration test procedures, configuration, set-up/breakdown instructions, and evaluation procedures shall be provided to shortlisted Proposers who are invited to participate. LTD reserves the right to award a contract without conducting on-site demonstrations. Evaluation results from the On-Site Demonstration Test shall be taken into consideration in developing the BAFO technical score.

PRICE PROPOSAL SCORE CALCULATION:

Competitive Range Base Price – Twenty (20) Points: The Base Price comprises the overall cost of the base contract, including the system warranty and maintenance costs to fulfill the base (non-optional) requirements of this RFP, excluding Priced Options.

Proposals deemed non-responsive from the technical evaluation shall not proceed into the price scoring. In determining the Competitive Range, the Base Price score shall be calculated using the following formula:

$$\text{Base Price Score} = \frac{\text{Lowest Proposed Base Price}}{\text{Proposed Base Price}} \times 20 \text{ Points}$$

LTD recognizes that Proposer responses to Priced Options may vary significantly in overall functionality and cost. Because the Priced Options cannot be compared uniformly among Proposers, costs for Priced

Options will not be included in the calculation of the Base Price Score. The overall value of Priced Options (i.e., added functionality in meeting project requirements in comparison to cost) shall be considered as part of the development of the each Proposers' Technical Proposal Evaluation Criteria Scope for purposes of developing the Competitive Range.

BAFO Combined Base Price and Priced Options – Twenty (20) Points: In the BAFO round the Price Proposal shall be determined for the remaining proposers using combined cost of the Base Price Proposal in addition to negotiated Price Options.

The BAFO Price score shall be calculated using the following formula:

$$\text{Total Price Score} = \frac{\text{Lowest Proposed Total Price}}{\text{Proposed Total Price}} \times 20 \text{ Points}$$

- 5.02 Award will be made to the responsible firm whose proposal is most advantageous to LTD's program with price and other factors listed above considered. LTD reserves the right to refuse all proposals or to negotiate with any applicant.

The District reserves the right to contract with any single firm or joint venture responding to this RFP (without performing interviews), based solely upon its evaluation and judgment of the firm or joint venture in accordance with the evaluation criteria. This RFP does not commit the District to negotiate a contract, nor does it obligate the District to pay for any costs incurred in preparation and submission of proposals or in submission of a contract.

The District reserves and holds at its discretion the following rights and options: (1) to reject any or all of the proposals; (2) to issue subsequent Requests for Proposal; (3) to elect to cancel the entire Request for Proposal; (4) to waive minor informalities and irregularities in proposals received; (5) to enter into a contract with any combination of one or more prime contractors, subcontractors, or service providers; (6) to approve or disapprove the use of proposed subcontractors and substitute subcontractors; and (7) to negotiate with any, all, or none of the respondents to the RFP

SECTION 6: GENERAL INFORMATION

- 6.01 Lane Transit District reserves the right to reject any or all SOPs upon a good cause finding if it is in the public interest and is not liable for any costs the firm incurs while preparing or presenting the SOP. All SOPs will become part of the public file without obligation to the District.
- 6.02 Firms must use recyclable products to the maximum extent economically feasible in the performance of the contract work set forth in this document.
- 6.03 This RFP and one (1) copy of the selected proposal received in response to it, together with copies of all documents pertaining to the award of a contract, shall be kept by Lane Transit District and made a part of a file or record which shall be open to public inspection. If a proposal contains any information that is considered a trade secret under ORS 192.501(2), each sheet of such information must be marked with the following legend:

"This data constitutes a trade secret under ORS 192.501(2), and shall not be disclosed except in accordance with the Oregon Public Records Law, ORS Chapter 192.501(2)."

The Oregon Public Records Law exempts from disclosure only bona fide trade secrets, and the exemption from disclosure applies only "unless the public interest requires disclosure in the particular instance," ORS 192.501(2). Therefore, nondisclosure of documents or any portion of a document submitted as part of a proposal may depend upon official or judicial determinations made pursuant to the Public Records Law.

The above restriction may not include cost or price information which must be open to public inspection. Identifying the SOP in whole as a trade secret is not acceptable. Failure to identify a portion of the SOP as a trade secret shall be deemed a waiver of any future claim of that information as a trade secret.

6.04 Invoicing/Payment

LTD would prefer invoices be sent electronically in PDF format, if at all possible. Please send them via e-mail to ap@ltd.org. If mailing, please send to the following address:

Lane Transit District
ATTN: Accounts Payable
P. O. Box 7070
Eugene, Oregon 97401-0470

LTD would also prefer to make payments electronically (EFT/ACH). An ACH Authorization Agreement will be provided upon request.

6.05 Debarred Proposers

This contract is a covered transaction for purposes of 49 CFR, Part 29. As such, the contractor is required to verify that none of the contractor, its principals, as defined at 49 CFR 29.995, or affiliates, as defined at 49 CFR 29.905, are excluded or disqualified as defined at 49 CFR 29.940 and 29.945.

The contractor is required to comply with 49 CFR 29, Subpart C, and must include the requirement to comply with 49 CFR 29, Subpart C, in any lower-tier covered transaction it enters into.

If the procurement is federally funded, LTD shall ensure the contractor and subcontractors are not debarred, suspended, ineligible, or voluntarily excluded from participation in federally assisted transactions or procurements. LTD shall do so by reviewing the Excluded Parties List System located at <http://epls.gov/> before entering into any third party contract.

By signing and submitting its Proposal or Bid, the proposer or bidder certifies as follows:

The certification in this clause is a material representation of fact relied upon by Lane Transit District. If it is later determined that the proposer or bidder knowingly rendered an erroneous certification, in addition to remedies available to Lane Transit District, the federal government may pursue available remedies, including but not limited to suspension and/or debarment. The proposer or bidder agrees to comply with the requirements of 49 CFR 29, Subpart C, while this offer is valid and throughout the period of any contract that may arise from this offer. The proposer or bidder further agrees to include a provision requiring such compliance in its lower tier covered transactions.

6.06 Reciprocal Cooperative Agreements

LTD grants to other public agencies authorization to purchase an equivalent product/service as described in the specifications at the same submitted unit bid price, adjusted for options, for this purchase. This authorization applies only with the consent of the contractor who is awarded the contract with LTD.

In no way shall Lane Transit District be responsible or liable for products or services purchased by other agencies through this cooperative bidding process. Each agency will be responsible for completing individual contracts with the contractor independent of this contract.

PART II

INSTRUCTIONS TO PROPOSERS

1.01 General

These instructions form a part of the contract documents and shall have the same force as any other portion of the contract. Failure to comply may subject the proposal to immediate rejection.

1.02 Proposer Responsibility

LTD has made every attempt to provide all information needed by Proposers for a thorough understanding of project terms, conditions, and requirements. It is expressly understood that it is the responsibility of Proposers to examine and evaluate the work required under this RFP and the terms and conditions under which the work is performed. By submitting a proposal, Proposer represents that it has investigated and agrees to all terms and conditions of this RFP.

1.03 Delivery of Proposals to the District

Proposals containing the Statement of Proposal, the form of proposal, and Exhibits I-IV must be delivered to the District Administrative Office, 3500 East 17th Avenue, Eugene, Oregon 97403, on or before 11:00am local time, on February 18, 2011. Proposals may be mailed to P.O. Box 7070, Eugene, Oregon 97401; however, they must be received by LTD reception prior to the proposal closing date and time listed previously.

Any contract or purchase order entered into as a result of this RFP shall incorporate the RFP and the proposal submitted by successful Proposer. In the event of conflict between the proposal and any other contract document, the other contract document shall prevail unless specified otherwise by the District. Telephone or electronic proposals will not be accepted.

1.04 Late Proposals

Proposals received after the date and time indicated herein shall not be accepted and shall be returned to the Proposer unopened.

Requests for extensions of the proposal closing date or time will not be granted. Proposers mailing proposals should allow sufficient mail time to ensure timely receipt of their proposals before the deadline, as it is the Proposer's responsibility to ensure that proposals arrive before the closing time.

1.05 Multiple Proposals

A Proposer may submit more than one (1) proposal. At least one (1) of the proposals shall be complete and comply with all requirements of this RFP. However, additional proposals may be in abbreviated form, using the same format, but providing only the information that differs in any way from the information contained in the master proposal. Master proposals and alternate proposals should be clearly labeled.

1.06 Partial Proposals

No partial proposals shall be accepted.

1.07 Withdrawal or Modification of Proposals

Proposals may not be modified after the time and date proposals are opened. Proposals may be withdrawn by Proposer before proposal opening upon written request of the official who is authorized to act on behalf of the Proposer.

1.08 Changes to the RFP Recommended by Proposers

All requests for clarification or modification of the RFP shall be made in writing. Proposers are required to provide the value of each proposed modification and a brief explanation as to why the change is requested. Value shall be defined as the cost or savings to the District and the advantage to the District of the proposed change.

1.09 Addenda

Modifications to this RFP shall be made only by written addenda issued to all RFP holders of record. Verbal instructions, interpretations, and changes shall not serve as official expressions of the District, and shall not be binding. All cost adjustments or other changes resulting from said addenda shall be taken into consideration by Proposers and included in their proposals.

1.10 Proposer's Proposal to the District

Proposers are expected to thoroughly examine the specifications, terms, and conditions of the RFP. Proposers' terms, conditions, and prices shall constitute a firm offer to the District that cannot be withdrawn by the Proposer for sixty (60) calendar days after the closing date for proposals, unless a longer time period is specified by the District in the RFP.

1.11 Single-Proposer Responsibility

Single-Proposer responsibility is required under this RFP. Each Proposer responding to this RFP must bid all professional services and provide all materials, equipment, supplies, transportation, freight, special services, and other work described or otherwise required herein.

1.12 Experience and Qualifications

Proposer must supply proof of dealership. You must be an authorized dealer for the product you are proposing, and will be required to substantiate that Proposer and its proposed subcontractors have the skill, experience, licenses, necessary facilities, and financial resources to perform the contract in a satisfactory manner and within the required time.

1.13 Subcontracting

The requirement for single-point responsibility does not prohibit subcontracts or joint ventures provided that the single successful Proposer assumes the following responsibilities: (1) serves as the sole general contractor with the District; (2) assumes full responsibility for the performance of all its subcontractors, joint venturers, and other agents; (3) provides the sole point of contact for all activities through a single individual designated as project

manager; (4) submits information with its proposal documenting the financial standing and business history of each subcontractor or joint venturer; and (5) submits copies of all subcontracts and other agreements proposed to document such arrangement.

Without limiting the foregoing, any such legal documents submitted under Item "5" above must (a) make the District a third-party beneficiary thereunder; (b) grant to the District the right to receive notice of and cure any default by the successful Proposer under the document; and (c) pass through to the District any and all warranties and indemnities provided or offered by the subcontractor or similar party.

1.14 Evaluation Criteria and Award of Contract

The award of the contract will be made to the responsible Proposer whose proposal is most advantageous to the District.

PART III
FORM OF PROPOSAL

The undersigned ("Proposer"), upon acceptance by the District, agrees to furnish all labor, freight, transportation, materials, equipment, services, supplies, and other work in accordance with the Request for Proposal (RFP) entitled "Onboard Video and Audio Surveillance System" dated January 18, 2011.

BIDDER:

The undersigned certifies as follows:

- (1) That he/she has read and understands all requirements and specifications of the RFP (including the exhibits listed in the Table of Contents); and
- (2) That he/she agrees to all requirements, specifications, terms, and conditions of the bid referenced above; and
- (3) That he/she will furnish the designated item(s) and/or service(s) as quoted in the Proposal; and
- (4) That he/she certifies under penalty of perjury that bidder is, to the best of his/her knowledge, not in violation of any Oregon tax law; and
- (5) That his/her company has been certified as one of the following registered business classifications:

DBE ___ Corporation ___ Other, identify: _____

Oregon Resident Bidder _____ Yes _____ No

Federal Tax I.D. Number _____

Firm's Name

Firm's Address

Contact Person _____ E-mail _____

Authorized Signature _____ Date _____

Telephone Number _____ Fax Number _____

Name of Project Manager and Title _____

Acknowledgement of Receipt of Addenda #'s _____

Proposer understands and agrees that, by his/her signature, if awarded the contract for the project, he/she is entering into a contract with the District that incorporates the terms and conditions of the entire Request for Proposal package, including the General Conditions section of the Request for Proposal.

Proposer understands that this proposal constitutes a firm offer to the District that cannot be withdrawn for sixty (60) calendar days from the date of the deadline for receipt of proposals. If awarded the contract, Proposer agrees to deliver to the District the required insurance certificates within ten (10) calendar days of the Notice of Award.

EXHIBIT I

NON-COLLUSION AFFIDAVIT

I state that I am (sole owner) (a partner) (officer of the foregoing corporation) (agent of the above bidder) of _____ and that I am authorized to make this affidavit on behalf of my firm, and its owners, directors, and officers. I am the person responsible in my firm for the price(s) and the amount of this bid.

I state that:

- (1) The price(s) and amount of this bid have been arrived at independently and without consultation, communication, or agreement with any other contractor, bidder, or potential bidder.
- (2) That neither the price(s) nor the amount of this bid, and neither the approximate prices(s) nor approximate amount of this bid, have been disclosed to any other firm or person who is a bidder or potential bidder, and they will not be disclosed before the bid opening/closing.
- (3) No attempt has been made or will be made to induce any firm or person to refrain from bidding on this contract, or to submit a bid higher than this bid, or to submit any intentionally high or competitive bid or other form of complementary bid.
- (4) The bid of my firm is made in good faith and not pursuant to any agreement or discussion with, or inducement from, any firm or person to submit a complementary or other form of competitive bid.
- (5) _____, its affiliates, subsidiaries, officers, directors, and employees are not currently under investigation by any governmental agency and have not in the last four years been convicted of or found liable for any act prohibited by state or federal law in any jurisdiction, involving conspiracy or collusion with respect to bidding on any public contract.

I state that _____ understands and acknowledges that the above representations are material and important, and will be relied on by Lane Transit District in awarding the contract(s) for which this bid is submitted. I understand and my firm understands that any misstatement in this affidavit is and shall be treated as fraudulent concealment from Lane Transit District of the true facts relating to the submission of bids for this contract.

Name of Person: _____

Position: _____

EXHIBIT II

CERTIFICATION OF RESTRICTIONS ON LOBBYING

Certification for Contracts, Grants, Loans, and Cooperative Agreements *(to be submitted with each bid or offer exceeding \$100,000)*

I, _____, hereby certify on
(name and title of Contractor's authorized official)

behalf of _____ that:
(Contractor's firm name)

The undersigned Contractor certifies, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for making lobbying contacts to an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form--LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions [as amended by "Government wide Guidance for New Restrictions on Lobbying," 61 Fed. Reg. 1413 (1/19/96). Note: Language in paragraph (2) herein has been modified in accordance with Section 10 of the Lobbying Disclosure Act of 1995 (P.L. 104-65, to be codified at 2 U.S.C. 1601, *et seq.*)]

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31, U.S.C. § 1352 (as amended by the Lobbying Disclosure Act of 1995). Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

[Note: Pursuant to 31 U.S.C. § 1352(c)(1)-(2)(A), any person who makes a prohibited expenditure or fails to file or amend a required certification or disclosure form shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such expenditure or failure.]

The Contractor, _____, certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the Contractor understands and agrees that the provisions of 31 U.S.C. A 3801, *et seq.*, apply to this certification and disclosure, if any.

Signature of Contractor's Authorized Official

Name and Title of Contractor's Authorized Official

Date

EXHIBIT III

**DISADVANTAGED BUSINESS ENTERPRISE (DBE) PARTICIPATION
COMMITMENT STATEMENT**

ASSIGNED CONTRACT GOALS:
TOTAL DBE GOAL 0 %

LTD hereby notifies all bidders that it is the policy of LTD to ensure nondiscrimination on the basis of race, color, sex or national origin in the award and administration of contracts. Bidders are urged to obtain Disadvantaged Business Enterprise (DBE) participation on this project, although there is no specific DBE contract goal for this project. Bidders are encouraged to attend any pre-bid conferences held to better understand the project and better obtain participation of DBE contractors, as applicable. For DBE assistance, contact Jeanette Bailor, DBE Program Administrator, at 541-682-6158.

DBE GOAL: Bid documents for all Federal Transit Administration funded projects must contain a DBE policy statement advising bidders that, as required by the Federal Transit Administration, LTD has established an overall DBE goal, and that LTD is required to report its DBE participation to FTA each year. As such, LTD is required to request information from contractors in order to fulfill its reporting responsibilities.

The Bidder's total DBE goal is the sum of the bidder's proposed commitment to the goals for disadvantaged and women-owned firms. Bidders will calculate single goal percentages using the bidder's proposed total dollar amount commitment to each single goal, divided by the bidder's total amount of bid dollars. Goals will be calculated to the nearest one-one hundredth (0.01) of a percent.

Bidders must indicate the total DBE goal they propose to achieve. Even if the assigned contract goals are 0 percent, bidders must fill in all blanks related to the bidder's contract goals. FAILURE TO DO SO MAY RENDER THE BID NON-RESPONSIVE.

BIDDER'S CONTRACT GOALS:
TOTAL DBE GOAL ____%

The bidders shall list all DBE subcontractors and their intended function for each phase of this contract. Monetary amounts shall be included beside each subcontractor that is identified to perform work on this contract. If there is no DBE participation, please note so in the space above.

By signing this statement, the bidder assures that reasonable efforts have been made to meet the goal(s) for the DBE participation specified for this contract, and accepts the DBE Policy Statement on the next page.

Signature: _____

Title: _____

Date: _____

DBE POLICY: LTD It is the policy of the United States Department of Transportation (DOT) and LTD that minority business enterprises, as defined in 49 CFR 23, shall have an equal opportunity to participate in the performance of contracts financed in whole or part with federal funds under this agreement. Consequently, the DBE requirements of 49 CFR 23 and FTA 4220.1E, as amended, apply to this agreement.

DBE OBLIGATION: LTD or its Contractor agrees to ensure that minority business enterprises, as defined in 49 CFR 23, have an equal opportunity to participate in the performance of contracts and subcontracts financed in whole or in part with Federal funds provided under this agreement. LTD and its Contractor shall take all necessary and reasonable steps in accordance with 49 CFR 23 to ensure that disadvantaged business enterprises (DBE) have an equal opportunity to compete for and perform contracts. LTD and its Contractor shall not discriminate on the basis of race, color, national origin, or sex in the award and performance of DOT-assisted contracts.

DBE APPLICABILITY: This applies to all projects and contracts financed by the Federal Transit Administration (FTA) or through the Oregon Department of Transportation (ODOT) without regard to the funding source. Recipients and Contractors shall conform to all applicable civil rights laws, orders, and regulations, including Section 504 of the Rehabilitation Act of 1973. Recipients and their Contractors shall not discriminate on the basis of race, age, sex, color, religion, national origin, mental or physical handicap, political affiliation, or marital status in the award and performance of ODOT contracts.

DBE CERTIFICATION: LTD will accept current certifications by the State of Oregon Office of Minority, Women and Emerging Small Business Enterprise Program (OMWESB). If a completed application for DBE certification has been submitted to the Office of Minority, Women and Emerging Small Business Enterprise Program (OMWESB) as of bid opening but has not been processed, the District may count the applicant's participation toward achieving the DBE contract specific goal, assuming that the applicant's certification application is approved prior to contract award. The DBE directory of certified firms is available on the Internet at <http://www4.cbs.state.or.us/ex/dir/omwesb/>.

This DBE Policy Statement shall be included in all subcontracts entered into under this contract.

GOOD FAITH EFFORTS: In addition to signing the DBE Participation Commitment Statement contained in the bid documents, the bidder who has not achieved the assigned goal on this project shall document the steps taken to obtain participation. **Failure to document and submit good faith efforts when the Bidder has not achieved the assigned goal shall render bid non-responsive.** Good faith efforts may include the following:

- A. Attendance at a pre-bid meeting, if any, scheduled by LTD to inform the DBEs of subcontracting opportunities in this contract work;
- B. Advertising in general circulation media, trade association publications, and minority-focus media at least ten (10) days before bids or proposals are due. If ten (10) days are not available, a shorter reasonable time will be acceptable;
- C. Use of the Oregon Department of Consumer & Business Services Certified DBE Directory;
- D. Written notification to DBEs that their interest in the contract is solicited;
- E. Efforts to select portions of the work proposed to be performed to increase the likelihood of achieving the assigned goal;
- F. Efforts to negotiate for specific sub-bids, including at a minimum:
 - 1. The name, address, or telephone number of each DBE contacted;

2. A description of the information provided regarding the plans and specifications for the portions of the work to be performed;
 3. A statement of why additional agreements were not reached;
- G. Reasons for rejecting as unqualified any DBE contacted;
- H. Efforts to provide assistance in obtaining any necessary bonding or insurance;
- I. Efforts to use the service of banks owned and controlled by minorities or women;
- J. Efforts to assist the DBE in purchasing materials and supplies; and
- K. Any other affirmative action efforts

CONTRACT/SUBCONTRACT APPLICABILITY: DBE Program for Contracts Solicitation language shall require that contractors, including subcontractors, must meet all requirements of the DBE program as a matter of responsiveness.

- A. **Prompt Payment to Subcontractors:** The prime contractor agrees to pay each subcontractor under this prime contract for satisfactory performance of its contract no later than thirty (30) days from the receipt of each payment the prime contractor receives from LTD. The prime contractor agrees further to return retainage payments to each subcontractor within thirty (30) days after the subcontractor's work is satisfactorily completed. Any delay or postponement of payment from the above-referenced timeframe may occur only for good cause following written approval of LTD. This clause applies to both DBE and non-DBE subcontracts.
- B. **Contract Assurance Clause:** Lane Transit District will ensure that the following clause is placed in every DOT-assisted contract and subcontract:

The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate.

