Request for Proposal (RFP)
For
"Automatic Vehicle Location (AVL) & Passenger Information System"

RFP No. 17-90164-AVL
Ventura County Transportation Commission
950 County Square Drive, Suite 207
Ventura, CA 93003

Proposals must be submitted
No later than 2:00 PM
May 2, 2017

LATE PROPOSALS WILL BE REJECTED
There will not be a public opening for this RFP

For further information regarding this
RFP contact Aaron Bonfilio
Via Email: abonfilio@goventura.org

Issued: March 3, 2017

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1.0 INTRODUCTION / BACKGROUND

Thank you for your interest in contracting opportunities with the Ventura County Transportation Commission (Commission). The Commission is requesting proposals from qualified Proposers to furnish a commercial, off-the-shelf (COTS) Automatic Vehicle Location (AVL) and Passenger Information System (hereafter "System") for use on the fixed route vehicles operated by the Ventura County Transit Operators (Operators), in a phased deployment. The Commission is also interested in maintenance warranties for the products and programs delivered under this RFP. Pricing for other (optional) add-on capabilities is also being requested at this time.

The purpose of this RFP is to establish a contract to provide and implement a System that increases availability of transit information and dissemination; and improves the Operator's overall dispatching, operational efficiency, cost effectiveness, and security of its transit services. This RFP defines the hardware features, functional requirements, and other capabilities desired for the System and are the benchmarks for its design, verification, and validation. The Commission seeks a System that has advanced vehicle technologies, customer information systems, and operations scheduling and dispatching functionality. The System shall be complete in every respect inclusive of all design, components, and recommendations for auxiliary equipment, and required maintenance or licensing.

The System will be available via the Internet, personal communication devices and passenger information signs bus stops and Transit Centers. The System is a critical component of the Commission's strategic marketing plans, with two specific goals related to the System: 1) Real-time Information via Changeable Message Signs (CMS') and Bus Stop Signage to significantly increase passenger confidence and knowledge of bus operations; and 2) once the System is fully functional, leverage the Internet and personal communication devices to make the real-time vehicle information available to our customers at any time.

This Request for Proposal (RFP) describes the project, requirements, selection process and the information that must be included in the proposal. Failure to submit information in accordance with the RFP submittal requirements may be cause for disqualification.

1.1 Project Objectives

The primary objective of this Project is to improve the Customer Experience. To that end, the Commission recognizes that it needs to upgrade and add new ITS technologies to achieve our objectives; which are:

✓ Make public transit more attractive to the general population
✓ Maximize passenger movements and streamline trip planning
✓ Increase awareness of ITS benefits
✓ Reduce operational costs

✓ Reduce emission / energy use
✓ Improve transit system safety

At various points in this RFP the Proposer will see how the Commission expects ITS capabilities to help solve the aforementioned objectives.

Also, these objectives align with the Federal Transit Administrations (FTA) goals of:

- ✓ Identify best practices and technologies to increase transit ridership
- ✓ Identify and overcome barriers to the adoption of ridership enhancement techniques
- ✓ Identify methods and technologies to improve transit operating efficiencies
- ✓ Identify solutions to improve transit safety, and
- ✓ Facilitate development of technologies to improve energy efficiency and reduce transit vehicle emissions

The Commission has also established the following internal goals for this Project:

- ✓ Accountability: Ensure that the Operators are providing timely delivery of transit services in accordance with their published timetables (improve schedule adherence and timed transfers).
- ✓ Real Time Passenger Information: Provide real-time transit information to customers via electronic message boards at stops and / or other in-vehicle passenger information systems, the Internet, and text messaging, passenger alerts, and subscriptions.
- ✓ Data Management: Increase the availability of data for the Operators' operations for the purposes of enhanced transit management and service planning.
- ✓ Improve Transit Management: More efficiently manage the public transportation system provided by the Operators.
- ✓ Safety: Increase the safety and security of the Operators' public transportation system. Improve safety on-board vehicles by allowing quick location and response to incidents and emergencies.
- ✓ Productivity: As a result of improved schedule adherence and passenger information, increase ridership of the Operators' fixed-route transit system.

1.2 Agency Overview

The Ventura County Transportation Commission is the regional transportation planning agency for Ventura County. Within Ventura County there are nine distinctly branded fixed route transit services operated by variety of public agencies, including the Cities of Simi Valley, Thousand Oaks, Moorpark, Camarillo, Ojai, Fillmore and Santa Paula, and the County of Ventura, as well as, the Gold Coast Transit District and the Commission. The combined fixed route fleet of Ventura county's transit Operators is 140 vehicles, organized into nine (9) systems, operated out of seven (7) yard/maintenance facilities. Each system has a range of routes and fares, and differing hours of service and fleet composition. For more information regarding each of the Operators, see *Operators Fleet and System Composition Schedule,* (Attachment M) Across the

nine fixed route systems, approximately 40 bus stops are currently equipped with real-time changeable message signs (CMS).

1.3 Project Overview

The System shall be built on a proven and secure operating system, database, and application software and must include a graphical user interfaces (GUI) that provides access to fleet and passenger information for Operator staff and via the Internet for the general public. The applications shall follow accepted industry human engineering design standards for ease of readability, understandability, appropriate use of menu-driven operations, user customization and intuitive operation. The System should have a future upgrade path and must be supportable for the entire term of the Agreement. The Proposer / Contractor (used interchangeably) shall ensure that the risk of obsolescence to the hardware is minimized through the selection of standardized parts and readily-available peripheral hardware. The Commission is also interested in maintenance warranties for the products and programs delivered under this RFP beyond the standard two-years. This RFP includes several optional technologies that may or may not be selected by the Commission for deployment depending on funding availability and other factors.

1.4 Project Description

The Proposer shall supply a complete System with all hardware, software, and services necessary to accomplish the supply, installation, testing, documentation, training, and startup, including fixed-end equipment and equipment on-board vehicles. The System shall meet all specified requirements and have the capacity to serve present and future operational needs, within the constraints established by commercially available systems. Proposers are urged to maximize the potential realization of the requirements / specifications while minimizing custom development.

Data transmissions to and from on-board vehicle equipment shall rely upon commercial cellular data communications carriers and / or yard wireless network and should be included in pricing. The selected communications network shall be capable of providing reliable signal coverage in the most rural parts of Ventura county, (as well as in Santa Barbara county to the north and Los Angeles county to the south) for the purposes of transmitting location, status and messages between Operator vehicles and the System.

Initially, with the Proposer's help, scheduling information for the Operators' fixed-route routes shall be entered directly into the System which shall support on-time performance tracking and reporting. However, it is also desirable that the System permit route scheduling data to be obtained (imported or linked) from the Operators' scheduling software or GTFS feed. In all cases, the scheduling data shall be accessible via the Proposer-provided data exchange that should be described in the proposal.

1.5 Optional Technologies

Upon execution of one or more task orders, the Proposer may also be directed to furnish and install other optional technologies that are of interest to the Operators and for which unit pricing is being requested at this time. They include:

- ✓ Integrated Automatic Passenger Counters (APC) and/or Integration with existing APC
- ✓ Integrated Automatic Voice Annunciators (AVA) and/or Integration with existing AVA
- ✓ Integration with existing Headsigns
- ✓ Integration with existing fareboxes
- ✓ Single point logon integrator for systems including headsigns, fareboxes, AVA, and APC
- ✓ Integrated Fixed Route Scheduling Software and/or Integration with existing Scheduling Software

For a list of specific Optional Technologies applicable to each Operator, see *Operators Fleet and System Composition Schedule* (Attachment M).

Finally, to ensure continuous and productive operation of the System, the Commission is requiring all Proposers to submit pricing for:

- ✓ Extended service / maintenance warranty
- ✓ Extended system training
- ✓ Additional fleet installations priced per vehicle unit

1.6 Cost Proposal, Agreement Term, and Payment Method

Cost Proposal

The Commission is seeking “end-to-end” pricing for the installation, implementation and deployment of the System, including two years of service/maintenance warranty coverage (Installation Warranty). In addition Proposers should offer annual pricing for extended service/maintenance warranty for three additional years (Extended Warranty). Optional Technologies as identified in this solicitation shall be exercised by the Commission (and/or individual Operators) at its sole discretion based on availability of funding, cost, and technical merit of the Proposer's solution. The contract awarded will be subject to negotiation and costs may be subject to audit and certification by the Commission and / or the Federal Transit Administration (FTA).

Duration of Agreement

The Commission intends to enter into a contract with the selected Proposer for an initial five (5) year term, following the System design, installation, testing and acceptance. The Proposer who is awarded a contract for this Project will be authorized to perform work pursuant to task orders issued in accordance with the terms of the Commission’s Contract. The initial Task Order will consist of the full, but phased deployment of the System. The Commission anticipates that the System will be “off the shelf” and require minimal testing. Following System Acceptance, a two-

year warranty period shall commence, and then an extended warranty period for three years, priced annually. .

Payment
The Proposer will be paid by the following method: Fixed fees for completion of services and deliverables in accordance with the Commission's Milestone Payment Schedule (Attachment D) related to service installation, testing and deployment, and fixed fees for service/maintenance warranty periods. In their response, the Proposer shall include a task loaded cost table in alignment with the Commission's Payment Schedule. Progress payments shall be invoiced by the Proposer in arrears, and no more often than monthly, based upon services or deliverables provided, unless otherwise stated in the Payment Schedule. Proposers may include a modified Payment Schedule for the Commission's consideration.

1.7 Special Considerations

Special Reporting Requirements
This Project is approximately 80% funded with a pending Federal Grant and any / or all applicable reporting requirements must be met by the Proposer.

Project Evaluation
All federally-funded ITS projects are required to undergo an evaluation to assess the costs and benefits of the Project to help planners and decision-makers make better-informed decisions regarding future ITS deployments. The Proposer shall cooperate with Commission staff or its representative during any such evaluation.

2.0 PROPOSER BACKGROUND / QUALIFICATIONS

Proposer's eligibility to respond to this RFP is based on Proposer's ability to meet the Commission's requirements. The Commission, in its sole discretion, reserves the right to determine whether any Proposer meets the minimum eligibility standards, to determine whether a proposal is responsive, and to select a proposal which best serves the Commission's stated objectives.

If Proposer cannot meet all qualification requirements as stated herein, Proposer's proposal shall be rejected without further consideration. The Commission reserves the right to reject all proposals.

Proposers must provide narrative responses to the following questions, including any necessary documentation:

- ✓ Each Proposer should specify the number of years the Proposer has been in the public sector business.
- ✓ Each Proposer shall provide evidence of a minimum of three (3) years experience in providing Automatic Vehicle Location / Passenger Information Systems substantially similar to that being sought in this RFP. Responses from any entity without such experience will not be considered.
- ✓ Has the Proposer's company or product being proposed ever been purchased by another company or acquired because of a merger or acquisition?
  - ✓ If yes, provide details regarding the name of the companies involved, specific products affected and when such merger or acquisition(s) took place.
- ✓ Each Proposer should provide a brief statement of the company's background demonstrating longevity and financial stability.
- ✓ Each Proposer should include the company's past three (3) years of audited Financial Statements.
- ✓ If Proposer is a subsidiary, provide financial statements for parent organization as well as separate financial statements for the proposing subsidiary.
- ✓ Each Proposer should provide an organizational chart of the management team showing all personnel that will be involved in performing the requirements of this Project.
- ✓ Has the company had a workforce reduction during the past 3 years?
  - ✓ If so, provide details regarding workforce reductions: percentage or workforce, areas affected, senior management team changes, etc.
- ✓ Each Proposer will provide resumes of proposed project team demonstrating recent project management and engineering engagements.
  - ✓ Proposer will provide a statement that proposed project team members will not be removed from the Commission's Project without permission from the Commission for the duration of the Project.
- ✓ Each Proposer shall provide a minimum of three (3) references from similar contracts executed in the past three (3) years. (Mail-in Reference Questionnaire, Attachment H)

3.0 INSTRUCTIONS TO PROPOSERS

Before submitting a Proposal, each Proposer shall carefully consider the amount and character of the work to be done as well as the difficulties involved in its proper execution. Proposers should include in their Proposals all costs necessary to implement the specified System (the Commission does not want to see surprise costs, either initial or recurring). A cost not specifically itemized in the proposal shall not be incurred unless specifically agreed upon by the Commission in writing.

All proposals must be precise, detailed, and to the point to the requirements in this document. **The Commission may in its sole discretion and on a case-by-case basis, evaluate included alternatives to the specification. Any included alternatives must be clearly specified as such, and the Commission reserves the right to reject Proposals that do not comply with this instruction**.

Specific expectations and instructions to Proposers:

- ✓ Proposer should carefully read and review this RFP. However, the final description of the services and / or items to be provided to the Commission under this RFP is subject to negotiations with the successful Proposer.
- ✓ Proposer shall submit a letter of transmittal that includes the Proposers understanding of the scope of work and general objectives to which the proposal addresses.
- ✓ Proposer shall, as part of the submittal, include a timetable for completing all tasks / services covered in this RFP
- ✓ Proposer should include complete and detailed cost/price information and reference the completion of Commission's specified cost proposal and bid forms in the attachments.
- ✓ Proposer shall provide a System architecture for all technologies exercised now or in the future by the Commission.
- ✓ Proposer shall provide a System architecture for all supporting hardware, software, operating systems, databases, redundancies, environments, Disaster Recovery, and Security (Hosted, On-Premises Managed Services, Operator supported model).
- ✓ Proposer shall provide complete installation of their proposed System.
- ✓ Proposer shall provide training of all necessary Operator employees in quantities of hours.
- ✓ Proposer shall provide annual support and maintenance of all features associated with its System.
- ✓ Work shall be scheduled and conducted in a professional cooperative manner and be performed by qualified and trained persons.
- ✓ Each Proposer shall include, as part of the submittal, sample data and reports.
- ✓ Each Proposer will provide a description of their help desk services and how they service and troubleshoot problems for their current clients.

3.1 Issuing Office

This RFP is issued by the Commission Transit Department. Unless otherwise specified, the Transit Department Designated Purchasing Agent is the sole point of contact for the Commission and Operators for purposes of this RFP and subsequent responses.

3.2 Restrictions on Communications

From the issue date of this RFP until a Proposer is selected and a contract executed, Proposer's are not allowed to communicate with any person involved with the development of this RFP or any person involved in proposal reviews regarding this RFP except the Designated Commission Purchasing Agent. Violation of this provision may result in the rejection of a Proposer's proposal.

3.3 Submission of Questions

The Purchasing Agent is the only contact for this solicitation. Commission or Operator staff will not respond to inquiries by Proposer's or their representatives regarding any aspect of this RFP. Written questions regarding the RFP, the Commission's Standard Terms and Conditions, or the RFP instructions to Proposers must be submitted to:

VCTC Transit Department
Attn: Aaron Bonfilio
Ventura County Transportation Commission
950 County Square Drive, Suite 207
Ventura CA 93003
E-mail: abonfilio@goventura.org

Questions must be in writing, submitted by email as specified in Section 3.5, Tentative Schedule for Evaluation, Selection and Award to be considered. The questions and the responses will be posted, via an addendum to the RFP, at www.goventura.org. Any addendums to the RFP will be made part of the resulting contract. All responses concerning this RFP will be posted at least fourteen (14) days prior to the proposal due date or can be obtained by contacting the Purchasing Officer, or his designee. It is the responsibility of proposers to check the Commission's Website for questions and responses related to this RFP.

3.4 Pre-Proposal Conference

There will be a mandatory Pre-Proposal Conference at the Commission's Headquarters, 950 County Square Drive, Ventura, CA 93003, as specified in Section 3.5, Tentative Schedule for Evaluation, Selection and Award, starting at 10 AM and ending at 12 PM. Any and all costs associated with attending this conference will be at the expense of the Proposer. No "call-in capability" will be provided. Pre-proposal Conference venue may be subject to change to

alternative location within Ventura County, CA. If an alternative location is identified, an RFP Addenda with instructions will be issued no-later than March 16, 2017.

A summary of the questions and answers from the pre-proposal meeting will be posted on the Commission's Website within five business days after the pre-proposal meeting. The names and phone numbers of potential proposers that signed-in and attended the pre-proposal meeting will be posted on the same Website to assist prime contractors and potential subcontractors in partnering on this contracting opportunity. **Attendance of the pre-proposal meeting is mandatory for prime Contractors**.

3.5 Tentative Schedule for Evaluation, Selection, and Award

The closing date of this RFP is May 2, 2 PM PST. The Commission anticipates the process for nominating and selecting a Contractor and awarding the contract will be per the following schedule:

Advertise and RFP Release	March 3, 2017
Pre-Proposal Conference	March 22, 2017 (10 – 12PM)
Last Day to Submit Questions Regarding RFP	April 7, 2017
Answers to Questions Posted	April 17, 2017
Proposal Due Date	May 2, 2017
Proposal Evaluations	May 3-16, 2017
Oral Interviews Short-listed Proposers	May 30, 2017
Best and Final Offer (BAFO)	June 1-9, 2017
Notice of Intent to Award and Begin Negotiations	July 7, 2017
VCTC Commission Approval of Contract	September 1, 2017
Notice to Proceed	September 5, 2017

The Commission does not guarantee the above schedule and reserves the right to modify the schedule as necessary. Any modifications will be posted on the Commission's Website at www.goventura.org.

3.6 Conflicts or Ambiguities

Proposers must notify the Commission's Purchasing Agent immediately if conflicts or ambiguities are found in the RFP prior to the specified question due date.

3.7 Public Disclosure of Information Contained in Proposals

To the extent permitted by law, proposals, except for the names of the Proposers, shall remain confidential until the Letter of Intent to Award have been issued. Thereafter, all proposals submitted in response to this request shall be deemed public record. In the event that a Proposer desires to claim portions of its proposal as exempt from disclosure, **it is incumbent upon the Proposer to clearly identify those portions as confidential.** Although the California Public

Records Act recognizes that certain confidential trade secret information may be protected from disclosure, the Commission may not be in a position to establish that the information that a prospective bidder submits is a trade secret. If a request is made for information marked "Trade Secret" or "Business Secret," and the requester takes legal action seeking release of the materials it believes does not constitute trade secret information, by submitting a proposal, Proposer agrees to indemnify, defend and hold harmless the Commission, its agents and employees, from any judgment, fines, penalties, and award of attorneys' fees awarded against the Commission in favor of the party requesting the information, and any and all costs connected with that defense. This obligation to indemnify survives the Commission's award of the contract.

3.8 Adequacy and Completeness of Proposals

Failure to respond to the information specified in Section 5.0 (Proposal Format) of this RFP may result in rejection of your proposal as non-responsive.

3.9 Commission Not Liable for Pre-Contractual Costs

The Commission shall not be liable for any pre-contractual expenses incurred by Proposer in the preparation of its proposal. Proposer shall not include any such expenses as part of its proposal. Pre-contractual expenses are defined as expenses incurred by Proposer in:

- ✓ Preparing its proposal in response to this RFP
- ✓ Preparing the proposed system in response to this RFP
- ✓ Submitting that proposal to the Commission
- ✓ Negotiating with the Commission staff on any matter related to this proposal
- ✓ Any other expenses incurred by Proposer prior to date of award, if any

3.10 Independent Price Determination

A proposal will not be considered for award if the price in the proposal was not arrived at independently, without collusion, consultation, communication, or agreement as to any matter related to such proposal with any other Proposer, competitor, or public officer.

3.11 Revision to the Request for Proposals

The Commission reserves the right to revise the RFP prior to the date that proposals are due. Any changes, additions, or deletions to the RFP will be in the form of written addenda. All addenda will be posted at the Commission's Website at www.goventura.org at least seven days prior to the deadline for proposals. It is the responsibility of the Proposer to check the Website for any revisions related to this RFP.

4.0 SELECTION CRITERIA

Proposals will be evaluated, negotiated, selected and any award made in accordance with the criteria and procedures described below. The approach and procedures are those which are applicable to a competitive negotiated procurement whereby proposals are first evaluated to determine Proposer responsiveness, solutions and responsibility, and then scored for technical merit and overall best value. Price will be evaluated once the technical merits have been evaluated.

Selection is based on Best Value. The Commission will make the award to the Proposer whose proposal is most advantageous to the Commission. Accordingly, the Commission may not necessarily make an award to the Proposer with the highest technical ranking nor award to the Proposer with the lowest Price Proposal if doing so would not be in the overall best interest of the Commission.

Proposals will not be publicly opened. Each submitted proposal will initially be screened for responsiveness by the Commission. The following are the minimum requirements that must be met for a proposal to be considered responsive. (**Note**: All requirements must be met; therefore, they are not listed by any particular order of importance):

- ✓ The Proposer has followed the proposal requirements, the submittal requirements, and other instructions of this RFP, and included sufficient information and detail such that the proposal can be evaluated. Any deficiencies in this regard must be determined by the Commission to be a defect that the Commission will waive or the proposal may be disqualified.

Any proposal that the Commission finds cannot meet these requirements, and may not be made to meet these requirements within timelines set by the Commission, may be determined by the Commission to be non-responsive, and will not be considered for further evaluation. Proposers of any proposals that have been determined by the Commission to be non-responsive will be notified in writing that they were not short-listed for further consideration.

The Commission will establish a Selection Team for this Project which will include representatives from the Commission and Operators, and when deemed in the Commission's best interest, representatives of other public agencies, the general public, or individuals with experience and expertise in the related disciplines, including the Commission’s consultants. The Commission reserves the right to independently score the proposals.

Responsive proposals will be distributed to the Selection Team. Final determination of a Proposer's responsiveness will be made upon the basis of initial information submitted in the proposal, any information submitted upon request by the Commission and information resulting from the Commission's inquiry of Proposer's references and its own knowledge of the Proposer.

To the extent permitted by law, cost estimates and evaluations related to costs will be kept strictly confidential throughout the evaluation, negotiation and selection process. Only the members of the Selection Team and Commission officials, employees and agents having a legitimate interest will be provided access to the cost proposals and cost evaluation results during this period.

Commission staff will verify the references supplied by Proposers to determine the Proposer's record of producing a quality product on similar projects, adherence to budget and schedule, overall experience and technical competence in performing work of a similar nature, and quality of key personnel. References will only be verified for responsive (short listed or selected) Proposers.

All responsive Proposers may be invited to participate in an oral interview / product demonstration with the Selection Team to further discuss the content of their proposal, demonstrate their product and respond to questions by Commission staff and the Selection Team concerning their proposal. If interviews are not held, the points allotted to "Oral Presentation" shall be withheld from the overall Proposal Evaluation Form.

The final ranking of proposals will be determined through a combination of independent examination of proposals, interviews (if utilized), cost effectiveness, and other appropriate evaluation factors (e.g., reference checks). Proposals will be ranked based on relative point totals assigned by Selection Team members ("evaluators"). Each evaluator will independently score the proposals following a Suggested Scoring System. The point assignments will be weighted and each evaluator's weighted scores will be converted to ranks, with the highest weighted score ranked one, the next highest score ranked two, and so on. All Selection Team members' ranks will be combined and the highest combined rank score shall be the top-ranked firm.

4.1 Technical Evaluation and Scoring

Proposals are evaluated using a point method of award with predetermined criteria for each element. (**Note**: Some evaluated elements may be weighted higher than others.) A detailed scoring evaluation will be conducted for those proposals that have passed the initial evaluation. The scoring evaluation will be accomplished in a consistent, uniform manner for all proposals. Members of the team will score each proposal according to the pre-established evaluation criteria and weights for relative importance.