PART IV

FEDERAL CLAUSES AND GENERAL CONDITIONS

SECTION 1: FEDERAL CLAUSES

1.01 Incorporation of Federal Transit Administration (FTA) Terms

The provisions of this contract include, in part, certain Standard Terms and Conditions required by the Department of Transportation (DOT), whether or not expressly set forth in the preceding contract provisions. All contractual provisions required by DOT, as set forth in FTA Circular 4220.1F, are hereby incorporated by reference. Anything to the contrary herein notwithstanding, all FTA-mandated terms shall be deemed to control in the event of a conflict with other provisions contained in this agreement. The Contractor shall not perform any act, fail to perform any act, or refuse to comply with any District requests which would cause District to be in violation of the FTA terms and conditions.

1.02 Right to Modify Contract

District may extend the term of this Contract, expand the specifications, or otherwise amend the Contract. Any such extension, expansion, or amendment shall be effective only upon written agreement of the parties in accordance with Section 8.14.

1.03 No Obligation by the Federal Government

- a. The Purchaser and Contractor acknowledge and agree that, notwithstanding any concurrence by the federal government in or approval of the solicitation or award of the underlying contract, absent the express written consent by the federal government, the federal government is not a party to this contract and shall not be subject to any obligations or liabilities to the Purchaser, Contractor, or any other party (whether or not a party to that contract) pertaining to any matter resulting from the underlying contract.
- b. The Contractor agrees to include the above clause in each subcontract financed in whole or in part with federal assistance provided by FTA. It is further agreed that the clause shall not be modified, except to identify the subcontractor who will be subject to its provisions.

1.04 Civil Rights:

The following requirements apply to the underlying contract:

- a. Nondiscrimination. In accordance with Title VI of the Civil Rights Act, as amended, 42 USC § 2000d, Section 303, of the Age Discrimination Act of 1975, as amended, 42 USC § 6102, Section 202, of the Americans with Disabilities Act of 1990, 42 USC § 12132, and federal transit law at 49 USC § 5332, the Contractor agrees that it will not discriminate against any employee or applicant for employment because of race, color, creed, national origin, sex, age, or disability. In addition, the Contractor agrees to comply with applicable federal implementing regulations and other implementing requirements FTA may issue.

- b. Equal Employment Opportunity. The following equal employment opportunity requirements apply to the underlying contract:
1. Race, Color, Creed, National Origin, Sex. In accordance with Title VII of the Civil Rights Act, as amended, 42 USC § 2000e, and federal transit laws at 49 USC § 5332, the Contractor agrees to comply with all applicable equal employment opportunity requirements of U.S. Department of Labor (U.S. DOL) regulations, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor," 41 CFR, Parts 60 et seq., (which implement Executive Order No. 11246, "Equal Employment Opportunity," as amended by Executive Order No. 11375, "Amending Executive Order 11246 Relating to Equal Employment Opportunity," 42 USC § 2000e note), and with any applicable federal statutes, executive orders, regulations, and federal policies that may in the future affect construction activities undertaken in the course of the Project. The Contractor agrees to take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, creed, national origin, sex, or age. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. In addition, the Contractor agrees to comply with any implementing requirements FTA may issue.
 2. Age. In accordance with Section 4 of the Age Discrimination in Employment Act of 1967, as amended, 29 USC § § 623 and federal transit law at 49 USC § 5332, the Contractor agrees to refrain from discrimination against present and prospective employees for reason of age. In addition, the Contractor agrees to comply with any implementing requirements FTA may issue.
 3. Disabilities. In accordance with Section 102 of the Americans with Disabilities Act, as amended, 42 USC § 12112, the Contractor agrees that it will comply with the requirements of U.S. Equal Employment Opportunity Commission, "Regulations to Implement the Equal Employment Provisions of the Americans with Disabilities Act," 29 CFR, Part 1630, pertaining to employment of persons with disabilities. In addition, the Contractor agrees to comply with any implementing requirements FTA may issue.
- c. The Contractor also agrees to include these requirements in each subcontract financed in whole or in part with federal assistance provided by FTA, modified only if necessary to identify the affected parties.

1.05 Nonappropriation Cancellation

This contract is automatically canceled upon thirty (30) days' notice to the Contractor if funds are not appropriated for the purpose specified in this agreement.

1.06 Funds Available and Authorized

LTD certifies at the time the contract is written that sufficient funds are available and authorized for expenditure to finance costs of this contract within LTD's current appropriation or limitation. This contract is partially federally funded and is subject to federal regulations.

1.07 Taxes

LTD is not subject to taxation; no federal or other taxes (excise, luxury, transportation, sales, etc.) shall be included in quoted prices.

1.08 Registration of Corporations

By submitting their Proposals, Proposers certify that they are in compliance with the State of Oregon statutory requirements governing registration of corporations and/or assumed business names.

1.09 Compliance with All Federal, State, and Local Regulation

The Contractor must comply with all federal, state, and local regulations relative to wages, taxes, social security, workers' compensation, nondiscrimination, licenses, registration requirements, etc. Failure or neglect on the part of the Contractor to comply with any or all such regulations shall not relieve the Contractor of these obligations nor of the requirements of this contract.

1.10 Ambiguity in Specifications

Proposers shall promptly notify the Purchasing Manager of any ambiguity, inconsistency, or error which they may discover upon examination of the Proposal documents.

1.11 Clean Air Act and Federal Water Pollution Control Act Requirements

The Contractor agrees to comply with all applicable standards, orders, or requirements issued under Section 306 of the Clean Air Act (42 USC 1857 (h)), Section 508 of the Clean Water Act (33 USC 1368), Executive Order 11738, and Environmental Protection Agency regulations (49 CFR, Part 15) which prohibit the use under nonexempt federal contracts, grants or loans, of facilities included on the EPA List for Violating Facilities. Contractor shall report violations to FTA and to the USEPA Assistant Administrator for Enforcement (EN0329).

1.12 Conservation

Contractor shall recognize mandatory standards and policies relating to energy efficiency which are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act (42 USC, Section 6321 et seq.).

1.13 Audit and Inspection of Records

The Contractor agrees that LTD, the Comptroller General of the United States, or any of their duly authorized representatives, shall, for the purpose of audit and examination, be permitted to inspect all work, materials, payrolls, and other data and records with regard to the project, and to audit the books, records, and accounts with regard to the project. Further, the Contractor agrees to maintain all required records for at least three (3) years after LTD makes final payments and all other pending matters are closed.

1.14 Federal Changes

Contractor shall at all times comply with all applicable FTA regulations, policies, procedures and directives, including without limitation those listed directly or by reference in the Agreement (Form FTA MA (2) dated October 1995) between Purchaser and FTA, as they may be amended or promulgated from time to time during the term of this contract. Contractor's failure to so comply shall constitute a material breach of this contract.

1.15 Program Fraud and False or Fraudulent Statements or Related Acts

- a. The Contractor acknowledges that the provisions of the Program Fraud Civil Remedies Act of 1986, as amended, 31 USC § § 3801 et seq. and U.S. DOT regulations, "Program Fraud Civil Remedies," 49 CFR, Part 31, apply to its actions pertaining to this Project. Upon execution of the underlying contract, the Contractor certifies or affirms the truthfulness and accuracy of any statement it has made, it makes, it may make, or causes to be made, pertaining to the underlying contract or the FTA-assisted project for which this contract work is being performed. In addition to other penalties that may be applicable, the Contractor further acknowledges that if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification, the federal government reserves the right to impose the penalties of the Program Fraud Civil Remedies Act of 1986 on the Contractor to the extent the federal government deems appropriate.
- b. The Contractor also acknowledges that if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification to the federal government under a contract connected with a project that is financed in whole or in part with federal assistance originally awarded by FTA under the authority of 49 USC § 5307, the government reserves the right to impose the penalties of 18 USC § 1001 and 49 USC § 5307(n)(1) on the Contractor, to the extent the federal government deems appropriate.
- c. The Contractor agrees to include the above two clauses in each subcontract financed in whole or in part with federal assistance provided by FTA. It is further agreed that the clauses shall not be modified, except to identify the subcontractor who will be subject to the provisions.

1.16 ITS National Architecture

Proposer shall coordinate with LTD to ensure that the project conforms to the Regional or Statewide ITS architecture.

SECTION 2: TERMINATION

2.01 Termination for Convenience

- a. The performance of work under this Contract may be terminated by the District upon fifteen (15) days' notice at any time without cause for any reason in whole or in part, whenever the District determines that such termination is in the District's best interest.
- b. Upon receipt of a notice of termination, and except as otherwise directed by the District, the Contractor shall:

1. Stop work under the Contract on the date and to the extent specified in the notice of termination.
- f2. Place no further orders or subcontracts for materials, services, or facilities, except as may be necessary for completion of such portion of the work under the Contract as is not terminated.
3. Terminate all orders and subcontracts to the extent that they relate to the performance of work terminated by the notice of termination.
4. Assign to the District in the manner, at the time, and to the extent directed by the District all of the rights, title, and interest of the Contractor under the orders and subcontracts so terminated, in which case the District shall have the right, at its discretion, to settle or pay any or all claims arising out of the termination of such orders and subcontracts.
5. Settle all outstanding liabilities and claims arising out of such termination or orders and subcontracts, with the approval or ratification of the District, to the extent the District may require, which approval or ratification shall be final for all the purposes of this clause.
6. Transfer title to the District and deliver in the manner, at the time, and to the extent, if any, directed by District the fabricated or unfabricated parts, work in progress, completed work, supplies, and other material produced as a part of, or acquired in connection with the performance of, the work terminated, and the completed or partially completed plans, drawings, information, and other property, which, if the Contract had been completed, would have been required to be furnished to the District.
7. Use its best efforts to sell, in the manner, at the time, to the extent, and at the price(s) directed or authorized by the District, any property of the types referred to above; provided, however, that the Contract shall not be required to extend credit to any purchaser, and may acquire any such property under the conditions prescribed by and at a price(s) approved by the District, and further provided that the proceeds of any such transfer or disposition shall be applied in reduction of any payments to be made to the District to the Contractor under this Contract or otherwise shall be credited to the price or cost of the work covered by this Contract or paid in such other manner as the District may direct.
8. Complete performance of such part of the work as shall not have been terminated by the notice of termination.
9. Take such action as may be necessary, or as the District may direct, for the protection or preservation of the property related to this Contract that is in the possession of the Contractor and in which the District has or may acquire an interest.

2.02 Termination for Default

- a. 1. LTD may, subject to paragraphs (c) and (d) of this clause, by written notice of default to the Contractor, terminate this contract in whole or in part if the Contractor fails to:
 - (i) Deliver the supplies or to perform the services within the time specified in this contract or any extension;
 - (ii) Make progress, so as to endanger performance of this contract (but see paragraph (a) (2) of this clause); or
 - (iii) Perform any of the other provisions of this contract (but see paragraph (a) (2) of this clause).
2. LTD's right to terminate this contract under subdivisions (a) (1) (ii) and (1) (iii) of this clause may be exercised if the Contractor does not cure such failure within 10 days (or more if authorized in writing by the Contracting Officer) after receipt of the notice from the Contracting Officer specifying the failure.
- b. If LTD terminates this contract in whole or in part, it may acquire, under the terms and in the manner the Contracting Officer considers appropriate, supplies or services similar to those terminated, and the Contractor will be liable to LTD for any excess costs for those supplies or services. However, the Contractor shall continue the work not terminated.
- c. Except for defaults of subcontractors at any tier, the Contractor shall not be liable for any excess costs if the failure to perform the contract arises from causes beyond the control and without the fault or negligence of the Contractor. Examples of such causes include (1) acts of God or of the public enemy, (2) fires, (3) floods, (4) epidemics, (5) quarantine restrictions, (6) strikes, (7) freight embargoes, and (8) unusually severe weather. In each instance the failure to perform must be beyond the control and without the fault or negligence of the Contractor.
- d. If the failure to perform is caused by the default of a subcontractor at any tier, and if the cause of the default is beyond the control of both the Contractor and subcontractor, and without the fault or negligence of either, the Contractor shall not be liable for any excess costs for failure to perform, unless the subcontracted supplies or services were obtainable from other sources in sufficient time for the Contractor to meet the required delivery schedule.
- e. If this contract is terminated for default, LTD may require the Contractor to transfer title and deliver to LTD, as directed by the Contracting Officer, any (1) completed supplies, and (2) partially completed supplies and materials, parts, tools, dies, jigs, fixtures, plans, drawings, information, and contract rights (collectively referred to as "manufacturing materials" in this clause) that the Contractor has specifically produced or acquired for the terminated portion of this contract. Upon direction of the Contracting Officer, the Contractor shall also protect and preserve property in its possession in which the Government has an interest.
- f. LTD shall pay contract price for completed supplies delivered and accepted. The Contractor and Contracting Officer shall agree on the amount of payment for manufacturing materials delivered and accepted and for the protection and preservation of the property. Failure to agree will be a dispute under the Disputes

clause. LTD may withhold from these amounts any sum the Contracting Officer determines to be necessary to protect LTD against loss because of outstanding liens or claims of former lien holders.

- g. If, after termination, it is determined that the Contractor was not in default, or that the default was excusable, the rights and obligations of the parties shall be the same as if the termination had been issued for the convenience of LTD.
- h. The rights and remedies of LTD in this clause are in addition to any other rights and remedies provided by law or under this contract.

2.03 No Limitation

The rights and remedies of the District provided in this Article 2 shall not be exclusive and are in addition to any other rights and remedies provided by law or under this Contract.

SECTION 3: FORCE MAJEURE

3.01 General

Neither party hereto shall be deemed to be in default of any provision of this Contract, or for any failure in performance, resulting from acts or events beyond the reasonable control of such party. For purposes of this Contract, such acts shall include, but not be limited to, acts of God, civil or military authority, civil disturbance, war, strikes, fires, other catastrophes, or other "force majeure" events beyond the parties' reasonable control; provided, however, that the provisions of this Section 3 shall not preclude the District from canceling or terminating this Contract (or any order for any product included herein), as otherwise permitted hereunder, regardless of any force majeure event occurring to Contractor.

3.02 Notification by Contractor

Contractor shall notify District in writing as soon as Contractor knows, or should reasonably know, that a force majeure event (as defined in Section 3.01) has occurred that will delay completion of the Scope of Work. Said notification shall include reasonable proofs required by the District to evaluate any Contractor request for relief under this Article 3. District shall examine Contractor's notification and determine if the Contractor is entitled to relief. The District shall notify the Contractor of its decision in writing. The District's decision regarding whether or not the Contractor is entitled to force majeure relief shall be final and binding on the parties.

3.03 Losses

Contractor is not entitled to damages, compensation, or reimbursement from the District for losses resulting from any "force majeure" event.

SECTION 4: PROFESSIONAL STANDARDS

Contractor shall at all times during the term of this Contract possess the technical ability, experience, financial ability, overall expertise, and all other skills, licenses, and resources necessary to perform and complete the Scope of Work in a timely, professional manner so as to meet or exceed the provisions of this Contract.

SECTION 5: PROFESSIONAL RELATIONS

5.01 Independent Contractor

No relationship of employer and employee is created by this Contract. In the performance of its work and duties, Contractor is at all times acting and performing as an independent contractor in the practice of its profession. The District neither shall have nor exercise control or direction over the methods by which Contractor performs services pursuant to this Contract (including, without limitation, its officers, shareholders, and employees); provided, however, that Contractor agrees that all work performed pursuant to this Contract shall be in strict accordance with currently approved methods and practices in its profession, and in accordance with this Contract. The sole interest of the District is to ensure that such services are performed and rendered in a competent and cost-effective manner.

5.02 Benefits

Contractor (including, without limitation, its officers, shareholders, subcontractors, and employees) has no claim under this Contract or otherwise against the District for social security benefits, workers' compensation benefits, disability benefits, unemployment benefits, vacation pay, sick leave, or any other employee benefit of any kind.

SECTION 6: INDEMNIFICATION FOR DAMAGES, TAXES, AND CONTRIBUTIONS

6.01 Scope

Contractor shall exonerate, indemnify, defend, and hold harmless District (which for the purpose of Articles 6 and 7 shall include, without limitation, its officers, agents, employees, and volunteers) from and against:

- a. Any and all claims, demands, losses, damages, defense costs, or liability of any kind or nature which the District may sustain or incur or which may be imposed upon it for injury to or death of persons, or damage to property as a result of, or arising out of, or in any manner connected with the Contractor's performance under the provisions of this Contract. Such indemnification includes any damage to the person(s) or property(ies) of Contractor and third persons.
- b. Any and all federal, state, and local taxes, charges, fees, or contributions required to be paid with respect to Contractor, Contractor's officers, employees, and agents engaged in the performance of this Contract (including, without limitation, unemployment insurance, social security, and payroll tax withholding).

SECTION 7: INSURANCE

7.01 General

Contractor, at its sole cost and expense, for the full term of this Contract (and any extensions thereof), shall obtain and maintain, at a minimum, all of the insurance coverage in Section 7.02 below. Such insurance coverage shall be primary coverage as respects District, and any insurance or self-insurance maintained by the District shall be in excess of Contractor's insurance coverage and shall not contribute to it.

7.02 Types of Insurance and Minimum Limits

Contractor shall obtain and maintain, during the term of this Contract:

- a. Workers' Compensation and Employer's Liability Insurance in conformance with the laws of the State of Oregon (not required for Contractor's subcontractors having no employees).
- b. Contractors' vehicles used in the performance of this Contract, including owned, non-owned (e.g., owned by Contractor's employees), leased, or hired vehicles, shall each be covered with Automobile Liability Insurance in the minimum amount of \$1,000,000 combined single-limit per accident for bodily injury and property damage.
- c. Contractor shall obtain and maintain Comprehensive General Liability Insurance coverage in the minimum amount of \$1,000,000 combined single-limit, including bodily injury, personal injury, and property damage. Such insurance coverage shall include, without limitation:
 1. Contractual liability coverage adequate to meet the Contractor's indemnification obligations under this Contract
 2. Full personal injury coverage
 3. Broad-form property damage coverage
 4. A cross-liability clause in favor of the District
- d. Contractor shall obtain and maintain Professional Liability Insurance coverage in the minimum amount of \$1,000,000.

7.03 Other Insurance Provisions

- a. As to all insurance coverage required herein, any deductible or self-insured retention exceeding \$5,000 shall be disclosed to and be subject to written approval by the District.
- b. If any insurance coverage required hereunder is provided on a "claims made" rather than "occurrence" form, Contractor shall maintain such insurance coverage for three (3) years after expiration of the term (and any extensions) of this Contract.
- c. All required Automobile Liability Insurance and Comprehensive or Commercial General Liability Insurance shall contain the following endorsement as a part of each policy: "Lane Transit District is hereby added as an additional insured as respects the operations of the named insured."

- d. All the insurance required herein shall contain the following clause: "It is agreed that this insurance shall not be canceled until thirty (30) days after the District shall have been given written notice of such cancellation or reduction."
- e. Contractor shall notify the District in writing at least thirty (30) days in advance of any reduction in any insurance policy required under this Contract.
- f. Contractor agrees to provide the District at or before the effective date of this Contract with a certificate of insurance of the coverage required.
- g. All Insurance must be written by an insurance carrier authorized to do business in the State of Oregon.
- h. Coverage limits shall not be less than \$1,000,000 per occurrence for personal injury and/or property damage.

SECTION 8: MISCELLANEOUS PROVISIONS

8.01 Successors and Assigns

The Contract shall inure to the benefit of, and be binding upon, the respective successors and assigns, if any, of the parties hereto, except that nothing contained in this Article shall be construed to permit any attempted assignment that would be unauthorized or void pursuant to any other provision of this Contract.

8.02 Survival of Rights and Obligations

In the event of termination, the rights and obligations of the parties that by their nature survive termination of the services covered by this Contract shall remain in full force and effect after termination. Compensation and revenues due from one party to the other under this Contract shall be paid; loaned equipment and material shall be returned to their respective owners; the duty to maintain and allow inspection of books, accounts, records, and data shall be extended as provided in Section 12.15; and the hold harmless agreement contained in Article 6 shall survive.

8.03 Limitation on District Liability

The District's liability is, in the aggregate, limited to the total amount payable under this Contract.

8.04 Drug and Alcohol Policy

Contractor shall not use, possess, manufacture, or distribute alcohol or illegal drugs during the performance of the Contract or while on District premises or distribute same to District employees.

8.05 Publicity

Contractor agrees to submit to District all advertising, sales promotion, and other public matter relating to any service furnished by Contractor wherein the District's name is mentioned or language used from which the connection of District's name therewith may,

within reason, be inferred or implied. Contractor further agrees not to publish or use any such advertising, sales promotion, or publicity matter without the prior written consent of District.

8.06 Consent to Breach Not Waiver

No provision hereof shall be deemed waived and no breach excused, unless such waiver or consent shall be in writing and signed by the party claimed to have waived or consented. Any consent by any party to, or waiver of, a breach by the other, whether express or implied, shall not constitute consent to, waiver of, or excuse for any other different or subsequent breach.

8.07 Attorney's Fees

In the event that suit is brought to enforce or interpret any part of this Contract, the prevailing party shall be entitled to recover as an element of its costs of suit, and not as damages, a reasonable attorney's fee to be fixed by the court. The "prevailing party" shall be the party who is entitled to recover its costs of suit, whether or not the suit proceeds to final judgment. A party not entitled to recover its costs shall not recover attorney's fees. No sum for attorney's fees shall be counted in calculating the amount of a judgment for purposes of determining whether a party is entitled to recover its costs or attorney's fees.

8.08 No Conflict of Interest

Contractor represents that it currently has no personal or organizational interest and shall not have any interest, direct or indirect, that would conflict in any manner with the performance of services required under this Contract.

8.09 Prohibition of Discrimination Against Qualified Handicapped Persons

Contractor shall comply with the provisions of Section 504 of the Rehabilitation Act of 1973, as amended, pertaining to the prohibition of discrimination against qualified handicapped persons in federally assisted programs.

8.10 OSHA/Hazardous Substances

Contractor shall comply with OSHA Standards and shall directly (1) inform its employees of the hazardous substances they may be exposed to while performing their work on District property; (2) ensure that its employees take appropriate protective measures; and (3) provide the District's Facilities Services Manager with a Material Safety Data Sheet (MSDS) for all hazardous substances to be used on District property.

8.11 Non-Assignment of Contract

The Contractor shall not assign, transfer, convey, sublet, or otherwise dispose of the Contract or Contractor's right, title, or interest in, or to the same, or any part thereof, without previous written consent by the District; any such action by Contractor without District's previous written consent shall be void.

8.12 No Subcontract

Contractor shall not subcontract or permit anyone other than Contractor or its authorized staff and subcontractors to perform any of the Scope of Work, services, or other performance required of Contractor under this Contract without the prior written consent of the District. Any such action by Contractor without District's previous consent shall be void.

8.13 Severability

If any provision of this Contract is held by a court of competent jurisdiction to be invalid, void, or unenforceable, the remaining provisions shall continue in full force and effect, and shall in no way be affected, impaired, or invalidated.

8.14 All Amendments in Writing

No amendment to this Contract shall be effective unless it is in writing and signed by duly authorized representatives of both parties.

8.15 Smoking Prohibited

Contractor, its employees, and agents shall not smoke in any enclosed area on District premises or in a District vehicle.

8.16 Responsibility for Equipment

- a. District shall not be responsible, nor held liable, for any damage to person or property consequent upon the use, or misuse, or failure of any equipment used by Contractor or any of its employees, even though such equipment may be furnished, rented, or loaned to Contractor by District.
- b. Contractor is responsible to return to the District in good condition any equipment, including keys, issued to it by the District pursuant to this agreement. If the contractor fails or refuses to return District-issued equipment within five days of the conclusion of the contract work, the District shall deduct the actual costs to repair or replace the equipment not returned from the final payment owed to contractor or take other appropriate legal action at the discretion of the District.

8.17 Time of the Essence

Time is of the essence in this Contract.

**EXHIBIT IV
FEDERAL REGULATIONS**

ALL OR PART OF THIS CONTRACT IS FEDERALLY FUNDED. Contractor shall comply with the following applicable federal regulations in addition to all other specifications, terms and conditions of this Invitation for Bid or Request for Proposal. As used in these regulations, "Contracting Officer" means the Purchasing Administrator employed by LTD.

The following provisions and references can be reviewed in Purchasing.

Contractor shall comply with the following provisions regardless of the contract amount:

Drug and Alcohol Testing	49 U.S.C. §5331 49 CFR PART 655 49 CFR PART 661
Charter/School Bus Requirements	49 U.S.C. §5323 (d&f) 49 CFR PARTS 604 & 605
Cargo Preference	46 U.S.C. 1241 46 CFR PART 381
Seismic Safety	42 U.S.C. 7701 et seq 49/ CFR PART 41
Energy Conservation Requirements	42 U.S.C. 6321 et seq 49 CFR PART 18
Bus Testing	49 U.S.C. 5323 (c) 49 CFR PART 665
Pre-Award and Post-Delivery Audit Requirements	49 U.S.C. 5323 49 CFR PART 663
Access to Records and Reports	49 U.S.C. 5325 18 CFR 18.36 (l) 49 CFR 633.17
Federal Changes	49 CFR PART 18
No Government Obligation to Third Parties	
Program Fraud	31 U.S.C. 3801 49 CFR PART 31 18 U.S.C 1001 49 U.S.C. 5307
Federal Privacy Act Requirements	5 U.S.C. 552
Civil Rights	FTA C 4702.1A as amended, 49 CFR, Part 21 NUMEROUS, SEE MANUAL
Patent Rights, Rights in Data	37 CFR PART 401 49 CFR PARTS 18 & 19
Transit Employee Protective Agreements	49 U.S.C. § 5310, § 5311, § 5333 29 CFR PART 215 49 CFR PART 26
Disadvantaged Business Enterprises	
State and Local Law Requirements	
Incorporation of Federal Transit Administration (FTA)	FTA CIRC 4220.1E, as amended

Contractor shall comply with the following provisions if this is a construction contract exceeding \$2,000:

Davis-Bacon Act	40 U.S.C. & 167; 276a-276a-5 (1995) 29 CFR § 5 (1995)
Contract Work Hours and Safety Standards	40 U.S.C. § 327-333 29 CFR § 5, 29 CFR § 1926
Copeland Act	40 U.S.C. 276c, 29 CFR § 3 29 CFR § 5

Contractor shall comply with the following provisions if this contract amount exceeds \$10,000:

Recycled Products	42 U.S.C. 6962
(Total purchased in current or previous FY)	40 CFR PART 247, EX. ORDER 12873
Termination	49 U.S.C. PART 18, FTA CIRC 4220.1E

Contractor shall comply with the following provisions if this contract amount exceeds \$25,000:

Government-wide Debarment and	49 CFR PART 29, EXECUTIVE ORDER 12549
(Suspension Nonprocurement)	

Contractor shall comply with the following provisions of the Federal Acquisition regulations (FAR) if this contract amount exceeds \$100,000:

Buy America Requirements	49 U.S.C. §5323 (j) 49 CFR PART 661 & 663
Clean Water	33 U.S.C. 1251
Lobbying	31 U.S.C. 1352 49 CFR PART 19 & 20
Bonding Requirements	FTA GRANT AGMT PT II SEC 118 (h&i)
Clean Air	42 U.S.C. 7401 et seq 40 CFR 15.61 49 CFR PART 18 49 CFR PART 20
Breach of Contract and Dispute Resolution	49 CFR PART 18, FTA CIRC 4220.1E

CFR = Code of Federal Regulations
U.S.C. = United States Code
EO = Executive Order

For a full explanation of the clauses, please go to www.ltd.org. The clauses can be found under Business Center and then Purchasing.
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PART V:

SPECIAL PROVISIONS

1. OVERVIEW AND SYSTEM OBJECTIVES

1.1 INTRODUCTION

Lane Transit District (LTD) intends to procure and install an Onboard Video and Audio Surveillance System ("the System") on its fixed route and paratransit fleets. Following an initial installation on a fleet of 16 new, fixed route vehicles in 2011, the Onboard System will be rolled out to other LTD vehicles in a phased manner as funding permits.

1.2 SYSTEM VISION AND CONCEPT OF OPERATIONS

LTD has developed a System Vision and Concept of Operations based on an agency needs assessment. These documents have been used as the basis for development of the system technical and performance requirements. Vendors should be mindful of the fundamental business objectives, end user needs, and functional intent of the onboard surveillance system in its design, implementation, and testing.

The Concept of Operations is included as Attachment A.

1.3 PERFORMANCE SPECIFICATIONS

LTD has developed Performance Specifications as a basis for detailed design of the onboard surveillance system. The Performance Specifications provide functional guidelines for camera placement based on the necessary coverage to fulfill the LTD business objectives that are motivating its investment.

LTD is mindful of the need to determine precise camera placement, angle of view, resolution, etc. based upon vehicle geometry, vendor product specific factors, and advancements in technology over time. However, changes in the Performance Specifications themselves are only anticipated in the case of revised agency needs or business objectives.

The Performance Specifications are included as Attachment B.

Department will also receive automated system alarms and notifications for onboard equipment.

1.4 FLEET DESCRIPTION

LTD intends to migrate its fixed route and demand responsive fleets to the new Onboard Video and Audio Surveillance system over time as funding permits.

The vehicles included in the initial installation are 40-foot (40') low floor diesel-electric hybrid vehicles currently in production by Gillig Corporation of Hayward, CA. The estimated delivery of the first fifteen (15) vehicles is in August/September 2011 [fifteen (15) vehicles], with an additional nine (9) vehicles scheduled for delivery after January, 2012. Installation of the Onboard Surveillance System will thus occur in two stages in Fall 2011 and early 2012 following the delivery of each of these vehicle groups.

As of the time of Onboard Surveillance System installation in late 2011, the LTD fixed route fleet is anticipated to include eighty-five (85) coaches of 40'; fifteen (15) articulated three-door coaches, and eleven (11) EmX Bus Rapid Transit (BRT) five-door articulated coaches 60 feet (60') in length. Fleets from model year 1997 and newer are included in this procurement, as illustrated in Exhibit V-1

The EmX BRT fleet of 5-door 60' articulated vehicles will expand from its current eleven (11) vehicles to fifteen (15) vehicles in 2015 with the opening of the West Eugene EmX extension.

The demand responsive (*RideSource*) fleet consists of fifty-five (55) vans.

Exhibit V-1: LTD Vehicle Fleet Quantities

Vehicle Type	Total in LTD Fleet (Fall 2011)	Total in Initial Onboard Surveillance Installation
Fixed Route – 40', 35' and 29' 2 Door	85	24
Fixed Route – 60' Articulated 3 Door	15	0
EmX BRT – 60' Articulated 5 Door	11	0
RideSource Vans 1 Door + Wheelchair Lift	55	0

1.5 LANE TRANSIT FACILITIES

LTD intends to implement wireless download capabilities for onboard surveillance video via wireless LAN at the following locations.

The wireless download capability at maintenance facilities provides an opportunity for video download at the start and end of the service day, as well as other times when the System is powered up and in range of the WLAN. Similarly, the wireless capability at Eugene and Springfield stations provides additional opportunities for video download in the course of the service day.

Proposers are reminded of the need to consider existing wireless traffic, potential interference sources, and the network noise floor at each of these locations in proposing their wireless communications solution.

Facility	Location	Description
Glenwood Fleet Services Building	3500 East 17 th Avenue Eugene, Oregon	Fleet maintenance and storage facility for the fixed-route and EmX fleets. Located adjacent to LTD's Glenwood Administration Building.
Eugene Station	11 th Avenue and Willamette Street, Downtown Eugene	Passenger terminal. Layover/pulse location for most LTD fixed routes and EmX BRT corridors.
Springfield Station	South A Street at Pioneer Parkway East	Passenger terminal. Layover/pulse location for most LTD fixed routes and EmX BRT corridors.
Ride Source Maintenance Facilities	240 Garfield Street Eugene, Oregon	Fleet maintenance and storage facility for RideSource vans.

These facilities are interconnected as part of LTD's enterprise IT network through high-speed data communication links.

1.6 MOBILE ACCESS ROUTER (MAR) INTEGRATION

All wireless communications between the Onboard Video and Audio Surveillance System and the Central System/LTD IT Network shall be routed through a Mobile Access Router (MAR) supplied by LTD. The MAR shall support the data transmissions requirements (e.g., video data, configuration data, and status messages) of the Onboard Video and Audio Surveillance System as well as other existing and future onboard systems.

Onboard data will be transmitted from the MAR over the LTD enterprise wireless network and/or a commercial cellular data provider to reach the Central Video and Audio Surveillance System, the LTD enterprise video archive, and other network services/applications residing on the LTD Enterprise IT network.

No separate wireless antennas or wireless communications infrastructure shall be provided by the Vendor. Specific requirements for MAR integration are included in Part VI – Technical Requirements.

2. CONTRACTOR SCOPE OF WORK

The Contractor Scope of Work for the Onboard Surveillance System consists of the following:

2.1 SCOPE OF SYSTEMS REQUIRED

- A. Onboard Surveillance System: Deployment of Onboard Video and Audio Surveillance Systems on LTD vehicles, including cameras, digital video recorders (DVRs), video tagging button, two (2) driver display monitors, audio microphones, accelerometer, and other Onboard Equipment. The System shall be integrated with a Mobile Access Router (MAR), provided by LTD, for 802.11n wireless and commercial cellular transmission of System data on and off of the coach.
- B. Central Video Management Software and Systems: Provision of central video management application software, and specification for central hardware systems and enterprise software, required for the use of the System by any authorized user from any LTD network workstation. The central system shall be installed on network hardware provided by LTD and be compatible with LTD Information Technology standards and policies. The vendor shall provide any non-standard hardware (e.g., hard drive docking stations) necessary to operate and maintain the System.
- C. Peripherals and Spare Parts: The vendor shall provide any non-standard tools, material, or equipment, including an initial Spare Parts reserve, necessary to operate and maintain the System.

2.2 SCOPE OF SERVICES REQUIRED

- A. Project Management: The Contractor shall be required to assign a Contractor Project Manager that will be the Contractor's single point of contact with LTD through to the completion of the contract.
- B. System Engineering and Design: The Contractor shall be responsible for the engineering and design of the System to meet these technical requirements, including surveys and verification of existing conditions of LTD vehicles and facilities.
- C. Inspections, Surveys, and Pre-Delivery Testing: The Contractor shall be responsible for all pre-delivery inspections, and testing to ensure that all system components are delivered in working order ready for installation and integration.
- D. Delivery and Storage of Equipment: The Contractor shall be responsible for the delivery of all equipment to be furnished under this contract. The Contractor shall be responsible for the secure storage of all delivered equipment prior to the commencement of their installation.
- E. Installation: The Contractor shall be responsible for the Installation of all equipment to be furnished under this contract, subject to an approved Installation Plan.
- F. Testing and Acceptance: The Contractor shall participate, with LTD, in the Testing and Acceptance of the system in accordance to the associated requirements defined in this document and a Testing Plan developed by the Contractor and approved by LTD.
- G. Training: The Contractor shall provide Training for LTD staff in the use, configuration, and maintenance of the System in accordance to the associated requirements defined in this document. This shall include all necessary training materials.
- H. Documentation: The Contractor shall prepare and distribute required System Documentation in accordance to the associated requirements as defined herein.
- I. Service Agreement: The Contractor shall provide a Service Agreement for system maintenance and technical support in accordance to the associated requirements defined in this document. The maintenance services period shall be three (3) years plus two (2) additional one (1) year optional extensions. The Service Agreement shall include software upgrades, spare parts and any special tools or devices to support in-house diagnosis, and maintenance of the system.

- J. Warranty: The Contractor shall perform Warranty Services and replacements in accordance to the associated requirements defined in Part VI: Technical Requirements.

2.3 PRICED OPTIONS

The following systems shall be provided by the Proposer as separately Priced Options. Proposers shall provide a description of the functionality and design of the Priced Options in the Technical Approach section, and price these items in the designated portions of the priced options form.

- Future Onboard Vehicle System Installations: The Vendor shall provide a unit price for installation of onboard systems for each of LTD's vehicle types (40', 60' articulated, 60' EmX articulated, and RideSource Vans). This price shall form the basis for future phases of onboard installation during the term of the contract. If LTD chooses to exercise this option, the vendor shall provide an updated quote to reflect the current state of available product/technology that meets LTD's requirements. Pricing for identical equipment, software, or services shall not increase by an amount greater than the Producer Price Index (PPI) for the year(s) since the initial Price proposal is submitted.
- Maintenance Management Information System (MMIS) Integration: This intent of this option is to provide an interface to generate automatic work orders for Onboard Video and Audio Surveillance System failures or maintenance alerts using LTD's AssetWorks fleet management system, eliminating the need for LTD staff to manually generate such work orders.

2.4 ITEMS PROVIDED BY LANE TRANSIT

LTD will provide reasonable assistance and accommodation in the form of infrastructure, equipment, software, facilities, staff, and services to support system implementation by the Contractor. Note that items not explicitly agreed in writing to be the responsibility of LTD shall remain the responsibility of the Contractor.

The Contractor is solely responsible for verifying existing conditions and for notifying LTD in a timely fashion of any deficiencies, provisioning, upgrades, infrastructure, etc. that must be addressed to ensure the timely and successful completion of the Work.

LTD intends to provide the following items and services in support of System installation:

- MAR: LTD will provide all MAR hardware and associated mounting hardware and cabling. Evaluation and selection of the MAR will occur through a separate, parallel, procurement process, with opportunities for shortlisted Proposers will have the opportunity to discuss MAR interface requirements and design approaches with LTD technical staff. During the Proof of Concept/Onboard Demonstration Phase, shortlisted Proposers will be required to demonstrate the ability of their systems to integrate with a MAR device suitable for LTD's overall networking requirements within the onboard environment.
- Network hardware and equipment to support video system management and video archiving, in accordance with LTD IT standards and expectations.
- Assistance of LTD in providing access to staff, vehicles, and facilities, and networks, following reasonable notice, to support system design, facilities inspections, installation, testing, maintenance, and warranty activities.
- Access to clean, installation-ready vehicles in accordance with the installation plan developed by the Contractor and approved by LTD prior to commencement of installation work.
- Adequate onboard cabinet space for DVRs, antennas, cameras, microphones, and related equipment, per specifications provided by the Contractor.
- Software and software licenses for enterprise applications, operating systems, security software, etc. per specifications provided by the Contractor, should LTD exercise its option to provide this equipment.

- Supervision and assistance by the LTD Information Technology Department to support integration and configuration of the System into the LTD enterprise network.
- Establishment of System/Network/File naming conventions and IP addresses.
- Assistance and supervision of the integration of Wireless Communications Infrastructure into the LTD enterprise IT network at each location.
- Indoor maintenance bays for simultaneous installation of onboard equipment in accordance with the LTD approved Installation Plan.
- On-site storage for staging of materials, equipment, and tools. *Note that the Contractor is solely responsible for all stored materials until accepted by LTD.*
- Central system VPN access may be provided, subject to agency security policies, to support system installation, configuration, testing, warranty, and service agreement.
- Other services or assistance requests as agreed in writing by LTD following reasonable notice by the Contractor.

3. PROJECT MANAGEMENT REQUIREMENTS

3.1 PROJECT MANAGEMENT

This Section describes the formal requirements for a project management plan, quality assurance plan, and related activities to ensure a reasonable level of program control for the design, manufacture, installation, and testing of the Onboard Video and Audio Surveillance System.

The design, manufacture, installation, and test of the System shall be controlled by the Contractor to insure that a reliable, high quality product, suitable for a long and trouble free life is produced and that the requirements within this RFP are met.

LTD may, at its option, monitor any or all Contractor activities, review any or all designs, and inspect or test any or all equipment. The Contractor shall not hinder or limit such activities.

3.1.1 Performance of Work

LTD's Project Manager shall issue the Notice to Proceed (NTP) for this Contract after this Contract has been fully executed by both parties. The Contractor shall proceed with performance under this Contract immediately after receipt of the NTP executed by LTD, and shall continuously and diligently prosecute the work to completion on or before the time or times set forth in this Contract. The Contractor shall not commence work until it receives the NTP, except as otherwise required by this Contract. "Work" means everything that the Contractor is required to do pursuant to this Contract.

3.1.2 Contractor's Key Personnel

The Contractor's Key Personnel are subject to approval by LTD. Note that the Contractor shall not substitute LTD approved Key Personnel at any time without prior expressed written consent of LTD.

3.1.3 Contractor Project Manager

During performance of the Contract, the Contractor shall assign a competent Contractor Project Manager who shall have full authority to act on behalf of the Contractor and all of the Contractor's subcontractors at all tiers in all matters within the scope of the Contract. The Contractor Project Manager shall have experience acceptable to LTD. The Contractor Project Manager must be thoroughly familiar with all procedures involved in the development, implementation, testing, and integration of the System. Prior to execution of the Contract Agreement, the Proposer shall submit to LTD the resume of its candidate for the position of Contractor Project Manager for LTD approval.

With NTP, the candidate approved by LTD shall become the Contractor Project Manager. If for any reason, and at any time, the candidate submitted by the Contractor is not acceptable to LTD, or becomes unacceptable, the Contractor shall propose additional candidates. If the Contractor wishes to replace its Contractor Project Manager at any time during the performance of this Contract, it first shall submit the resume of its new candidate to LTD for LTD's approval. The Contractor shall not substitute the Contractor Project Manager without LTD's prior expressed written approval.

It is the expectation of Lane Transit that the Contractor Project Manager is expected to be on site and accessible to LTD staff during key phases of system design, installation, testing, configuration, and training.

3.1.4 Subcontractors and Suppliers

The Contractor shall be fully responsible and liable for the products and actions of all subcontractors and suppliers at any tier.

The Contractor shall insure that all designers, suppliers, and installers are informed of all specified requirements and that appropriate uniform engineering management tools are utilized to insure that coordination and communication occur between the designers of interrelated systems.

All applications of material or equipment by the Contractor shall be with the full concurrence of the suppliers that the application is suitable and within the recommended limits of operation of the material or equipment.

The Contractor shall make all designers, subcontractors, and installers available when required for meetings, production problems, testing, resolution of design deficiencies, and all other similar situations. During all phases of this project, LTD shall have access to all designers, subcontractors, and installers.

3.1.5 LTD Project Manager

LTD's Project Manager for this Contract shall be the formal contact between LTD and the Contractor. LTD's Project Manager shall be responsible for, on behalf of LTD, all matters relating to this Contract, except changes to the Contract involving scope, cost, or time. Such changes shall be made with the approval of the Project Manager, but must be executed by LTD's General Manager or designee.

The Contractor shall not rely on representations or orders of any other LTD representative, unless so authorized by the Project Manager.

The Project Manager's primary functions are:

- Conduct periodic meetings with the Contractor;
- Interpret the technical requirements of the Contract and reject work of the Contractor that does not conform to the Contract;
- Review the Contractor's submittals for conformance with the Contract requirements, approve submittals which are in conformance, or take other action upon review;
- Review Contractor's invoices and approve payment or take other action upon review;
- Prepare Change Orders for LTD's and the Contractor's approval and execution, and evaluate the cost and benefit of any proposed changes;
- Order changes in the work not involving adjustment of the Contract price or an extension of the Contract time. Those changes shall be consistent with the intent of the Contract;
- Conduct inspections and tests required for System shipment, delivery, and acceptance;
- Authorize shipment, authorize delivery and issue delivery receipt, and grant conditional acceptance and acceptance of System elements; and
- Issue stop work orders in accordance with contract provisions.