Proposals will be evaluated by the Selection Team and scored in accordance with the criteria outlined below:

(CONTINUED)

Evaluation Criteria	(a) Weight	(b) Score	(a) x (b) Weighted Score
QUALIFICATIONS AND EXPERIENCE OF PROJECT TEAM ✓ Demonstrated successful performance on similar or related projects. ✓ Experience, technical competence and role of sub-Proposers, including prior working relationship with prime (if applicable). ✓ Relevant experience of the Project Manager and key personnel in example projects. ✓ Senior staff availability and time commitment of key personnel on this project. ✓ Organization logic, quality and cost control measures in place. ✓ Overall financial stability and evidence of corporate resources committed to the Project. ✓ Other on-going project commitments and priorities.	10		
SYSTEM FUNCTIONALITY / TECHNICAL SOLUTION ✓ Completeness of Solution – How close does the Proposer meet the requirements as expressed in the Table of Compliance? ✓ Scalability - Ability for expansion, growth and overall functional capabilities of the System. Current technology to allow for cost-effective expansion as needs change. ✓ Passenger Information System – Method and flexibility of the predictive arrival predictions, Trip planner, Web (ability to transmit and ease of use for customers). ✓ Mapping – capabilities and accuracy of maps / overlays. ✓ Changeable Message Signs – capabilities, types and varieties of displays. ✓ Personal Communication Devices – Ability to transmit schedules, arrival information and alerts to cell phones, tablets, wearables, etc. ✓ Technology Solution. ✓ Architecture - reliability, redundancy, environments, Disaster Recovery, Security, etc. ✓ Reporting Capabilities – ability to meet reporting needs as described. ✓ Optional Solutions –APC, AVA, Headsign & Farebox Integration	30		
PROPOSED METHODOLOGY / APPROACH TO WORK ✓ Demonstrated knowledge of the work required. ✓ Approach and proposed methodology to project scope, including training and schedule. ✓ Technical merit of proposed solution (logic, advantages, proven approach). ✓ Use of components and software proven in service on similar projects. ✓ System flexibility and upgradeability. ✓ Innovative approaches to service delivery and on-going operational support.	15		
TRAINING AND SUPPORT ✓ Work Plan – thoroughness of the training facilitators proposed training plan. ✓ Acceptable Schedule – evaluate facilitators schedule as it matches Team needs. ✓ Support available for solution beyond Pilot. ✓ Thoroughness of Training Plan.	10		
ORAL PRESENTATION ✓ Demonstrated knowledge of the work required. ✓ Appropriateness of responses to questions. ✓ Competence of key team members and evidence of team approach. ✓ Quality of product and services as seen in the product demonstration.	5		
QUALITY OF WRITTEN PROPOSAL ✓ Completeness of proposal and compliance with RFP instructions. ✓ Explanation of the project or services required. ✓ Logic, clarity and specificity of work plan. ✓ Evidence of willingness to exceed project requirements. ✓ Nature and extent of exceptions taken to contract terms, conditions or specifications.	5		
COST / COST EFFECTIVENESS ✓ Total Implementation Costs ✓ Five year total cost service/maintenance warranty expense . ✓ Cost effectiveness will be evaluated with the maximum points granted to the lowest priced proposal. *	25		
TOTAL:	100		

Cost Proposal Evaluation

Cost effectiveness will be evaluated with the maximum points granted to the lowest priced proposal. All proposals will be rated based on their cost relative to the lowest-priced cost proposal. The basis for the ranking of the costs shall be as follows:

Lowest Cost Proposal / Cost Proposal being evaluated

Example:

§ Lowest cost proposal= $200,000
§ Lowest cost proposal percentage= $200,000 / $200,000=1.0
§ Lowest cost proposal weighted points= 1.0X25=25
§ Proposal being evaluated = $250,000
§ Percentage award for proposal being evaluated= $200,000 / $250,000=.80
§ Proposal being evaluated weighted points= .80X25=20

The proposal selected shall provide a cost-effective approach that meets the Commission's stated requirements; however, **the lowest price proposal will not necessarily be selected**.

4.2 Final Results and Contract Award

The scores from the technical evaluation, product demonstration and cost proposal evaluation will be summed, and the proposals will be ranked by final total score. Final contract award will be made after recommendation by the Selection Team. The Commission will select the responsive and responsible Proposer with the highest total number of points to proceed to contract negotiations. In the event that the top two proposals are scored evenly, the Commission's Executive Director shall select a proposal. Contract award will be contingent upon successful negotiation of a contract acceptable to the Commission and receipt of evidence of the Contractor's ability to meet the Commission's insurance, indemnification, and bond requirements and the other requirements in this Proposal.

The Commission may elect to enter negotiations with one or more Proposers and require each Proposer to submit a Best and Final Offer (BAFO) in order for the Commission to arrive at a final determination.

After final negotiation of a proposed Agreement that is deemed fair and reasonable, Commission staff will recommend to the Commissioners that the Commission enter into the proposed Agreement. Final authority to approve the Agreement rests with the Commission. Contract Award is subject to FTA Grant approval and funding availability.

4.3 Award Protests

After award notification, Proposers wishing to file a protest must do so in writing in accordance with Attachment K - Resolution 91-05: VCTC Contract Protest Procedure.

5.0 PROPOSAL FORMAT

5.1 Proposal Submission

Proposals must be received by the time and date specified below. Proposals must be submitted by carrier/courier, (e.g. in-person, by US mail, FedEx, UPS, etc). **Do not fax or e-mail your proposals**. Seven (7) hard copies, including one (1) clearly marked signed Original, and one (1) disk or USB device containing a copy of the complete proposal in PDF format shall be submitted no later than **2 PM PST, MAY 2, 2017,** as described in Section 3.5 to be considered for contract award. Postmarks will not be accepted in lieu of this requirement. Proposals and / or modifications received subsequent to the hour and date specified above or transmitted by facsimile or e-mail are not acceptable and will not be considered. Late submittals will not be accepted and will be returned unopened to Proposer. Proposals should be addressed as follows:

Ventura County Transportation Commission
ATTN: VCTC PURCHASING AGENT
950 County Square Drive, Suite 207
Ventura, CA 93003

All Proposals must be sealed and clearly marked with the RFP-17-90164-AVL and Title of the RFP. The proposal must be submitted in two distinct parts, technical and cost. The cost proposal must be submitted in a separately sealed envelope clearly marked "CONFIDENTIAL COST PROPOSAL." The technical and cost proposals may be submitted in the same package.

The proposal should be concise, well organized, and demonstrate the proposer's qualifications and experience applicable to the Project. Each section of the proposal will be clearly identified with appropriate headings. Proposals will include a table of contents and all pages numbered. Proposals hard copies will be bound using 3-ring binders. Failure to follow these instructions may result in disqualification. Proposals should be prepared simply and economically, providing a straightforward, concise description of the capabilities and solutions of the Proposer. Emphasis should be on completeness and clarity of content.

The Proposer must ensure that adequate and accurate responses are provided. It is the responsibility of the Proposer to provide complete answers to each requirement even if that results in redundant, duplicated material within the proposal. The Commission's Selection Team is not required to search for the answers in other sections of the proposal response.

The proposals shall contain the following information in the order it is presented below. Failure to do so, may result in proposals as deemed non-responsive.

5.1.1 Transmittal Letter

A cover letter should contain a brief summary of the Proposer's team, its experience, the proposal content, the name, title, phone number, e-mail address and physical address of the team contact.

The transmittal letter shall also acknowledge the Proposer's receipt of any RFP addenda. The cover letter must include a statement that the price in the proposal was arrived at independently, without collusion, consultation, communication, or agreement as to any matter related to the proposal with any other Proposer, competitor, or public officer. Proposer must acknowledge that prices are firm for a period of 180 days. The cover letter shall be signed by the person authorized to negotiate a contract for proposed services with the Commission on behalf of the submitting Proposer.

5.1.2 Table of Contents

Proposal Table of Contents must provide page number references for the sections, any appendices, and forms, and certifications required of this solicitation.

5.1.3 Executive Summary

Include a 2-4 page overview of the entire proposal describing the most important elements of the Proposer's solutions and project approach.

5.1.4 Section 1-Project Understanding / Proposer Solution

Based on information contained in this RFP, as well as information obtained in any subsequent addenda, pre-proposal meetings, and other materials available from the Commission, the Proposer shall describe their solution, plan, approach, and technical architectures for accomplishing the work requested. The information provided shall be in enough detail to enable the Commission to ascertain that the Proposer understands the technologies, functional requirements, related software, maintenance and warranty needs, timelines and effort to satisfy the RFP requirements. The Proposer should indicate, in written narrative, how the solutions / product(s) and services proposed will help the Commission / Operators reach its objective of improving the quality of transportation services to its customers.

5.1.5 Section 2- System Description

Proposers should fully describe the System being offered as part of this submission. Capabilities and features should be described in the context of its application to the Commission's requirements and the benefits gained from the Proposer's solutions and / or products. Proposers must list all components or modules necessary to fully implement the project, including any third party solutions, services / products necessary to complete the total installation including the optional technologies.

Technical description of the proposed systems that includes:

- ✓ A direct response to the specifications and functions requested in this RFP;
- ✓ Diagrams that illustrate how system components interact and exchange data are encouraged;
- ✓ A description of additional functional capabilities of the proposed system not identified in the RFP;

- ✓ A description of system components and how they interact / integrate;
- ✓ A description of how the System will be Hosted, architected, and managed (hardware, software, databases, etc.); and
- ✓ A Table of Compliance (Attachment B) that indicates the compliance of the proposed system with the technical specifications, including compliance with Optional Technologies. Responses shall be, "Fully Complies," "Does Not Comply, or Partially Complies." The Proposer may explain those sections that it marks as "Partially Complies" or "Does Not Comply";

Alternative Approach. Where the Proposer wishes to propose alternative approaches to meeting the requirements, these should be thoroughly explained, including the alternative methodology to be employed to meet the functional requirements and any benefit provided to the Commission by the alternative methodology.

In addition, Proposer should describe the features of their warranty and maintenance plan that will be provided in accordance with the requirements contained within as well as a description of the maintenance requirements.

5.1.6 Section 3-Firm / Team Overview

Provide a team organization chart that identifies the roles of the Proposer's key personnel. If applicable, clearly delineate the responsibilities of the prime contractor and subcontractor(s). Specify the extent of the time commitment of key personnel for the duration of the project. Provide an indication of the overall level of effort for the Project, including a breakdown of staffing hours by key personnel. Describe the experience of the Proposer's project team in detail, including the team's Project Manager, engineer, and other key staff members, on projects of similar size, capacity, and dollar value. For each similar project, include the client's name and telephone number. Resumes for key personnel should be included in an Appendix (limit resumes to relevant information only). **No changes in team composition will be allowed without the prior written approval of the Commission.**

5.1.7 Section 4-Implementation Plan / Project Management

Proposers should fully describe the proposed implementation plan of their response to this RFP, detailing all major milestones in the process. A clearly stated, proposed timeframe, including the following project milestones or stages: 1) fleet installations and dispatch tracking and reporting functionality; 2) installation and implementation of Passenger Information System (such as bus stop signage, by computer or personal communication device; and, if applicable, 3) implementation of Optional Technologies. The key milestones, or stages, from notice-to-proceed (NTP) through live testing and final acceptance should be developed as an integral part of this section.

Project Management and Staffing – Describe how the Proposer will manage the project, ensure completion of the scope of work described in the Proposal following the developed timeline milestones, and accomplish the required objectives. This plan must include the proposed

management team, staffing plan, including information on its sources of craft labor and its training capabilities. Discuss how and what lines of communication will be implemented to maintain the project schedule.

Proposer should include a Microsoft Project "Project Plan" that includes the various tasks; activities (resource loaded) required to complete this Project. Specifically, include in the Proposer's plan a detailed schedule showing tasks and milestones for the system design, system testing and acceptance, training, documentation for dispatch, operators and maintenance, and a phased deployment. The Proposer will describe how they will use the plan to ensure that the schedule will be met and how the Project's many elements will be documented and tracked.

If the Proposer intends to subcontract portions of the work, Proposer will provide a complete list of potential subcontractors, their qualifications, addresses and the names and phone numbers of contact points within their organization and a description of the work to be subcontracted.

5.1.8 Section 5 -Quality Assurance Plan

Proposers should describe in detail their management strategies for overall quality assurance in the POC, general implementation, testing, and operation of the System components. At a minimum, Proposers should address:

- ✓ Testing / Acceptance: an outline of the procedure for factory, system and burn-in testing; describe how testing will be performed for central components and for components at Commission locations; and describe how the Commission will be involved in acceptance testing.
- ✓ Warranty, Maintenance, Support, and Upgrades: Describe any initial and extended warranties that apply, or may be available, for hardware / software and / or services used in response to this RFP. Describe the Proposers' technical support during the Project, focusing on the implementation period as well as long-term. Describe procedures for rendering support, including the availability of technicians to provide repairs. Technical support policies and pricing must be explained in detail.
- ✓ Quality Control: Describe steps and methods employed by the Proposer to ensure that quality of the services and work products of the proposed system are realized.

5.1.9 Section 6-Training

Proposers should provide a detailed schedule and outline for the necessary training of Commission / Operator staff as defined herein. This section should identify the training course content, documentation / training materials, the number and type of training courses that will be required and the length of the training sessions, etc. Proposers should indicate when the training should be provided in the context of the overall implementation time schedule. Qualifications of the staff providing the training shall be listed.

5.1.10 Section 7- Commission / Operator Actions under the Project

The Commission understands that successful implementation of this Project requires a partnership between the Commission, Operators and the Proposer. Proposer will identify the type of personnel needed to facilitate the proposer identified contributions from the Commission/Operator.

5.1.11 Section 8- Experience

Proposers should provide a corporate profile indicating their qualifications to provide the required System and support necessary to achieve the Commission's goals for the Project. Proposers must submit a list of other systems of a similar size to the Commission's where the proposed system(s) have been installed successfully; preference is for public transit agencies. A separate list of the Proposers' last three (3) installations, along with a project contact, address, telephone number, and e-mail address must be provided.

The Commission has created a Mail-In Reference Questionnaire which will be used by the Short-Listed Proposers at the appropriate time. Please refer to the Questionnaire for specific instructions in Attachment H.

5.1.12 Section 9 - Financial Statement

The Commission wants to understand the financial condition of the Proposer. Identify any conditions (e.g., bankruptcy, pending litigation, planned office closures, impending merger) that may impede Proposer's ability to complete the project. Audited financial statements for past three (3) fiscal years, a Dun & Bradstreet report or a one-page summary from a CPA firm shall be submitted as an Appendix to the Proposer's proposal.

Please provide the following information:

- ✓ Legal name and address of Proposer
- ✓ Number of years Proposer has been in business
- ✓ Legal form of company (partnership, corporation, joint venture, etc.). (If joint venture, identify the members of the joint venture and provide all information required within this section for each member. If a corporation, certify that the corporation is in good standing with the Secretary of State)
- ✓ If Proposer is wholly-owned subsidiary of a "parent company," provide the legal name and form of the parent company
- ✓ Tax Identification Number
- ✓ Data Universal Numbering System (DUNS) Number
- ✓ Central Contractor Registration (CCN) Number
- ✓ Address(es) of office(s) that will work on this Project
- ✓ If DBE certified, identify certifying agency, as well as gender and ethnicity
- ✓ Name, title, address, e-mail address, and telephone number of the person to contact concerning the proposal

- ✓ State whether the Proposer has filed bankruptcy in the last ten (10) years
- ✓ Subcontractor letters of commitment are required and must be submitted for each subcontractor listed in the proposal

5.1.13 Section 10 – Pricing / Cost / Payment

The price proposal consists of the forms in Attachment C. The Proposer shall detail the incremental and recurring costs for all items (i.e., project components and deliverables) as listed below:

- ✓ Unit costs for hardware. Any exception must be explained.
- ✓ Costs must be broken down, total capital cost as well as operation and maintenance costs for the next 5-years.
- ✓ The estimated annual cost of operations and maintenance should be listed and described. The cost shall include and detail all anticipated sources of recurring costs, including, but not limited to: cellular airtime, royalties, software license fees, technical support, training, rentals or anticipated replacements.
- ✓ Estimates of non-provider costs, (the Commission wants no surprise costs)

As part of the price proposal, the Proposer must also include a payment schedule based on milestones and deliverables related to the installation and deployment of the System for the Commission consideration and negotiations (Attachment D).

If the costs exceed the funds available for this Project, the Commission shall, at its sole discretion, remove some components from the requirements and /or Technologies Options that would not otherwise affect the functionality of the systems.

Even though the method of payment to the Proposer will be a fixed price, a detailed cost breakdown shall be provided that includes an estimate of the number of staff hours and hourly rates for each professional and administrative staff person who will be committed to this project, including fringe and overhead rates, all other direct costs, such as travel and subsistence, materials, reproduction, etc., and the cost for subconsultant services, if applicable. This information will be used to determine the reasonableness of the Proposer's cost estimate and for pre-award audit purposes when appropriate. Labor rates and escalation will also be used to negotiate any change orders throughout the term of the contract.

The cost proposal must be submitted in a separately sealed envelope clearly marked "CONFIDENTIAL COST PROPOSAL." The technical and cost proposals may be submitted in the same package.

5.1.14 Proposal Appendix

The Proposer may include other materials considered relevant to the proposal. However, this is not an invitation to submit large amounts of extraneous materials. Appendices should be relevant

and brief. Materials included in the appendices will not be evaluated. Do not submit more than 3 appendices, and the total number of pages combined should not exceed 10.

5.1.15 Exceptions to this Request for Proposals

The Proposer shall certify whether it takes any exception(s) to the requirements of this RFP or the standard contract provisions outlined in Section 6 below, and if so, shall list those items to which exceptions are requested and –as appropriate– provide proposed alternate language. It is not the Commission's intent to make substantial changes to the standard contract provisions. Failure to take exceptions to the RFP or standard contract provisions within the proposal will be deemed a waiver of any objection. Exceptions will be considered during the proposal evaluation process.

All Proposers shall also be required to complete and submit the Table of Compliance, Attachment B, which covers each of the requirements in the RFP. If the Proposer does not comply with any of the requirements, the specific requirement must be identified and explained. Failure to take exception in the manner set forth above will be deemed a waiver of any objection. Exceptions will be considered during the proposal evaluation process.

5.1.16 Required Certifications

As part of the proposal package, Proposers must submit all of the signed certifications as found in the Appendix. The proposal and any required certifications shall be signed by an individual or individuals authorized to execute legal documents on behalf of the Proposer.

5.2 Product Demonstration

Short-listed Proposers may be invited to demonstrate their proposed System in Ventura, California. Demonstrations will be limited to this specific Project and the Proposer's proposal. Proposer's will have two hours for the demonstration to present and for follow-up and / or additional questions by the Commission. At the appropriate time, the Commission will inform the Proposers as to the actual specifics of the demonstration, however, the demonstration will generally be evaluated on the following:

- ✓ Demonstration of your System: 1) real time Passenger Information System and trip planning; 2) CAD; 3) Reports; 4) Management Capabilities; 5) System Administration functions. (Anything the Commission/Operators can do with the System out of the box)
- ✓ Functional and architectural overview of products (AVL / CAD / Passenger Information System
- ✓ Description of your technology solution, Hosted, On-Premises Managed Services, Commission supported model and what's included, what's not (architecture, failover, database redundancy, Disaster Recovery, etc.)
- ✓ Architected data transfers (bulk or wireless)

- ✓ Outline the typical implementation and installation steps to be taken and expected time frames and any implications for the Commission that you might be aware of
- ✓ Project Management / engineering approach
- ✓ Training Plan, timelines, etc.
- ✓ Maintenance / Warranty
- ✓ Product support process, escalations procedures, etc.
- ✓ Functional and architectural overviews of your Optional Technologies: (APC, AVA, Headsign and farebox Integration capabilities; Single-point Log-on.)

The demonstration should be a live, working system (no PowerPoint) that meets the requirements. The cost to assemble and develop the proposed System and attend the product demonstration will be the responsibility of the Proposer.

6.0 ADMINISTRATIVE/CONTRACTUAL REQUIREMENTS

The following sections outline standard administrative procedures and contractual provisions that the Commission will require in the ultimate contract for the System. For the purposes of this Section 6, the entity that is selected to perform the work contemplated by this RFP is referred to as "Proposer" or "Contractor."

6.1 Prime Contractor

Proposer will be the sole point of contact for the contract. The Proposer will be completely responsible for all actions and work performed by its subcontractors. All terms, conditions, and requirements of the contract will apply without qualification to any services and work performed by any subcontractor of the Proposer.

6.2 News Releases

The Commission is the only entity authorized to issue news releases relating to this RFP, its evaluation, award, or any contract and performance there under.

6.3 Contract Documents

All terms and conditions included in this solicitation will be incorporated into any resultant contract.

It is the intent of the Commission to award a firm fixed price contract for this procurement.

The Commission is exempt from Federal Excise and Transportation Taxes. The Commission will furnish necessary exemption certificate upon request. Any sales tax, use tax, imposts, revenues, excise or other taxes, which are now or which may hereafter be imposed by Congress, by a state or any political subdivision hereof and applicable to the sale or the material delivered as a result of the selected Proposer's proposal and which, by the terms of the tax law, must be passed directly to the Commission, will be paid by the Commission.

6.4 Form of Cost Proposals

Cost proposals shall include the **Cost Proposal Form (Attachment C) and Bid Form (Attachment I)**, furnished to Proposers. Cost proposals that do not include the Cost Proposal and Bid Forms will be considered non-responsive and **WILL BE REJECTED.** The only acceptable method of modifying a cost proposal is by letter, if it is received by the person assigned to open cost proposals prior to the time set for opening of cost proposals

6.5 Receipt of Bids

Bids must be received by the time and date specified in Section 3.5. Proposals must be submitted manually, and as specified in Section 5.1.

The Commission reserves the right to reject any or all bids, and to cancel the requirements at any time prior to bid opening and return all bids unopened.

6.6 Discrepancies

If a Proposer becomes aware of any discrepancy, ambiguity, conflicts, error or omission in the RFP, it shall be reported immediately to the Commission staff, who will determine the necessity for clarification.

6.7 Appeal Procedures

Requests for approved equals, and clarifications of specifications must be submitted to the Commission in the form of a question regarding the RFP, and submitted no later than April 7, 2017 (as specified Section 3.5 Tentative Schedule for Evaluation, Selection, and Award).

Alternatively, proposers may submit a formal protest of specifications. Protests must be received by the Commission in writing, pursuant to Attachment K - Resolution 91-05 VCTC Contract Protest Procedure.

Any request for an approved equal or protest of the specifications must be fully supported with technical data, test results, or other pertinent information as evident that the substitute offered is equal to or better than the specification requirements. The burden of proof as to the equality, substitutability, and the compatibility of proposed alternates or equals shall be upon the Proposer, who shall furnish all necessary information at no cost to the Commission. The Commission shall be the sole judge as to the quality, substitutability and compatibility of the proposed alternates or equals.

6.8 Addenda

Clarification or any other notice of a change in the proposal documents will be issued only by the Commission Purchasing Agent and only in the form of written addenda posted to the Commission webpage, www.goventura.org. Each addendum will be numbered and dated. Oral statements or any instructions in any form, other than addenda as described above, shall have no consideration.

Each addenda received during the proposal process shall be acknowledged in the designated space on the **Bid Form** (Attachment I) with the information therein requested. If none are received, the words **"no addenda received"** shall be written in the said space.

6.9 Receiving Proposals

Proposals received will be kept unopened until the time fixed for the proposal opening. The person whose duty it is to open the proposals will determine when the time stated above has arrived and no proposal received thereafter will be considered.