3.1.6 Project Meetings

The Contractor shall insure that persons knowledgeable in the topics to be discussed, including subcontractors, are present at all meetings. Meetings may be conducted via teleconference or webinar with the approval of the LTD Project Manager.

Meeting minutes shall be taken at all meetings and distributed electronically. Minutes shall include a summary of all topics discussed and a listing of all understandings and agreements reached as well as action items. Unless otherwise agreed, the Contractor shall be responsible for taking all meeting minutes for review and approval by LTD.

3.1.7 Design Review Meetings

Design review meetings will be conducted with LTD and Contractor representatives at LTD facilities in Eugene.

The Contractor shall present the design documents and related information in accordance with a previously approved agenda. In the presentation, the Contractor shall address design approaches, concepts, design details, and interfaces. During these design review meetings, action items will be

identified, with each action item assigned to an individual for disposition by a pre-determined response date. A Design Review Action List will be maintained by the Contractor.

Following each interim design review meeting, the Contractor shall revise and re-issue the design documents for LTD review. A minimum of two (2) interim review meetings shall be assumed with each of the Technical Groups identified above. Following the last design review meeting for all of the Technical Groups, a final system review meeting shall be conducted to present the final design documents.

3.1.8 Product Options, Supplier Approval and Substitutions

The Contractor may not make a substitution without LTD's prior approval. For products specified by brand name or manufacturer, whether or not followed by the words "or approved equal", the Contractor shall submit a request to substitute an equal product or manufacturer.

LTD may, at its discretion, approve requests from the Contractor for substitution of products in place of those specified if the Contractor demonstrates satisfaction of at least one (1) of the following criteria:

- The substitution is required for compliance with a final interpretation of code requirements or insurance regulations that was not available or reasonably known to the Contractor prior to execution of Contract;
- The substitution is due to the unavailability of the specified products, and the unavailability is not the Contractor's fault and was unknown to the Contractor prior to execution of Contract;
- The specified product will not perform properly or fit into the designated space;
- The manufacturer or fabricator does not certify or warrant performance of the specified product as required for the intended purpose;
- The substitution is, in LTD's judgment, in the best interest of LTD; or
- The Contractor shall submit a separate request for each substitution. Each request shall include: Complete data substantiating compliance of the proposed substitution with the Contract; product identification, including manufacturer's name and address; manufacturer's literature, including product description, performance and test data, and reference standards; samples, if appropriate; name and address of similar System deliveries on which the product was used and date of installation; itemized comparison of proposed substitution with product or method specified; and data relating to changes in production schedules.

In making a request for substitution, the Contractor shall represent that:

- It has investigated the proposed product, and has determined, with LTD's concurrence, that it is equal or superior in all respects to that specified;
- It will provide the same or greater warranty for the substitution as for the product specified;
- It will coordinate installation of the accepted substitution into the work, making changes as may be required for the work to be complete in all respects; and
- It waives all claims for additional costs and changes to schedule related to the substitution that subsequently become apparent.

LTD shall approve or disapprove the Contractor's requests for substitution of suppliers or products within fifteen (15) days of LTD's receipt of all information required by LTD for such determination according to the provisions set forth in this Section. In the event of LTD disapproval of the Contractor's request for substitution of a supplier or product, the Contractor shall utilize the supplier or product specified in the Technical Requirements and/or in the Contractor's Proposal, or may request substitution of another supplier or product.

LTD may not approve substitutions if they are indicated or implied on Shop Drawings, product data submittals, or design review documents without a request submitted in accordance with this Section, or if approval will result in significant non-conformance of the System with the Technical Requirements, or if approval will require extensive revision of the Contract, or if approval is not in the best interest of LTD.

3.1.9 Project Records and Cost and Pricing Data

Comprehensive records and documentation relating to this project shall be kept by the Contractor. The records shall include, but are not limited to Contract Documents, Plans, Drawings, Specifications, Addenda, Shop Drawings and Submittals, Change Orders, Modifications, Field Test Results and Records, and As-Built Drawings and Records.

The Contractor shall keep and maintain reasonably complete and reliably detailed records of costs incurred in performing the Contract, including records of initial entry for every item for which payment is sought, sufficient to evaluate the accuracy, completeness, and currency of the costs or prices.

3.1.10 Permits, Fees, and Notices

Prior to commencing any work requiring a permit or similar authorization, the Contractor shall secure and pay for all necessary licenses, fees, inspections, permits, and similar authorizations from governmental authorities required to fulfill the Contract requirements and the Contractor's obligations. All such fees and charges shall be paid for by the Contractor.

3.2 PROJECT SCHEDULE

3.2.1 Schedule Updates

During the implementation phase of this project, the Contractor shall be required to submit updated project schedules on a monthly basis.

3.2.2 Form of Schedule

Within thirty (30) days after NTP, the Contractor shall furnish to LTD for LTD's approval a detailed contract schedule. It shall identify all major work tasks including critical events of design, procurement, delivery schedule, installation, testing, and integration, and shall identify interface activities, subcontractor contributions and submittals, LTD inspections, tests, and approvals as may be required by this document. The detailed contract schedule shall be based on critical-path-method and constructed using Microsoft Project or an approved substitute. The detailed contract schedule shall show start and completion of the work for each activity, and shall be properly ordered and sequenced.

3.2.3 Schedule Updates

During the entire term of Contract performance, the Contractor shall update the schedule at least monthly to show actual progress and changes to projected dates. Each update shall include a narrative describing the changes made since the last update.

If any of the Contractor's monthly schedule updates indicates any potential delay in any of the critically dependent events identified on the schedule, the Contractor shall submit a detailed statement of action it intends to take to avoid the delay. LTD will consider approving a revised schedule for completion of the critical events only if the Contractor satisfies LTD that the delivery of the System and other Contract work will be completed on time, or that the Contractor's failure to perform constitutes an excusable delay as defined in Section 3.2.4.

3.2.4 Excusable Delays

Except with respect to defaults of Subcontractors, the Contractor shall not be considered in default by reason of any failure to perform in accordance with the Contract delivery schedule if such failure arises out of causes beyond the control and without the fault or negligence of the Contractor. Such causes may include, but are not restricted to, acts of God or of the public enemy, acts of the government in its sovereign or contractual capacity, fires, floods, epidemics, quarantine restrictions, strikes or other labor disputes, freight embargoes, and unusually severe weather, but in every case the failure to perform must be beyond the control and without the fault or negligence of the Contractor. If the failure to perform is caused by the default of a Subcontractor, and if such default arises out of causes beyond the control of both the Contractor and the Subcontractor, and without the fault or negligence of either of them, the

Contractor shall not be in default by reason of any failure to perform. As used herein, the terms "Subcontractor" and "Subcontractors" mean Subcontractor(s) or Supplier(s) at any tier.

Should the Contractor anticipate or suffer delay because of cause(s) as described in this guideline, LTD shall make an equitable revision in the delivery schedule, upon the Contractor's fully documented and supported written request timely made, unless LTD should decide instead to terminate the Contract.

3.3 QUALITY ASSURANCE AND INSPECTION

3.3.1 General

LTD may test and inspect all system components, subsystems or workmanship prior to assembly of such components or work into the System production and prior to acceptance of the System by LTD. LTD may either reject or require correction of defective material, workmanship, or nonconformity to this Contract. The Contractor shall make available all necessary tools as may be necessary for inspections or tests. The Project Manager or his or her designee(s) shall at all times have access to the work wherever it is in preparation or progress.

3.3.2 Contractor's Quality Assurance Program

The Contractor shall plan, establish, and maintain a Quality Assurance (QA) program. The Contractor's QA program shall be imposed upon all entities within the Contractor's organization and on all subcontractors whenever contract work is performed.

A QA Program Plan shall be submitted for review. The QA plan shall describe the methods for planning, implementing, and maintaining quality, schedules, and cost. The QA plan shall contain a company policy statement that clearly defines the authority and responsibilities of QA personnel. An organization chart shall be included to show the reporting relationships of all QA staff.

3.3.3 Software Quality Assurance

The Contractor shall conduct, as an integral component of the Contractor's QA program, a software quality assurance program and software verification and validation program specific to:

- All software and firmware developed or modified under this Contract, and
- All System application software.

The Contractor's software quality assurance program shall be consistent with the intent and scope of the software quality assurance program defined in American National Standards Institute (ANSI) / Institute of Electrical and Electronics Engineers (IEEE) standard 730, or approved equal. The Contractor's verification and validation program shall be consistent with the program defined in ANSI/IEEE standard 1012, or approved equal. A software quality assurance plan and a software verification and validation plan shall be submitted as part of the Contractor's QA program plan.

3.3.4 Inspectors

LTD may employ inspectors, who shall be representatives of the LTD Project Manager. They shall have free access to the facilities, plans, design, QA records, fabrication, assembly, and testing of the System at all times, wherever in progress at the Contractor's, Contractor's subcontractors', or LTD's facilities. Inspectors are employed solely for LTD's benefit, and are not intended as a source of advice for the Contractor's employees, subcontractors, or suppliers. The Contractor shall provide any reasonable facilities including a private office that the inspectors may require for the performance of their duties. The inspectors shall observe and may inspect the work, and shall report their observations to the Project Manager. Except as expressly authorized by the Project Manager in writing, the inspectors shall have no authority to accept, reject, or approve the work, to stop the work, to authorize any changes in the work, or to direct any extra work.

3.4 OPTION FOR ADDITIONAL EQUIPMENT AND SERVICES

LTD may choose to purchase optional equipment and services at any term during the contract, as defined in Attachment C – Price Proposal Form. Notification of Interest to exercise the option will be made by LTD in writing to the Contractor's Project Manager.

3.5 OPTION TO SUPPLY MATERIALS, EQUIPMENT, AND LICENSES

LTD may, at its option, supply hardware, software, licenses, warranties, infrastructure, or materials outside of this contract in accordance with design specifications provided by the Contractor. In the event that LTD supplies any such items, they shall be delivered in working order and in a timely fashion to the Contractor at a location and date to be determined in advance and agreed in writing. Contractor shall not be reimbursed for cost items procured by LTD outside of this contract.

3.6 CONTRACT MODIFICATIONS

3.6.1 Change Orders

A Change Order is a written document, executed by LTD, that (1) changes the total Contract price as of the date this Contract is fully executed, including any previously executed Change Orders, but not including any escalation, or (2) alters the design of the System as specified in the Technical Specifications, or (3) alters the schedule for delivery of the Contract deliverables as set forth in the currently approved delivery schedule, or (4) makes any other change to the Contract, or makes a combination of any of the aforementioned Contract changes.

Change Orders shall be prepared by LTD's Project Manager. However, no Change Order shall be binding unless executed in writing by LTD's General Manager or designee. Change Orders under \$75,000 shall be signed by the LTD Purchasing Manager; Change Orders above \$75,000 shall be signed by the LTD General Manager.

The Contractor shall deliver a Request for Change Order to LTD within fifteen (15) days of receipt of any order, direction, instruction, interpretation, or determination of LTD that the Contractor believes will cause a change in the cost of the work or in the schedule for delivery of the Contract or in the currently approved progress schedule, or in any other change in the Contract. Additionally, the Contractor may deliver a Request for Change Order to LTD for any new or different work in the Contract or adjustments to the Contract that the Contractor believes should be implemented.

With any Request for Change Order, the Contractor shall provide to LTD a detailed description of the proposed adjustment to the Contract price or currently approved progress schedule, or both, and describing any other provisions of the Contract that will require modification because of the change. If the Contractor's proposal is acceptable to LTD, LTD will issue a Contract Change Order consistent with such proposal.

In connection with any Request for Change Order including a proposed adjustment in the Contract price, the Contractor shall submit a complete breakdown of costs associated with the Change Order work.

In addition to the change order procedure described above, LTD may at any time unilaterally direct changes within the general scope of the Contract by a written order to the Contractor. If any such change causes an increase or decrease in the cost of, or the time required for, the performance of any part of the work under this Contract, the parties shall attempt to negotiate an equitable adjustment in Contract price or delivery schedule or both. In the event that LTD and the Contractor are unable to agree on the equitable adjustment, the Contractor shall proceed with LTD's directed change, and the disagreement shall be resolved in accordance with Section 3.7: Disputes and Claims.

3.6.2 Stop Work Order

In addition to the right to terminate work under any other provision of this Contract, LTD may require the Contractor to stop all, or any part of, the work called for by this Contract at any time for up to ninety (90) days after a written stop work order is delivered to the Contractor, and for any further period to which the

parties may agree. The order shall be specifically identified as a "Stop Work Order" issued pursuant to this Section.

Upon receipt of a Stop Work Order, the Contractor shall comply with its terms immediately and take all reasonable steps to minimize the incurrence of cost allocable to the work covered by the order during the period of work stoppage. Within the period specified by the order, or within any extension of that period to which the parties agreed LTD may:

- Terminate the work covered by the order as set forth in Part IV, Section 2: Termination;
- Cancel the Stop Work Order; or
- Allow the period of the Stop Work Order to expire.

3.6.3 Costs of Stop Work

If a Stop Work Order is canceled or expires, the Contractor shall resume work. An equitable adjustment shall be made in the work scope, Contract price, or Contract time, as appropriate, and the Contract shall be modified in writing accordingly if:

- The Stop Work Order results in an increase in the time required for, or in the Contractor's cost properly allocable to, the performance of any part of this Contract.
- The Contractor asserts a claim for an adjustment within thirty (30) days after the end of the period of work stoppage.
- The Stop Work Order was not caused by the Contractor's default or other act or omission within the control or responsibility of the Contractor.

3.6.4 Maintenance During Suspension

In preparation for and during suspensions of work, the Contractor shall take every reasonable precaution to prevent damage to or deterioration of the work. The Contractor shall repair or replace at no cost to LTD work that is damaged or deteriorated during a work suspension due to the Contractor's failure to comply with this Paragraph. If LTD finds that the Contractor is not taking a reasonable precaution and the Contractor fails to take the precaution within five (5) days after written notice from LTD, LTD may cause the precaution to be taken and recover the reasonable cost of taking the precaution from the Contractor.

3.7 DISPUTES AND CLAIMS

3.7.1 Disputes

If the Contractor and the Project Manager are not able to resolve a dispute involving issues of fact arising from this Contract, the Project Manager shall refer the dispute to LTD's Director of Procurement and Contracts. The Director of Procurement and Contracts shall issue a written decision resolving the dispute. The decision of the Director of Procurement and Contracts may be appealed in writing to LTD's General Manager. The written decision of the General Manager shall be LTD's final agency action regarding the dispute, except that the parties shall follow a course of mediation.

Pending resolution of a dispute during the Contractor's pursuit of a remedy after LTD's final agency action regarding the dispute, the Contractor shall proceed as directed by the Project Manager. The Contractor's actions pursuant to orders by the Project Manager under this Section shall not be deemed to prejudice its disputed claims.

Nothing in this section shall be deemed to preclude LTD or the Contractor from seeking any remedy available under the law after all other remedies has been exhausted.

3.7.2 Claims

The Contractor must submit claims arising under this Contract in writing within fifteen (15) days after the Contractor learns of, or should learn of, the event giving rise to the claim. The claim must state in as

much detail as possible the basis for the claim and the Contractor's best estimate of its right to additional compensation or extra time arising in connection with the claim. If the claim is silent regarding a claim for extra time, the Contractor shall be entitled to no extra time in connection with the claim. If the claim is silent regarding additional compensation, the Contractor shall be entitled to no additional compensation in connection with the claim. The Contractor must notify LTD promptly in writing if its estimates of additional compensation or extra time change, and the notification must state the reasons for the changes.

LTD shall respond to the Contractor's claim within thirty (30) days after LTD's receipt of the claim by:

- Approving the claim;
- Denying the claim;
- Requesting necessary information from the Contractor to enable LTD to resolve the claim within thirty (30) days after its receipt of the requested information; or
- Determining that the claim presents a disputed issue of fact that must be resolved through mediation

The Contractor agrees to consolidate any claim or dispute involving multiple parties involved in this project.

If LTD approves a claim based upon delay or hindrance of Contract work for any reason whatsoever, including, but not limited to, avoidable or unavoidable delays, or delays due to acts or omissions by LTD, LTD, in its sole discretion, may adjust the schedule as LTD deems appropriate to help mitigate the Contractor's damages, or may pay the Contractor damages and accelerate Contract work to ensure completion on schedule.

Notwithstanding any other provision of this Contract, the Contractor shall be absolutely barred from recovering extra costs. However, the Contractor may raise counterclaims for additional compensation for work performed under the Contract in the event that LTD asserts a claim against the Contractor later than one hundred and eighty (180) days after LTD's acceptance of the last System element.

3.8 OTHER CONTRACTORS ADVISORY

The Contractor is advised that coordination is required through the LTD Project Manager with other contractors supplying or conducting work on LTD coaches. The Contractor is also advised that there may be other contractors working on-site at LTD facilities. Contractor shall reasonably coordinate work with other contractors working in the vicinity.

PART VII –ATTACHMENTS

ATTACHMENT A - Concept of Operations

ATTACHMENT B - Performance Specifications

ATTACHMENT C - Price Proposal Form

ATTACHMENT D - Compliance Matrix Form (This is an electronic file)

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SECTION III: TECHNICAL REQUIREMENTS

NOTE: Proposers shall submit a completed Compliance Matrix indicating compliance with the Technical Requirements specified in this section of the RFP. Proposers are required to indicate compliance with system requirements as defined below:

1. **Fully Compliant (FC):** responses must not include comments, limitations, conditions, qualifications or explanations. Any *Fully Compliant* responses by the Proposer that are qualified by comments, explanations, limitations, etc. in the Compliance Matrix shall be considered non-compliant (also known as *Does Not Comply*).
2. **Exceeds Requirements (ER):** responses shall include an explanation in the Compliance Matrix to clearly describe how the Proposer solution exceeds the requirement(s) specified in this RFP.
3. **Complies With Intent (CWI):** responses shall include an explanation in the Compliance Matrix to clearly describe how the Proposer solution meets the functionality of the requirement(s), and may include limitations or qualifications explaining why the solution is not *Fully Compliant*.
4. **Does Not Comply (DNC):** responses indicate that the Proposer's solution does not meet the requirement as stated. Proposers may describe alternative features or approaches that address the intent of such requirements.

The Compliance Matrix shall be signed by an Authorized Representative of the Proposer with authority to enter binding contracts on the Proposer's behalf. Additionally, each page must be initialed by the Authorized Representative. Proposal responses that are missing appropriate signatures and/or initials shall be considered unresponsive. LTD reserves the right to request additional information or clarification based on these responses.

LTD reserves the right to request more information for all responses listed as *Exceeds Requirements* and *Complies with Intent*.

Proposals submitted without a completed Compliance Matrix that adheres to the above instructions may be considered non-responsive.

1. GENERAL REQUIREMENTS

Req. No.	General Requirements	Code	
1.1.1.1.a	All equipment, components, and assemblies furnished as part of the System shall be new and in proper working condition. Refurbished materials or equipment shall not be accepted		
1.1.1.1.b	All equipment furnished under these requirements shall be designed for use in the transit industry, with specific attention to ergonomics, reliability, vandal resistance, efficiency, and safety for passengers, operators, maintenance personnel and other system users.		
1.1.1.1.c	All equipment furnished under these requirements shall be the latest model in current production, and shall conform to quality workmanship practices and use materials consistent with Agency and transit best practices, standards, and policies.		
1.1.1.1.d	System components shall be built in accordance with best commercial practice and support safe, reliable, and stable operation. Reliable operation includes maximizing system uptime, reducing lost video, and minimizing service calls.		
1.1.1.1.e	The System shall be designed to minimize maintenance and calibration requirements in all aspects of equipment location, mounting, orientation, and location of fasteners/connections.		
1.1.1.1.f	All equipment furnished under these requirements shall utilize modular design throughout, permitting swap-out and return of malfunction components with minimal LTD labor and vehicle down-time. Individual Onboard System components shall be replaceable within twenty (20) minutes by a trained LTD technician.		
1.1.1.1.g	The System shall require the minimum number and variety of assemblies and spare parts. All functionally identical modules, assemblies and components shall be fully interchangeable between all equipment.		
1.1.1.1.h	Standard, commercially available components shall be used wherever possible.		
1.1.1.1.i	System design shall incorporate features to support fault isolation to reduce the requirement for highly skilled maintenance personnel.		

Req. No.	General Requirements	Code	
1.1.1.1.j	All external screws, nuts, and locking washers shall be stainless steel or an approved alternate non-corrosive material; no self-tapping screws shall be used unless specifically approved. No sharp edges shall be exposed.		
1.1.1.1.k	All parts shall be made of corrosion resistant material, such as ultraviolet (UV) resistant plastic, stainless steel, anodized aluminum or brass.		
1.1.1.1.l	All modules and assemblies shall be connected using standardized durable, positive-locking, indexed quick disconnect connectors. Weatherproof connectors shall be supplied for all connections exposed to the exterior environment.		
1.1.1.1.m	Provisions shall be made to protect all equipment and components from common vandalism and physical abuse. Equipment shall be identified by a part number and/or serial number, permanently and legibly affixed directly to the surface of the unit.		
1.1.1.1.n	System components shall be identified by a part number and/or serial number, permanently and legibly affixed directly to the surface of the unit.		
1.1.1.1.o	Equipment shall not pose a hazard to operators, passengers, or maintenance staff when operated in accordance with manufacturers' recommendations.		
1.1.1.1.p	Individual equipment components to be installed shall be capable of being carried by a single person, and, as such, shall not exceed 25 lbs.		

2. ONBOARD SYSTEM

2.1 GENERAL REQUIREMENTS

Req. No.	Onboard System General Requirements	Code	Comments
2.1.1.1.a	The onboard components of the System for each vehicle shall include: (1) CCTV cameras (2) Digital Video Recorder (DVR), including a Central Processor (3) Removable Storage Media (4) Audio Microphone (preferably integrated into camera housing) (5) Event Tagging Button (6) Integration with the existing onboard Covert Alarm (7) Operator System Status Indicator (8) Onboard Viewing Monitor(s) (9) Integration with the CAD/AVL system to receive vehicle position data (10) Integration with a Mobile Access Router (MAR) for off-board wireless data communications using a standard Copper Ethernet connection (100base-T or 1000base-T) via a standard RJ45 connector (11) Accelerometer to trigger tagged events (12) All necessary ancillary equipment, enclosures and wiring necessary to meet the requirements specified in these Technical Specifications.		
2.1.1.1.b	The onboard system shall receive and digitally record video from the onboard Closed Circuit Television (CCTV) cameras onto removable media in the DVR.		
2.1.1.1.c	The Onboard System shall utilize LTD supplied and installed Mobile Access Router (MAR), wireless, and cellular communications infrastructure for data exchange between onboard and central components of the System, including surveillance video, audio, commands, configuration data, status messages, and alarms.		
2.1.1.1.d	The System shall accept vehicle position data through integration with existing Trapeze-ITS Computer Aided Dispatch/Automatic Vehicle Location (CAD/AVL) system.		

Req. No.	Onboard System General Requirements	Code	Comments
2.1.1.1.e	The System shall not require freestanding communications or GPS devices, nor penetrations of the vehicle exterior for antennas or receivers, with the exception of exterior cameras or microphones.		
2.1.1.1.f	The onboard system shall record video and audio continuously while the transit coach is powered on.		
2.1.1.1.g	The onboard system shall record video and audio continuously for a user configurable period after the coach is powered down.		
2.1.1.1.h	The onboard system shall not interfere electrically with the operation of the transit coach or with other onboard equipment.		
2.1.1.1.i	It shall be the responsibility of the Contractor to properly locate and install all vehicle equipment. All equipment shall be installed in a manner that facilitates replacement in the event of a component failure.		
2.1.1.1.j	Onboard System components shall be identical in mounting characteristics and inter-unit cabling across each fleet type, so that a specific piece of equipment will be installable with minimal modification in any of the vehicles for which it might be used.		
2.1.1.1.k	Onboard system components shall be removable / replaceable as an entire component to minimize vehicle down times and simplify maintenance.		
2.1.1.1.l	The enclosure design shall allow for the quick and easy installation and removal of electronic equipment from within the enclosure, and all connectors shall terminate in the vehicle's equipment cabinet.		
2.1.1.1.m	Design of equipment enclosure and mounting locations shall require LTD's approval prior to installation.		
2.1.1.1.n	Subject to required LTD approvals, the Contractor shall fabricate and supply equipment mounting brackets and associated hardware, customized for installation in each different vehicle type.		
2.1.1.1.o	The Contractor shall be responsible for relocating any existing objects that interfere with equipment installation, and fabricating and supplying any and all brackets as required for relocated objects. Such actions shall be approved by LTD.		

Req. No.	Onboard System General Requirements	Code	Comments
2.1.1.1.p	Onboard components that do not provide an operator interface or display shall be designed for installation within the secure equipment cabinet in the coach interior or other LTD-approved location.		
2.1.1.1.q	Equipment shall be able to be replaced in a vehicle in twenty (20) minutes or less when the proper tools and a spare unit are available.		
2.1.1.1.r	Software updates/patches or plug-in downloads of surveillance data shall not require removal of the DVR or other components from the vehicle.		
2.1.1.1.s	Mobile equipment shall be built with a rugged non-corrosive metal chassis and tight fitting case with no vents or louvers in order to resist penetration of water or dust.		
2.1.1.1.t	All displays and operator interfaces shall be heavy duty and resistant to abrasion of markings and damage to keys, knobs and switches. All components are to be housed in splash-proof, tamperproof housings.		
2.1.1.1.u	DVR's, power converters/inverters, and all other required electronic equipment shall be enclosed within a low-profile enclosure.		
2.1.1.1.v	All equipment and associated enclosure cases shall recognize the limited space availability in existing equipment cabinets for each coach model (including interference to other units).		
2.1.1.1.w	All locks, enclosures and cabinets of similar devices shall be keyed alike across the fleet.		
2.1.1.1.x	Locks on DVRs for removable storage media shall be distinct from keys for enclosures or cabinets; however locks for removable storage media shall be keyed alike across the fleet.		

2.2 FUNCTIONAL REQUIREMENTS

2.2.1 CCTV Cameras

Req. No.	CCTV Camera Functional Requirements	Code	Comments
2.2.1.1.a	The CCTV cameras shall comprise of dual mode cameras for daytime and nighttime operation.		
2.2.1.1.b	The CCTV cameras shall provide full-color images under daylight conditions.		
2.2.1.1.c	The CCTV cameras shall provide black and white (B&W) or infrared images under nighttime/low light conditions.		

Req. No.	CCTV Camera Functional Requirements	Code	Comments
2.2.1.1.d	The CCTV cameras shall incorporate Infrared Illumination for enhanced image clarity under nighttime/low light conditions.		
2.2.1.1.e	The CCTV cameras shall automatically toggle between modes based upon ambient lighting conditions to maximize image clarity.		
2.2.1.1.f	Cameras shall meet the specified Image Quality Performance Criteria under all ambient day and night operating conditions of Lane Transit District, accounting for daytime sunlight shadows, glare, twilight conditions, nighttime exterior conditions; and interior nighttime operations with and without interior coach lighting illuminated.		
2.2.1.1.g	CCTV cameras shall have automatic back-light compensation to maintain functional performance under varying lighting conditions.		
2.2.1.1.h	The CCTV camera solution shall have sufficiently low scene illumination thresholds to allow for the video system to maintain functional performance in night-time conditions. The performance of the onboard system under low light conditions shall be examined during Proof of Performance Testing.		
2.2.1.1.i	The CCTV cameras shall be enclosed in rugged camera enclosures as specified in the Performance Requirements for vandal-resistance and environmental protection within a transit operating environment.		

2.2.2 Camera Coverage and Placement

Req. No.	Camera Coverage and Placement Requirements	Code	Comments
2.2.2.1.a	CCTV cameras shall be positioned and configured in accordance with LTD's Performance Specifications for each vehicle type		
2.2.2.1.b	Camera placement and configuration shall be subject to final approval by LTD during system design and Testing.		

2.2.3 Onboard Viewing Monitor

Req. No.	Onboard Viewing Monitors	Code	Comments
2.2.3.1.a	The Onboard System shall incorporate two (2) full-color viewing monitors on fixed route coaches, and one (1) full-color viewing monitor on RideSource paratransit vans. The functional intent of these monitors to allow the operator to view video images from cameras onboard the vehicles, such as blind spots in the passenger cabin or on the vehicle exterior.		
2.2.3.1.b	The Operator Viewing Monitors (the Monitor) shall support selection of camera images via: 1.) operator button push to toggle through views; 2.) pre-configuration of default and/or permissible vies through the Central System; 3.) Automatic selection based on vehicle operating conditions (e.g. default to exterior door views when doors are opened, reverse operation); and 4.) Scan mode of all camera images on the vehicle.		
2.2.3.1.c	The Monitor(s) shall have a minimum screen diagonal dimension of six (6) inches.		
2.2.3.1.d	Monitor(s) shall support single or multiple camera display modes, up to four (4) camera views per screen. Display mode shall be configurable on the unit or through the Central System.		
2.2.3.1.e	The System shall support disabling of Driver Viewing Monitors when the vehicle is in motion. The monitor disabling function shall be enabled/disabled through configuration on a fleet-wide or vehicle basis through the Central System.		
2.2.3.1.f	Monitor(s) shall be use LCD or similar flat-screen technology that is legible under day and night operating conditions. This legibility requirements shall apply under all natural and artificial light conditions encountered in a mobile transit environment.		
2.2.3.1.g	Monitors shall incorporate auto-dimmer features as well as manual controls for color, tint, and contrast.		
2.2.3.1.h	Monitor(s) shall be affixed with a secure, vibration resistant housing.		
2.2.3.1.i	Monitor placement shall be approved by LTD for each vehicle type and shall not interfere with vehicle operation or the operator's field of view.		

Req. No.	Onboard Viewing Monitors	Code	Comments
2.2.3.1.j	Monitor placement shall consider ergonomic factors including angle of viewing and button location when the driver is in a seated position.		
2.2.3.1.k	Monitors on fixed-route vehicles shall be placed adjacent to one another in the driver compartment.		

2.2.4 Surveillance Image Quality

Req. No.	Surveillance Image Quality Requirements	Code	Comments
2.2.4.1.a	Surveillance camera image quality shall be sufficient to fulfill the functional intent of each camera view as indicated in the LTD Performance Specifications.		
2.2.4.1.b	The quality of recorded images shall be tested against a test target in playback mode during POP Testing using the above listed percentage of target to screen height ratio, under day and night ambient lighting conditions.		

Exhibit 2-1: Image Quality Performance Criteria for Operational Objectives

Area In/Around Coach	Operational Objective	Operational Objective Definition
All Doorways	Identify	Capture enough detail to identify a person, object or vehicle (e.g., picture quality and detail sufficient to enable the identity of an individual to be established beyond reasonable doubt)
Farebox Area		
Passenger Cabin	Recognize	Monitor/track an individual person, object or vehicle (e.g., viewers can say with a high degree of certainty whether or not an individual shown is the same as someone they have seen before)
Exterior Cameras		

2.2.5 Video Quality

Exhibit 2-2: Resolution and Frame Rate Minimum Requirements tabulates the minimum resolution and frame rate settings that shall be supported by the CCTV system.

Req. No.	Resolution and Frame Rate Requirements	Code	Comments
2.2.5.1.a	The system shall support “Standard Operation” settings to be used during normal coach operations.		
2.2.5.1.b	The system shall support an “Enhanced Operation” setting when a video tagging input is received through any System tagging input. The system shall operate in Enhanced Operation mode for as long as a tagged event is being recorded (configured through the Central System).		
2.2.5.1.c	Frame Rate, resolution, and compression settings for Standard Operation and Enhanced Operation shall be configurable for each camera view through the Central System.		
2.2.5.1.d	The following resolutions shall be supported: (1) CIF (352x288) or 360x240 (2) 2 CIF (704x288) or 720x240 (3) 4 CIF (704x576 or 720x480 (4) Higher Megapixel resolution settings are desirable and preferred		
2.2.5.1.e	The System shall support frame rates, configurable by camera, between 1 and 30 frames per second (fps), adjustable in increments of 1 fps.		
2.2.5.1.f	The System shall support industry best practices for video compression to optimize storage capacity. Video compression technology shall be H.264 or LTD approved alternative.		

2.2.6 Audio Microphone

Req. No.	Audio Microphone Requirements	Code	Comments
2.2.6.1.a	The System shall provide audio coverage of the coach interior and exterior in accordance with the LTD Performance Specifications.		
2.2.6.1.b	A minimum of five (5) audio channels shall be supported: (1) Farebox area (2) Mid Passenger Cabin (3) Rear Passenger Cabin (4) Exterior Right Side (5) Exterior Left Side		

Req. No.	Audio Microphone Requirements	Code	Comments
2.2.6.1.c	The audio microphone(s) provided shall be capable of resolving clearly audible passenger-operator voice communication from the background noise that is typical of the transit vehicle operating environment (e.g., voices, wind/traffic noise, windshield wiper/engine noise, etc.).		
2.2.6.1.d	Each audio channel shall be paired with one or more camera images and recorded synchronously with the video for simultaneous playback.		
2.2.6.1.e	Audio/video pairings shall be configurable through the Central System.		

2.2.7 Event Tagging/Event Tagging Button

Req. No.	Event Tagging/Event Tagging Button Requirements	Code	Comments
2.2.7.1.a	The system shall include an Event Tagging feature that write-protects video and audio surveillance data when a tagging event occurs.		
2.2.7.1.b	Write-protect time for tagged surveillance data shall be user configurable through the Central System.		
2.2.7.1.c	Tagging events shall include: (1) Activated of the System's Event Tagging Button (2) Activation of the existing LTD Covert Alarm (3) Accelerometer Tagging Event (4) Event Tagging Request from an authorized Central System user (5) Other tagging trigger from another onboard, e.g., CAD/AVL		
2.2.7.1.d	Tagged video clips shall be queued for upload to the Central System via the Wireless Communications System. Tagged video clips shall be preserved on the DVR hard drive following upload (to preserve forensic integrity of the original data), until the pre-configured expiration of the tagged data.		
2.2.7.1.e	The System shall in no way interfere with the existing functionality over the existing covert alarm, nor shall the function or malfunction of the Onboard Surveillance System compromise the integrity or performance of the covert alarm.		

Req. No.	Event Tagging/Event Tagging Button Requirements	Code	Comments
2.2.7.1.f	The System shall include an Event Tagging Button for Operator-initiated event tagging.		
2.2.7.1.g	The Event Tagging Button shall be a physically and electronically separate input from the existing LTD Covert Alarm.		
2.2.7.1.h	The Event Tagging Button shall be located on the operator instrument panel and within reach of the operator from a normal sitting position. The location of the Event Tagging Button shall be approved by LTD for each vehicle type during system design.		
2.2.7.1.i	Activation of the Event Tagging Button shall write-protect a configurable time interval of the associated video, activate Enhanced Operation camera mode, and to provide a marker to facilitate searching video for the tagged event.		
2.2.7.1.j	The default programmable time interval to write-protect video for a tagged event shall be configurable through the Central System.		
2.2.7.1.k	Use of the Event Tagging Button shall automatically adjust the resolution and frame rate settings of all CCTV cameras onboard the coach to the Enhanced setting, for a predetermined configurable time interval if necessary to meet the minimum performance requirements.		
2.2.7.1.l	The System shall accept tagging inputs from other onboard systems, such as a pre-configured alarm or priority request to talk (PRTT) from the Computer Aided Dispatch/Automatic Vehicle Location system.		

2.2.8 Digital Video Recorder

Req. No.	Digital Video Recorder Requirements	Code	Comments
2.2.8.1.a	The Onboard System shall include a Digital Video Recorder (DVR), rated for mobile transit applications, on each coach.		
2.2.8.1.b	The DVR shall be capable of automatically recording all CCTV camera video and the audio inputs synchronously without perceptible delay or offset between audio, video, and vehicle metadata indicators.		

Req. No.	Digital Video Recorder Requirements	Code	Comments
2.2.8.1.c	The DVR shall incorporate video compression technologies to maximize the efficiency of data storage on the Removable Storage Media, allowing for the longest possible video quality and retention time before over-writing is necessary.		
2.2.8.1.d	The DVR shall overwrite surveillance data automatically using a first-in, first out approach to overwriting data.		
2.2.8.1.e	The DVR shall be partitioned to continuously record video at all times, even if the tagged events partition is full.		
2.2.8.1.f	When the tagged event data partition is full, the DVR shall overwrite surveillance data automatically using a first-in, first out approach to overwriting data.		
2.2.8.1.g	The DVR shall be capable of attributing metadata to the recorded video and audio streams as defined under External Interfaces.		
2.2.8.1.h	The DVR shall accept and record vehicle location (latitude and longitude coordinates) data from the vehicle location system with all video.		
2.2.8.1.i	All data recorded by the DVR shall be stored on removable shock-resistant storage media and shall be formatted to prevent alteration or tampering.		
2.2.8.1.j	The DVR shall not require human intervention to initiate system operation, other than master switch operation.		
2.2.8.1.k	The DVR case shall have an exterior indicator (e.g. LED display) indicating system health, faults, or faulty storage media.		
2.2.8.1.l	The DVR shall be controlled using a current industry standard central processing unit and current generation microprocessor technology.		
2.2.8.1.m	The DVR shall self-report faults, errors, faulty storage, and other system health information for onboard equipment to the Central System via wireless uploads.		
2.2.8.1.n	The DVR System Clock shall operate independently of the transit coach' main power supply and shall have a minimum five (5) year operational lifetime before a battery change is required. Clock drift shall be no greater than one (1) minute per six (6) months. The system clock shall adjust for leap years and daylight savings time changes automatically without external intervention.		

2.2.9 Removable Storage

Req. No.	Removable Storage Requirements	Code	Comments
2.2.9.1.a	The DVR shall include Removable Storage Media for temporary storage of data prior to uploading of data to the central system.		
2.2.9.1.b	The Contractor shall determine the appropriate capacity of the Removable Storage Media to meet LTD Performance Specifications under normal operating conditions and camera configurations, not less than seven (7) days of continuous recording. Onboard storage capacity shall not be less than 500 MB.		
2.2.9.1.c	Removable Storage Media shall be removable, conveniently portable and impervious to alteration and tampering.		
2.2.9.1.d	Tagged events shall be write-protected until they have been successfully uploaded to the Central System AND reach a configurable expiration date following the tagged event (e.g., 7 days).		
2.2.9.1.e	The Onboard System shall be capable of automatically reporting to the Central System the amount or percentage of onboard disk usage for write-protected tagged events not yet uploaded.		
2.2.9.1.f	Removable Storage Media shall be swappable without special skills or tools other than the security key lock. A hot-swappable design is preferred.		
2.2.9.1.g	There shall be no data loss as a result of swapping Removable Storage Media.		
2.2.9.1.h	The DVR shall log and time-stamp the removal or insertion of Removable Storage Media.		
2.2.9.1.i	The Removable Storage Media shall be separate from the DVR, where applicable, and removal of the recording media shall not affect the parameters configured for the onboard system.		
2.2.9.1.j	The Removable Storage Media shall be mounted within the same enclosure as the DVR system.		
2.2.9.1.k	The Removable Storage Media shall be secured within the DVR enclosure by lock and removable key to prevent unauthorized access.		
2.2.9.1.l	The rated Mean Time Between Failure (MTBF) on the Removable Storage Media shall be at least 25,000 hours.		

2.2.10 Other External Interfaces

Req. No.	Other External Interfaces Requirements	Code	Comments
2.2.10.1.a	The DVR shall be capable of interfacing with other onboard equipment (digital sensors and devices) through the J-Bus (J1708, J1939) or a direct sensor interface (e.g. RS-32, PLC). The purpose of this interface is to receive sensor inputs and vehicle-related information including: (1) Vehicle speed; (2) Brake operation; (3) Headlights; (4) Left/right turn directional signals; (5) Covert Alarm; (6) Door actuation; (7) Horn; (8) Bell on <i>EmX</i> Bus Rapid Transit vehicles; and (9) Wheelchair Lift/Ramp Actuation.		
2.2.10.1.b	The DVR shall be capable of accepting metadata from through a future interface with the Trapeze TransitMaster system, including: (1) GPS Signal/Vehicle Position Data (2) Operator identification (3) Vehicle identification (4) Bus stop name (5) Bus stop number (6) Route number (7) Block number (8) Run/trip number (9) Tagging Event trigger inputs		
2.2.10.1.c	The DVR shall be capable of acquiring, processing, and appending all the above vehicle parameters with video. The DVR shall also be capable of combining the vehicle variables above with other text data, such as time and date.		

2.2.11 Data Extraction

Req. No.	Data Extraction Requirements	Code	Comments
2.2.11.1.a	The System shall be configurable to support the modes of operation for wireless upload of events tagged onboard the coach by the Operator or automated triggers (e.g., accelerometer) 1.) <u>Notification Only for Tagged Events:</u> The System shall transmit a notification to the Central System that an event has been tagged onboard the coach. Tagged video/audio clips are not uploaded unless a Scheduled Upload is manually requested through the Central System. 2.) <u>Automated Upload of Tagged Events:</u> The system automatically downloads all events clips tagged onboard the coach to the Central System. 3.) <u>Scheduled Uploads of Tagged Events:</u> Shall occur based upon video system operator defined requests using the Central System. Operator defined requests shall be facilitated through a Graphical User Interface (GUI), and shall employ any combination of the search criteria described herein.		

Req. No.	Data Extraction Requirements	Code	Comments
2.2.11.1.b	The onboard System shall support each of the following means of data extraction from the Removable Storage Media, through the Mobile Access Router. This shall include: (1) Wireless download represent the predominant method of data extraction and shall be supported using the Wireless Communications System when vehicles are within range of an LTD 802.11n wireless access point (WAP), or, if so configured, a commercial cellular data service. Wireless downloading of data shall be automatically initiated for tagged events, or specially queried data, while a coach is within range of the wireless communications system. (2) "Hot Swappable" removable data drives shall be used to retrieve critical information during urgent and/or immediate circumstances. The procedure of 'hot swapping' the removable storage drive shall not require special power management procedures. The Central System shall include necessary readers, docking stations, or interfaces to connect removable storage media to an LTD workstation. (3) USB 2.0 or Ethernet Port(s) access shall be available for the purpose of manually retrieving data through the use of a portable computer plugged into the DVR onboard the vehicle. This capability shall support the downloading of data from the onboard system to a portable computer at a rapid speed sufficient to enable quick response by police and other emergency service personnel. (4) Wireless download, via the Mobile Access Router, to an LTD or authorized law enforcement mobile computer or device within proximity of an LTD vehicle.		
2.2.11.1.c	The System shall be capable of making a duplicate copy of the entire contents of the removable media.		

2.2.12 Drive Error Auto Correction

Req. No.	Drive Error Auto Correction Requirements	Code	Comments
2.2.12.1.a	The DVR shall be capable of identifying and addressing any drive errors that may occur without causing any interruptions in the recording process.		
2.2.12.1.b	The DVR shall auto detect degrading removable media quality (e.g., repetitive write errors) and send a maintenance notification to the central System.		