6.10 Withdrawal of Proposals

Proposals may be withdrawn only by signature of the Proposer, provided the request is received by the person whose duty it is to open proposals prior to the time fixed for proposal opening. Each proposal opened will be considered to be a valid offer, and may not be withdrawn for a period of one hundred eighty (180) calendar days following opening of proposals, unless the Proposer is given written notice that the proposal is unacceptable.

6.11 Evaluation of Proposals

Proposals will be evaluated as stated in Section 4 above.

6.12 Award or Rejection of Proposals

Award will be made based on the Best Value method of scoring as described in Section 4.1.1**.**

Discount for prompt payment of less than fifteen (15) days offered by the Proposer will not be used in the evaluation or award process.

The Commission reserves the right to REJECT ANY OR ALL proposals or any item or part thereof, or to waive any informality or irregularity in proposal when it is in the best interest of the Commission to do so.

The Commission also reserves the right to award its total requirements to one Proposer or to apportion those requirements among several Proposers, as the Commission may deem it to be in its best interest.

6.13 Pre-Contractual Expenses

Proposers are responsible for all pre-contractual expenses. Pre-contractual expenses are defined as expenses incurred by the Proposer in 1) preparing the proposal in response to this RFP; 2) submitting that proposal to the Commission; 3) negotiating with the Commission any matter related to this proposal; or 4) any other expenses incurred by the Proposer prior to date of award.

6.14 Payment

Payment Schedule and Invoicing

Payment for equipment, material, and services shall be made 30 days after receipt of an Acceptable Invoice.

An Acceptable Invoice includes:

- ✓ Proper and complete billing (including support) is received by Commission.

- ✓ Acceptance by the Commission of the equipment, materials and / or services in accordance with the Scope of Work.
- ✓ Contractual agreements set forth between the Commission and the Contractor.

Advance payments by the Commission are prohibited.

Prime Contractor and Subcontractor Payments (if applicable)
Proposer agrees to pay each subcontractor under this contract for satisfactory performance of its contract no later than 10 days from receipt of each payment the prime contractor receives from the Commission. The Proposer agrees further to return retainage payments to each subcontractor within 30 days after the subcontractor's work is satisfactorily completed. Any delay or postponement of payment from the above referenced time frame may occur only for good cause following written approval of the Commission.

6.15 Delays

Unavoidable Delays
If services under the contract should be unavoidably delayed, the Commission's Executive Director shall extend the time for completion of the contract for the number of days of excusable delay in the determination of the Executive Director. A delay is unavoidable only if the delay was not reasonably expected to occur in connection with or during the Contractor's performance, and was not caused directly or substantially by acts, omissions, negligence or mistakes of the Contractor, the Contractors subs, or their agents, and was substantial and in fact caused the Contractor to miss delivery dates, and could not adequately have been guarded against by contractual or legal means. Delays beyond control of the Commission / Operators or caused by the Commission / Operators will be sufficient justification for delay of services and Contractor will be allowed a day for day extension.

Notification of Delays
The Contractor shall notify the Purchasing Agent as soon as the Contractor has, or should have, knowledge that an event has occurred which will delay delivery or installation of the System. Within five (5) calendar days, the Contractor shall confirm such notice in writing, furnishing as much detail as available.

Request for Extension
The Contractor agrees to supply, as soon as such data are available, any reasonable proofs that are required by the Commission's Executive Director to make a decision on any request for extension. The Commission's Executive Director shall examine the request and any documents supplied by the Contractor and shall determine, in the Executive Director's sole discretion, if the Contractor is entitled to an extension and the duration of such extension. The Commission's Executive Director shall notify the Contractor of his decision in writing. It is expressly understood and agreed that the Contractor shall not be entitled to damages or compensation and shall not be reimbursed for losses on account of delays resulting from any cause under this provision.

6.16 Conditional Acceptance

The Commission reserves the right to allow partial payments based on the conditional acceptance of the System under the condition that the Proposer will rectify cited deficiencies within an agreed upon time frame.

6.17 Insurance Requirements

During the performance of the contract executed pursuant to this RFP, and at Contractor's sole expense, Contractor shall procure and maintain the following insurance and shall not of its own initiative cause such insurance to be cancelled or materially changed during the course of herein contract..

Contractor shall procure and maintain for the duration of the contract insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by the Contractor, its agents, representatives, or employees.

Minimum Scope and limit of Insurance - Coverage shall be at least as broad as:

1. **Commercial General Liability** (CGL): Insurance Services Office Form CG 00 01 covering CGL on an "occurrence" basis for bodily injury and property damage, including products-completed operations, personal injury and advertising injury, with limits no less than **$1,000,000** per occurrence. If a general aggregate limit applies, either the general aggregate limit shall apply separately to this project/location or the general aggregate limit shall be twice the required occurrence limit.
2. **Automobile Liability:** Insurance Services Office Form Number CA 0001 covering, Code 1 (any auto), or if Contractor has no owned autos, Code 8 (hired) and 9 (non-owned), with limit no less than **$1,000,000** per accident for bodily injury and property damage.
3. **Workers' Compensation** insurance as required by the State of California, with Statutory Limits, and Employer's Liability Insurance with limit of no less than **$1,000,000** per accident for bodily injury or disease.

   (Not required if Contractor provides written verification it has no employees)
4. **Professional Liability** (Errors and Omissions) Insurance appropriates to the Contractor's profession, with limit no less than **$1,000,000** per occurrence or claim, $2,000,000 aggregate.

If the Contractor maintains higher limits than the minimums shown above, the Commission requires and shall be entitled to coverage for the higher limits maintained by the contractor. Any available insurance proceeds in excess of the specified minimum limits of insurance and coverage shall be available to the Commission.

Other Insurance Provisions:

The insurance policies are to contain, or be endorsed to contain, the following provisions:

Additional Insured Status

The Commission, the Operators, and their officers, officials, employees, and volunteers are to be covered as additional insureds on the auto policy with respect to liability arising out of automobiles owned, leased, hired or borrowed by or on behalf of the Contractor; and on the CGL policy with respect to liability arising out of work or operations performed by or on behalf of the

Contractor including materials, parts, or equipment furnished in connection with such work or operations. General liability coverage can be provided in the form of an endorsement to the Contractor's insurance (at least as broad as ISO Form CG 20 10, 11 85 or both CG 20 10 and CG 20 37 forms if later revisions used).

Primary Coverage
For any claims related to the contract, the **Contractor's insurance coverage shall be primary** insurance as respects the Commission, the Operators, and their officers, officials, employees, and volunteers. Any insurance or self-insurance maintained by the Commission, the Operators, or their officers, officials, employees, or volunteers shall be excess of the Contractor's insurance and shall not contribute with it.

Notice of Cancellation
Each insurance policy required above shall state that **coverage shall not be canceled, except with notice to the Commission and Operators**.

Waiver of Subrogation
Contractor hereby grants to Commission and Operators a waiver of any right to subrogation which any insurer of said Contractor may acquire against the Commission by virtue of the payment of any loss under such insurance. Contractor agrees to obtain any endorsement that may be necessary to affect this waiver of subrogation, but this provision applies regardless of whether or not the Commission and Operators have received a waiver of subrogation endorsement from the insurer.

Deductibles and Self-Insured Retentions
Contractor shall disclose to and obtain the approval of Commissiom for the self-insured retentions and deductibles before beginning any of the services or work called for by any term of the Contract. Further, if the Contractor's insurance policy includes a self-insured retention that must be paid by a named insured as a precondition of the insurer's liability, or which has the effect of providing that payments of the self-insured retention by others, including additional insureds or insurers do not serve to satisfy the self-insured retention, such provisions must be modified by special endorsement so as to not apply to the additional insured coverage required by the contract so as to not prevent any of the parties to the contract from satisfying or paying the self-insured retention required to be paid as a precondition to the insurer's liability. Additionally, the certificates of insurance must note whether the policy does or does not include any self-insured retention and also must disclose the deductible.

Acceptability of Insurers
Insurance is to be placed with insurers with a current A.M. Best's rating of no less than A:VII, unless otherwise acceptable to the Commission.

Claims Made Policies
If any of the required policies provide coverage on a claims-made basis:

1. The Retroactive Date must be shown and must be before the date of the contract or the beginning of contract work.
2. Insurance must be maintained and evidence of insurance must be provided ***for at least five (5) years after completion of the contract of work.***
3. If coverage is canceled or non-renewed, and not ***replaced with another claims-made policy form with a Retroactive Dat***e prior to the contract effective date, the Contractor must purchase "extended reporting" coverage for a minimum of ***five (5)*** years after completion of contract work.

Subcontractors
Contractor shall require and verify that all subcontractors maintain insurance meeting all the requirements stated herein, and Contractor shall ensure that Commission and Operators are an additional insured on insurance required from subcontractors.

Special Risks or Circumstances
Commission reserves the right to modify these requirements, including limits, based on the nature of the risk, prior experience, insurer, coverage, or other special circumstances.

6.17.1 Proof of Insurance

Prior to the Commission's issuance of a contract, the Contractor must furnish to the Commission a **Certificate of Insurance** which shall certify the Contractor's insurance policy adequately covers the above listed requirements. However, failure to obtain the required documents prior to the work beginning shall not waive the Contractor's obligation to provide them. Documents may be delivered or mailed to said office by the provider. Language on the certificate and applicable endorsements shall confirm the following:

- ✓ The required parties are designated as an additional insured on the Comprehensive Liability and Automobile Liability Insurance described hereinabove.
- ✓ The coverage shall be primary as to any other insurance with respect to performance hereunder.
- ✓ Thirty (30) days written notice of cancellation or material change to Commission.

6.18 Liquidated Damages

The Commission and Proposer recognize that liquidated damages requirements are appropriate if parties to a contract may reasonably expect to incur damages in the form of increased costs resulting from the late completion of the contract. Therefore, the Commission will impose a charge of **$100.00** per day, per vehicle, each day after scheduled completion.

6.19 Performance and Payment Bond

In addition any federal bonding requirements that may exist for construction activities as outlined in Attachment J. the Proposer may be required to obtain performance and payment bonds when necessary to protect the Commission's interest.

- ✓ The following situations may warrant a performance bond:
  - ✓ The Commission property or funds are to be provided to the Proposer for use in performing the contract or as partial compensation (as in retention of salvaged material).
  - ✓ A Proposer sells assets to or merges with another concern, and the Commission, after recognizing the latter concern as the successor in interest, desires assurance that it is financially capable.
  - ✓ Substantial progress payments are made before delivery of end items starts.

- ✓ Contracts are for dismantling, demolition, or removal of improvements.

- ✓ When it is determined that a performance bond is required, the Proposer shall be required to obtain performance bonds as follows:
  - ✓ The penal amount of performance bonds shall be 100 percent of the original contract price, unless the Commission determines that a lesser amount would be adequate for the protection of the Commission.
  - ✓ The Commission may require additional performance bond protection when a contract price is increased. The increase in protection shall generally equal 100 percent of the increase in contract price. The Commission may secure additional protection by directing the Proposer to increase the penal amount of the existing bond or to obtain an additional bond.
- ✓ A payment bond is required only when the Proposer uses a subcontractor for this project.
- ✓ When it is determined that a payment bond is required, the Proposer shall be required to obtain payment bonds as follows:
  - ✓ The penal amount of payment bonds shall equal to the subcontractors interest in this project as stated by the subcontractors.

The Proposer may be required to obtain an advance payment bond if the contract contains an advance payment provision and a performance bond is not furnished. The Commission shall determine the amount of the advance payment bond necessary to protect the Commission.

Within 90 days after Final Acceptance of the contract those obligations deposited as a performance bond, will be returned, less any amount owed to the Commission as a result of this contract. Obligations deposited as the payment bond, shall be held for a period of one (1) year from the date of acceptance of the contract for settlement of any claims.

6.20 Milestone Retainage

Retainage for Project Milestones has been set at 10%.

6.21 Prohibited Interests

Prohibited Interest

The parties hereto covenant and agree that, to their knowledge, no board member, officer, or employee of the Commission, during his tenure or for one (1) year thereafter has any interest, whether contractual, non-contractual, financial or otherwise, in this transaction, or in the business of the contracting party other than the Commission, and that, if any such interest comes to the knowledge of either party at any time, a full and complete disclosure of all such information will be made in writing to the other parties, even if such interest would not be considered a conflict of interest under Article 4 of Chapter 1 of Division 4 of Title 1 (commencing with Section 1090) or Article 1 of Chapter 7 of Title 9 (commencing with Section 87100) of the Government Code of the State of California.

Interest of Members of / or Delegates to Congress

No member of or delegate to the Congress of the United States shall be admitted to any share of or part of this contract or to any benefit arising therefrom.

6.23 Warranties

In addition to any standard warranties, the Contractor will provide the Commission with warranties for the work contemplated under this RFP in accordance with the warranty requirements outlined in Section 10.9 of this RFP.

6.24 Federal Contracting Requirements

The Contractor shall accept and comply with all applicable federal contracting requirements outlined in Attachment J. Furthermore, the Contractor shall accept any additional federal contract provisions that the Commission is made aware of or determines are required in connection with the Project.

6.25 Ownership of Materials and Service Data

All data, procedures, descriptions, presentations and recommendations accumulated by the Proposer under the contract resulting from this RFP will be owned by the Commission. The Proposer may not release, distribute, or otherwise utilize any such data without the written approval of the Commission.

6.26 Inspection and Approval of Work

The Proposer will permit the Commission's Project Manager or a duly authorized representative to inspect and audit all work, material and other data and records connected with the contract.

6.27 Patent / Copyright Infringement

At the time of Proposer's bid submittal, the Proposer warrants that all products and services being proposed are free and clear of any and all patent infringements, copyrights, etc.

6.28 Retention of Records

The Proposer will be required to maintain accounting records and other evidence pertaining to the costs incurred for a period of three (3) years beyond contract expiration and shall make the records available at their office at all reasonable times.

6.29 Liabilities against Procuring Agency

The Contractor shall indemnify, keep and save harmless the Commission and Operators, its agents, officials, and employees against all injuries, deaths, losses, damages, claims, suits, liabilities, judgments, costs, and expenses, which may accrue against the Commission arising out

of or resulting from the Contractors acts or omissions, including acts or omissions of its employees, servants and agents.

6.30 Omission

Notwithstanding the provision of drawings, technical specifications, or other data by the Commission, the Contractor shall have the responsibility of supplying all drawings and details required to make the project complete and ready for service even though such details may not be specifically mentioned in the drawings and specifications.

6.31 Priority

In the event of any deviation between the description of the equipment in the Technical Specifications and other parts of this document, the specifications shall govern.

6.32 Repairs after Non-Acceptance

The Commission may require the Contractor, or its designated representative to perform the repairs after non-acceptance or the work may be done by the Commission's personnel with reimbursement by the Contractor.

Repairs by Contractor

- ✓ If the Commission requires the Contractor to perform repairs after non-acceptance of the equipment, the Contractor's representative must begin work within five (5) working days after receiving written notification from the Commission of failure of acceptance tests. The Commission shall make the equipment available to complete repairs timely with the Contractor repair schedule.
- ✓ The Contractor shall provide, at its own expense, all spare parts, tools, and space required to complete the repairs.

Repairs by Commission

- ✓ Parts Used: If the Commission decides to perform the repairs after non-acceptance of the equipment, it shall correct or repair the defect and any related defects using Contractor-specified parts available from its own stock or those supplied by the Contractor specifically for this repair. Reports of all repairs covered by this procedure shall be submitted by the Commission to the Contractor for reimbursement or replacement of parts. The Contractor shall provide forms for these parts.
- ✓ Contractor Supplied Parts: If the Contractor supplies parts for repairs being performed by the Commission after non-acceptance of the equipment, these parts shall be shipped prepaid to the Commission from any source selected by the Contractor within 10 working days after receipt of the request for said parts.

- ✓ Return of Defective Components: The Contractor may request that parts covered by this provision be returned to the manufacturing plant. The total cost for this action shall be paid by the Contractor.
- ✓ Reimbursement for Labor: The Commission shall be reimbursed by the Contractor for labor. The amount shall be determined by multiplying the number of man-hours actually required to correct the defect by a per hour, per technician straight wage rate.
- ✓ Reimbursement for Parts: The Commission shall be reimbursed by the Contractor for defective parts that must be replaced to correct the defect. The reimbursement shall include taxes where applicable and 25 percent handling costs.

6.33 Disputes

Protests dealing with restrictive specifications or alleged improprieties in the solicitation must be filed pursuant to *Resolution 91-05: VCTC Contract Protest Procedures (as defined in Attachment K of this solicitation)*.

The protest will contain a statement describing the reasons for the protest and any supporting documentation. Additional materials in support of the initial protest will only be considered if filed within the time limit specified in the paragraph above. The protest will also indicate the ruling or relief desired from the Commission.

6.34 Option of Obtaining Services Outside of the Contract

The Commission reserves the right to contract separately for other services within the scope of this project if in the best interest of the Commission.

6.35 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(23) October 1, 2016) 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.

6.36 Federal Transit Administration (FTA) Terms

The preceding provisions 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 Ventura County Transportation Commission requests which would cause the Commission to be in violation of the FTA terms and conditions.

7.0 CONCEPT OF OPERATIONS

In summary, the Commission prefers an “out-of-the-box” System Hosted and served from a central data center and accessible from any Internet capable desktop within the Commission and/or Operator workstations. The Operators intend to utilize the System on fixed route buses for vehicle tracking and passenger information and all other Proposers capabilities.

The Commission expects that the Proposer's solutions will aid in achieving the Commission's objectives as follows:

Fixed-Route Software to Meet the Commission Goals

Commission Goal	Technology Capability
Make public transit more attractive to the general population.	✓ By providing quality service information (planned or real-time) to customers.
Maximize passenger movements.	✓ By optimizing scheduling for vehicles and staff, The Operators can improve transit efficiency and passenger transfers.
Reduce operational costs.	✓ By informing the fixed-route scheduling process, better scheduling should be possible using the same, or fewer resources.

By use of both digital map-based and tabular displays, the Operators’ Dispatchers shall be able to track their fixed-route vehicles. The capability to exchange status information between Vehicles and Dispatch will result in reduced voice traffic levels and clearer information. When performing customer service, staff shall be able to monitor all bus locations and status in real time rather than by printed schedule.

With the use of an MDT, the bus should have the ability to track its own location versus schedule, and advise the Driver and Dispatch when a variance exists. In addition, the System shall generate logs and data that record the fixed-route operations, shall have the capability to generate reports documenting fixed-route operations, and allow transit planners to utilize data on which to plan new service and tailor service to best meet planning and scheduling objectives.

Also, the Commission is eager to deploy a robust Passenger Information System that will enable the Commission's fixed route riders to ascertain next bus arrival predictions at the Operators’ bus stops and at the Transit Centers, utilizing large multiline external display(s) shall show the estimated arrival and departure time for each route that stops at that Transit Center, as well as

interior displays (e.g. for installation in an enclosed lobby) that depict the system map with arrival information. The Passenger Information System will also simultaneously broadcast fixed-route vehicle location and arrival times via the Internet accessible by smart phone, and SMS text message.

7.1 The General Public as System Benefactor

The primary beneficiaries of the Proposer's ITS solution is the general public. The Commission has identified as a strategic goal to better serve the needs of the transit dependent population, while also attracting new “choice” riders. The Commission has further committed to improve the “ease” of understanding and use of transit, to improve the customer experience, and to build awareness of the transit services provided by the Operators. The Proposer's new AVL and Passenger Information System is a critical component of the Commission’s capital and strategic marketing plans, with specific customer objectives of providing real-time information of arrivals and departures via Information Displays at the Transit Centers and via the Internet to significantly increase the passenger's confidence with using transit.

7.2 Fixed Route Operations

Once the current AVL equipment has been replaced on the Operators’ fixed route fleet by the Proposer and by use of both digital map-based and text displays, the Operators’ Dispatchers shall be able to track their fixed-route vehicles. When performing customer service, staff shall be able to monitor all bus locations and status in order to provide real-time information to customer calls.

The fixed-route management System shall generate logs and data that record the fixed-route operations and generate the corresponding reports documenting fixed-route operations. The Operators’ Transit Planners should provide accurate data on which to plan new service and tailor service to best meet the planning and scheduling objectives.

When equipped with an MDT, the bus will have the ability to track its own location and advise the Driver and / or Dispatch when a variance exists, the buses will more closely adhere to the Operators’ scheduled service.

Data shall be made available for downloading at the end of the shift / work day. This will result in a wealth of data for the Operators to plan for new service and tailor existing service to best meet our mission.

7.3 Fleet Inventory

The Commission is purchasing the System for use by the Operators, including the Commission which operates two transit systems, the VCTC Intercity and the Valley Express. The cumulative Operator fleet consists of a total of 140 vehicles, organized into nine (9) fixed route systems, operated out of seven (7) maintenance facilities. For specific fleet information, including make, model, year, etc. see *Operators Fleet and System Composition Schedule,* (Attachment M).

7.4 Transit Centers and Bus Stop Inventory

The Commission has deployed wayside Changeable Message Signs (CMS) which display arrival information at forty (40) bus stop locations across the Operators' nine (9) systems. In many locations, a CMS displays arrival information related to one or more Operator. Due to the age of the deployed system, some CMS are out of service or function intermittently. It is the Commission's desire to procure replacement signage, as well as additional signs at locations to be determined for a total of sixty (60) bus stop locations. Due to ridership demands, some existing CMS locations will be removed permanently while other unequipped (to-be-determined) locations will receive new CMS. Commission and Operators' staff are in the process of identifying CMS inventories and future prioritization. Commission staff will release the current and desired CMS Stop Inventories via addenda under separate cover.

8.0 FUNCTIONAL REQUIREMENTS

This section describes the technical and functional requirements for the various components of the desired System. It defines what the Systems acquired from the Proposer are expected to do, and how the Commission users will interact and use them. Proposers are asked to read the specifications and, in their response, use Table of Compliance in the Appendix to indicate where they comply, partially comply or do not comply with the requirements.

To the highest degree possible, the systems delivered as part of this Project must be in compliance with the National ITS Architecture as well as other nationally relevant standards such as the National Transportation Communications for ITS Protocol (NTCIP) and the Transit Communications Interface Profiles (TCIP). Where possible, communications protocols and formats should be industry-practice, open and non-proprietary.

8.1 General Requirements

The Commission seeks to install three major elements and their associated components and functionality as the System: AVL, a Passenger Information System, and CAD along with supporting technology infrastructure, including additional Optional Technologies.

The Proposer shall provide and support all hardware associated with the operation of the System and all hardware and equipment that is acquired by the Commission from the Proposer for Project, excluding consumable material (material that needs continuous replenishment), shall be certified to have a five-year minimum service life, with ten-year service life being preferred. All equipment, supplies and materials furnished under the Agreement shall also be new, field proven and meet or exceed applicable ISO, IEEE and ANSI standards.

Where applicable, the Proposer shall source commercially-available, off-the-shelf components that are easily accessible, modular, and easily removable to facilitate ease in maintaining and / or replacing the equipment. Materials and products that have been previously used for development work, purchased systems or items that have been salvaged or rebuilt shall not be permitted to be used in connection with the Agreement or Project without the prior written approval by the Commission, or unless otherwise specified in the RFP. All equipment provided by the Proposer should be multi-sourced and readily available to the Commission. Proof of purchase in the form of dated invoice and shipping waybills should be retained and furnished to the Commission upon request.