2.2.13 Log File

Req. No.	Log File Requirements	Code	Comments
2.2.13.1.a	The DVR shall maintain a log file of its actions, which are stored on the storage media. This information includes the time and date of the action and includes: ignition on/off, events start and stop, incidents saved, camera failure, drive errors/faults, and other diagnostics.		

2.2.14 Diagnostics

Req. No.	Diagnostics Requirements	Code	Comments
2.2.14.1.a	The DVR shall have a port to allow programming and configuration (time, date, transit coach ID, disk size, etc.) and system diagnostics.		
2.2.14.1.b	DVR built-in software shall perform continuous system diagnostics, configuration and shall be capable of reporting failures of the DVR, hard drive or cameras, to the sub-system component level.		
2.2.14.1.c	The onboard system shall perform self-diagnostics to monitor the health of the integrated system and indicate if a system fault or predefined anomaly has occurred. These conditions shall include failures in any of the onboard CCTV cameras, microphone, and DVR, GPS, communications sub-system, and/or removable media.		
2.2.14.1.d	The onboard system shall detect a degradation in the quality of any of the CCTV cameras due to vandalism (i.e., hairspray, paint, chewing gum, etc.), or other visual obstructions interfering with image capture, and send a notification message to the central system.		
2.2.14.1.e	Diagnostic faults or system anomalies shall result in generation of an automated email notification (user configured) for predefined event types.		

Req. No.	Diagnostics Requirements	Code	Comments
2.2.14.1.f	All onboard systems shall be self-restarting, and shall not become unresponsive or require manual reboots or restarts to continue operation.		

2.2.14.2 Vehicle Location System (VLS)

Req. No.	Vehicles Location System Requirements	Code	Comments
2.2.14.2.a	The System shall accept vehicle position data through an interface with the existing Trapeze-ITS TransitMaster Computer-Aided Dispatch/ Automatic Vehicle Location system.		
2.2.14.2.b	The System shall be capable of calculating and displaying vehicle position (latitude/longitude), speed, time and heading data to the DVR.		
2.2.14.2.c	The Vehicle Location System shall provide the master time sync to all onboard devices supplied under the contract.		
2.2.14.2.d	The System shall record vehicle position metadata to the surveillance media at least once per second.		
2.2.14.2.e	Vehicle location computation lag time shall not exceed two (2) seconds in the vehicle (lag time is defined as the time it takes to compute position information, correct it, and update the onboard systems).		

2.2.15 Accelerometer

Req. No.	Accelerometer	Code	Comments
2.2.15.1.a	The Onboard System shall include an Accelerometer generating an output signal proportional to G-forces experienced by the vehicle.		
2.2.15.1.b	The functional intent of the Accelerometer shall be to write-protect (tag) a programmable time interval of video and to provide a marker to facilitate searching of video associated with sudden vehicle maneuvers or braking that exceeds the configurable G-force threshold.		
2.2.15.1.c	The Accelerometer threshold for triggering a tagged event shall be configurable through the Central System.		
2.2.15.1.d	The Accelerometer force value shall be continuously and synchronously recorded as metadata to the surveillance video.		

Req. No.	Accelerometer	Code	Comments
2.2.15.1.e	The Accelerometer shall be capable of disabling and/or independently configuring the vertical (z-axis) to account for road roughness and bumps experienced under normal operating conditions.		
2.2.15.1.f	The G-force threshold to activate event tagging shall be configurable to minimize false alarms.		

2.2.16 Operator System Status Indicator

Req. No.	Operator System Status Indicator	Code	Comments
2.2.16.1.a	The Onboard System shall include an Operator System Status Indicator mounted near the operator's instrument panel. The final mounting location shall be approved by LTD.		
2.2.16.1.b	The Operator System Status Indicator shall comprise an LED display that shall indicate if the Onboard System is fully operational or if a set of predefined conditions exist that shall indicate to the operator that the onboard System is not fully operational. These conditions shall include failures in any of the onboard CCTV cameras, microphone, and DVR.		
2.2.16.1.c	Preferably, the Operator System Status Indicator shall also indicate if there is a detected degradation in the quality of any of the CCTV cameras due to vandalism (i.e., hairspray, paint, gum, or other visual obstructions interfering with image capture).		
2.2.16.1.d	The Operator System Status Indicator shall be mounted so as to be legible by an Operator from a normal seated position. The mounting and operation of the Operator System Status Indicator shall not interfere with the safe operation of the vehicle.		

2.2.17 Onboard System Power Requirements

Req. No.	Onboard System Power Requirements	Code	Comments
2.2.17.1.a	Onboard System power requirements and power systems installation shall be reviewed and approved by LTD during design.		
2.2.17.1.b	All onboard System equipment shall operate at a nominal DC power (from vehicle negative ground). 24 Volts DC is preferred. The System shall be fully functional with no performance degradation within operating supply voltage ranges of 23 VDC to 27 VDC at the supply terminals.		

Req. No.	Onboard System Power Requirements	Code	Comments
2.2.17.1.c	All onboard System equipment shall not reset, lose data or be disabled by momentary voltage drops such as those resulting from engine start or normal perturbations in power supply in a transit mobile environment.		
2.2.17.1.d	The onboard System shall be tolerant to and able to handle sudden loss of power, including “knife switch” power losses and other “dirty” power disruptions, and be self-regulating and internally protected from power sags, surges and spikes. This protection shall prevent the destruction of hard drives and corruption of video that tends to occur with such power losses and disruptions.		
2.2.17.1.e	All cables and connectors to and from the onboard System shall incorporate transient power protection.		
2.2.17.1.f	Power shall only be supplied through an available circuit breaker or fuse approved by LTD. The circuit breaker or fuse shall be designed to provide sufficient power to operate the System, while protecting the System and coach from overloads and shorts.		
2.2.17.1.g	If vehicle power is temporary lost, a System backup power source shall power all onboard system equipment without interruption for a sufficient period to permit safe automatic power down of the System.		
2.2.17.1.h	If vehicle power is lost for more than one-hundred-twenty (120) seconds, the System should come back on-line automatically without operator intervention within one-hundred-twenty (120) seconds after coach power has been restored.		

2.2.18 Power Management

Req. No.	Power Management Requirements	Code	Comments
2.2.18.1.a	The system shall include a power management system that shuts down the System, after a programmable period after the vehicle ignition has been turned off (default set to fifteen [15] minutes). All shutdown processes shall be controlled through the system's software and only be possible if the ignition is off.		
2.2.18.1.b	Following System shutdown, all onboard components of the System shall have no or very low (<100 mA) current draw after the vehicle ignition.		

3. CENTRAL SYSTEMS

3.1 GENERAL REQUIREMENTS

Req. No.	Central System General Requirements	Code	Comments
3.1.1.1.a	The System shall operate as client software integrated into LTD's enterprise IT environment.		
3.1.1.1.b	The Central System shall be designed to allow for system configuration, maintenance, and video retrieval by authorized users, via shared network infrastructure, from any LTD network workstation.		
3.1.1.1.c	The System shall use LTD's Active Directory Lightweight Directory Access Protocol (LDAP) network service, to eliminate duplicity of passwords and allow for user-based management of access privileges.		
3.1.1.1.d	The System shall not use static passwords, or passwords that are not unique to LTD and configurable by LTD, in any Central or Onboard system component or software.		
3.1.1.1.e	The System shall support administration of all Central and Onboard system passwords by an authorized System Administrator through an LTD network workstation.		
3.1.1.1.f	The System shall support password administration of like components (e.g. DVRs) on all LTD vehicles through a single operation by the System Administrator at an LTD network workstation.		
3.1.1.1.g	To facilitate build-out and expansion, the Central System shall be sized to accommodate a fleet size of one hundred fifty (150%) of the current LTD fixed route and paratransit fleet size.		
3.1.1.1.h	The Contractor shall adhere to LTD Hardware and Software Standards described herein, as well as other applicable LTD Information Technology Departmental Policies and Procedures, in the design, installation, testing, and configuration of the central System.		
3.1.1.1.i	Central network components, network management systems shall be housed at LTD's Glenwood Facility, with secondary or backup equipment located at other remote sites as recommended by the Contractor's proposed architecture.		
3.1.1.1.j	Communication among Central System Components, and between Central and Onboard Systems, shall utilize the LTD Wide Area Network and LTD wireless infrastructure.		

Req. No.	Central System General Requirements	Code	Comments
3.1.1.1.k	During system design, the Contractor shall specify requirements (subject to LTD approval) for Central System hardware, software, and networking to be provided by LTD.		
3.1.1.1.l	Central system hardware, including servers, switches, video archive storage, and peripheral equipment, shall be provided by LTD to Contractor's specifications based upon the approved design.		
3.1.1.1.m	All System computer equipment provided by the Vendor shall have a minimum 10,000 hours MTBF.		
3.1.1.1.n	Any Central System equipment specified shall utilize standard Electronic Industries Alliance (EIA) nineteen inch (19") racks, rated for seismic requirements in the Eugene-Springfield Region.		
3.1.1.1.o	The System shall be compatible with an open architecture approach to integrate with network service and third party systems and databases via Software Development Kits (SDKs) and Application Programming Interfaces (APIs).		
3.1.1.1.p	The System design shall incorporate scalability and modularity so that it can be upgraded or expanded as LTD needs and Information Technology best practices evolve.		
3.1.1.1.q	The System shall have the capability to "push" or deploy the client software and updates to all client computers in one software deployment operation, without requiring a separate load/software upgrade at each client workstation.		
3.1.1.1.r	The System must support web clients, with Information Internet Services (IIS) preferred.		
3.1.1.1.s	The System shall have the capability to run within a VM Ware (virtualized) server environment.		
3.1.1.1.t	The System shall support LTD's enterprise Microsoft SQL Server 2008 platform for database requirements.		
3.1.1.1.u	The System client software shall be compatible with LTD's enterprise 64-bit, Windows 7 operating environment.		
3.1.1.1.v	Central System hardware shall be vendor neutral, and capable of running on Windows and .NET server platforms.		
3.1.1.1.w	The System shall be compatible with multi-monitor workstation environments, such as dispatch and security workstations.		

Req. No.	Central System General Requirements	Code	Comments
3.1.1.1.x	The System shall support use of simple network management protocol (SNMP) traps, a Windows event log, and/or syslog to support network management of System alarms.		
3.1.1.1.y	The System shall allow access from LTD mobile network workstations (e.g., networked Toughbooks) for authorized users.		

3.2 FUNCTIONAL REQUIREMENTS

3.2.1 Central Data Transfer

Req. No.	Central Data Transfer Requirements	Code	Comments
3.2.1.1.a	The Central System shall trigger and manage data traffic and upload/download activity via the Wireless Communication System.		
3.2.1.1.b	Data uploading through the Mobile Access Router shall be supported in two ways: (1) Automated Uploads: shall occur whenever a coach with tagged events is within range of the wireless network or, if configured by LTD, via a commercial cellular service. (2) Scheduled Uploads: shall occur based on video system operator defined requests using the central System. Operator defined requests shall be facilitated through a Graphical User Interface (GUI), and shall employ any combination of the search criteria described herein. Schedule uploads shall be transmitted the next time the vehicle is within range of the wireless network or, if configured by LTD, via a commercial cellular service.		
3.2.1.1.c	The System shall be capable of resuming interrupted uploads without the need for a restart, and without breaking the data file into multiple segments.		
3.2.1.1.d	The Central System shall incorporate diagnostic checks to test for proper upload/download functionality with each vehicle. The System shall self-report any system faults detected through these tests.		

3.2.2 Video Management System Software

Req. No.	Video Management System Software Requirements	Code	Comments
3.2.2.1.a	The central system shall include a secure, user friendly Video Management System software suite for purposes of searching, playback, exporting, and uploading of video data as well as system maintenance, monitoring, and configuration.		
3.2.2.1.b	The central system software shall operate through a user-friendly and integrated GUI without the need for operators to directly review or modify database and configuration files.		
3.2.2.1.c	The GUI shall be clear and legible with colored graphics outlining main components. All buttons, menus, toolbars, control bars, indicators, text panels, status bars and any dialogue boxes shall be clearly and easily identifiable.		

3.2.3 Surveillance Data Playback

Req. No.	Surveillance Data Playback Requirements	Code	Comments
3.2.3.1.a	Playback of stored surveillance data shall include: (1) video footage; (2) audio; and (3) associated metadata.		
3.2.3.1.b	Users shall be able to playback video (with associated audio and metadata where applicable) as a navigable timeline, with associated functions to specify the playback play speed, freeze frames, view frame by frame images, and view in reverse time.		
3.2.3.1.c	Users shall be able to playback video (with associated audio and metadata where applicable) from multiple camera views within the same coach in a synchronous fashion.		
3.2.3.1.d	When viewing multiple cameras from the same coach, users shall be able to choose the number of cameras displayed on the screen, ranging from a single camera with maximum utility of available screen space, through to all cameras arranged in a 'tiled' format.		
3.2.3.1.e	Audio channel playback shall be selectable by the User during video playback. Any single audio channel shall be selectable for playback with any video channel or combination of video channels.		

Req. No.	Surveillance Data Playback Requirements	Code	Comments
3.2.3.1.f	Video, audio, and metadata playback shall be synchronized without perceptible delay or offset.		
3.2.3.1.g	Video playback capabilities shall include standard viewing functions such as pause, fast-forward, reverse playback, and zoom.		
3.2.3.1.h	Users shall be able to attach attributes to video segments (i.e., keyword descriptors) for subsequent searching or at a minimum to provide unique file naming of a video clip to assist in searching.		
3.2.3.1.i	Unique file naming shall include automatically populating file names with Vehicle Identifier, Date, and Time		
3.2.3.1.j	Users shall be able to adjust the contrast and brightness of a video clip while viewing it, without the need to stop playback or open a new window.		

3.2.4 Surveillance Data Search

Req. No.	Surveillance Data Requirements	Code	Comments
3.2.4.1.a	The video management software component shall facilitate video searching by: (1) Vehicle ID; (2) Date and time of day; (3) Event type (i.e., Event Tagging Button tagged event, G-force sensor tagged event, and Silent Alarm tagged event); (4) Keyword (5) Geographic location, to locate video based upon an approximate known location of a vehicle or event.		
3.2.4.1.b	The search functionality shall be scalable to perform fast searches as the volume of uploaded and archived video data increases.		
3.2.4.1.c	The search functionality should apply to both uploaded video, as well as video that is still residing on a coach within range of the System's Wireless Communication System.		
3.2.4.1.d	A sort and search function shall enable operators to narrow any search to obtain groups of archived information. A filtering function shall be provided to enhance search capabilities.		

3.2.5 Exporting Audio/Video

Req. No.	Exporting Audio/Video Requirements	Code	Comments
3.2.5.1.a	The Video Management System shall allow for export of surveillance video and audio data in a manner that maintains the integrity and security of surveillance data.		
3.2.5.1.b	The System shall permit video/audio download a non-proprietary format for saving on a DVD (e.g., MP4 or M4V MPEG-4 file formats), and viewing on a standard DVD player or notebook computer without the need for any viewing software from the Contractor.		
3.2.5.1.c	The video management software shall provide the ability to export still pictures from the video data, to be saved in a standard JPEG and BMP formats.		
3.2.5.1.d	All exported video clips shall include an embedded mechanism by which the user can verify the authenticity of a given video clip relative to the original clip.		
3.2.5.1.e	The System shall allow the user to edit the length of video clips to be extracted or archived.		
3.2.5.1.f	The System shall allow users to annotate video files with notations or captions.		

3.2.6 Forensic Integrity

Req. No.	Forensic Integrity Requirements	Code	Comments
3.2.6.1.a	The System design, features, and performance shall account for the need to preserve the forensic integrity of recorded video and audio surveillance as a principal and mandatory requirement.		
3.2.6.1.b	System video image quality and integrity shall be sufficiently high to be admissible as evidence in legal proceedings in accordance with current practices in the State of Oregon and U.S. Federal Courts.		
3.2.6.1.c	The onboard systems shall include digital watermarking or other features to authenticate the integrity of recorded video, audio, and metadata.		
3.2.6.1.d	Video stored to the removable storage media shall be formatted in such a way as to provide sufficient data security to meet courtroom standards of admissibility.		

Req. No.	Forensic Integrity Requirements	Code	Comments
3.2.6.1.e	The DVR shall combine, compress, and store video and digital sensor signals in a manner that prevents alteration and tampering, with restricted access.		
3.2.6.1.f	The System shall include event log functionality that can be used to audit handling, modifications, and export activity for surveillance data of forensic interest. At a minimum this data shall include time, date, device IDs, actions performed, and LTD user account under which user-initiated actions were performed.		

3.2.7 Surveillance Data Central Storage

Req. No.	Surveillance Data Central Storage Requirements	Code	Comments
3.2.7.1.a	The System shall utilize shared LTD network hardware and storage media for Central System surveillance data storage and archiving. LTD shall supply network hardware and storage as per Contractor specifications.		
3.2.7.1.b	The System shall support video storage and archiving requirements based upon LTD policies and legal requirements for video retention (e.g., one (1) month, two (2) years, seven (7) years).		
3.2.7.1.c	The System shall be compatible with LTD's existing FAS 2050 Storage Array for video archiving.		
3.2.7.1.d	The System shall be compatible with LTD's existing Network Attached Storage (NAS) for video archiving.		
3.2.7.1.e	The video archive shall support a multi-relational database filing approach with metatag attributes to facilitate more efficient video searches using keywords/categories (claim, accident, complaint, etc.) associated with video clips.		
3.2.7.1.f	The System shall incorporate compression features to maximize storage capacity, e.g., gradual reductions in video resolution as files age.		

3.3 CONFIGURATION AND MAINTENANCE

3.3.1 System Administration

Req. No.	System Administration Requirements	Code	Comments
3.3.1.1.a	The System software shall include a suite of administrative functions and capabilities for the purposes of managing and administering the integrated System as supplied and installed by the Contractor.		
3.3.1.1.b	Administrative functions shall include hardware and software set-up, user account management, and security settings.		
3.3.1.1.c	Administrative functions shall support management tasks to configure and maintain the entire system including servers, workstations, networking equipment (including IP addressing), monitor DVRs and any ancillary equipment.		
3.3.1.1.d	Maintenance system shall clearly identify failures by indicating location of failure and by describing the nature of the failure condition		

3.3.2 Reporting

Req. No.	Reporting Requirements	Code	Comments
3.3.2.1.a	The System software suite shall include reporting capabilities to generate both standard reports based on pre-established criteria, as well as customized reports based on user-definable set of search criteria.		
3.3.2.1.b	Within the standard reports, functionality shall be included to generate reports based on user specified start date and end dates and event information, as well as fault and maintenance reports.		
3.3.2.1.c	Use of the reporting functions shall be via a user interface supplied by the Contractor, and shall not require prior knowledge of databases and query methods.		
3.3.2.1.d	The System generated reports shall be formatted and print-ready.		
3.3.2.1.e	The System generated reports shall be exportable to standard, non-proprietary formats (e.g. Portable Document Format (.PDF), MS Word (.DOC or .DOCX), Rich Text Format (.RTF), comma-separated value (.CSV) file format.)		

3.3.3 Access, Authorization and Security

Req. No.	System Administration Requirements	Code	Comments
3.3.3.1.a	All user interactions with the central system, including configuration, video playback, tagging, retrieval, and download, shall be logged to provide security and auditing traceability of user activities.		
3.3.3.1.b	Access to and retrieval of recorded data shall be restricted to authorized personnel through the use of secure data protection methods incorporating both recorder and user level access accounts and passwords.		
3.3.3.1.c	The System shall be compatible with and accept LTD network and user settings managed through <i>Active Directory</i> .		

3.3.4 Equipment Management

Req. No.	Equipment Management Requirements	Code	Comments
3.3.4.1.a	The System software suite shall include functions and capabilities for managing central and onboard equipment, including cameras, DVRs, central servers and storage media, as well as the communication links between them.		
3.3.4.1.b	The equipment management software capability shall: (1) Allow operators to manually query the status of devices (2) Automatically determine the status of devices		
3.3.4.1.c	The equipment management software shall accept system health and failure messages generated by the onboard System, and permit logging, query, evaluation, reporting, and automatic notification functions to facilitate system maintenance and restoration of system functionality.		
3.3.4.1.d	The equipment management software shall generate status reports and error notification reports based on either the manual or automatic queries.		
3.3.4.1.e	The equipment management capabilities shall be integrated with the Report Management capabilities of the system, such that certain status conditions result in the generation of automatic reports and e-mail notification to maintenance personnel.		

Req. No.	Equipment Management Requirements	Code	Comments
3.3.4.1.f	Spare parts shall be kept on hand for all components supporting facilities surveillance. At least one spare part shall be maintained per component.		
3.3.4.1.g	Plug and Play functionality shall be utilized where possible		
3.3.4.1.h	The system should provide automatic notification of technical failures		

3.3.5 System Notifications

Req. No.	Email Notification Requirements	Code	Comments
3.3.5.1.a	The System software shall be configurable to notify e-mail recipients of system events and faults. This functionality shall provide an option to customize notifications and assign groups.		
3.3.5.1.b	E-mail notification shall be configurable to extract details and issues to notify designated people about information of interest to them. Notification message may include, but not limited to: (1) Video and data download failures (2) Network unavailability or communications failures (3) Camera outage (loss of video signal) or detected obstruction (4) DVR storage capacity or error alerts (5) Certain tagged events, e.g. Silent Alarm or G-Force exceeded		
3.3.5.1.c	E-mail notification distribution shall be configurable for each event type to include relevant LTD personnel based on the nature and severity of each event type.		
3.3.5.1.d	The System shall be compatible with the LTD enterprise Microsoft <i>Exchange</i> email environment.		