8.2 Automatic Vehicle Location (AVL)

The following table represents the Commission's concepts of how the Proposer's AVL solution will meet the Objectives:

AVL Capabilities to Meet the Commission Goals

Commission Objective	Technology Capability
Make public transit more attractive to the general population.	✓ By providing real-time, accurate updates on vehicle location through customer service and real-time passenger information signs.
Maximize passenger movements.	✓ By better tracking vehicles and identifying vehicles that are off route or schedule. ✓ By enabling transfer requests among fixed-route vehicles. ✓ By providing more complete and accurate data for trip planning and scheduling purposes.
Reduce operational costs.	✓ By improving the efficiency of passenger transfers. ✓ By automating the collection of operational data, including NTD required service data.
Reduce emission / energy costs.	✓ By collecting better schedule and route adherence data, and better tracking paratransit vehicles to improve more efficient scheduling and trip planning.
Improve transit system safety.	✓ By automatically locating and reporting vehicle locations to the dispatch center. ✓ Through the emergency alarm function of the MDT which lets vehicle operators alert the dispatch center of incidents on the bus without making passengers aware an alarm has been issued.

In summary, and when the complete ITS technologies have been deployed the Commission seeks to have a System provide the following AVL capabilities:

✓ Single Log-on and log-off using their employee identification number, the route to be driven and the run number for that route. Optional Integration with Head Sign, Farebox, AVA and is desired.
✓ View the time of day.

✓ View the route schedule.
✓ View their schedule adherence.
✓ Capability to view and adjust Automated Passenger Count data.
✓ Ability to play “canned” announcements regarding rules and passenger instructions.
✓ Make transfer requests to other fixed-route vehicles.
✓ Allow for onboard emergency notification and tracking.
✓ Receive and respond to staff schedule messages from a personnel scheduler regarding shift duration, overtime or schedule changes.
✓ Allow for transfer requests directly between two fixed-route vehicles.

The System shall include a Global Positioning System (GPS) based Automatic Vehicle Location (AVL) function.

The AVL function shall provide tracking and reporting of the locations of AVL equipped vehicles with a positional accuracy of 10 feet or less, regardless of whether the vehicles are moving, on-route, off-route, have no assigned route; or whether or not the vehicles are logged into the System. This required level of accuracy shall not be adversely impacted by GPS errors resulting from selective availability and from other reception errors.

All vehicle movement on AVL maps and displays shall be based upon actual vehicle location reports and shall not be simulated.

The AVL implementation shall provide both Drivers and Dispatchers with accurate and timely position data and schedule and route adherence data, while minimizing the use of radio communications for the transmission of vehicle location data.

Onboard calculation and display of schedule and route adherence, with only schedule and route deviation and occasional and on-demand schedule / route adherence reporting to the System Server shall be provided.

Based on the requirement that a vehicle schedule and route adherence is calculated on-board, vehicle locations shall be reported to the System whenever the schedule or route adherence thresholds are exceeded, whenever any communications request or other data is being transmitted and at least every 30 seconds if no other data transmissions or communications requests are initiated from the vehicle.

8.2.1 GPS Receiver

The System shall include a Differential Global Positioning System (GPS). The Proposer shall install a GPS receiver and antenna on each vehicle to provide location data to the AVL System. The GPS receiver and antenna shall be new unless otherwise approved by the Commission. The Proposer shall state the specified accuracy of the GPS receiver in the proposal, and provide full GPS engineering specifications in the System Design Document. The GPS receiver shall be packaged in a Vehicle Logic Unit (VLU) unless otherwise specified by Proposer and

approved by the Commission. Synchronization of the GPS receiver to the System is imperative to the proper functioning of the System and Proposer shall specify how the GPS location, time, and other pertinent data are calculated for the System operation. The use of odometer readouts from vehicle telemetry is at the discretion of the Proposer.

The Operators' current fixed route fleet has one or more GPS antennae installed. The Commission believes that the functions of the antenna can be integrated into a single antenna for all on-board systems. Proposers are encouraged to provide design and pricing which leverages the existing antenna however pricing for complete stand-alone equipment is required, as well.

The following GPS receiver requirements apply to all vehicles for the Operators. The GPS receiver shall be integrated with the VLU / MDT on-board the vehicles.

- ✓ The MDT shall integrate with the GPS receiver, mobile data communications radio modem, bulk data transfer system interface, covert alarm switch, voice radio and an SAE J-1708 or J-1939 interface to support integration with other future in-vehicle technologies.
- ✓ GPS receivers shall report latitude, longitude, speed, time, direction of travel and whether the GPS position is classified as "good" given the current Horizontal Dilution of Precision (HDOP).
- ✓ The GPS receivers shall be parallel tracking receivers, capable of simultaneously tracking at least four GPS satellites in the best available geometry, while also serially tracking the four next best satellites and upcoming (rising) satellites.
- ✓ Onboard GPS receivers must be capable of providing position accuracy within 10 feet at least 95 percent of the time.
- ✓ The GPS receiver shall have a cold start solution time of two minutes or less and a re-acquisition time of 15 seconds or less.
- ✓ The GPS equipment shall include multi-path rejection capabilities to help eliminate spurious signals caused by reflections off of buildings or other structures.
- ✓ Velocity measurements provided by the GPS equipment shall be accurate to within 0.3 feet per second.
- ✓ If the GPS antenna is not contained in the MDT, the GPS antenna shall be a low-profile unit housed in a rugged and weather tight enclosure. The GPS antenna shall be securely mounted on the exterior of the vehicle, clear of obstructions and interference-generating devices. GPS antenna location shall be determined in collaboration with Operator staff.
- ✓ If the GPS antenna is not contained in the MDT, the antenna, mounting and sealants shall provide protection from the environment, including moisture, snow, heat (20^{o} F to $+115^{o}$ F), wind, debris, etc.
- ✓ The GPS receivers shall be capable of integrating with on board systems to report required information electronically.

8.2.1.1 Vehicle Location Reporting

The System shall generate a location message consisting of the current GPS status and last known vehicle location, time, heading, and speed. The current GPS status shall reflect the latest condition of the GPS receiver when the location message was generated. If the GPS receiver cannot acquire a location due to blockage of the satellite signal (such as under an overpass, in a tunnel, or possible tall building effect) the location message shall indicate the occurrence of a "Communication Exception". The last known GPS location, time, heading, and speed shall always be included in the location message even if the GPS status is reported as an exception.

- ✓ Reporting of vehicle locations based upon on-board Global Positioning System (GPS) equipment shall be provided by the System. In addition, any data sources used to back up the GPS equipment when the GPS signal cannot be received shall also be supported.
- ✓ Location data shall always be reported as part of all data messages.
- ✓ Regardless of the reporting scheme used, vehicles shall report their location at least once every 30 seconds or at a rate designated by the System Administrator within the range of 5 through 30 seconds. After the initial transmission of an Emergency Alarm, vehicles in an Emergency Alarm state shall report their location at a rapid polling interval designated by the System Administrator with the range of 5 through 30 seconds.
- ✓ There will likely be locations of momentary GPS signal blockage and / or distortion, such as in a downtown area. Accordingly, the selected Proposer shall investigate to become aware of the GPS satellite coverage throughout the Operators' service area.
- ✓ In the event of loss of GPS derived vehicle position information, vehicle location shall be determined with dead reckoning techniques utilizing the existing vehicle odometer or other means and technologies which provide position accuracy equivalent to GPS tracking.
- ✓ When dead reckoning is utilized an event shall be recorded.

8.2.1.2 Handling Communication Exceptions

If the vehicle attempts to send a location message while out of cellular coverage area, (dead zones) the System report shall not be dropped by the vehicle logic unit (VLU) until the vehicle returns to the coverage area (i.e., the System report shall be queued for transmission once back in the coverage area). When a vehicle enters a "blackout" area interpreted as no data coverage, the System shall buffer in memory for up to the previous 24 hours all data communications to include all GPS location information.

8.2.2 Vehicle Logic Unit (VLU)

The Proposer's design shall utilize an automotive-grade Vehicle Logic Unit (VLU) that has, at a minimum, the following specifications:

- ✓ The System shall include a single Vehicle Logic Unit (VLU) central processing device and data storage device installed onboard for all vehicles and powered by the vehicle's electrical system.
- ✓ The VLU shall be AVA, APC, Headsign, Farebox, etc., ready. ***[Optional Technologies]***
- ✓ The VLU shall interface to send/change messages displayed on Headsigns and interior vehicle CMS ***[Optional Technologies]***
- ✓ The System shall begin gathering AVL location data when the ignition is turned on and continue reporting until the ignition is turned off (based on a programmable time period, i.e., 30 minutes, etc.)
- ✓ The VLU shall integrate with the onboard equipment on each vehicle that provides route / destination announcements and vehicle informational signs with both audible and textual messages, fare collection and automated passenger counting (if installed). ***[Optional Technologies]***
- ✓ The VLU shall interface to capture, record, and transmit vehicle Automated Passenger Counter (APC) data if installed, and passenger fare payment information. ***[Optional Technologies]***
- ✓ A Global Positioning System (GPS) receiver shall be integrated into the VLU used to provide time and location data for AVL functions.
- ✓ For all wireless communications including bulk data uploads and downloads, the VLU shall communicate using cellular connection provided by the Proposer.

- ✓ The VLU shall provide the interface / transmission of data to and from all subsystems such as passenger informational sign content, public address, passenger counter data, and farebox systems.
- ✓ The VLU shall meet environmental and vibration standards as defined by MIL-STD-810F and SAE J1455-06.
- ✓ The VLU shall meet electromagnetic immunity standards of SAE J1113 / 13 and protect against surge, and reverse polarity.
- ✓ The VLU shall be capable of real time updates to and from the vehicle.
- ✓ Provide GTFS-Realtime feed(s) for live Trip, Service and Vehicle Position updates to Google and applicable third party software
- ✓ Provided interfaces shall include USB, RS232, RS485, J1708, J1939, Ethernet, discrete inputs and outputs, odometer, spare I/O pins, audio inputs and outputs.
- ✓ The VLU shall allow for future expansion and interoperability with add on modems to include USB interfaces.
- ✓ Allow for easy access to System setup and configuration both remotely and onboard through non-proprietary interfaces such as RDP and USB. On-board access should be in the same location on every bus for standardization of configuration or locations documented for Operators' staff.
- ✓ System configuration settings related specifically to a vehicle shall be stored in a vehicle configuration module such that the VLU unit can be swapped out and vehicle information not lost.

8.2.3 Map Requirements

The geographical base map supported within the System shall cover the entirety of Ventura County, the northwestern portion of Los Angeles County, including Santa Clarita, San Fernando Valley/Woodland Hills/Warner Center, and southern Santa Barbara County, including Santa Barbara/Carpinteria/Goleta. The standards for display of the AVL base map as well as map overlays for the bus routes, bus stops, time points, etc., shall be proposed by the Proposer and approved by the Commission.

The Commission currently uses ARC GIS, as well as Google Earth/Maps to plot stops and determine longitude and latitude coordinates. In addition, Operators use software such as INIT for routing and scheduling, and some have static GTFS data available. It is the expectation of the Commission for Proposers to either create or utilize existing Operators' GTFS data.

The Proposer shall be responsible for the import and initialization of the AVL map using the Operators' provided data as well as all refinements, updates, format conversions, and other processing and handling of the map data supplied to them by the map service or from the Operators as necessary. Maps shall display on the Operators' application screens as well as on customer-facing Web pages, terminal display solutions, and tablet and smartphone apps that provide predicted bus arrival and departure times, vehicle status and location information in graphical form.

- ✓ All functions necessary for successfully incorporating map data shall be provided as part of System.
- ✓ The displayed map shall be capable of supporting a variety of map attributes that shall include, but not be limited to, all streets, highways, prominent geographical features (e.g., rivers, major bodies of water, mountains), important landmarks (bridges, airports, transit centers, Vehicle Maintenance

Facilities, important buildings, etc.), routes, bus stops, time points, and transfer points. The major bodies of water shall be displayed as areas of solid blue or cyan on the geographical map display.

- ✓ The System shall include mechanisms to allow for periodic independent updates by the Commission to built-in maps in the software and on-board systems.
- ✓ Selective updates of the base map and to any selected overlays shall be possible without re-importing the entire map and all overlays and without loss of prior map.
- ✓ Where minor data entries are required, such entries, and corrections shall be stored (e.g., as a script) for reapplication in subsequent imports.
- ✓ The Proposer shall provide the GIS editing license (if necessary) for any built-in maps as part of the proposed solution for maintenance of AVL maps.
- ✓ GIS functionality shall include the ability to define service-based zones (e.g., Americans with Disabilities Act (ADA) complementary demand response service area, fare zones).
- ✓ The System shall have full geocoding capability, allowing the System to locate the address on the map when an address is entered and provide Operator-specific trip (planning routing) between two addresses.
- ✓ The street segments database shall be sufficiently complete to assure a geocoding success rate of 90 percent or better.
- ✓ The Commission shall be able to develop additional overlay map layers that can include polygons (e.g., municipal boundaries, fare zones), lines (e.g., route traces) and points (e.g., landmarks, transfer locations, time points, stops), with the color, shape and thickness being selectable.
- ✓ The System shall be capable of defining an unlimited number of bus stops, routes and nodes.
- ✓ The System shall permit the user to define bus stops using a variety of methods, including direct entry of GPS determined coordinates, and setting the stop location with a mouse click.
- ✓ The System shall accurately align vehicle locations with the streets and routes on which the vehicles are operating. There shall be no visible offsetting of vehicle positions from the displayed streets and routes.
- ✓ The System shall be capable of allowing stops to be properly positioned at intersections.
- ✓ The System shall be capable of allowing the user to assign stop amenities (*e.g.*, bench, shelter, etc.) to each stop and other supplemental data.
- ✓ The System shall also have the ability to import stop data from an external system in Excel (KML) or comma separated value (CSV) file format.
- ✓ The System shall also have the ability to import stop data from INIT scheduling software ***[Optional Technologies, Gold Coast Transit District].***
- ✓ The System shall allow any number of trip patterns to be defined as distinct bus stop sequences, including the designation of selected stops in each trip pattern as schedule time points and whether a trip pattern is inbound or outbound.
- ✓ The System shall be capable of generating a list of turning movements for an entire trip pattern.
- ✓ The System shall display route traces.
- ✓ Display vehicle Estimated Time of Arrival (ETA) at a specified destination location as part of the vehicle label. Vehicle ETA shall be available for next bus arrival signs, SMS text, website, web enabled smart devices (phones/tablets) and iOS and Android apps.
- ✓ Position deviation of a fixed route vehicle from on-route, on-time position as determined by vehicle on-board position measurements shall initiate a System event and shall automatically increase the vehicle polling rate to a rapid rate selectable by the System Administrator within a range of 15 to 30 seconds.
- ✓ The System shall be able to display fixed routes, and clearly mark each route when more than one travels on the same street segments.
- ✓ The locations of all AVL-equipped vehicles shall be indicated by special symbols that are overlaid on the geographical map display. A vehicle identifier shall be displayed adjacent to, or within each

vehicle symbol. These vehicle identifiers shall uniquely identify each vehicle by their Operator name, vehicle number, fixed-route block number, or driver number.

- ✓ When multiple vehicles are located too close together to be displayed without overlapping at the selected zoom level, the System shall provide a means for the user to see the individual vehicle identities for the overlapped vehicles.
- ✓ Vehicles reporting an Emergency Alarm shall always be visible on the geographical map display regardless of the user's current filtering criteria and data partition assignments.
- ✓ The System shall be capable of printing maps to peripheral devices (e.g., printers, plotters) directly attached to the workstation or available over a Local Area Network (LAN) or Virtual Private Network (VPN).

8.2.4 Mobile Data Terminal (MDT)

The Proposer will specify the use of Mobile Data Terminals (MDTs) as a component of the AVL and Passenger Information System operation. The Proposer shall specify a "ruggedized" MDT product that is specifically designed for transit. MDTs should be securely mounted on rigid Proposer-provided support brackets. The MDT can serve many of the same functions that would otherwise be performed by the VLU. The MDT's primary function would be to provide additional contact interface between the Drivers and Dispatch.

(***Approved Alternative:*** Bidders may propose consumer-grade tablets, and necessary accessories which meet the requirements herein as an approved alternative.)

While in service, either on route, or before or after scheduled runs, the Driver and / or vehicle shall have the capability to perform each of the following:

- ✓ MDT shall be ruggedized, designed for transit.
- ✓ The MDT shall integrate with the GPS receiver, bulk data transfer system interface, covert alarm switch, and an SAE J-1708 or J-1939 interface to support integration with other future in-vehicle technologies.
- ✓ The MDT and AVL system shall automatically engage when the vehicle is started, and shut down a programmable amount of time after the vehicle is turned off.
- ✓ The MDT shall store the most recent location received from the GPS receiver, so that if the GPS receiver is not able to report the location the "last known good" location will remain available.
- ✓ Electrical power for MDTs and all other on-board components shall be drawn from vehicle unconditioned nominal 12V DC power supply. All data inputs and outputs shall be designed to absorb "routine" intermittent low voltage, over-voltage and reverse polarity conditions, and to use inexpensive and easily replaceable components to open circuits in the event of "extraordinary" conditions (e.g., through the use of fuses, transorbs, optical isolation).
- ✓ The Proposer shall include a solution that facilitates a "Single Log-on", whereby an input device serves as the primary Driver interface and eliminates the need to log on to disperse systems. ***[Optional Technologies]***
- ✓ The MDT shall incorporate a color graphical screen capable of displaying fonts of variable size and can change colors between day and night or has automatic brightness controls.
- ✓ The MDT shall be equipped with appropriate functional buttons capable of controlling applicable other onboard systems (e.g. fare boxes, head signs, card readers) and will include a numeric keypad.

- ✓ The MDT display shall be readable by the Driver from the seated position under the full range of ambient illumination conditions, through the incorporation of such measures as driver-operated brightness / contrast control, anti-glare coating and adjustable orientation mounting.
- ✓ MDT application software shall be operated using either at least eight programmable function keys or touch screen programmable buttons.
- ✓ The MDT shall be capable of, but not limited to, displaying the following onboard information and interface to onboard systems during operation of the vehicle:
  - ✓ Logon
  - ✓ Emergency Alarm
  - ✓ Data Messaging
  - ✓ Transfer Notification
  - ✓ Schedule Adherence
  - ✓ Head Sign Control ***[Optional Technologies]***
  - ✓ Farebox Control ***[Optional Technologies]***
  - ✓ Maintenance Needed
  - ✓ Stop Announcement ***[Optional Technologies]***
  - ✓ Trip / Schedule Display Control
  - ✓ Route Guidance
- ✓ MDTs and all other on-board components shall be designed to operate within the following environmental specifications:
  - ✓ Ambient humidity from 5% to 80%, non-condensing.
  - ✓ Temperatures from 20^{o} F to +120^{o} F.
  - ✓ Vibration and shock forces associated with transit vehicles.
  - ✓ MDTs and all other on-board components shall be shielded to avoid radiating electromagnetic interference.
  - ✓ MDTs and all other on-board components shall be housed in enclosures which cannot be opened with standard hand tools.
- ✓ All Operator actions performed via the MDT that is processed entirely by the System on-board equipment shall be completed in three second.
- ✓ The System shall support en-route changes of the assigned Drivers for cases such as mechanical breakdowns and Driver substitutions.
- ✓ The System shall collect lift / ramp data indicating when the lift / ramp on a vehicle is raised and lowered. The data collected shall enable generation of statistics for lift / ramp usage by location and the time it takes to board / de-board passengers using the lift / ramp.
- ✓ The System shall provide for automatic control of all destination signs in fixed route vehicles. The destination signs shall be automatically updated by the System at Driver logon and at predefined points along each route (e.g., at the end of a trip). The points at which destination sign messages shall be automatically changed shall be definable by the Operator Group System Administrator ***[Optional Technologies]***.
- ✓ The MDT shall not be usable by the Driver when the vehicle is in motion above 5 MPH and above.
- ✓ The MDT shall be equipped with a navigation assistance element that allows Driver to visually see a route on a map for fixed route vehicles (detours, training, etc.).

8.2.5 Covert Emergency Alarm (Silent Alarm)

- ✓ The Proposer shall provide a Covert Emergency Alarm (CEA) which will activate a silent alarm when an Operator presses an existing button located in an inconspicuous location of the Driver's area.

- ✓ The CEA shall be a recessed push button located on the Driver's left side instrument panel.
- ✓ Emergency Alarms shall have the highest priority of all data messages and Dispatch map displays.

- ✓ A CEA event indication shall not be noticeable to passengers on any vehicle.
- ✓ When Dispatch receives a CEA the following events shall occur, in sequence:
  - ✓ An audio alarm shall be triggered and a visual alarm shall be displayed in a separate window on the AVL of each Dispatcher
  - ✓ When a Dispatcher responds to the Emergency Alarm, an incident report shall be generated.
  - ✓ An Emergency Alarm acknowledgment message shall be sent to the vehicle.
- ✓ The Dispatcher shall have the ability to downgrade an Emergency Alarm if conditions warrant.

8.2.6 Real-Time Monitor (RTM) Editor

The RTM shall include a password-protected editor that allows Operator Group System Administrators with valid login and password to manage route and stop configurations, including the ability to:

- ✓ Configure vehicle attributes such as restricting displayed vehicles by route (for public-facing information displays)
- ✓ Create and edit stops and routes with ease using drawing tools such as polygons, lines, and points
- ✓ Annotate vehicle, route, stop, and landmark information
- ✓ Configure scheduled arrival and departure times for vehicle schedule adherence tracking
- ✓ Import existing route schedule parameters from GTFS data
- ✓ Import existing route schedule parameters from INIT's scheduling application ***[Optional Technologies, Gold Coast Transit District]***.
- ✓ Customize map appearance, color scheme, and image editor
- ✓ Adjust map extent and frame and support for zoom and pan functions
- ✓ Support for copy, paste, and screen capture functions

8.3 Computer Aided Dispatch (CAD) Functions

While the primary objective of the Project is for an AVL and Passenger Information System, the following table represents the Commission's concepts of how the Proposer's CAD solutions will meet the Objectives:

CAD Technology Capabilities to Meet the Commission Goals

Commission Objectives	Technology Capability
Make public transit more attractive to the general population.	✓ By providing service. more reliable, up to schedule.
Maximize passenger movements.	✓ By generating more accurate schedule adherence information for planning.

	✓ By improving the accuracy of schedule information and trip planning.
Reduce operational costs.	✓ By helping dispatchers and drivers make effective adjustments. ✓ By reducing spare vehicles needed.
Improve transit system safety.	✓ By improving operational effectiveness and efficiencies via ITS technology – utilizing real-time data.

In summary, and when the complete ITS technologies have been deployed the Commission seeks to have a System provide the following CAD capabilities for the Operator fixed-route Dispatchers:

✓ View Operators and vehicle information.
✓ View vehicle locations.
✓ View route schedules.
✓ Track schedule adherence of vehicles.
✓ Manage and log emergency events.