3.3.6 Central Configuration of Onboard Equipment from Central

Req. No.	Remote Configuration Requirements	Code	Comments
3.3.6.1.a	The System software shall provide a tool to perform central configuration of the onboard equipment via the Central System.		

Req. No.	Remote Configuration Requirements	Code	Comments
3.3.6.1.b	Routine upgrade and configuration of the onboard system shall be possible from the central system, without the need to physically access onboard equipment on each vehicle.		
3.3.6.1.c	Configuration updates shall be queued until the vehicle(s) is in range of the wireless network.		
3.3.6.1.d	Unsuccessful configuration attempts shall be logged, and an automatic email notification generated after repeated failed attempts.		
3.3.6.1.e	Central configuration shall be possible on an individual vehicle, batch, or fleet-wide basis.		

4. WIRELESS COMMUNICATIONS AND MOBILE ACCESS ROUTER INTEGRATION

4.1 GENERAL REQUIREMENTS

Req. No.	Wireless Communications General Requirements	Code	Comments
4.1.1.1.a	The Mobile Access Router, provided by LTD, shall be the primary interface between the onboard systems and the central system components via wireless data transmission.		
4.1.1.1.b	All network traffic between onboard and central systems shall be routed through the MAR. Communications path selection among wireless networks shall be configurable through the MAR.		
4.1.1.1.c	The System shall support wireless downloads via: (1) LTD-owned 802.11n Wireless network (2) A commercial cellular data service, if configured by LTD.		
4.1.1.1.d	The MAR interface shall common industry standards utilize standards and protocols support future wireless technologies without the replacement of the entire System.		
4.1.1.1.e	The System shall support path independence of data transmission between the Onboard and Central Systems, based on network routing logic resident in the MAR. The MAR will have the capability to select the best data path at any given time, based upon Signal Quality, End to End Throughput, recent past performance and reliability of wireless network, and weighted preference based upon statically defined measures such as location and time of day.		

Req. No.	Wireless Communications General Requirements	Code	Comments
4.1.1.1.f	The System shall permit upload of tagged video clips, configuration data, and other system status messages when vehicles are in range of the LTD wireless network, during pull-in, pull-out and throughout the operating day.		
4.1.1.1.g	The Wireless Communication System shall permit upload and transmittal of low bandwidth traffic such as systems status messages continuously as long as there is a valid wireless uplink.		
4.1.1.1.h	The Wireless Communication System shall be designed and scalable to accommodate anticipated daily video, diagnostic, and configuration data transmissions within the available transmission thresholds and under normal LTD operating conditions (pull-in, pull-out) etc.		
4.1.1.1.i	The Contractor shall coordinate with LTD on the design, integration, and testing of System components with the MAR, LTD's wireless communications infrastructure, and Central System components on the LTD Wide Area Network.		
4.1.1.1.j	The Onboard System shall support automatic address assignment using Dynamic Host Configuration Protocol (DHCP).		
4.1.1.1.k	The MAR shall support connections to the onboard local area network via a standard Copper-based Fast or Gigabit Ethernet (100base-T or 1000base-T).		
4.1.1.1.l	The System shall be compatible with MAR functionality to implement firewall policies, to control traffic through the system from multiple onboard devices, and support Quality of Service (QoS) capabilities to allow the prioritization of specific traffic.		
4.1.1.1.m	All onboard and central systems utilizing the Wireless Communication System must not rely on having Internet Access, and should only require communication to LTD's WAN and Central Infrastructure for normal operations.		
4.1.1.1.n	All onboard systems utilizing the Wireless Communication System must identify all valid traffic by their Protocol (TCP, UDP, etc), port number(s), and traffic direction.		

Req. No.	Wireless Communications General Requirements	Code	Comments
4.1.1.1.o	All onboard and central systems utilizing the Wireless Communication System must define operating requirements for any traffic, including minimum and maximum bandwidth needs and latency requirements.		
4.1.1.1.p	Any and all vendor remote access requirements must be documented.		

5. ELECTRICAL REQUIREMENTS

5.1 GENERAL REQUIREMENTS

Req. No.	Electrical General Requirements	Code	Comments
5.1.1.1.a	Circuit breaker type functionality shall be provided for the onboard system that limits current draw to no more than 1.5A. Circuit breaker contact shall open when current limit is exceeded and shall remain open until short circuit condition is removed and/or current draw is reduced below the limit.		
5.1.1.1.b	All enclosures, chassis, assemblies, panels, switch boxes, terminal boxes, exposed metal equipment and metal shall be grounded.		
5.1.1.1.c	Conductors carrying fifty volts or more shall not be bundled with any lower voltage conductors.		
5.1.1.1.d	Wire splices are not permitted within the run of the cable, but are permitted when necessary to perform a Butt Splice between a device and cable end.		
5.1.1.1.e	Wire and cable ties shall not be so tight as to cause indentation and damage to the insulation.		
5.1.1.1.f	Wiring gauge shall adhere to governing industry best practices or legal standards including National Electric Code (NEC), Underwriters Laboratories (UL), and Society of Automotive Engineers (SAE).		
5.1.1.1.g	All shielded cables shall be grounded at one end.		
5.1.1.1.h	All cables and connectors shall be labeled in accordance with LTD protocol for cable labeling and color code schema.		
5.1.1.1.i	Adhesive mounted bases shall not be used to support wire ties or cable supports.		
5.1.1.1.j	All conductors within each enclosure shall be installed free from metal edges, bolt heads, and other sharp or interfering points.		

Req. No.	Electrical General Requirements	Code	Comments
5.1.1.1.k	All conductors providing connections between components shall be provided with strain-relief, and be clear of moving objects that could damage either the conductor or the object.		
5.1.1.1.l	Where wires pass through openings, appropriate bushings shall be provided to protect the integrity of the wiring insulation.		
5.1.1.1.m	All terminations and cables shall be clearly indexed, labeled and schematically identifiable.		
5.1.1.1.n	All wire labels shall be non-metallic and shall resist standard lubricants and cleaning solvents.		
5.1.1.1.o	Protection shall be provided against radio frequency and electromagnetic interference (RFI/EMI) emission sources, as well as internal conductive or inductive emissions.		
5.1.1.1.p	All equipment shall be modularly upgradeable so that it does not need to be replaced in its entirety to increase memory capacity, to upgrade processing performance, or to reconfigure I/O options.		
5.1.1.1.q	Onboard systems shall be electrically isolated to prevent electrical faults in the Onboard Surveillance System from corrupting vehicle drivetrain systems.		

6. ENVIRONMENTAL REQUIREMENTS

6.1 ONBOARD EQUIPMENT

Req. No.	Onboard Equipment Environmental Requirements	Code	Comments
6.1.1.1.a	Onboard equipment shall meet or exceed the minimum conditions listed in the following table. Any onboard equipment that does not meet these conditions shall be subject to the approval of LTD.		
6.1.1.1.b	Hard drives shall be rated to withstand up to a maximum operating shock of 250Gs based on half-sine shock pulses of 2 msec, with shocks not repeated more than two times per second.		
6.1.1.1.c	All exterior mobile equipment shall be weatherproof and resistant to dust, fumes, solvents, moisture, cleaners, and other contaminants typical in a transit mobile environment (Rating NEPA Type 6 or better)		

Exhibit 6-1: Environmental Requirements for Onboard Equipment

Criteria	Minimum Conditions
Operating Temperatures	Interior : Between -68°F and +122°F
Humidity	0-90% relative humidity at 55°F, non-condensing
Operating Vibration	0.8G, 5 to 150 Hz all 3 axis as per EN 61373:1999 category I class B
Non-Operating Vibration	0.8G, 5 to 150 Hz all 3 axis as per EN 61373:1999 category I class B
Operating Shock	5.1G/30 ms as per EN 61373:1999 Category I class B.
Non-Operating Shock	5.1G/30 ms as per EN 61373:1999 Category I class B

6.2 CENTRAL EQUIPMENT

Req. No.	Central Equipment Environmental Requirements	Code	Comments
6.2.1.1.a	All central equipment shall maintain specified performance while operating in a controlled environment of +55°F to +90°F, and relative humidity (non-condensing) of less than 90%.		

7. DOCUMENTATION REQUIREMENTS

7.1 GENERAL REQUIREMENTS

- A. The Contractor shall provide system documentation comprising design documentation, testing documentation, training manuals, and operation and maintenance documentation.
- B. The documents shall be complete, accurate, up-to-date, and shall contain only that information that pertains to the system installed.
- C. All documentation shall be in English.
- D. Each volume shall have a binder (stiff cover and spine) and drawings shall be protected by clear plastic to withstand frequent handling. The binding arrangement shall permit the manual to be laid flat when opened.
- E. Document paper and binding shall be suitable for frequent handling in a technical reference, training, or shop environment.
- F. All pages of the documentation shall carry a title, version number and issue date, and shall contain a complete subject index.
- G. Electronic copies of all documentation shall be provided in native and PDF electronic formats on DVD.
- H. The Contractor shall include one (1) week in its schedule for review of submissions, and shall include the necessary time and resources to modify the documentation to incorporate comments from LTD.
- I. Equipment installation drawings shall be prepared in Visio or AutoCAD, and supplied in native as well as PDF format on DVD as well as hard copies. If prepared in Visio drawings shall be output in AutoCAD format.
- J. Electrical and electronic drawings shall be supplied to show engineering changes made to any component or module up to the end of the warranty period of the system supplied.
- K. Documentation shall require re-issues if any change or modification is made to the equipment proposed to be supplied. The Contractor may re-issue individual sheets or portions of the documentation that are affected by the change or modification. Each re-issue or revision shall carry the same title as the original, with a change in version number and issue date.
- L. The final version of all documentation shall be submitted prior to, and required for, Final System Acceptance.

7.2 DESIGN DOCUMENTATION

7.2.1 Implementation Plan

- A. The Contractor shall submit an Implementation Plan documenting their approach and milestones to system installation, integration, testing and acceptance.
- B. The Implementation Plan shall include the Contractor's proposed list and sequence of activities for the delivery of the full System in accordance to the requirements in these specifications, and their associated milestones for testing and acceptance. As a minimum, the Implementation Plan shall include the sequence and duration of the following activities:
 - 1. Engineering and Design;
 - 2. Equipment procurement and pre-delivery testing;
 - 3. Equipment shipping and site arrival;
 - 4. Central systems installation;
 - 5. Onboard systems installations;

6. Wireless communications system installation;
7. Testing and acceptance tasks and milestones; and
8. Training.

7.2.2 System Design Specification

- A. Following detailed engineering and design, the Contractor shall furnish LTD with complete written documentation describing the system to be delivered including all equipment and software to be furnished. The System Design Specification (SDS) shall include the following minimum information:
1. Overall system schematic and architecture;
 2. Communications network diagrams (including Wireless Communications System components and LTD wide area network components) showing the physical and logical architecture;
 3. Major assumptions and risks;
 4. Detailed description of all subsystems and equipment and hardware, including functional description, interface descriptions, communications loading details, material specifications (i.e. environmental, electrical etc), Material Selection Documentation (MSD), configuration details and installation details;
 5. Details on all network, data, power/electrical or other requirements provided by a third party;
 6. Detailed description of all software, including functional description, system interface descriptions, GUI descriptions, hardware specifications, availability and reliability figures and configuration details;
 7. Detailed descriptions of information, materials and timing required by the Contractor by other parties;
 8. In-depth system installation details and diagrams for each LTD coach fleet (make/model) and unique configuration;
 9. Wiring and installation diagrams for garage/yard equipment for each facility;
 10. Sub-system Integration Plan; and
 11. Parts list for each piece of equipment supplied. The parts list shall identify the manufacturer(s) and model/part number of all equipment. The Contractor may use manufacturer's data sheets or handbooks for individual equipment items that are a subcomponent within the overall system.

7.2.3 Material Selection Documentation

- A. For custom-manufactured equipment, the Contractor shall submit a set of comprehensive shop drawings and specifications as part of the MSD. The comprehensive shop drawings shall include the general arrangement, layout, wiring details, mounting bolt requirements, location for conduit entry and any physical or electrical requirements.
- B. For standard off-the-shelf items, the Contractor shall submit detailed manufacturer product specifications, drawings on mounting requirement, location of conduit entry and any other physical or electrical requirements.
- C. The Contractor shall provide certification and compliance statements for all standards that apply to the manufacturing of the equipment, whether custom-manufactured or off-the-shelf.

7.2.4 As-Built Documentation

- A. The Contractor shall provide sufficient documentation to reflect "as supplied" conditions and to facilitate operation, maintenance, modification and expansion of the equipment or any of its individual components to the satisfaction of the LTD or its representative.

- B. The SDS shall be updated to include the as-built conditions.
- C. The as-built documentation shall be provided three (3) weeks after Conditional Acceptance has been granted, and updated documentation will be required at any time the Contractor provides software or hardware upgrades.

7.2.5 System Recovery Plan

- A. The Contractor shall provide a System Recovery Plan for reinstallation/reconfiguration of systems and software following a catastrophic event.
- B. The System Recovery Plan procedures shall be tested prior to Final Acceptance.

7.2.6 Testing Documentation

- A. The Contractor shall submit a detailed Acceptance Plan that outlines each type of test, and the testing schedule.
- B. The Acceptance Plan shall be submitted at the same time as the SDS documentation.
- C. The Acceptance Plan shall include test descriptions, procedures and expected results for the following tests:
 - 1. Fleet Acceptance Test (FAT);
 - 2. Proof of Performance Test (POP);
 - 3. System Acceptance Test (SAT).
- D. The Acceptance Plan shall include a requirements traceability matrix that will cross reference the SDS, test procedures and original Technical Specifications/Requirements.
- E. The Acceptance Plan shall satisfy LTD that quality documentation will be generated from each component of the acceptance plan.

7.2.7 Training Manuals

- A. Training manuals shall be provided for each training participant (see Section 10: Training), in addition one (1) complete, reproducible and unbound version of each manual shall be provided.
- B. The manuals shall provide information on all of the topics covered during each of the training sessions and include exercises and screen captures.
- C. The Training Manual shall include space for the users to take notes during the training sessions.

7.2.8 Operation and Maintenance Documentation

- A. The operation and maintenance documentation will be comprised of the Operation and Maintenance (O&M) manuals, User Manuals and System Administration Manuals.
- B. The O&M documentation shall be submitted to LTD or its representative prior to OPT testing.
- C. The Contractor shall deliver complete sets of O&M manuals as defined in the Pricing Schedules; (1) complete, reproducible and unbound version of each manual shall also be provided.
- D. O&M (Maintenance Technician Manual)
- E. The O&M manuals shall be a detailed presentation of all on-board systems and shall include illustrations where applicable. For each onboard unit, it shall include, but shall not be limited to:
 - 1. General description;
 - 2. Functional descriptions;
 - 3. Functional block diagram;

4. Operating instructions;
 5. Maintenance and repair procedures;
 6. Test procedures;
 7. Schematic drawings and circuit diagrams; and
 8. Parts list.
- F. Each type of maintenance manual shall contain but not be limited to:
1. Description of operation including start-up, shut-down and emergency procedures;
 2. Installation procedures;
 3. Complete parts identification diagram and list;
 4. Troubleshooting procedures;
 5. Inspection procedures;
 6. Preventive maintenance procedures and program;
 7. Repair procedures;
 8. Diagnostic procedures;
 9. Wiring diagrams;
 10. Electrical schematics with board and cable identification;
 11. Adjustment procedures;
 12. Seasonal maintenance requirements;
 13. Equipment arrangement and drawings;
 14. Names and schedules of all lubricants and cleaners used; and
 15. Other consumable materials for the equipment stating where used, quantity, service intervals and annual consumption.
- G. The Contractor shall provide a parts list for all equipment supplied. The parts list shall identify the manufacturer(s) and model/part number.
- H. The Contractor may use manufacturer's data and handbooks for individual items of the equipment that are a sub-component of the overall system. All such documentation shall be contained in similar binders.
- I. Where an equipment component is of such a nature that local repairs cannot be made and it must be returned to the factory as a unit for overhaul, specific information concerning its repair and breakdown into component parts shall be provided.

7.2.9 Users (Video System Operator Manual)

- A. A User Manual shall be provided for each software application.
- B. The User Manual shall include screen captures and easy to follow instructions to assist the users through all of the tasks that they may need to complete.
- C. The User Manual shall include an index.
- D. Fault procedures shall be described, as well as procedures for addressing identified faults.

7.2.10 Administration (System Administrator Manual)

- A. A System Administrator Manual shall be provided for each software application.

- B. The System Administration Manual shall outline all of the installation procedures, configuration parameters, details on how to configure the parameters, user/password account administration, back-up and recovery process, gathering performance statistics, trouble shooting techniques and technical support information.
- C. Fault procedures shall be described, as well as procedures for dealing with problems.
- D. The System Administrator Manual shall include password management procedures for changing passwords configured in both the Central and Onboard Systems. The password management plan shall be tested prior to Final Acceptance to verify that the procedures can be centrally administered and that there are no hard coded passwords or passwords not specific to LTD anywhere within the system.

8. IMPLEMENTATION SERVICES

- A. The Contractor shall perform implementation services related to the engineering, design, and installation of the system, as described in this section.

8.1 ENGINEERING AND DESIGN

8.1.1 Surveys and Inspections

- A. The Contractor shall conduct surveys as necessary to ensure that the requirements and conditions of the System are fully understood prior to implementation; as a minimum the following surveys shall be conducted as defined below:
 - 1. Requirements survey;
 - 2. Site survey; and
 - 3. Interface survey.
- B. The requirements survey shall confirm any outstanding or undefined issues of technical, functional or performance requirements as well as quantities of equipment.
- C. All System interface points with other systems and facilities shall be surveyed to ensure that a fully operational interface can be designed and implemented.
- D. The Contractor shall document all surveys with concise but complete records that shall be subject to inspection and, upon request, delivery to LTD.

8.1.2 Engineering

- A. The Contractor shall provide all design and engineering services necessary to design and construct a complete and fully operational System in accordance with these Technical Specifications.
- B. As required by Oregon State law, engineering designs and drawing shall be signed and sealed by a Professional Engineer licensed to practice in the State of Oregon.
- C. The System design work shall include cost optimization to ensure the camera quantity and quality, disk storage, wireless throughput, and central system configuration, and other trade-offs have resulted in a least cost configuration over the life of the system that conforms with all functional and performance specifications.
- D. During system design review, LTD reserves the right to query all design assumptions and trade-offs and request reviews be undertaken to improve optimization or cost effectiveness of the design.

8.1.3 Design Process

- A. The Contractor shall undertake and document all design processes and design elements necessary to implement the complete System.

- B. The design elements will include, as a minimum:
1. Requirements and Configuration Confirmation
 2. Onboard Architecture
 3. Onboard Installation
 4. Onboard Interfaces
 5. Mobile Access Router integration to support offboard wireless data communications capabilities
 6. Central System Design
 7. Network Interfaces
 8. Acceptance Plan
 9. Implementation Plan
 10. Draft versions of manuals
- C. The Contractor shall document each of these elements in sufficient detail to allow an audit of all design assumptions and design details to determine conformance and compliance with the Contract and the Technical Specifications.
- D. Submission of interim or draft versions of design documents for discussion etc. will not be considered to be part of the formal design review process.
- E. LTD will review the completed SDS and will indicate to the Contractor in a Design Review Report any and all changes or additions to the SDS that are required to achieve System Design Acceptance.
- F. The Contractor shall facilitate Design Review meetings as necessary to present the System Design Specification and to explain design elements and the consequences of design changes.
- G. The Contractor shall revise the SDS to reflect the changes directed in the Design Review Report and re-submit the SDS.
- H. Upon LTD review and acceptance of the revised SDS, LTD will issue a Notice of System Design Acceptance. The revised SDS will be referred to as the Accepted Design.
- I. LTD review and acceptance of the SDS shall be for the system design's general conformance to the Contract and requirements only and shall not be construed as a technical audit to determine the feasibility of the design or the System to meet the specifications.
- J. Any changes to the design subsequent to issuance of the Notice of System Design Acceptance shall follow the Change Order Process.
- K. From time to time during the course of the execution of the contract LTD or the Contractor may initiate a change process. Such changes to the scope of work will not be approved without using a formal change notice process. Minor changes may be accumulated into a single change notice.
- L. The Contractor may initiate a design change process by issuing a Change Notice to LTD. The Change Notice must provide a detailed description of the requested change, the reasons for the requested change, the impact of the change on the Project Cost using unit costs as defined in the Contract, the impact on the project schedule, the resultant changes to compliance to any of the Technical Specifications, and the requirements of LTD to support the change.
- M. LTD will review and either approve or reject all such change requests in a timely manner. On approval of any such Change Notice, LTD will issue a Change Order.
- N. LTD may initiate a design change process by issuing a Change Notice, detailing the changes that LTD requires.

- O. The Contractor must respond in a timely manner with a Change Impact Statement, indicating work, materials and change to the Accepted Design to implement the requested change, the impact of the change on the Project Cost using unit costs as defined in the Contract, the impact on the project schedule, the resultant changes to compliance to any of the Technical Specifications, and the requirements of LTD to support the change.
- P. Based upon the Change Impact Statement, LTD will either approve or retract its change request. On approval of any such Change Notice and Change Impact Statement, LTD will issue a Change Order.