8.3.1 General Requirements

The Dispatcher shall have the capability to perform each of the following but not limited to:

- ✓ Dispatchers shall be able to zoom in to a map level that allows at least four vehicles lined-up within a 200-foot distance to be clearly distinguished, without overlap of the vehicle symbols. The map textual information such as street names, vehicle identities, route names, and landmark names displayed at the various zoom levels shall be clearly readable. Route and street names shall be repeated along lengthy routes and streets.
- ✓ Vehicle status information conveyed to the Dispatchers shall include, but not be limited to, the following attributes:
  - ✓ Schedule status (early, on-schedule, or late)
  - ✓ Silent Emergency Alarm conditions
  - ✓ Route status (on or off-route)
  - ✓ Non-scheduled - logged on (e.g., fill-in, trip, special event vehicles)
  - ✓ Not logged on
  - ✓ Vehicle Driver name, number, run, or route
  - ✓ Direction of travel
  - ✓ Estimated time of arrival calculated by the System for a selected vehicle at a selected destination
- ✓ Dispatchers shall be able to quickly and easily configure their map view to show only the attributes that are desired
- ✓ The Dispatcher shall be able to manually turn on or off the available layers of the map

- ✓ A Dispatcher shall be able to restrict the display of AVL-equipped vehicles on the geographical map to any combination of the following criteria:
  - ✓ All bus vehicles on all routes
  - ✓ Buses on selected routes
  - ✓ A single bus vehicle
- ✓ Provide Dispatchers with the capability to filter within the queues to tailor information as operationally required by each Dispatcher.
- ✓ Provide Dispatchers with schedule information by block and / or run including real time status.
- ✓ Provide Dispatchers with pull-in and pull-out status from Garages, and lunch/layover locations including alarms for late and missed pull-ins and pull-outs.
- ✓ Provide Dispatchers with roster information for logging in / out Operators and changing assignments.
- ✓ Provide capability for Dispatchers to log in Operators with selectable requirement for Operator acknowledgement.
- ✓ Provide Dispatchers with maintenance information of real time vehicle monitoring status including query capability for vehicle historical status (if option exercised).
- ✓ Provide Dispatchers capability to perform service adjustments for individual time points and stops.
- ✓ Allow Dispatchers capability to add new services (i.e., overloads).
- ✓ Allow Dispatchers to temporarily change times within a schedule (i.e., offsets, detours, etc.).
- ✓ Provide Dispatchers capability to cancel an entire block of service.
- ✓ Provide Dispatchers with communication history for reviewing most recent data communications with ability to create incident reports from the history list.

8.3.2 Vehicle Status

The System shall verify that fixed-route Drivers log on in time to support a defined schedule and to verify that all currently scheduled blocks are serviced by a logged-on vehicle throughout the service day. The System shall issue an alarm message to the appropriate Dispatcher(s) if a block scheduled for service remains open (i.e., without a logged-on vehicle) for more than a Dispatcher-adjustable time period. This time period shall initially be set to 2 minutes and shall be adjustable from one minute to at least 15 minutes. The Dispatcher(s) shall also be notified when Drivers log on to open blocks.

- ✓ Logon to indicate the start of a shift. The logon process shall allow the Dispatcher to use the System to indicate the time and identify the Driver.
- ✓ Accept base schedules for routes, runs, and Driver.
- ✓ See Driver assignments to routes and runs.
- ✓ Display current bus status for all buses, and highlight those buses reporting some irregular status (e.g. ahead of schedule, behind schedule, off-route).
- ✓ Hear distinct audible alarm and / or see flashing on-screen icon if status received from bus is one of a set defined as emergency (e.g. covert alarm).
- ✓ Add buses to and delete buses from service.
- ✓ Deploy route detours sending predefined detours as text messages through the bus MDT.
- ✓ Playback a sequence for a specified vehicle on a specified route at a specified time, in chronological order and review the path of the vehicle and its time at each reported location on its run. The Dispatcher shall be able to control the speed of playback.

8.3.3 Daily Schedule Selection

The schedule of trips for each service day shall be automatically selected by the System based upon the date, day of the week, and any special schedules applicable to particular days. In general, schedules include weekday, Saturday, and Sunday schedules. In addition, special (exception) schedules are generated for school closures and early-outs, special events, and holidays. Holidays and other special dates may be defined by the Operators in real-time.

8.3.4 Service Performance

The System shall provide Dispatchers the ability to quickly monitor the current fixed-route service performance. In addition to basic identifying information, such as vehicle IDs, Driver numbers, route numbers, block numbers, etc.; the following specific types of information shall be presented:

- ✓ The System shall monitor off route status – for each vehicle off route, the distance off route, the time that the vehicle went off route and the next scheduled time point shall be displayed
- ✓ The System shall monitor off schedule status – for each vehicle that is off schedule, the schedule deviation and the next scheduled time point shall be displayed
- ✓ The System shall monitor late pull outs – for each block with a late pull out, the scheduled pull out time, and the associated vehicle status, if logged in, shall be displayed
- ✓ The System shall monitor late pull ins – for each block that is late pulling in, the scheduled pull in time, and the associated vehicle status, if logged in, shall be displayed
- ✓ The System shall accurately monitor the schedule adherence of all fixed route revenue vehicles that are operating on defined schedules. Fill-in vehicles (extra vehicles placed on a route) and special event / service vehicles that are without defined schedules shall not be monitored for schedule adherence.
- ✓ Schedule adherence shall be calculated at each defined time point and accurately estimated between defined time points. The time delay between the receipt of a vehicle's position and the availability of the calculated / estimated schedule adherence status shall not exceed five seconds. Schedule deviations beyond pre-defined, System Administrator-adjustable thresholds shall produce an event.
- ✓ Schedule adherence to defined time points (i.e., those in official published schedules) shall be based on the scheduled departure time at each time point, with the exception of those specific stops that have both arrival and departure times (e.g., layovers) and the end of a trip. The number of time points shall range from 2 to 100 time points per route per direction. Time point departures shall be determined by the System to an accuracy of ± 5 seconds, regardless of whether the vehicle stops at the time point or passes the time point without stopping.
- ✓ The System shall provide the Dispatcher the projected recovery time based on the next terminal departure.
- ✓ A vehicle's schedule adherence status shall be available for presentation to the Driver and to Dispatchers, and for generation of schedule adherence deviation events.

8.3.5 Route Guidance

- ✓ The System shall have the capability of providing detour options to the Dispatcher and to the Driver

via the MDT.

8.3.6 Turn-Back Monitoring

- ✓ The System shall detect and adjust for turn-backs within a fixed route vehicle's assigned block. The System shall issue a turn-back event when a vehicle has turned around before the end of a current trip and proceeds along the route in the opposite direction for a subsequent trip within the same block.
- ✓ Following a turn-back, the System shall automatically determine which trip the vehicle has jumped to within the System assigned block based on the current time, the vehicle's new geographic location, the vehicle's direction, and the vehicle's schedule.
- ✓ After a turn-back adjustment, the System shall resume schedule and route adherence monitoring and automated voice announcements (if applicable) for the vehicle based on the new trip assignment. All turn-backs shall produce events.

8.3.7 Data Messaging

- ✓ The System shall enable Dispatchers to send data messages to one or more selected vehicles and routes using any of the selection methods specified. Custom, free-form data messages and a set of canned data messages shall be supported. Pre-defined data messages shall be configurable by authorized Dispatchers and shall be available for rapid selection.
- ✓ Re-Route Notices
  - ✓ The System shall provide a means for Dispatchers to issue re-route notices that describe detours and other short-term route changes to active vehicles based on their route assignments.
  - ✓ Once defined, re-route notices shall be automatically delivered to all vehicles that log onto the affected routes throughout the service day. Re-route notices shall remain in effect until they are removed by a user, or until a user-specified expiration date has passed, rather than have the notices expire at the end of each service day.
- ✓ Capability to assign priority levels for display ordering and filtering of message types within the message queues.

8.3.8 Vehicle Operator Changes

The System shall support en-route changes of the assigned Operators for cases such as mechanical breakdowns and Operator substitutions.

8.4 Cellular Communications Network

Data transmissions to and from on-board vehicle equipment and fixed-end equipment (e.g., Passenger Information Displays) such as required to transmit location, status and messages between field devices and the server, shall rely upon commercial cellular data communications. It is the responsibility of the Proposer to prove that the commercial network being proposed will provide adequate coverage of the Operators' entire service area. (Note: Communications costs should be included in the Proposer's unit pricing but should be accounted for separately as a line item. It is the Proposer's responsibility to provide the basis for the commercial carrier's airtime charges and fees).

- ✓ All equipment, labor and software required to transfer bulk data to / from the vehicles shall be provided by the Proposer.

8.5 Passenger Information System (PIS)

The following table represents the Commission's concepts of how the Proposer's PIS solution will meet our Objectives:

PIS Capabilities to Meet the Commission Objectives

Commission Objective	Technology Capability
Make public transit more attractive to the general population.	✓ Providing accurate real-time passenger information to passengers increases their confidence in the service and the reliability can make it a more attractive alternative. ✓ Provide origin to destination trip planning interface and corresponding transit information to passengers
Maximize passenger movements.	✓ Providing accurate real-time passenger information to passengers increases their confidence in the service and the reliability can make it a more attractive alternative. ✓ Provide origin to destination trip planning interface and corresponding transit information to passengers
Increase awareness of ITS benefits	✓ Providing real-time passenger information informs passengers that the Commission is tracking and monitoring bus performance.

In summary, and when the complete ITS technologies have been deployed the Commission seeks to have a System that provide the following PIS capabilities for the riding public via real-time information:

✓	Display estimated fixed-route bus arrival time based on bus location.
✓	Display time of day.
✓	Display emergency messages.
✓	Display operational status of Operator fixed-route buses.
✓	Display of bus detours and any information about booster (additional) vehicles.

The Commission seeks to deploy a real-time Passenger Information System. In the simplest of terms, the Commission desires to provide vehicle arrival and departure information to our customers, through electronic signage at Transit Centers, bus stops, via the Internet and on smart-phones, tablets and cell phones. When this service is available, patrons will be able to access the information through the Providers' Websites, App or as a link/api from the Operators' Website.

The PIS has the following requirements.

- ✓ The Passenger Information System shall use GPS information, historic traffic patterns and vehicle schedules to determine a best estimate for all bus arrival and / or departure times.
- ✓ The Passenger Information System shall be able to accurately identify vehicle locations for in-service vehicles.
- ✓ The Passenger Information System shall be able to generate live maps for selected Operator routes that display accurate vehicle information, including route names, street and landmark names, vehicle location and estimated arrival time at bus stops.
- ✓ The Passenger Information System shall be updated whenever new routes or schedules are created using the fixed-route management tool; the management tool must be directly accessible by Commission / Operator staffs for schedule changes.

8.5.1 Predictive Bus Arrival and Departure Algorithms

At the core of the PIS shall be a robust predictive real-time bus arrival and departure time function. The Proposer shall devise one or more predictive algorithm(s) that continually track, compile and recalculate predicted bus arrival / departure times based on vehicle location, heading (i.e., direction), speed, and other factors such as known causes of recurrent traffic delays along the route. The System shall monitor each bus on each route independently and calculate arrival times at each stop along the route which the System shall make available to the PIS for immediate broadcast, including as a GTFS Realtime feed. The arrival and departure algorithm(s) shall consider real-time conditions and historic average arrival and departure data to improve accuracy in the predictive function.

Arrival predictions shall be presented in an easy-to-understand format with minimal latency in the data that is transmitted for consumption over the internet that can be consumed via:

- ✓ System User Interface
- ✓ Customer Website and smart-phone applications (iOS and Android)
- ✓ GTFS-realtime feed accepted by Google
- ✓ Automatic Stop Annunciation Systems
- ✓ Mobile Data Terminals
- ✓ Changeable Message Signs

Fill-in buses (extra buses placed on a route) and special event / service buses that are without defined schedules shall not be monitored for schedule adherence. Schedule adherence shall be calculated for each defined time point and accurately estimated between defined time points.

8.5.2 Changeable Message Signs (CMS)

The Commission seeks 40 to 60 Changeable Message Signs at locations to be determined by the Commission. The CMS' would display real-time bus arrival / departure times. Specific information to be displayed on the CMS signs will be determined by the Commission and the Proposer during System Design.

At minimum, the CMS' would display real-time bus arrival and departure times and passenger information based on Predictive Bus Arrival and Departure Algorithms that is a required component of the System.

For CMS locations serving more than one Operator and/or route, the information displayed on the CMS will rotate between Operators and routes on a configurable interval (e.g., every 5 seconds), or, alternatively, be displayed using CMS "Terminal Displays" which have multiple lines, described below. All CMS shall also have the ability to blank out or display user defined announcement messages entered by the System Administrator via a Web-based sign controller interface. Specifically, the CMS display:

Terminal Display CMS Requirements:

- ✓ CMS with multiple lines that simultaneously display, in real time, the estimated arrival / departure time of the next bus on up to ten routes as a countdown in minutes.

All CMS Requirements:

- ✓ During times when some routes are not in operation, the CMS shall display the message "No Service At This Time" next to any route not in service.
- ✓ CMS' shall be either an LCD screen or large LED screen capable of displaying between one and at least eight lines.
- ✓ CMS' shall be constructed and rated for outdoor installation in a hardened environment such as those common to a roadside or transit installations.
- ✓ CMS controllers shall be securely affixed to the back side of the display with keyed entry.
- ✓ CMS' shall have brightness control.

- ✓ CMS' shall produce message that conform to ADA requirements for character legibility and accessibility. At minimum, ADA compliant 3-inch characters (one line) or 2-inch characters (two line) shall be supported.
- ✓ CMS' shall be designed for operating outdoors and /or indoors in a minimum temperature range 20^{o} F to 120^{o} F.
- ✓ CMS' shall use a local power supply (115V).
- ✓ CMSs must be protected using vandal-resistant enclosures.
- ✓ The front face of the CMS shall provide high contrast, low sunlight reflection in all weather and site conditions.
- ✓ CMS displays shall be legible when sunlight is shining directly on the display face or when the sun is directly behind the display.
- ✓ All internal CMS components shall be removable and replaceable by a single technician with basic hand tools.
- ✓ CMS controllers shall be capable of being configured both remotely via wireless data connection, and locally using a portable computer via a USB, an Ethernet, or an RS-232 connection.
- ✓ Each CMS controller shall be connected to photoelectric sensor(s) sufficient to automatically adjust CMS output to address the requirements for legibility under varying ambient illumination conditions.
- ✓ The CMS controller shall have a time of day clock and calendar. The time and date shall be in sync with the system time at the Commission.
- ✓ The CMS controller shall be configurable with a unique name for the display.
- ✓ Next vehicle arrival prediction messages shall be generated automatically by the CMS controller, incorporating the arrival time prediction data as it is received from the server prediction software.
- ✓ The format of the message template shall be “(route #) (route /destination name) (countdown minutes)”, or an alternative format approved by the Commission.
- ✓ When the CMS receives a message from the application indicating that current prediction data is not available, the CMS shall display an alternate message approved by the Commission.
- ✓ Hold times for each message display and the blanking interval between message displays shall be variable in 0.1 second increments.
- ✓ The CMS shall include ongoing self-diagnostics and shall send an alarm message to the software in the event that a diagnostic fault is detected.

Proposer must describe the communications infrastructure requirements (e.g., wired Ethernet connections, wireless cellular data communications, etc.). Proposer must also describe the sizes of the signs, power requirements, pre-set timing options, and display options. Proposer should provide sample views of LED and LCD signs.

8.5.3 CMS Audible Component

The Changeable Message Signs (CMS) shall also be able to broadcast bus arrival and departure times in audible format consistent with the Automatic Stop Annunciation System requirements. The Proposer shall determine the best method for supporting ADA audible functions for CMS signs, which options may include wireless feed from the server or text-to-speech conversion performed by the sign controller.

- ✓ The CMS shall include a manually-activated audio announcement system, which shall read out the sign text once successively in English and Spanish after a pushbutton has been pressed.

- ✓ Audio sign messages shall be constructed in real-time by the CMS in a manner that avoids the need to send audio data over the radio system, using either prerecorded announcements or text-to-speech generation of quality acceptable to the Commission.
- ✓ The audio announcement system shall be made through speakers built-in to the CMS enclosure or installed nearby.
- ✓ The pushbutton must be mounted no higher than 48 inches and no lower than 15 inches from the finished floor of the CMS.
- ✓ An unobstructed pathway no less than 36 inches wide connecting the pushbutton to an adjoining or overlapping accessible route must be provided. A clear floor space of no less than 30 inches wide by 48 inches long must exist at the device (wheelchair footprint).
- ✓ The pushbutton must be operable with one hand; not require tight grasping, pinching, or twisting of the wrist.
- ✓ The pushbutton shall emit a brief low volume sound every few seconds (e.g., “chirp”) to guide the visually impaired to the pushbutton location.
- ✓ The audio volume shall be automatically adjusted based on the current ambient sound level in front of the CMS to ensure that it is only loud enough to be understandable within a five foot radius from the sign.

8.5.4 Bus Stop Signage

The Proposer shall provide a method for allowing patrons to determine next arrivals at each bus stop, regardless of location. For example, a decal affixed to existing bus stop signs may provide a unique identifying stop number and a SMS “text-to” number to allow patrons to request notifications of next arrival predictions in real-time.

8.5.5 Customer Website / Customer Communication Devices

The Commission expects that the PIS will be broadcast via the Internet, generate Web-based maps for all and/or selected Operators and/or routes, and display accurate vehicle information, including route names, street and landmark names, vehicle location and estimated arrival / departure times. The Commission expects that its customers will be able to access route information through both the Provider's Website and mobile apps (iOS and Android), as well as the Operators’ Website(s) using an API.

To the extent possible, all information should be available in a form which facilitates access by and delivery to current consumer communication devices and provides a means to easily incorporate future devices and communication services. Real-time information must also be accessed through any computer that has Internet access and be available in GTFS-real-time feed format. In addition, the System should allow for customer registration and identification of information they would like “pushed” to their devices as either information or alerts.

The Commission's preference is to integrate the PIS into the Commission’s main Website, and by similar design to the Operator Websites. A customized Commission-specific web platform, or mobile App is desired. The Proposer / Commission Website/App shall provide, at a minimum, the following features:

- ✓ The System shall allow a person using a personal computer, or web-based personal mobile device to visit a publicly accessible Web address to select a route, direction and stop, and in response

receive the current predicted arrival time from the prediction software at the initiating device.

- ✓ The System shall provide support for mobile access, using simplified version of the Proposer Website specifically designed for handheld devices, and/or mobile applications (e.g. iOS, Android apps).
- ✓ The Proposer shall provide all Web pages, data feeds and scripts needed to enable this Web service on the Commission/Operators Website.
- ✓ The response Web page shall be continuously updated (whenever a new predicted arrival time is determined), until the user closes the web page.
- ✓ The System shall provide the ability to display route, stops and real-time location of a vehicle on a route on a web-based/app map display.
- ✓ The Web-based/app interface shall allow users to select the routes and stops of their choice for which they want to see real-time vehicle information.
- ✓ The Web-based/app interface shall provide the ability to zoom in / out and pan the map.
- ✓ The map display shall be automatically formatted to fit the screen size of the customer device (i.e. mobile device and personal computer).
- ✓ The vehicles shall be shown using a distinct icon and also indicate the direction of movement of the vehicle.
- ✓ Clicking on a vehicle icon must show the current status of the vehicle (early / late / on-time).
- ✓ Clicking on a stop icon shall display arrival times for the next three buses for each route passing by that stop.
- ✓ The System shall provide the Commission the ability to publish any service alerts on the Web page/App/GTFS Realtime feed showing real-time vehicle location display.
- ✓ The System shall provide real-time information alerts to Operators' customers based on their preferences. Customers shall be able to subscribe or unsubscribe to this service as desired. Also, the System shall allow customers to configure their preferences for the content and time interval for receiving real-time information alerts.
- ✓ The System shall automatically notify customers of the real-time status of buses at a specific stop on a requested route and direction. The notification will be made in the form of an email, App notification or SMS message.

8.5.6 Customer Trip Planner

The Proposer shall provide a solution for customers to plan trips via the Internet or smart phone via an online Trip Planner. The Commission prefers Google Transit and would value the Proposer's assistance in getting the Operators set-up for its use (i.e. development of updated GTFS is not available). If an integrated Google Transit planner is not an option, then the Proposer may provide alternatives, such as their solution.

Regardless of which solution is used, the Trip Planner should allow customers to enter their starting point and destination, make some choices about their trip (address, nearby stops, routes, landmarks, etc.), and receive an itinerary based scheduled service and real time departures using the Operators' data. The Trip Planner should plan the best trips for the day, time, and options specified by the customer. Changing any of the criteria may result in completely different trips. The Trip Planner should include applicable fare and transfer information.

The Commission prefers that the Trip Planner include an accessible version that can be used by customers with disabilities in order to be ADA compliant.

8.6 Information Technology Architecture

8.6.1 Server Site

The Proposer's System must be an "out-of-the-box" application from a data center; and accessible from any Internet capable desktop within the Commission / Operators and the System must have the capacity to both import and export data on a regular and automated basis either through the Proposer's API or defined database access protocol. The System should be entirely Hosted at the Proposer's Data Center. Proposer is entirely responsible for the Proposer's applications, databases, patches, updates, environments, etc.

A Service Level Agreement between the Proposer and the Commission shall identify the expected performance levels for System availability, scheduled maintenance, and repair during a system outage event, to ensure that critical System maintenance (backups, database maintenance, archiving) occurs. Disaster Recovery procedures that shall be implemented to ensure data security during a disaster shall be incorporated into the Service Level Agreement. The servers that host the data shall be maintained at a facility selected by the Proposer and approved by the Commission. The Proposer shall provide all data, cellular communications and network infrastructure as part of ongoing annual costs associated with ownership of the system.

Specific Commission requirements are:

- ✓ Proposer shall provide and justify their solution architecture.
- ✓ Proposer shall meet planned uptime requirements of 99.9%.
- ✓ Proposer shall provide a System architecture for all technologies, including the Optional Technologies
- ✓ Proposer shall provide a System architecture for all supporting hardware, software, operating systems, databases, redundancies, environments, Disaster Recovery, and Security, etc.
- ✓ A backup system shall be available to the Commission in the event of failure of the central server.
- ✓ The Commission shall be informed at least thirty (30) days in advance in writing of upgrades that require updated software or higher speed Internet connectivity required by the end-users, Commission, Operators, Dispatch, etc.
- ✓ The Proposer shall monitor and insure Internet connectivity to the services.
- ✓ The system shall be available 24 hours a day, seven days a week.
- ✓ Secure access to the full system functionality shall be available to Commission staff remotely from any computer that meets the Proposer's stated requirements.
- ✓ Remote access to the system shall be secure and protected by password or other equivalent-or-improved security measure.
- ✓ The Commission's data shall be securely stored by the Proposer and accessible only by authorized individuals.
- ✓ The Commission's data shall be securely backed up on a daily basis, and backups shall be stored in a secure facility remote from the primary Host site.

- ✓ The Proposer may not retain data if the Commission requests its destruction, deletion or transfer.
- ✓ The Proposer shall relinquish all of the Commission's data to the Commission upon request.
- ✓ The Proposer's Hosted site must be protected by current virus protection, internet security, and other security software against catastrophic failure and malicious attacks.

Proposer-initiated software updates, such as those related to future client project upgrades, should be extended to the Commission to the extent the updates would add benefit to the Project and are supportable within the technical requirements for Project. If the Commission requests new feature sets be added beyond those included in the initial feature set approved by the Commission for Project, the Proposer shall identify whether the requested software enhancements can be accommodated under the normal maintenance agreement or if said changes would require a change order.

8.6.2 Ownership of Data

All data collected by the Hosted System shall remain the property of the Commission. Access to all real-time and archived vehicle location data must also be available to third party application providers for potential future external development purposes. Proposer should indicate which method(s) would be used (XML, RSS, JSON, SQL, GTFS, etc.). Data generated by the Commission shall be available to the Commission at all times. The Commission will provide to the Proposer all bus-stop, vehicle, route, schedule, rider, transfer information and any other data relevant to its operations at Notice to Proceed.