8.1.4 Installation

- A. The Contractor proposed Implementation Plan will be finalized upon receipt of Notice of System Design Acceptance.
- B. The Contractor shall provide sufficient resources and installation crews to complete installation in eight (8) weeks following Proof of Performance Acceptance.
- C. The Contractor shall adhere to the following instructions related to system installation:
 - 1. All installation activities shall adhere to the applicable Physical and Materials, Electrical and Environmental requirements detailed in the previous sections.
 - 2. LTD will make arrangements to accommodate the Contractor for work on-site. Visits for system support may be arranged with LTD.
 - 3. Central system VPN access can be arranged by LTD Information Services subject to addressing security considerations.
 - 4. Constructed works and installations shall be subject at any time to inspection by LTD or its representatives. The Contractor shall:
 - a. Cooperate with and provide access to the inspector;
 - b. If requested, provide personnel to assist the inspector;
 - c. Give timely notice of work designated for inspection; and
 - d. If requested, uncover any work designated for inspection that was not inspected, then recover after inspection at no cost to LTD.
- D. Following installation and testing of individual system components, the Contractor shall integrate all hardware and software components into a fully functional system. The Contractor is expected to apply structured processes for various integration activities including troubleshooting and fault diagnosis, system configuration, and initialization of operations.
- E. LTD technical staff may perform installation of all equipment and software under the Contractor's supervision as necessary. The Contractor's installation requirements must include, at a minimum, documentation for and training on the system requirements, installation procedures and maintenance procedures including, but not limited to, hands-on instruction with written step-by-step setup instructions. The Contractor shall provide personnel contacts for installation support for all software and hardware. All software specifications will be detailed in the provided documentation.

8.2 SHIPMENT AND DELIVERY

8.2.1 Delivery and Storage of Materials

- A. The Contractor shall be responsible for coordinating, unloading, inspecting, accepting and storing all material deliveries. LTD personnel shall be excluded from performing any of these activities.
- B. All claims necessary as a result of damage or loss during shipment shall be the responsibility of the Contractor.

- C. All stored materials shall remain the responsibility of the Contractor until accepted by LTD.
- D. The Contractor's Project Manager or Contractor's Technical Representative shall be the only individuals authorized to accept materials delivered to LTD. The Contractor shall present to the LTD Project Manager a receipt of items being delivered. The LTD Project Manager's signature on the receipt shall constitute acceptance of the materials.
- E. Contractors shall list in their response the facilities where they plan to deliver the major system items prior to installation.

8.2.2 Shipment Authorization

- F. Each System element shipped from the Contractor's facility to LTD shall be complete, ready to be installed, and in compliance with all provisions of the specification. Prior to shipment of each element, the Contractor shall obtain a shipping release signed by LTD's Project Manager or his or her designee. The shipping release shall certify that the element is complete, has passed all factory functional and performance tests described in these requirements and complies with approved Contractor's drawings, samples and other agreed upon conditions for shipping. The Project Manager, at his or her sole discretion, may permit shipment of a System element with minor defects that will not affect testing and can easily be corrected after shipment. All known defects shall be submitted by the Contractor with the request for shipping release. The shipping release shall not be construed nor inferred to constitute to any degree System acceptance by LTD.

8.2.3 Shipment

- A. The Contractor shall arrange for shipment of System elements to be controlled so as to prevent damage to the System elements. All subsystems shall be protected from damage during shipment.

8.2.4 Shipping Destination

- A. All System elements shall be shipped to LTD facilities as coordinated by LTD Project Manager, prior to installation.
- B. The Contractor shall be responsible for all work and all costs attendant to the placing of System elements in a ready for use condition at Lane Transit District facilities.

8.2.5 Transfer of Title and Risk of Loss

- A. Title to each System element shall pass to LTD upon Conditional Acceptance and the Contractor shall furnish or execute all necessary documentation of title at that time. Passage of title shall not constitute acceptance of the System nor relieve the Contractor of any of its obligations under the Contract, nor preclude rejection of the System by LTD.

8.2.6 Delivery of Spare Parts, Special Tools and Test Equipment, and Manuals

- A. The Contractor shall notify LTD Project Manager at least ten (10) days in advance of delivery of all spare parts, special tools and test equipment, and manuals. All such materials shall be delivered as coordinated with LTD Project Manager prior to shipping. Shipping documents shall accompany delivery of all materials. The shipping documents shall identify all spare parts by part number, serial number.
- B. LTD will inspect all materials to confirm the accuracy of the shipping documents and to check for damage, etc. to the materials. LTD will then issue a delivery receipt if the documentation and materials are in order, and no materials will be considered delivered or eligible for payment until delivery receipts have been issued by LTD.

8.3 USE OF LTD FACILITIES

8.3.1 Work Positions and Office Space

- A. For the Contractor's preparation and testing of the System for delivery to LTD, the Contractor shall coordinate with LTD to identify reasonable accommodations for electric power, storage for System components, and use of employee facilities by the Contractor.
- B. The Contractor shall furnish all personnel, supplies, and tools for System pre-delivery work at LTD facilities, and shall furnish all equipment and other requirements for the System pre-delivery work position not made available to the Contractor from LTD.

8.3.2 Care of Premises

- A. The Contractor shall maintain its premises on LTD property in a reasonably neat and orderly condition. Upon completion of the entire project, the Contractor shall remove all temporary buildings, structures, fences, scaffolding, surplus materials, and rubbish of every kind from the site of the Contractor's work on LTD property.

8.3.3 Discipline and Order

- A. The Contractor shall enforce strict discipline and good order among its employees at all times and shall not employ on the work any unfit person or anyone not skilled in the task assigned to him or her. Any person employed on the project by the Contractor or any of its subcontractors who, in the opinion of LTD, does not perform his or her work in a proper and skillful manner or is intemperate or disorderly shall, at the written request of LTD, be removed forthwith by his or her employer, and shall not again be employed on this project without the prior approval of LTD.

8.3.4 Noise Control

- A. The Contractor shall comply with all applicable federal, state, and local laws, ordinances and regulations regarding noise control. All equipment shall comply with pertinent equipment noise standards of the United States Environmental Protection Agency (USEPA).

8.3.5 Integrated Testing

- A. The Contractor shall work cooperatively with LTD, and with other systems contractors to perform Integrated testing of the System as coordinated LTD Project Manager.

8.3.6 Cooperation

- A. The Contractor shall cooperate with LTD in scheduling and coordinating the Contractor's work on LTD property with the work and operations of LTD. LTD shall make every effort to accommodate the Contractor's testing activities however the Contractor agrees that LTD operations activities shall have a priority over Contractor activities. LTD activities may necessitate cessation of Contractor activities.

8.3.7 Hours of Work

- A. Work on LTD property and at LTD facilities shall not disrupt normal operations and the transport of passengers. This includes maintenance, cleaning, and other off-hours activities.
- B. Demolition, installation, and testing activities may be performed during normal work hours, provided those activities are non-disruptive. Hours of work for these activities shall be discussed in the Contractors Installation Plan and subject to written approval by LTD.

9. TESTING AND ACCEPTANCE

9.1 GENERAL REQUIREMENTS

- A. A four (4) step testing and acceptance model shall be used, with each step comprising a milestone in which LTD will authorize the Contractor to proceed to the next milestone. Exhibit 9-1 provides an overview of the testing approach; the key attributes of this testing approach include:
 - 1. Fleet Acceptance Test (FAT) required for a prototype vehicle for each fleet type (year/manufacturer/configuration)
 - 2. Proof of Performance (POP) Test leading to POP Acceptance
 - 3. Operability Period Test (OPT) leading to Final System Acceptance
- B. LTD will not be constrained by the Contractor Testing Plan and reserves the right to make the following requests which shall be acted on by the Contractor:
 - 1. Any procedural changes and other reasonable tests to reasonably assure System performance and conformance;
 - 2. Investigation into any apparent troubles or anomalies with respect to the System; and
 - 3. An audit of all test reports and verification of any or all previous tests and measurements.
- C. Upon successful completion of any test, the Contractor shall prepare and submit within two (2) weeks a report summarizing the results with relevant test records appended. All such test reports must be signed by LTD witnesses to the tests.
- D. LTD shall be notified five (5) days in advance of each test. LTD reserves the right to witness any or all of the tests.
- E. The Contractor shall conduct its own tests in advance of tests required by the Contract as necessary to ensure compliance with the Technical Specifications at the time of the Contract required tests and to rehearse test procedures.
- F. All equipment and components must be delivered with the manufacturer's quality conformance test sheets proving the equipment met the manufacturer's quality criteria.

9.2 FLEET ACCEPTANCE TESTING (FAT)

- A. Fleet Acceptance Testing shall be carried out for the testing and acceptance of the onboard system installed on a prototype vehicle of each unique fleet type to verify system configuration, installation, and performance.
- B. The complete onboard system shall be tested on each vehicle for its compliance with all technical, functional, environmental, installation, and ergonomic requirements and specifications of the system.
- C. Fleet Acceptance Tests will need to be completed prior to the commencement of the POP test, and OPT for the associated fleet type.
- D. The Contractor shall be required to install (as a minimum in temporary state) essential components of the central system and wireless communication system infrastructure to support the FAT procedures.
- E. Fleet Acceptance will be granted for a particular coach upon the successful completion of the FAT and completion of associated necessary corrections.

9.3 PROOF OF PERFORMANCE (POP) TESTING

- A. POP testing will commence upon the installation of the central system, wireless communications system, and on one representative coach of each type and configuration that will be part of the Phase deployment.

- B. All system functions will be tested in the POP. All components, subsystems, and system processes shall be tested individually and together to ensure that they meet the contract requirements and provide a properly functioning system.
- C. Upon acceptance of the POP test results, LTD will grant POP Acceptance and authorize the Contractor to proceed with additional on-board installations for the OPT.

9.4 OPERABILITY PERIOD TEST (OPT)

- A. The OPT is a thirty (30) day performance test that is initiated once Vehicle Acceptance has been granted for all remaining vehicles. Through the OPT, the system is tested under full operational conditions to ensure that the performance requirements are met and to measure the system performance under full load conditions, reliability and availability.
- B. During the OPT period, LTD will operate the system as per normal operations and document system deficiencies and non-compliances as follows:
 - 1. Major Issues: "Major Issues" shall constitute:
 - a. System deficiencies that impair any system aspect of more than ten percent (10%) of the fleet.
 - b. System deficiencies that impair the central system's capacity to manage and/or access data captured by the system, and require hardware replacement and/or software modifications.
 - c. Total failure of the wireless communications system.
 - d. System deficiencies that take more than 24 hours to rectify.
 - 2. Minor Issues: "Minor Issues" shall constitute defects and deficiencies that can be corrected in less than twenty-four (24) hours.
- C. Minor Issues will be documented and communicated to the Contractor for rectification. Upon resolution of the issue, further testing will be carried out to document its resolution.
- D. Major Issues will be documented and communicated to the Contractor for rectification. Major Issues will trigger a reset of the OPT period which will recommence for a thirty (30) day period upon resolution of the issue. Further testing will be carried out to document resolution prior to the resetting of the OPT.
- E. The OPT will be completed when the full thirty (30) day period of the test is carried out without any Major Issues.
- F. Upon completion of the OPT, resolution of all Minor Issues, submission of all Phase related documentation, and completion of all Phase related training, LTD will grant Final System Acceptance to the Contractor.

10. TRAINING SERVICES

10.1 TRAINING SERVICES

- A. The Contractor shall be responsible to train LTD designated personnel according to the requirements specified herein.
- B. Training shall take place at LTD designated facilities.
- C. Training programs shall incorporate "Train the Trainer" instruction to enable LTD to internally address future system training needs.
- D. Practical training on equipment or software shall occupy a significant portion of all training classes.
- E. The training presentations and material shall be in English.

- F. Instruction shall cover equipment familiarization and systems operation. The minimum training is that which is necessary to bring those employees designated to the level of proficiency required for performing their respective duties.
- G. The Contractor shall provide experienced and qualified instructors to conduct all training sessions. The Contractor is responsible for ensuring that the instructors teaching these courses are not only familiar with technical information but are able to utilize proper methods of instruction, training aids, audiovisuals and other materials to provide for effective training.
- H. The Contractor is responsible for providing all training materials, training aids, audiovisual equipment and visual aids for the conduct of these courses.
- I. Instructional materials consisting of applicable equipment operation and maintenance manuals, and supplemental notebooks consisting of additional drawings, procedures, and descriptive information shall be provided. Materials shall be suited to the level of technical familiarity and operating environment of the training audience.
- J. Student guides shall include full topic descriptions, illustrations as needed to enhance content presentation, and common problems with comprehensive solutions given. Student guides shall mirror the instructor guides.
- K. All training materials are to become the property of LTD at the conclusion of training.
- L. Maintenance training shall commence during the time when equipment is installed on the coaches and shall include hands-on orientation of maintenance technicians during the installation and testing phases.
- M. The Contractor shall submit the training curricula, presentations, and materials for review and approval by LTD. No training shall commence until these items have been approved by LTD.
- N. Training curricula shall meet all training requirements and indicate course content, training time requirements, and who should attend.
- O. Training curricula shall be provided to LTD for review a minimum fifteen (15) days prior to commencement of equipment installation.
- P. Level of competency required to pass course examinations shall be determined by LTD.
- Q. The following summarizes the minimum training that shall be provided:
 - 1. End User Training – One (1) day of training for ten (10) users;
 - 2. Maintenance Technicians – two (2) days of training for four (4) maintenance technicians;
 - 3. System Administrators – two (2) day of training for four (4) administrators.
- R. The Contractor shall as part of its base bid provide up to eighty (80) hours of training credits as part of the Base Contract to meet additional training needs of LTD for End Users, Maintenance Technicians, and/or System Administrators during system implementation and/or within one (1) year following Final Acceptance.
- S. At the request of LTD, the Contractor shall provide additional training sessions at the contract rate schedule price per training hour.

11. WARRANTY

11.1 GENERAL WARRANTY REQUIREMENTS

- A. The Contractor shall warrant that, it has good title to the system and its components and the right to sell to LTD, free of any proprietary rights of any manufacturer (if the Contractor is not the manufacturer) or other party, and free of any lien or encumbrance, except for proprietary rights of third parties relating to any third party software incorporated by Contractor into the products.

- B. The Contractor shall warrant that all installation work and all system hardware furnished by the Contractor including but not limited to all such work and system hardware provided by the Contractor or other suppliers or manufacturers, shall be of good quality and free of any defects or faulty materials and workmanship for the warranty period.
- C. The Contractor shall warrant that, during the warranty period, all installation work and system hardware and software shall perform according to the Technical Specifications.
- D. It is recognized that the original manufacturers' or suppliers' warranties may expire before the end of the Warranty Period. The Contractor shall therefore provide extended warranties for all such products or equipment (software, hardware, spare parts) and shall assume full responsibility for replacement or repair for the duration of the Warranty Period, the full cost of which shall included in the Contract Price.
- E. All warranties and guarantees of vendors, manufacturers and suppliers with respect to any such work and system hardware shall be obtained by the Contractor for the benefit of LTD regardless of whether or not such warranties and guarantees have been assigned or transferred to LTD by separate agreement. The Contractor shall fully enforce such warranties and guarantees on behalf of LTD.
- F. LTD will operate the system hardware and software in accordance with the Contractor's specific instructions in order to maintain all warranties. However, the Contractor shall hold LTD harmless and the Contractor shall be responsible for repairing any damage from LTD's improper operation of any system hardware or software resulting from Contractor's failure to provide adequate or correct training and/or complete operating manuals, software manuals, electrical drawings, complete computer program documentation, and other documents required to be furnished as identified within these specifications.
- G. Any necessary documentation, training materials, or drawings resulting from changes or modifications to the System as a result of Warranty service shall be provided to LTD at no additional cost.

11.2 WARRANTY PERIOD

- A. The Warranty Period shall be for a period of twenty-four (24) months following Final Acceptance of each fleet type.
- B. Any extended warranties on specific system components that apply beyond this period shall be transferred to LTD.

11.3 WARRANTY OBLIGATIONS

11.3.1 Spare Parts

- A. At LTD request, the Contractor shall propose for consideration of LTD a list of spare parts (Spare Parts List) to be provided under the Contract. Quantities of spare parts shall be at least 10% of the installed quantity of replacement parts, components, consumables or sub-assemblies, or an additional amount to meet the estimated need for warranty and maintenance purposes for a period of two (2) years.

The Spare Parts inventory shall include:

1. Cameras
2. Microphones
3. Digital Video Recorders
4. Hard Drives
5. Optional Equipment, e.g., G-force sensors
6. Other consumables or supplies required to support maintenance by LTD staff.

- B. The vendor shall provide any specialized tools and equipment necessary to install, calibrate, test and maintain the system. All wiring, cabling and adapters shall also be provided.
- C. The Contractor shall provide spare parts in accordance with the agreed Spare Parts List, the full cost of which shall be included in the Contract Price.
- D. The Spare Parts shall be placed into the spare parts inventory and become the property of LTD upon system handover.

11.3.2 Hardware Warranty

- A. During the Warranty Period, defective hardware will be replaced by the Contractor using stock from the spare parts inventory.
- B. For each defective part, the Contractor shall provide repaired or new replacement unit to replenish the spare parts inventory. The replacement units shall be fully tested and certified compliant with the original part.
- C. The replacement spares shall be received by LTD within a guaranteed turnaround not exceeding ten (10) business days from receipt of the faulty unit by the Contractor to shipment of the replacement spare unit.
- D. The cost of all transportation and insurance charges for shipping defective and replacement parts shall be borne by the Contractor.
- E. Vendor technical support should include hardware updates (bug fixes and enhancements).

11.3.3 Software Warranty

- A. The Contractor shall develop, test, provide and install all applicable software “patches” or updates that become necessary to remedy software faults or “bugs” identified during the Warranty Period, in accordance with the Maintenance Plan and other terms set forth in the Master Agreement. Software updates should include enhancements as well.
- B. During the Warranty Period, the Contractor shall provide at no additional cost to LTD all version updates, software patches and error corrections available for the software provided under this Contract in accordance with the Maintenance Plan and other terms set forth in the Master Agreement.

11.3.4 Enforcement of Warranty

- C. If the Contractor fails to perform any of the warranty repairs required within the times set forth in this section, LTD may, at its option, correct any malfunction giving rise to the need for the warranty repair. If LTD makes such repairs, Contractor shall pay to LTD within thirty days of LTD’s request for payment, all cost associated with the repair, including but not limited to, LTD staff time, equipment, and any attorney’s fees for collection of the cost of the warranty repair.

12. SYSTEM MAINTENANCE SERVICES

12.1 GENERAL REQUIREMENTS

- A. Proponents shall offer system maintenance services for the warranty period in each phase.
- B. Maintenance services shall be provided through a single company; this shall entail coordinating the repair of equipment with original manufacturers.
- C. If the Contractor shall not be the maintenance service provider, the Operations and Maintenance Plan shall identify which local company within the greater Eugene-Springfield area shall be providing the maintenance services. The Contractor shall not be permitted to change the maintenance service provider without written authorization from LTD. LTD reserves the right to require changes to the maintenance service provider if the obligations under the maintenance agreement are not met.

- D. Maintenance issues shall be resolved in a timely manner, as agreed to within the executed maintenance agreement between the Contractor and LTD.
- E. Maintenance of equipment, software, communications, or other components requiring access to LTD enterprise networks or systems shall be approved by and coordinated with LTD Information Systems Department staff. LTD shall perform central System maintenance activities on behalf of the Contractor with the Contractor's guidance and oversight. At no time shall the Contractor maintain, reconfigure, modify, or access in any way the LTD enterprise IT network without expressed prior consent of the LTD Project Manager or designee.
- F. Any necessary documentation, training materials, or drawings resulting from changes or modifications to the System as a result of system maintenance services shall be provided to LTD at no additional cost.

12.2 MAINTENANCE SERVICES

12.2.1 Minimum Services Required

- A. The Contractor shall provide a problem notification system for the receipt of maintenance service requests. As a minimum, the problem notification system shall be a contact telephone number, providing a single point of contact and accessible Monday to Friday between the hours 8:00AM and 5:00PM (Pacific Standard Time).
- B. The Contractor shall acknowledge the receipt of a maintenance service request within four (4) hours of the current and next business day, indicating that a response has been initiated.
- C. The total response period, commencing with the Contractor acknowledgement that a service request has been received and terminating with the completion of the maintenance service requirements, shall not exceed forty-eight (48) hours.
- D. During the response period, the Contractor shall provide both remote and/or on-site diagnostics and support, as required by the nature of the request, and deemed necessary to meet the response period requirement.

12.2.2 Equipment Maintenance

- A. All Onboard, central, and wireless communication system equipment shall be maintained by the Contractor, less the workstation and server hardware procured by LTD.
- B. Where the maintenance services require equipment repairs that exceed the response period requirement, the Contractor shall provide spare equipment for the duration of the repair.
- C. Proponents shall propose a recommended Spare Parts List, and associated quantities to be procured under this contract, to meet the response period requirements of the maintenance agreement. The Spare Parts List shall include all replacement parts, components, and sub-assemblies of equipment provided under this contract.

12.2.3 Software Maintenance

- A. All central system software developed by the Contractor shall be maintained under the maintenance agreement between the Contractor and LTD.
- B. All central system Commercial Off-the-Shelf Software supplied by the Contractor shall be maintained under the maintenance agreement between the Contractor and LTD.
- C. The contractor shall be responsible for obtaining and renewing all software licenses required for the operation of the System.
- D. The Contractor shall be permitted to provide software maintenance services remotely via a LTD provided VPN connection.

12.2.4 Maintenance Records

- A. During the life of the maintenance agreement, the Contractor shall maintain maintenance records of services provided. As a minimum, maintenance records shall include:
 - 1. Date and time of maintenance service request;
 - 2. Description of maintenance service request;
 - 3. Date and time of Contractor acknowledgement of maintenance service request;
 - 4. Description of Contractor performed diagnostics;
 - 5. Date and time of corrective measures taken;
 - 6. Description of corrective measures taken; including on-site arrival date and time; and
 - 7. Date and time of problem resolution or system restoration (in the event of service interruption).
- B. Maintenance records shall also log the attributes of Contractor initiated maintenance services such as equipment recalls or software upgrades.