8.6.3 Activity Logging

- ✓ The System shall log all user actions.
- ✓ The activity log shall be real-time and accessible on-line.
- ✓ Each user logon and logoff shall be recorded in the historical event log.
- ✓ The recorded data shall include the date and time that the logon / logoff was executed, the name of the workstation, and the identification of the user. All functions performed by all users shall be stored in the historical event log.

8.6.4 Access Security

- ✓ Access to the System shall be strictly limited to designated and authorized System Administrators.
- ✓ Users without proper minimum authorization shall be denied access to all System functions and data, as well as all System resources such as servers, printers, workstations, etc.
- ✓ Each user shall have a unique username that is assigned by the System Administrator.
- ✓ A function shall be provided for users to log off.
- ✓ Access to System functions and capabilities shall be based upon each user's authorization level and not the physical workstation being used.
- ✓ A minimum of four user-access levels shall be supported by the System. The term "user" alone shall refer to all levels except when it is clear from the context that another meaning is intended. The minimum user-access levels shall be:

- ✓ Information User — these users shall have only read-only access to System historical data via the information server resources, but shall have no access to System functions.
- ✓ Customer Service User – these users shall have all the rights of an Information User plus read-only access to selected Dispatcher functions (e.g., AVL functions).
- ✓ Dispatcher — these users shall have all of the rights of a Customer Service user plus full access to specific System functions as determined by the System Administrator.
- ✓ System Administrator — these users shall have unrestricted access to System functions and shall have special privileges required to administer overall access security and to maintain the System. A secure method shall be provided for the System Administrator to change passwords and user identifications and establish functional partitions.
- ✓ Operator Groups — to simplify user administration, categorization of users: Information, Customer Service, Dispatcher and System Admin by Operator name is desired.

8.6.5 Data Backups

Capability shall be provided by the Proposer to backup the System data on a regular basis, which may occur at a minimum nightly. If there is a catastrophic failure that results in the loss of data, the Proposer shall provide a means to retrieve the corrupted data without disruption to System operations. The Commission's data shall be retained for a minimum of one (1) year on the Proposer's server(s) and then archived in a format agreed upon with the Commission. Commission users shall be able to generate queries from the restored data. The Commission may request that the Proposer restore route or stop data from one of its daily backups in the event that undesired changes are accidentally made.

8.6.6 Data Archival and Restore

The System shall provide an information storage function (data warehouse) that collects and stores all operational data for the purpose of later retrieval and analysis. Enough online data storage shall be provided to keep at least two (2) years of historical data. The historical data shall be accessible by included standard System applications and tools.

8.6.7 Scheduled Maintenance

All software maintenance that could impact user access shall be performed outside of the Operators' revenue service hours and updates shall be downloaded in batches to minimize downtime and maximize data transfer rates. The Proposer shall perform scheduled maintenance on its databases, Web applications and field elements in accordance with an approved maintenance schedule.

8.6.8 Version Tracking Requirements

The System shall maintain records of all versions of the back-end files and executables that are either received from the server or created and that are successfully loaded and running on the vehicle or device. Reports and a graphical interface (screen) shall be made available to verify the versions and the download status of all features / applications of the System. Failure in the

transmission of any data to a vehicle or device including external interfaces shall result in a failure message been logged and reported to the System Administrator.

8.6.9 System Administration Functions

Access to the following System functions shall be restricted to System Administrators.

- ✓ Fixed-Route Data Retrieval
- ✓ Schedule and Route Maintenance
- ✓ AVL Map Retrieval and Maintenance
- ✓ Destination Sign Data Maintenance
- ✓ In-Vehicle Announcement Data Maintenance, if utilized.
- ✓ All parameters in the System that users may need to modify shall be adjustable by authorized System Administrators.
- ✓ System Administrators shall be able to define data partitions that specify, via selection criteria or other means, a subset of all System data, including events that Users are permitted to access.

8.6.10 Disaster Recovery Procedures

The Proposer shall develop Disaster Recovery Procedures for the Commission's review and approval. The System shall be designed and operated such that the System can quickly and efficiently recover from a disaster. As part of the Field Performance Test, the Proposer shall implement its Disaster Recovery solution and shall test the System accordingly.

8.6.11 Continuity of Services

Upon the Commission’s written notice, the Proposer shall furnish transition services during the last 90 days of the term of the Agreement. The Proposer shall develop with the successor contractor or the Commission, a Transition Plan describing the nature and extent of transition services required. The Transition Plan and dates for transferring responsibilities for each division of work shall be submitted within 30 days of notice from the Commission. Upon completion of Commission review, both parties will meet and resolve any additional requirements / differences. The Proposer shall provide sufficient experienced personnel in each division of work during the entire transition period to ensure that the services are maintained at the level of proficiency required by the Agreement. The Proposer shall allow the successor to conduct on-site interviews with the employees.

9.0 OPTIONAL TECHNOLOGIES REQUIREMENTS

Following are optional technologies the Commission wishes to consider. Most of the contents of these technologies share the base System requirements/components. These options are not in the base System cost because the Commission has not made a decision yet whether to proceed with any or all these optional items. For these items, the costs applicable to the optional systems shall be separately identified in the Proposer's Cost Proposal (Attachment form C-I). Such items shall be individually selectable. Implementation by the Commission or the Operators may be at time of contract award, a later date (or not at all), and authorized under individually negotiated Task Orders. **Purchase of desired optional technologies is not guaranteed.**

9.1 Automated Voice Annunciation (AVA) [Optional Technologies]

As an option, the Proposer may specify the use of an Automated Voice Annunciation (AVA) system in accordance with Americans with Disabilities Act (ADA) requirements. The AVA system shall integrate to the existing public announcement (PA) system on-board the vehicle.

The proposed system must provide accurate, clear, audible and visual announcements of routes, major intersections, destinations and transfer points and special messages. This system must fully comply with the Americans with Disabilities Act (ADA) requirements to ensure that passengers with physical and/or hearing impairments shall receive consistent and accurate information while riding in Commission / Operator buses.

In addition, a portion of the Operators have AVA systems. Proposers are encouraged to provide solutions that integrate with existing Operator AVA systems, such as by offering single log-on capability.

Proposers will provide separate pricing for AVA systems, and/or AVA system integration, by Operator fleet. For Operator-specific fleet compositions see the *Operators Fleet and Systems Composition Schedule (*Attachment M).

The following table represents the Commission's concepts of how the Proposer's Passenger Information System solution will meet our Objectives:

AVA Technology Capabilities to Meet the Commission Objectives

Commission Objectives	Technology Capability
Make public transit more attractive to the general population.	✓ By helping the Commission achieve compliance with the ADA, the AVA assists riders, who are blind, cognitively impaired, or hearing impaired, as well as commuters and tourists reach their destinations.

Maximize passenger movements.	✓ By helping riders with disabilities to use accessible fixed-route bus systems instead of relying on paratransit service.
Increase awareness of ITS benefits	✓ By providing clear announcements, AVA provides passengers with more information and improves the rider experience through ITS.

In summary, and when the complete ITS technologies have been deployed the Commission seeks to have a System that provides the following AVA capabilities for the riding public and for Operator operations:

✓ Provide stop and directional information along route.
✓ Inform Operator to stop at next location based on the "stop requested" option.
✓ Announce stop locations both visually and audibly.
✓ Provide Operator staff the ability to edit, access and modify route and stop information independently for schedule changes.
✓ Automatically manage destination signs.

The annunciation system shall include visual display systems to be installed on-board the vehicle such that the auditory announcement can be simultaneously displayed visually.

The following system functionality is desired of the AVA:

- ✓ Some Operators have interior (Destination Message Signs) DMS' installed on the fixed route fleet. The Proposer shall install new interior DMS. However, the Proposer may propose the use of any existing interior DMS if it can ensure that the proposed AVA system can integrate with the existing DMS to provide desired visual AVA features.
- ✓ The DMS shall display the “stop requested” message when stop requested or the wheelchair area stop request is activated by a customer.
- ✓ If stop request signal is received while another message is being displayed on the DMS, the AVA system shall show stop requested message after current message is completed.
- ✓ The AVA shall provide text announcements for configurable duration, which will be set using the central recording software.
- ✓ The AVA shall make an exterior announcement of the current route number and destination when doors open at a stop. At other locations (e.g., major intersections), the controller shall make preset location-based interior announcements.

- ✓ The Operator shall have the capability of overriding the automatic initiation of visual announcements and instead manually select from a menu of predefined messages for display to passengers. The override shall be reported as an event.
- ✓ Interior signs shall display stop requested, bus stop arrival, major intersections and landmarks, date / time information, and other preformatted messages.
- ✓ The interior sign system data files shall be updatable remotely..
- ✓ The AVA shall provide announcements to passengers on-board fixed-route revenue vehicles. This function shall support next stop announcements as well as annunciation of major intersections, key transfer points, promotional information, public service information, Vehicle Operator initiated messages and advertising.
- ✓ Next stop, major intersection and key transfer point announcement capacity shall be sufficient to support all of the routes in the service area and all of the trips made by each vehicle during a service day, plus a 50% spare capacity for other types of announcements.
- ✓ The AVA shall use the vehicle location information from the AVL system to trigger the appropriate announcements on-board the vehicle whenever the vehicle enters a “trigger zone.” A trigger zone is a user-defined area that is located just prior to each stop location. For example, the trigger zone may begin 800 feet before a stop as well as at selected other announcement locations.
- ✓ Trigger zones shall be pre-defined by the software for AVA trigger management and downloaded to the controller.
- ✓ Trigger zones shall be configurable by stop to accommodate for differences in operations, including but not limited to, the direction of approach and size of stop.
- ✓ Time-based announcements / displays shall be programmed to be made on-board the vehicle at specific times of the day or at a set frequency within specified time periods, on specific days of the week.
- ✓ Location-based announcements / displays shall be programmed to be made on-board the vehicle when that vehicle passes any designated location(s).
- ✓ In the event that a vehicle is operating off-route, the automated announcements / displays shall not be made. Once the route is reacquired, the System shall automatically determine and announce the next valid bus stop or other designated location.
- ✓ The Operator shall have the ability to manually trigger the activation of any pre-recorded announcements if needed.
- ✓ The DMS shall display the current date / time when not displaying a triggered announcement.

- ✓ Dispatch shall have the ability to send a free form announcement message to one bus, a group of buses, to the AVA interior DMS.
- ✓ The AVA shall have the capability to create and schedule public service or advertising messages.
- ✓ Audio levels shall be controllable by the Operator within a usable audio range. The Operator shall have the capability of overriding the automatic initiation of audio announcements and instead manually select from a menu of predefined messages for announcements to passengers. The override shall be reported as an event.
- ✓ The volume of the internal announcements shall be automatically adjusted according to the noise level on the vehicle at the time, and the vehicle operator shall not be able to lower the announcement volume.
- ✓ The AVA shall provide the capability to adjust external speaker volume levels based on time and location settings.
- ✓ The AVA shall provide the capability to adjust the minimum and maximum volume levels separately for interior and exterior announcements.
- ✓ The AVA announcements and PA volume level controls shall also allow the Operator to separately adjust the volumes for the Operator and handset speakers.
- ✓ Operator-initiated announcements / displays (e.g., safety-related announcements) shall be programmed to be made at the Operator's discretion.
- ✓ Operator use of the on-board PA system shall override any automated announcements.
- ✓ Dispatchers shall be able to activate the announcements simultaneously on a group of buses.

9.2 Automatic Passenger Counters (APC) [Optional Technologies]

The following table represents the Commission's concepts of how the Proposer's APC solution will meet our Objectives:

APC Technology Capabilities to Meet the Commission Objectives

Commission Objectives	Technology Capability
Make public transit more attractive to the general population.	✓ By improving facility planning through the use of more comprehensive passenger counts at stops.
Maximize passenger movements.	✓ By optimizing service through the use of

	comprehensive and accurate passenger counts, Commission can better understand ridership. ✓ By adapting routes to observed passenger demand.
Reduce operational costs.	✓ By reducing resources needed to passenger counting.

In addition, a portion of the Operators have APC systems. For Operator-specific fleet compositions see the *Operators Fleet and Systems Composition Schedule (*Attachment M).

Proposers are should provide solutions that implement new or integrate with Operator APC systems. In summary, and when the complete ITS technologies have been deployed the Commission/Operators seeks a System that provide the following APC capabilities:

✓ Collect passenger load, boarding and alighting data for route and schedule planning.
✓ Review boarding and alighting data for facilities planning.
✓ Collect passenger count data to validate National Transit Database reporting.
✓ Plan bus stop amenities based on passenger boarding's by stop.
✓ Manage passenger loads using APC data to determine when Operator alters vehicles stops or when additional vehicles should be put into service.

The Proposer shall provide pricing for the option of adding integrated Automatic Passenger Counting (APC) system and capabilities to the Operators (or integrating with existing APC systems). The hardware used for new APC systems shall be proposed by the Proposer, but shall satisfy at minimum the following requirements:

- ✓ Ability to accurately detect passengers boarding and alighting and eliminate false positive counts of passengers loitering near the boarding zone.
- ✓ Support for multiple entries, and for wider entry common to certain vehicle designs.
- ✓ Support for wheelchair boarding counts.
- ✓ Ability to detect whether the vehicle door is open or closed (the APC shall only count passengers when the door is open).
- ✓ The APC solution shall be designed for the transit industry and not adapted for its intended purpose.
- ✓ Sensors shall operate automatically and without the need for manual intervention.
- ✓ Data shall automatically be compiled by the APC and integrated to the VLU and / or MDT in real-time.
- ✓ APC data shall be time-stamped for ease in associating the counts to validating farebox data.
- ✓ APC data shall be stored along with stop records.
- ✓ The APC shall meet or exceeds the relevant SAE specifications for vibration, humidity, electrical tolerance, and particulate matter.
- ✓ The APC for all doorways shall be connected to a single APC controller.

- ✓ The APC shall be able to separately count successive passengers that are walking as close together as is practicable, either one behind the other or side by side.
- ✓ The APC shall not register as multiple passengers the passage of a single passenger that reaches into or out of the doorway passage, or is swinging their arms, while passing through the sensor beams.
- ✓ The APC shall not separately count objects carried by passengers, such as shopping bags or umbrellas.
- ✓ The APC controller shall be interfaced with a wheelchair / ramp sensor with the number of wheelchair / ramps cycles recorded for each stop.
- ✓ The APC will have sufficient on-board memory capacity to allow for storage of at least 72 hours of APC data.
- ✓ The APC subsystem shall provide a backup method (for use when the WLAN subsystem is temporarily unavailable) for bi-directional data transfer.
- ✓ Be accepted by NTD for reporting purposes.

9.3 Farebox Integration [Optional Technologies]

The following table represents the Commission's concepts of how the Proposer's Farebox Integration solution will meet our Objectives:

Farebox Integration Technology Capabilities to Meet the Commission Objectives

Commission Objectives	Technology Capability
Make public transit more attractive to the general population.	✓ By improving facility planning through the use of more comprehensive passenger fare data by stops.
Maximize passenger movements.	✓ By optimizing service through the use of comprehensive and accurate passenger faring information, including transfer use analysis. ✓ By adapting fare policies based on ridership and stop-level data.
Reduce operational costs.	✓ By automating control of farebox logins and assignments using AVL technology.

Proposers are should provide solutions that integrate with existing Operator Farebox systems, provided by Genfare (GFI), including Cardquest readers and Odyssey Fareboxes. In summary, and when the complete ITS technologies have been deployed the Commission/Operators seeks a System that provide the following Farebox capabilities:

✓ Collect passenger faring data, including cash, pass and transfer usage by stop for route and schedule planning.
✓ Automatically control farebox settings using directional data provided by AVL system.
✓ Provide location-based reporting of passenger fare revenue data

The Proposer shall provide pricing for the option of integrating with existing GFI Odyssey and GFI Cardquest Farebox Equipment:

- ✓ Ability to accurately detect passengers fares by route, heading, time, and stop location.
- ✓ Ability to automate run, route, fareset and trip login activity using pre-programmed data and AVL technology.
- ✓ Ability to detect and report farebox connectivity/health.

9.4 Headsign Integration [Optional Technologies]

The following table represents the Commission's concepts of how the Headsign Integration solution will meet our Objectives:

Farebox Integration Technology Capabilities to Meet the Commission Objectives

Commission Objectives	Technology Capability
Make public transit more attractive to the general population.	✓ By improving the accuracy of Headsign changes
Maximize passenger movements.	✓ By improving the timeliness and increasing the possibilities for Headsign changes.
Reduce operational costs.	✓ By automating control of headsign login and assignments using AVL technology.

Proposers should provide an optional solution that integrates with existing Operator headsign systems, provided multiple vendors. In summary, and when the complete ITS technologies have been deployed the Commission/Operators seeks a System that provide the following Headsign capabilities:

✓ Automatically control headsigns using directional data provided by AVL system.
✓ Integrate with CEA to display exterior Emergency messages

9.5 Single-point Log-on Integration [Optional Technologies]

Utilizing the above identified integrated technologies, Proposers should provide an optional solution that automates and streamlines the driver logon function required of multiple technology systems, including farebox, Headsign, AVA, and the System.

10.0 ADDITIONIAL REQUIREMENTS

10.1 AVL Analytics

The Proposer shall provide a variety of fixed route management tools that allow users to analyze, monitor and diagnose routes and their operations. At a minimum, the System shall support the following features:

- ✓ Analysis of vehicle activity including schedule adherence and on-time performance
- ✓ Historical playback of time-elapsed route activity using rewind, fast forward, pause, and play controls
- ✓ Analysis of stop times by route, block, run and trip
- ✓ Analysis of passenger loads by route, block, run and trip (with optional APC integration)
- ✓ Analysis of route performance including run times, average vehicle speeds, and relative spacing between buses on the route
- ✓ Analysis of Driver run performance including, late pull-out/pull-in to Garage and schedule adherence
- ✓ Extensive report generation and query capabilities, including export functions

10.2 Reports

Data Base Capabilities to Meet the Commission Goals

Commission Goal	Technology Capability
Maximize passenger movements.	✓ By optimizing service through comprehensive and accurate data.
Reduce operational costs.	✓ By reducing the time needed to perform data collection and analysis.

In summary, and when the complete ITS technologies have been deployed the Commission seeks to have a System that provide the following capabilities for Schedulers and Administration via the servers database:

✓ Use standard reports to generate route, vehicle, revenue, mileage, ridership, NTD and other reports.
✓ Analyze ridership, boarding's and alighting's for schedule adjustments and route planning.
✓ Track schedule adherence.
✓ View historical data over periods of time.

Relevant and accurate reports are an important component for the success of the Operators' operations. Various operational reports shall be provided as part of the System which will allow the Operators to monitor system performance and to reconcile the daily, weekly, and monthly service activities. All data generated in the System shall be retrievable through reports and screens. Reports and screens shall be made available through the database on an ad-hoc basis and shall have various selection and sort criteria. All reports and screens shall have the capability to be printed and saved in PDF format, html format, xml format, csv format, Excel, and other ASCII-compatible formats.

The System shall begin gathering location data when the vehicle leaves the yard and continue reporting until the vehicle returns to the yard.

Query features shall be available to filter reports based on time interval, hour, day, week, month, year and YTD and there should be the capability to compare specified data for given time intervals, dates, weeks, months, years or YTD. It is desired that the System shall have the ability to drill down all high-level reports to the next level to the details.

The following examples represent the types of reports the Commission would like to receive in order to better manage operations and maintenance as well as the riding public's usage.

- ✓ ***Schedule Adherence Report:*** Measures driver on-time performance in relation to Paddles and published schedules.
- ✓ ***Average Arrival Times Report:*** Measures statistical mean of arrival times for user-defined parameters such as stop, route, vehicle, Driver, reporting period, etc.
- ✓ ***Idle Report:*** Measures periods of excessive inactivity based on vehicle engine diagnostic data.
- ✓ ***Detailed Trip Log:*** Records passenger activity (if APC option is exercised) by stop and arrival and departure times, based on user-defined parameters including stop, route, vehicle, direction, etc.
- ✓ ***Miles and Hours Report:*** Summarizes vehicle service hours and service mileage for revenue and non-revenue service (based on NTD definitions).
- ✓ ***Shift Report:*** Records the timestamp for Driver login and logout from AVL / MDT / VLU System.
- ✓ ***Exception Reports:*** Measure the frequency of occurrences for exceptions to user-defined parameters such as speed limits (by segment or global), route adherence, etc.
- ✓ ***Ridership Reports:*** Include statistical averages for ridership by route during defined time periods, drill-down of daily boarding's and alighting's by route and time of day for single day or range of dates. (Option-requires Automatic Passenger Counters)

- ✓ ***Passenger Web/App Activity Reports:*** Provide a record of activity (e.g., number of "hits", type of information requested, etc) associated with the Contractor-furnished Customer Website and Apps for the Operators' Passenger Information System.
- ✓ ***Performance Reports:*** Reports shall be made available on the System that display summarized and detailed data on the status of operation, including a description of any failure (e.g., AVL downtime).

A final list of required reports and exact report formats shall be proposed by the Contractor during System Design, and approved by the Commission. All reports shall be customizable.

The following examples represent a more specific list of reports that the Commission would be interested in having. The Proposer should provide a list of the can reports available out-of-the-box. Sample reports should be included in the Proposer's proposal.

10.2.1 Dispatch Activity Reports

The System shall produce daily, weekly, and monthly reports of any Emergency Alarm Activity.

10.2.2 Schedule Deviation Reports (Fixed Route)

- ✓ The System shall produce reports showing daily, weekly, and monthly schedule deviation.
- ✓ These reports shall summarize the schedule deviations including non-revenue activity that occurred during the time periods covered by the reports. The following statistics shall be produced for the fixed-route fleet, for each bus route, run and for each Driver:
- ✓ Total number of early runs (i.e., runs that were early departing from any time point).
- ✓ Average number of minutes early.
- ✓ Total number of late runs (i.e., run that were late departing from any time point by more than a user-specified threshold).
- ✓ Average number of minutes late.
- ✓ The report output shall be configurable to allow the user to filter certain types of specific schedule deviations. The types of deviations that can be filtered shall include early times on selected routes and at selected stops, where early times are acceptable.
- ✓ The daily reports should provide the above statistics broken down on an hourly basis along with daily totals. The weekly reports should provide the above statistics broken down on a daily basis along with weekly totals. The monthly report should provide the above statistics broken down on a daily basis along with weekly and monthly totals.
- ✓ National Transit Database (NTD) annual reports in accordance with federal transit administration rules.

10.2.3 Customized Reports

Additionally, after the deployment and implementation of the System, there may arise the need to create additional reports, and the Contractor shall support such additions and / or modifications as part of the Maintenance and Warranty Agreement. The selected Proposer shall provide, in addition to all of its standard reports, pricing for up to 50 additional and customizable

reports as requested by the Commission.

10.2.4 Data Summarization

For efficient report generation it is required that data be summarized. Contractor shall use effective data storage techniques for the management of data. Data shall be summarized in order to ensure that summary reports are generated within seconds of a report generation request. Users of the AVL and Passenger Information System shall experience no delays in generating reports or accessing the System for data.

10.2.5 Report Filtering

Query features shall be available to filter reports based on time interval, hour, day, week, month, year and YTD (both calendar year and fiscal year). Ability shall be provided to compare specified data for given time intervals, types of days (weekdays, Saturday, Sunday), dates, weeks, months, years or YTD. System shall also have the ability to generate Descriptive Statistics reports.

10.2.6 Drill-Down Capability

The System shall have the ability to drill down all high-level reports to the next level and to the details. Report designs shall be presented and finalized during the design review process.

10.2.7 Report Response Times

Requests for reports shall be acknowledged within 10 seconds with an indication that the report is being processed.

10.3 Transit Analytics (Dashboard)

The Commission seeks as part of this proposal; business intelligence capabilities via dashboards which will enhance the reports outlined above and provide Commission leadership information based on Key Performance Indicator's (KPI's). The Commission seeks a Commercial-Off-The-Shelf (COTS) solution to meet this requirement. The objective is to use KPI's and dashboards to show areas of operations needing improvement.

10.4 Training

The Proposer shall provide a comprehensive training program that prepares Operator staff for operation, administration, elementary troubleshooting, maintenance and System Administration of the System components provided by the Proposer. Training may be conducted by the Proposer, the Proposer's sub-Proposers, third-party software suppliers, and / or original equipment manufacturers (OEMs). The Proposer's training program shall include formal and informal instruction, models, manuals, diagrams and component manuals and catalogs as required. Where

practical and useful, training should be hands on and should use actual system software and screens on a work station and actual equipment on the fleets. All training materials and manuals shall be produced in hard copies sufficient to provide one copy for each person being trained and one (1) reproducible set of documentation and one copy on approved electronic media. Unless otherwise noted by the Commission, the Proposer shall be solely responsible for supplying all of the items necessary to complete the training requirements, and the Proposer shall indicate in the proposal the cost of materials and time assumed for training.

The Proposer shall provide experienced and qualified instructors to conduct all training sessions. The Proposer is responsible for ensuring that the instructors teaching these training courses are not only familiar with the information, but are able to utilize proper methods of instruction, training aids, audiovisuals and other materials to provide for effective training.

The Proposer is responsible for providing all training aids, audiovisual equipment and visual aids for conducting the training courses. The user interface components of the training equipment shall be identical to the installed equipment.

The Proposer shall submit the training curricula for review and approval by the Commission. No training shall occur until training materials have been approved by the Commission. The curricula shall meet all training requirements and indicate course content, training time requirements, and who should attend.

The Proposer shall provide additional training at no additional cost if major modifications are made to the system after the initial training due to system upgrades or changes made under warranty, or delays in system deployment after the initial training exceeding three (3) months for which the Proposer is responsible.

Formal training shall include both classroom and practical work, and shall be augmented by informal follow-ups as needed. Practical training on equipment shall be the focus of all training classes.

Due to the number of staff and geographic service areas associated with the nine (9) fixed-route systems, there shall be a minimum of at least three (3) train-the-trainer classroom training sessions for the staffs to attend.

10.4.1 Training Plan

The Proposer should describe their overall user training approach. The Proposer will provide a Training Plan identifying the estimated minimum number of training days and hours that will be provided as a part of the base package.

The Proposer shall submit a Training Plan detailing the following:

- ✓ Overall description of the training program

- ✓ Breakdown of total number of hours devoted to training: hours of classroom training, number of classes, anticipated number of students, hours developing training materials, etc.
- ✓ Proposed training delivery schedule
- ✓ Purpose of each training class
- ✓ Who should attend class
- ✓ Anticipated duration of the class (hours / days)
- ✓ Training materials, including manuals, guides and other supporting items, and techniques to be used
- ✓ Facility / equipment requirements

The Proposer shall assume that Commission staff do not have any specific knowledge of the System; however the Proposer can assume that staff are generally qualified for the function for which they are being trained in (e.g., Driver, Dispatcher, maintenance, System Administration, etc.).

10.4.2 Training Facilities

The Commission will make every attempt to furnish classroom facilities or meeting space for all trainings. The classroom locations will include at a minimum one in western Ventura County and one in eastern Ventura County.

10.4.3 Scheduling and Preparation for Training

The Commission will identify a person that the Proposer shall notify to coordinate the training sessions The Proposer shall notify this individual of the dates or range of dates it would like to hold training at the Commission's offices and shall coordinate with the Commission to arrange the training space and ensure computer hardware and software are installed and the space configured for training.

10.4.4 Timing for Training

The Proposer shall conduct training in a timely manner that is appropriate to the overall System deployment schedule. Training for Dispatchers and Operators shall be provided prior to the start of Functional Testing so that these trained personnel may participate in the testing. These courses shall be scheduled to accommodate the work schedules of Commission staff.

10.4.5 Training Materials

Draft copies of all training materials shall be submitted to the Commission for review, comment and approval, prior to final printing of quantities required for training. The Commission shall have the right to require additional interim drafts at no additional cost should draft training materials submitted not be of adequate quality or have missing or incorrect information.

At the completion of all training courses an electronic copy of each course outline, lesson plans, training aids and notebooks shall be delivered to the Commission. All manuals and training must be approved before the Commission will grant Final Acceptance.

For the System users, the Proposer shall provide a User Manual which documents use of all functions of the software. For maintenance workers, the Proposer shall provide an Installation / Maintenance Manual and corresponding training materials, documenting (1) how the system components were installed; (2) how to install and configure spare components; and (3) the procedures for preventative maintenance, inspection, fault diagnosis, component replacement and warranty administration on each system component. The Installation / Maintenance Manual shall clearly indicate preventative maintenance procedures the Commission must perform to validate the warranty.

The Proposer shall provide the following materials to support System training:

Training Aids
The Proposer shall provide training aids such as mock-ups, scale models, overhead transparencies, videotaped demonstrations, and simulations as are necessary for successful training.

Instructor Guide
Instructor Guide's are important elements for the Commission. They will prove to be very valuable at a later time when the contract has been completed and the Proposer's personnel are no longer available to train Commission staff. The Proposer shall provide an Instructor Guide that generally includes:

- ✓ Training agenda
- ✓ Training objectives
- ✓ Training resources and facilities required, including work stations, power and communications requirements
- ✓ Detailed lesson plans
- ✓ A description of training aids and items to aid in on the job performance (e.g., where applicable, pocket guides or reference sheets)
- ✓ Instructions for using any audio-visual support equipment or materials (if applicable).

10.4.6 Maintenance Training

The Proposer shall provide maintenance training. The instructor shall be experienced and qualified in the maintenance of the System begin proposed. The Proposer's trainer shall instruct Commission staff who will maintain / replace the equipment. This maintenance training shall include troubleshooting and diagnostics of all known potential issues problems for the equipment as well as standard remove and replace. Such training does not alleviate the Proposer from maintenance and warranty requirements.

10.4.7 Dispatcher / Driver Training

Training shall familiarize the Commission's Operator and Dispatch personnel with an overview of the System design concepts and features. It shall include hands-on training using the actual

hardware and software being delivered to the Commission. Training materials for this course shall include the System's User Manual. This training is for personnel who require a detailed understanding of the operations of the System and how to access information and reports from the System on items such as vehicle status, schedule and route adherence, on-time performance, etc., including Commission Planning staff.

10.4.8 System Administrator / Customer Service Training

The Proposer shall provide training for System Administrators and Customer Service Personnel focusing on the functional capabilities of the System and in the operation of the System User Interface screens and reports. This training shall provide a thorough understanding of the Real-Time Monitoring interface for Customer Service staff and the various data files for route and stop development, the analytics tools available in the System, and how to access all of the functional requirements of the System through the Web-based User interface.

10.4.9 Manual Quantities

Hard copies of manuals shall be provided to the Commission in sufficient quantities as determined by the Commission. The Proposer shall also submit 1 CD-ROM, DVD-ROM, USB or other approved electronic media containing soft copies of all of the manuals created by the Proposer. Each CD-ROM, DVD-ROM or other approved electronic media shall be clearly labeled and contain an indexed booklet listing the contents. The Proposer shall be responsible for producing any additional quantity of the manuals for the Proposer's use sufficient to fulfill the Proposer's requirements.

10.4.10 Supplemental Training

The Commission requires that the Proposer provide follow-up training(s) approximately 90 days after Final Acceptance. Follow-up training on system operation may take place remotely, such as through a "webinar" or other web-based workshop environment. Remote training can only be done for Commission/Operators' staff who have already received hands-on training.

The Proposer shall provide extended, duplicate, or additional training for the System as deemed necessary by the Commission if any of the following occurrences take place:

- ✓ Major modifications to either the System hardware or software made after completion of the scheduled training courses that were necessary to meet the requirements; or
- ✓ Delays in placing the System into revenue service for which the Proposer is responsible and which result in more than six months elapsing between completion of one or more training courses and the placing of the System into revenue service.

Supplemental training shall be supplied at no cost to the Commission and should be factored into the Proposers Cost Proposal. The Commission will determine the time, location, and extent of any supplemental training in consultation with the Proposer.

10.4.11 Bus-In-A-Box

To assist in Driver and Dispatcher training and to conserve operating costs, the Commission seeks a Bus-In-A-Box tool to aid in personnel training. A Bus-In-A-Box is a self contained, portable suitcase style unit that can be carried and placed in any vehicle (like a car) or in a training room. The Bus-In-A-Box creates a mobile station that gives flexibility to training as well as system development as it makes available all standard bus functions.

10.5 Testing

Unless otherwise stated, the Proposer is responsible for all test logistics (e.g., arranging for vehicles and drivers, and providing other testing services) and coordination activities. The selected Proposer shall:

- ✓ Be responsible for successfully completing all tests required.
- ✓ Furnish all test instruments and any other materials, equipment and personnel needed to perform the tests.
- ✓ Be fully responsible for the replacement of all equipment damaged as a result of the tests, and shall bear all associated costs.
- ✓ Maintain comprehensive records of all tests.
- ✓ Notify the Commission in writing, no less than 14 days prior to each test activity.
- ✓ Provide test plans, procedures, records and reports to the Commission for approval.

The Commission reserves the right to:

- ✓ Witness any and all tests and inspections required by these Specifications.
- ✓ Inspect test records at any time.
- ✓ Perform additional testing, beyond that specified herein, of any equipment or material at any time to determine conformance with the contract requirements. This additional testing by the Commission is not to be considered as a replacement for any testing required of the Proposer or a manufacturer producing materials for the contract.

10.5.1 Acceptance Test Plan

The Proposer shall submit an Acceptance Test Plan that define testing and acceptance at the Commission. The Plan shall be submitted to the Commission at least three weeks prior to formal approval of the Plan. The Plan shall:

- ✓ Describe how each testable specification requirement will be demonstrated, including the testing methodology
- ✓ Describe what result constitutes a successful test
- ✓ Identify the role and responsibility of the Proposer and Commission's representatives during each test

The Plan shall include a list of all of the required tests per subsystem that are to be performed in order to meet the Commission's requirements. This list shall be organized to include:

- ✓ Scope and Purpose: Clearly state the scope, case, and conditions of the procedure tests.
- ✓ Pre-requisites: Describe test environment and the pre-requisites, including access, availability, and equipment configuration for each group of functions.
- ✓ Tools: List test equipment and tools, with calibration data for each item.
- ✓ Personnel: List test participants and roles.
- ✓ Procedure: Contain enumerated step-by-step procedures. Procedures shall include regression test and Pass Fail Criteria.
- ✓ Drawings: Include detailed drawings depicting test setup. Drawings shall include list of equipment, parts and material used and tested.
- ✓ Test Data Form: The form will include space to record the tools with calibration date, environmental condition during the test (i.e. rainy, cloudy, temperature, etc.), test measurement, pass / fail criteria and space to record the pass / fail outcome and the signature of the test engineer and a test witness.
- ✓ Test Exception Form: The form shall be used to record the identifier of the defect report / problem report(s) generated as a result of faults / problems detected during the test. All the troubleshooting techniques and corrective actions shall be documented on this form.

The Commission, in its sole discretion, shall grant System Acceptance once it deems that all of the required work of the Project is complete and the following conditions have been met:

- ✓ Proposer, in the Commission's sole determination, has substantially passed and has been given conditional approval of the 30-day Rolling Operational Test; and
- ✓ A "punch list" of items not yet in compliance has been delivered by the Proposer and has been verified by the Commission and approved as being complete.

10.5.2 Testing Requirements

All materials furnished and all work performed under the contract shall be inspected and tested. The testing shall be conducted in various stages as detailed in the Test Plan in order to validate the System integrity, reliability, functionality and compliance to the Commission's requirements. System components shall not be shipped until all required inspections and tests have been completed, all deficiencies have been corrected to the satisfaction of the Commission, and the hardware and software has been approved for shipment by the Commission. Should any inspections or tests indicate that specific hardware, software, or documentation does not meet the Commission's requirements; the appropriate items shall be replaced, upgraded, or added by the Proposer at no cost to the Commission and as necessary to correct the noted deficiencies. After correction of a deficiency, all necessary retests shall be performed to verify the effectiveness of the corrective action.

10.5.3 Test Procedures

Test procedures that are based upon, and consistent with, the approved Test Plan shall be provided by the Proposer to ensure that all System testing is comprehensive and verifies all the features of the devices, software functions and reports to be tested. The step-by-step activities associated with each test shall be listed in the test procedures. The test procedures shall be modular to allow individual test segments to be repeated as necessary. Test procedures shall be

submitted to the Commission in advance to allow sufficient time for review and approval of the test procedures before the start of testing. The following information shall be included in the test procedures:

- ✓ Test schedule
- ✓ Responsibilities of Commission/Operators and Proposer personnel
- ✓ Record-keeping procedures and forms
- ✓ Procedures for monitoring, correcting, and retesting variances
- ✓ Procedures for controlling and documenting all changes made to the System after the start of testing
- ✓ A list of individual tests to be performed, the purpose of each test segment
- ✓ Identification of special hardware, software, tools, and test equipment to be used during the test
- ✓ Copies of any certified test data (e.g., environmental data) to be used in lieu of testing
- ✓ Detailed, step-by-step procedures to be followed
- ✓ All inputs, expected results and measurements for successful sign-off for the full implementation tests

10.5.4 Function Testing

Functionality tests shall completely verify that all the specified and Proposer-proposed features and functions of the System have been properly designed and implemented. The following items, as a minimum, shall be included in the Function Tests:

- ✓ Inspection of all equipment for conformance to drawings, specifications, and applicable standards, and for satisfactory appearance
- ✓ Testing of the proper functioning of all hardware by thoroughly exercising all devices, both individually and collectively
- ✓ Testing of the proper functioning of all software and firmware features and functions, including test cases with normal and exception data
- ✓ Testing of the proper functioning of all data communication features and facilities and all communications control functions
- ✓ Testing of all AVL on-board functions, and of optional add-on equipment, using actual vehicle equipment items supplied as part of the Project
- ✓ Input and output signals from devices supplied by others or already installed on the vehicles shall be simulated if the Commission cannot provide actual devices for testing
- ✓ Testing of AVL functions using a mobile test vehicle and appropriate test map and database information for the routes that will be traversed
- ✓ Verification of all data transfers to the appropriate databases
- ✓ Testing of all user interface functions
- ✓ Simulation of hardware failures and failover of each AVL and Passenger Information device that has a backup unit
- ✓ Verification that spare capacity and ultimate sizing requirements have been met, including all expansion requirements
- ✓ Verification of the accuracy of the system performance monitoring software
- ✓ Verification that the processor loading and system response time requirements have been met while exercising all Proposer-supplied software and performing functions
- ✓ Verification of device and system recovery from AC power failures
- ✓ Verification of the accuracy of hardware and software documentation via random checks

- ✓ Testing of the System User Interface, real-time monitor (RTM), and Customer Websites and Apps
- ✓ Testing of all software and database maintenance functions
- ✓ Verification of all reports provided by the system
- ✓ Testing of data exchanges between devices supplied by others or already installed on the vehicles (e.g., GFI farebox, AVA, APC, etc.), if utilized.
- ✓ Tests of data exchanges that are not required in real time (e.g., exporting reports/data)
- ✓ Verify the System stability and availability is free of problems caused by interactions between software and hardware while the System is operating as an integrated whole

10.5.5 Cellular Communications Coverage Test

The Proposer shall supply a complete set of coverage maps, including the most remote portions of Ventura County, western Los Angeles county, including Woodland Hills/Warner Center/Chatsworth, and southern Santa Barbara county including Goleta/Santa Barbara/Carpinteria for the Operators' operations, for full data communications to and from Operators' vehicles. The Proposer is responsible for the coverage criteria necessary to provide reliable service for Operator operations.

10.5.6 30-Day Rolling Operational Test

The purpose of the Operational Test is to ensure that the System, as installed in the field, works properly as a fully integrated System. Prior to the start of the 30-day Rolling Operational (acceptance) Test, all outstanding testing variances must be corrected and all hardware and software documentation must be received and approved by the Commission. All training of the Dispatchers, Drivers, Operator staff, and other users, must also be completed, before the Commission will enter into Operational testing. Once the System has been fully integrated into Operator operations, the Proposer can commence Operational Acceptance testing of the entire System. During this test, no adjustments, modifications, or substitutions shall be made to the System by the Proposer, except with the approval of the Commission.

The Commission's desire is that no "down time" be experienced during Operational testing, which is intended to verify the ability of the System to satisfy the integrity, reliability, accuracy, availability and Mean-Time Between Failures (MTBF) targets. During this time the System will be used for everyday business. If there is a failure of the System during this time, the Proposer will be responsible for identifying the failure, correcting the problem, and detailing what they have done to keep this problem from occurring again. This effort will continue until such time that the System has run without incident for 30 consecutive days.

10.5.7 Test Records and Reports

After the completion of each phase of testing, the Proposer shall submit to the Commission for review and approval a Test Report that documents the results of the testing. The Test Report shall include the results of the test, any anomalies identified, and the corrective action and any re-tests necessary to successfully complete each testing phase. The Proposer shall be responsible for

completing all corrective actions identified on a timely basis. The Commission reserves the right to withhold Acceptance, pending completion of the required corrective actions.

Test report submittals shall be organized to include the following headings and information:

- ✓ Purpose / Introduction: Defines the scope of the submittal.
- ✓ Summary of the Test Results: Including measurements, results, problem areas, workarounds, troubleshooting, exceptions, etc.
- ✓ Open Items: Identify any open items requiring resolution. Include the corrective action to resolve the open items.
- ✓ Completed Test Records: Completed, signed, and dated test sheets, as well as a defect / problem report for each fault / problem found during the testing.

10.5.8 System Acceptance

The Commission shall issue a written notice of System Acceptance, upon satisfaction of the conditions listed in the Acceptance Test Plan and the 30-Day Rolling Operational Test. The occurrence of System Acceptance shall not relieve the Proposer of any of its continuing obligations under the Agreement.

10.6 Documentation

10.6.1 General Manual Requirements

All text and data in the quantities requested shall be printed on 8-1/2” x 11” sheets. Foldouts should not exceed 11” x 17”. Paper used in manuals shall be of a heavy weight, sufficient to withstand the rigors of a maintenance and operating environment. Manuals shall be housed in durable, three ring binders with sufficient excess capacity for revisions and additions.

Each manual shall contain a title sheet, table of contents, list of illustrations, list of reference drawings (if applicable) and a parts list (if applicable). All manuals with over twenty five pages shall have an index.

All manuals shall be produced in an approved Microsoft software product or approved equivalent. Acceptable softcopy formats are Microsoft Office 2003 Suite or higher. Soft copies of manuals may be provided in unsecured Portable Document Format (pdf).

The Proposer, as part of their response, shall provide samples / examples of their training and maintenance documentation, quick / reference guides, etc.

10.6.2 Maintenance Service Manual

The Proposer shall provide a Maintenance Service Manual for use by technical personnel

assigned to the maintenance of any component installed as parts of the System and for any third party products and / exercised options. Separate volumes shall be provided for vehicle on-board and fixed-end devices, such as CMS signs. This manual shall include but not be limited to the following sections: General description and system overview; theory of operation; Driver instructions; mechanical functions; removal, installation; test and troubleshooting procedures; preventive and corrective maintenance procedures and schedules; diagrams; schematics; layouts, and parts lists required to service each piece of hardware supplied under this Agreement. A list of all error codes with description of meaning and a step by step guide to troubleshooting shall be included in the troubleshooting section. Standard service manuals for commercial products used for the equipment will be acceptable if they contain sufficient information to service the equipment. Large-size logic diagrams and mechanical assembly diagrams do not have to be reduced or incorporated into the manuals if these drawings are provided with the manuals. Actual equipment maintenance images with call-outs needs to be provided where there is no other maintenance documentation.

Proposer will be responsible for maintenance and warranty support.

10.7 Design / Implementation

The Contractor is required to develop and maintain a detailed Project Schedule that incorporates the major milestones in the Scope of Work. The Proposer's sequencing of tasks should be flexible enough to accommodate modifications in scope or changes in the timelines such as early completions or delays that would normally be expected in a multi-stage deployment.

The Contractor shall submit an Implementation Plan for approval by the Commission that shall be the master document from which all elements of the System shall be installed. The Installation Plan shall include and define, at a minimum, the following items:

- ✓ The proposed installation schedule, detailing phases and / or installation segments. Once the baseline schedule is approved by the Commission, monthly updates identifying all schedule changes and work progress in the form of percentage completions shall be submitted to the Commission for review.
- ✓ The minimum resource allocation requirement for any installation phase or segment.
- ✓ How the Contractor will manage delivery and staging of the AVL and Passenger Information System equipment that is to be installed.
- ✓ The order in which equipment items are to be installed, with estimated durations.
- ✓ Any special or unique installation requirements.

10.7.1 Work Standards and Requirements

The Contractor shall provide project management and oversight of all work performed. The Contractor shall install the equipment to the highest standards, using experienced and knowledgeable personnel. All installation work shall be scheduled so as not to disrupt or delay Commission operations. The Contractor shall make every effort to schedule the work around peak times. In the event that extensive installation and testing work will be required, some work

may have to be accomplished during night hours.

All System equipment installations shall be performed to an approved set of plans, which has previously been submitted and approved by the Commission or their representative.

10.7.2 Commission Participation

The Commission intends to actively participate in this Project. This participation will include providing data required by the Proposer, reviewing and approving designs, monitoring the Proposer's progress and schedule, attending progress review meetings, and participating in system testing. Any portion of these activities may be handled by Commission / Operator staff or consultants as directed by the Commission. The Proposer's Project Plan shall identify clearly any Commission responsibilities or tasks that staff or its consultants will be required to perform and the durations for those activities.

10.7.3 Kick-Off Meeting

The Commission will hold a "kick-off" meeting with the Contractor within ten (10) days from the Notice to Proceed (NTP) at which time the Proposer shall be prepared to present and discuss the general Implementation Plan and receive comments from the Commission. Proposer shall ensure any sub-Proposers and their appropriate personnel are present at the meeting. The administrative and technical aspects, preliminary the Project Schedule, assumptions, etc., of the Project will be discussed at the kick-off meeting. Prior to the kick-off meeting, the Contractor will provide an agenda to all potential meeting participants.

The Proposer shall submit a Final Implementation Plan within ten (10) days from the kick-off meeting that explains its proposed methodology to completing the Project scope and its approach to work, design, implementation, testing, training documentation and on-going support. The Implementation Plan shall be in sufficient detail to demonstrate the Proposer's clear understanding of the Project.

10.7.4 System Design

The Contractor shall provide a preliminary and final design document for each fleet type and installation location. Similar sites may be covered by the same installation design if approved by the Commission. The Commission shall have the right to approve, disapprove, change, add or delete any items within installation designs before authorizing installation to commence.

The Contractor shall perform, document and submit for the Commission's approval, a pre-installation inspection and test of each installation site noting the existing condition of any structures, wiring, fixtures and finishes that may be affected by the installation both for the on-board technologies and for the Passenger Information System components.

The Contractor shall perform, document and submit for the Commission's approval, a post-installation inspection and test of each installation site noting the condition of the structures, wiring, fixtures and finishes.

The Contractor shall provide a Project Plan that incorporates an **Installation Plan, Training Plan and Test Plan**.

10.7.5 Preliminary Design Review

The Design Plan shall be submitted to the Commission as a Preliminary Design Review (PDR) package. The PDR package shall consist of individual submittals for each subsystem or discrete sections of a combined submittal containing all subsystems. The PDR package shall be submitted no later than 30 days after the NTP date.

The PDR package shall be organized to include the following headings and information:

- ✓ Purpose and Scope of the PDR package: A brief description and introduction of the package.
- ✓ Reference Material: List of relevant references and standards.
- ✓ Specification Compliance Matrix Table: Acknowledging and referencing the selected Proposer's conformance to each technical requirement clause of every subsystem Specification Section. The selected Proposer shall submit explanatory or mitigating evidence as well as alternative design recommendations for each clause that the proposed implementation is determined to be non-compliant or complies with exception.
- ✓ Subsystem Description: Subsystem description, interface information, all performance, functionality and operational description, etc.
- ✓ Interface Requirements: Proposer shall identify all required interfaces with other communications and non-communications subsystems.

10.7.6 Design Plan General Requirements

The Design Plan shall include all materials, equipment, assembly and installation required to carry out the work required to make the System suitable for the purpose for which it is intended, whether or not such materials, equipment, assembly and installation are specifically indicated in the minimum requirements of these specifications.

10.7.7 Design Documentation

Prior to installation, the Contractor shall submit "typical" installation drawings or shop drawings detailing the design that shall be used for on-board and fixed-end equipment installation work. Separate shop drawings shall be provided for each vehicle type / model, and for the fixed-end site work as applicable (such as for CMS sign installations). If measurements differ from vehicle to vehicle (or from site to site), these variations shall be noted. For the server equipment in Contractor's Host site, equipment / cabinet layout schematics shall be provided to the

Commission for reference. All documents should have updated and visible version and revision numbers.

10.7.8 Final Design Review

Toward the end of the design process, the Contractor shall arrange for a final design review meeting with the Commission that shall include an update of all of the design activity to date. All major sub-contractor and key personnel shall attend the meeting. Any unapproved modifications and implementation efforts conducted before the approval of the System Design Document will be at the Contractor's own risk.

- ✓ Final Design Review (FDR) package shall be one complete submittal sufficient to provide all the required details for overall system integration and operation. Design review requirements defined within the individual subsystem specification sections, shall be consolidated and submitted as a single package. The FDR package shall be submitted to the Commission no later than 60 days after the NTP date.
- ✓ The Final Design Review submittal package shall not be submitted until the Commission has approved all individual PDR submittals. The FDR Submittal Package shall be organized to include the following final design information:
  - ✓ Approved and updated versions of all previously submitted design review materials.
  - ✓ Updated product submittals for all, materials and components for which product submittals were not previously submitted and approved.
  - ✓ Complete Drawing index.
  - ✓ Complete list of items to be serialized.
  - ✓ Complete cable identification and equipment labels.
  - ✓ Complete wiring diagrams for all equipment to be installed, modified, upgraded, or interfaced to under this contract.
  - ✓ Top level mechanical drawings, if applicable.
  - ✓ Grounding details.
  - ✓ Power panel schedule and distribution.

10.7.9 Installation

The Contractor shall supply all personnel, tools, materials and equipment required to perform installation of the System. The Contractor is also responsible for procurement, installation, terminating and testing all equipment furnished for Project.

Where the Contractor is providing components manufactured by a third-party supplier, the Contractor shall ensure that all such components are installed in accordance with the original equipment manufacturers (OEM) installation guidelines. In addition, the Contractor shall arrange for OEM / supplier on-site and remote support as is necessary to ensure the proper operation of its equipment at no additional cost to the Commission.

All installations shall be performed outside of the operating hours or coordinated to limit impact to Operator operations. The exceptions are with prior agreement and on equipment that the Commission identifies as not in use. All installations shall be complete before the equipment is

needed by the Commission and all installations shall be performed in accordance to all Federal, State and Local laws and regulations. The Contractor is also responsible for restoring the condition of any affected structures, wiring, fixtures and finishes at the installation sites.

The installation work includes but is not limited to:

- ✓ Furnish and install all wiring and connectors for on-board and fixed-end equipment and connections to power and communications enclosures and external systems integration. This includes the proper termination of all power and communication cables and wiring (copper or fiber optic) to connect the individual components into a fully operational System that complies with applicable standards and specifications.
- ✓ Furnish and install all hardware, equipment, brackets, computer enclosures, pull boxes, junction boxes, conduits, power and communications infrastructure, and other such items as required to support System proper functioning.
- ✓ Furnish environmental control devices, such as Universal Power Supplies, as required.
- ✓ Furnish and install all electronics and other devices in their respective cabinets as required to provide a fully operational System.
- ✓ Furnish and install System equipment, including, but not limited to, GPS antennas and receivers, AVL components, communications devices, vehicle logic units, etc.
- ✓ As a Commission option, furnish and install Automated Passenger Counter (APC) equipment, as specified.
- ✓ As a Commission option, furnish and install Automated Voice Annunciation (AVA) System equipment, as specified.
- ✓ Furnish and install Mobile Data Terminals (MDT), in the quantity and configuration directed by the Commission.
- ✓ Furnish and install Passenger Information Displays, in the quantity and configuration directed by the Commission.
- ✓ Furnish and install Changeable Message Sign (CMS) System, with optional add-on audio equipment, solar electric power systems, and cellular communications equipment, in the quantity and configuration directed by the Commission.
- ✓ Validate all cable and wire terminations via a test process to ensure that the cable is connected to the correct location on each end and that the cable / wire are properly terminated.
- ✓ Test the full communications networks to validate proper functioning.
- ✓ Power up and provide a field check out / installation acceptance test of all Systems, to be witnessed and approved by the Commission. Track progress toward completion of all installation requirements using a “punch list”.
- ✓ Calibration and testing of the System, as further described in full accordance with OEM supplier guidelines.

10.7.9.1 Modern OEM Products

- ✓ The Contractor shall supply modern, unmodified, OEM products of computer and communication equipment required for its System.
- ✓ All OEM products utilized shall be from authorized distributors. Evidence that products were obtained by the selected Proposer from authorized distributors shall be provided to the Commission upon request.
- ✓ The equipment shall be delivered with the latest firmware, patches, and software updates available at the time of delivery.

10.7.9.2 Work Standards

The Contractor shall adhere to all applicable installation standards, laws, ordinances, and codes as required by the latest editions of the NEC, IEEE, OSHA, or other governing sources. All installations shall meet such requirements. The Contractor shall be responsible for all costs associated with any permits, plan reviews and inspections. It shall also be the Contractor's responsibility to procure all documentation required to install and adhere to the proper installation standards, laws, ordinances or codes.

10.7.9.3 Equipment Removal, Relocation and Restoration Plan

The Design Plan shall include a submittal detailing a plan for all the equipment and facilities requiring removal, restoration and /or relocation required under the resultant contract to include:

- ✓ All the items (by subsystem and location) requiring restoration, rebuild and / or upgrades to its original condition or better.
- ✓ All the items (by subsystem and location) requiring removal.
- ✓ All the items (by subsystem and location) requiring salvage and packaging to keep original condition or better.
- ✓ A plan for temporary relocation and offsite storage.

10.7.9.4 Equipment List

The Contractor shall submit a table / list of manufacturer, model and part numbers for all proposed equipment and materials to be used for individual subsystems. Include the expected lead-time for each item while identifying the ones with lead-times greater than 30 days. The list / table shall be grouped for each subsystem with functional descriptions of equipment or material included. Quantities and locations shall be included.

10.7 9.5 As-Built Documents

At the completion of installation, the Contractor shall provide an As-Built Document (ABD) to the Commission. The ABD shall include (1) an inventory of all components supplied including supplier, model number, serial number and installation location; (2) an inventory of all spare parts supplied including supplier, model number, serial number and storage location; (3) all reference and user manuals for system components supplied by third parties; (4) all warranties documentation; (5) a diagram indicating all interconnections between components; (6) the version number of all software; and (7) software installation media if solution is not centralized.

The ABD must be approved before the Commission will grant Final System Acceptance.

10.7.9.6 Bill of Materials (BOM)

The Proposer shall include the BOM in the proposal for all equipment and hardware supplied under the Agreement to meet the specifications of this Scope of Work. Each component shall also include the second source for manufacture. During the design phase the BOM shall be finalized and all changes there after shall be subject to approval of the Commission.

10.7.10 Obsolescence

All equipment shall be of the latest design and shall incorporate standard commercial products currently in production. It is desirable for the peripheral hardware to be supplied from the same manufacturer, and maintained by the Contractor. The intent is to increase compatibility and reduce maintainability problems. The Contractor shall offer an extended warranty and maintenance support for up to (5) years after Project Acceptance. The Contractor shall ensure that the risk of obsolescence to the hardware is minimized through the selection of standardized parts and readily-available peripheral hardware and cellular service agreements.

10.7.11 Environmental

All equipment and hardware to be supplied shall be constructed to meet the MIL 810 Standards for harsh operational conditions found in the transit environment. All Contractor-provided on-board and wayside equipment shall operate properly under these minimum environmental conditions encountered on-board the vehicles including conditions pertaining to temperature, humidity, dust / dirt, power variations, shock, vibration, altitude, and electro-magnetic or radio frequency interference (EMI / RFI). In addition to the climatic conditions, the equipment will also be subjected to harsh environmental factors normally found in the operation of a transit vehicle, transit maintenance yard, or route, including, but not limited to: car, truck and bus emissions; industrial exhausts; industrial cleaners; gasoline and car lubricants. All equipment housings shall be waterproof and dust-proof. The Contractor is responsible for ensuring that the proposed System works accurately and reliably in such an environment including providing the necessary equipment and climate controls to ensure proper functioning.

10.7.12 System Scalability

The System shall initially support the functions specified herein with the quantities of vehicles shown in Attachment M. However, the System shall be easily scalable through 5 years from contract effective date to support additional vehicles without replacement of initially installed components, including both hardware and software components.

10.8 Project Management

The Commission intends to actively participate in this project. This participation will include providing data required by the Proposer, reviewing and approving design documents, monitoring the Proposer's progress and schedule, attending progress review meetings, and participating in system testing. Any portion of these activities may be handled by Commission staff or consultants, as directed by the Commission. The Proposer’s activity schedule shall identify clearly any Commission responsibilities or tasks that Commission staff or its consultants will be required to perform and the durations for said activities.

10.8.1 Project Staffing

It is the Proposer's responsibility to maintain and assign a sufficient number of competent and qualified professionals and other technical personnel to satisfy the requirements and schedules specified in the Scope of Work or proposed by the Proposer.

10.8.2 Project Schedule

The Proposer shall prepare a project schedule in Microsoft Project format (Office 2003 or later release) that lists all tasks related to the design, development, testing, installation and deployment of the POC and subsequently, the complete System. The schedule should be in sufficient detail to demonstrate a clear understanding of the Project. It should identify all milestones starting with the Notice to Proceed through the date of Final System Acceptance. It should depict the expected sequence and durations of all tasks and subtasks, including submittal dates and resources responsible for each task. The project schedule will be reviewed by the Commission and if accepted shall be considered “baselined”. If revisions are requested, the Proposer shall address the Commission’s comments, and re-issue the schedule. Once baselined, the Schedule will become the basis for all subsequent schedule changes and updates for the duration of the Project.

10.8.3 Weekly Status Meetings

The Proposer's Project Manager shall attend regular progress meetings throughout the installation phases of the Project. Regular Progress Meetings shall initially be scheduled to occur weekly, but are expected to become less frequent as the Project progresses. The Proposer's Project Manager and any subcontractors shall ensure that the appropriate personnel are present at these meetings, who can represent the Proposer’s interests and provide the required Project status and information. The Proposer's Project Manager will prepare and distribute an agenda at least 24 hours prior to each meeting. The meeting agenda will consist of those items pertaining to the installation and schedule for the previous and current week’s installation efforts. All issues recorded during the installation activity for the prior week shall be discussed and any conflicts resolved. A “punch list” shall be maintained for any outstanding work items related to the Project installation, and the Proposer's Project Manager should be prepared to discuss the punch list at these meetings. The Proposer's Project Manager shall identify and communicate any issues regarding System installation and operation on a timely basis. The Progress Reports may be combined with the "punch list".

10.8.4 Monthly Status Reports

The Proposer shall submit with its monthly invoice a Project Status Report that includes a brief narrative highlighting the progress made during the prior month. The status report shall provide a listing of all deliverables that were completed during the reporting period, any problems or scheduling delays encountered, and shall include a ‘look ahead’ for work planned in the upcoming month. The percentage of work completed for each active work task shall be reported. In addition, the Proposer shall support supplemental reporting requirements of the

Federal Transit Administration.

10.8.5 Formal Correspondence

Neither party shall be entitled to rely on any information unless it is in writing and received from the other party's designated representative. Submittals may be transmitted as an enclosure to a transmittal letter or via email.

10.8.6 Punch List

The Proposer shall maintain a "punch list" for the Commission. The "punch list" shall have each action item numbered and indicating the date generated, item description, person assigned to item, date resolved and ongoing notes on resolution. The "punch list" shall be revised and resubmitted to the Commission on a weekly basis. The "punch list" may be combined with the monthly Progress Reports.

10.8.7 Deliverables

Draft copies of all documentation, plan, materials, etc., shall be submitted to the Commission for review, comment and approval, prior to final printing. The Commission shall have the right to require additional interim drafts at no additional cost should draft documentation submitted not be of adequate quality or have missing or incorrect information. Unless otherwise directed by the Commission, the Proposer shall supply a minimum of one (1) hard copy of final documentation for each deliverable with one copy on approved electronic media.

The Commission's written approval will be required for designated submittals. The Commission will approve or reject such submittals, providing an explanation of any reasons for rejection. Such approval or rejection will ordinarily be provided within 14 calendar days of the submittal unless prior to the expiration of the 14-day review period, The Commission will provide the Proposer with written notification (email is acceptable) that the review period for a particular submittal will be extended and stating the time in which it will be completed. In any instance where the Commission does not provide approval, rejection or written notification of an extended review period within the 14-day period, the submittal shall be deemed approved. In the event that the review period expires on a non-working day, the review period shall be extended through the next working day. The Commission's right to extend the review period is intended to allow flexibility in special circumstances where the nature of the submittal requires more involved review, and not as a diminution of the Commission's obligation to promptly review the Proposer's deliverables.

The Proposer shall deliver a draft and final version of the following documents as described in this RFP to the Commission:

- ✓ Implementation Plan
- ✓ Implementation Schedule

- ✓ Staffing Plan
- ✓ Asset List
- ✓ Design Document
- ✓ Test Plan / Procedures
- ✓ Training Plan / Materials
- ✓ Maintenance Manuals / Documentation
- ✓ Drivers Manual
- ✓ Dispatchers Manual
- ✓ As-Built Documents
- ✓ Functional (software usage) Documentation
- ✓ Quality Assurance Plan
- ✓ Final Acceptance Test Report

The Proposer shall provide and deliver the following documentation to the Commission:

- ✓ Monthly Progress Reports and Schedule Updates
- ✓ Meeting and Conference Call Minutes/Summaries
- ✓ "Punch List"
- ✓ Asset List

10.8.8 Asset Management

During installation, the Proposer shall maintain a list of all equipment and software installed at the Commission/Operator facilities. The list shall contain:

- ✓ Product description and manufacturer
- ✓ Quantity installed and quantity as spares
- ✓ Serial numbers, where available
- ✓ Installation or storage locations, including tracking of fleet vehicle number
- ✓ Status of equipment (e.g. installed, spare, awaiting repair, etc.)
- ✓ Item value if over $2,500.00
- ✓ Replacement status of each part and reason for replacement

The Proposer shall update the asset list whenever equipment or software is installed, replaced or removed. The updated list shall be provided to the Commission. At the completion of installation, the Asset List may be replaced by the As-Built Document.

10.8.9 Quality Assurance Plan

The Proposer shall provide a Quality Assurance / Quality Control Plan in accordance with the Federal Transit Administration Quality Assurance and Quality Control Guidelines.

All materials and equipment shall be new and not used and / or remanufactured in nature. The new materials / equipment shall not have had a shelf life or be of such age where it would adversely affect the performance of the equipment. Any retrofit or post-delivery change to one item of one type of equipment shall be made identically to all units.

All proposed equipment must be of the latest engineering change level available with modifications installed for all known operational problems. The Proposer shall retrofit all new problem solutions (i.e. engineering changes) to the installed equipment during the warranty period following the participating provider's approval.

The quality assurance process shall ensure adequate quality throughout all areas of the performance of this Project. The quality control process shall ensure accurate problem description and recording, assignment of personnel, tracking of progress for corrections / revisions, and disposition of the problem throughout the design, testing, and implementation phases of the Project.

The workmanship of the Proposer shall be of the best quality and to the highest standard of commercially acceptable practice for the class of work. On-board equipment shall be designed to provide a usable life of not less than ten (10) years.

The QA / QC Program shall provide for the prevention and ready detection of discrepancies and for timely and positive corrective action. The Proposer shall make objective evidence of quality conformance readily available to the Commission. The QA / QC Program shall include effective control of purchased materials and subcontracted work.

The Proposer shall maintain records or data essential to providing objective evidence of quality until the expiration of the guarantee / warranty period and they shall be made available to the Commission upon request. Examples of quality-related data include: inspection and test results, records of sub-contractor quality programs, cost records pertinent to acceptance of nonconforming material, support for change order documentation, design reviews and walkthroughs, and the results of internal and Proposer audits.

10.8.10 Invoicing

The Proposer shall submit invoices to the Commission according to the Fixed Price Payment Schedule. The payment schedule is based on milestones and deliverables. Each invoice shall be accompanied by a progress report, updated as of the date of the invoice, the current Implementation Plan and the current master "punch list".

10.8.11 Project Closeout

Project Completion shall be deemed to have occurred when all obligations under the Agreement have been successfully performed by the Proposer, all retentions owed to the Proposer have been released by the Commission, and, when the Commission has delivered a formal Notice of Project Completion. Following Project Closeout, the Warranty period(s) take effect.

10.9 Warranty / Maintenance

The Proposer agrees that the system and all related installation work shall be subject to the warranties and obligations set forth in this section. The warranties and obligations set forth in this Section shall commence upon system acceptance and end after the end-date of the Agreement, unless extended for a longer period. There are two general warranty periods:

- ✓ Two-year period following system acceptance, also referred to as Installation Warranty
- ✓ Three One-year periods, referred to as Extended Warranty

Fixed Pricing is requested for both the two-year period and for three annual extensions.

During the warranty period, the Proposer shall provide on-call support to assist the Commission in the maintenance of the System. This on-call support shall be provided on-site for hardware and software problems and operational troubleshooting, and over the phone such as to answer questions regarding missing or incorrect data.

All non-critical warranty work on defective or non-complying installation work, or system hardware, or any software defects or errors that cause the software to fail to conform to the requirements of these specifications shall be performed at no cost to the Commission within fifteen (15) days of being notified in writing by the Commission or its representative. Any defects that affect the critical functions of the operations shall be fixed within 48 hours.

The Proposer shall maintain adequate resources for replacement of all defective or noncompliant work or equipment, including test repair, warranty repair, spare modules, spare assemblies, spare components and spare parts in furtherance of the warranty requirements and maintain sufficient relationships with qualified local technicians.

The Commission will operate the System hardware and software in accordance with the Proposer's specific instructions in order to maintain all warranties. However, the Proposer shall hold the Commission harmless and Proposer shall be responsible for repairing any damage from the Commission's improper operation of any System hardware or software resulting from Proposer's failure to provide adequate or correct training and / or complete operating manuals, software manuals, electrical drawings, complete computer program documentation and other documentation required to be furnished as identified within these specifications.

The Proposer shall provide a **single point of contact** for all warranty administration during the warranty period.

10.9.1 Installation Warranty

The Proposer warrants that all installation work and all System hardware furnished by the Proposer including, but not limited to, all such work, and System hardware provided by sub-

contractors, suppliers, or other manufacturers, shall be of good quality and free of any defects or faulty materials and workmanship for the TWO-YEAR warranty period.

The Proposer shall also warrant that all installation work and system hardware shall perform according to the specifications for the two-year warranty period.

If the Proposer upgrades its devices to ensure the continued and proper operation of the System as configured for Project, the Proposer will assume all costs related to the hardware upgrade and there shall be no additional cost to the Commission.

10.9.2 Extended Service / Warranty Period

The Commission requests that the Proposer propose an extended service / maintenance agreement beyond the initial two-year period for a minimum period of an additional three years, priced annually. The Proposer shall define all terms, conditions, and costs of the extended service / maintenance agreement in its Cost Proposal. Proposers should include their annual software and hardware service / maintenance escalation percentages.

10.9.3 Availability and Mean-Time-Between-Failure (MTBF) Targets

All functions of the System, including those of the cellular communications network shall be designed, constructed, and implemented to perform as specified, without degradation in response times to meet the System availability targets provided below. The failure of any single component or device shall not render the System unavailable.

Availability Targets

System or Subsystem	Availability Target (%)
Vehicle On-Board Systems	98.0%
Hosted System	99.9%
Passenger Information Systems (e.g., CMS, Apps, and Web)	99.5%
Customer Website	99.8%

Availability for each of the above systems shall be calculated as follows:

$$\text{Availability} = 100\% \frac{\text{Total number of hours of downtime in time period}}{\text{Total hours in time period}}$$

For availability calculation purposes, a vehicle with a failure of Proposer provided equipment will be considered unavailable from the time the failure is noted until the vehicle returns to the yard at the end of that vehicle's service day. An exception to this will be allowed in cases where the failure is intermittent and the failing operation is successfully performed in no more than two retries.

10.9.4 Chargeable and Non-Chargeable Failures

For purposes of calculating MTBF and Availability performance targets, chargeable and non-chargeable failures are defined as follows:

Chargeable Failures
Chargeable failures include any failures that are not specifically identified as non-chargeable, including but not limited to:

- ✓ A malfunction which prevents any System component (hardware or software) from performing its designated function, when used and operated under its intended operational and environmental conditions.
- ✓ A malfunction that poses a threat to the safety of the System components, passengers, Drivers, Operator staff or others.
- ✓ An occurrence where data is not successfully transmitted between vehicle on-board systems and the servers, or between fixed-end devices (e.g., CMS signs) and the servers.
- ✓ Software anomalies and bugs that affect the performance and operation of the System.
- ✓ Shutdown or unavailability of the System unless specifically directed by the Commission.
- ✓ Failure to send and receive required Passenger Information data, such as bus arrival and departure data.
- ✓ Failure to generate the reports required to reconcile and track System performance.

Non-Chargeable Failures
Non chargeable failures shall include:

- ✓ Force majeure
- ✓ Vandalism
- ✓ Failure of test instrumentation.
- ✓ Failures that are patron or Commission induced.
- ✓ System component failures caused by externally applied stress conditions outside of the requirements of this RFP.
- ✓ System component failures caused by environmental or operating conditions outside of the requirements of this RFP.
- ✓ Normal operating adjustments as allowed in the Test Procedure or Maintenance Plan.
- ✓ Failures of expendable and consumable items in operation beyond their intended useful life in testing.

10.9.5 Diagnostics

Maintenance personnel shall have easy access to components, and removal, testing and replacement shall not require extensive effort or tools. All test points necessary to diagnose the equipment while in operation shall be easily accessible and LED indicators shall be provided to assist technicians to identify and diagnose problems. Maintenance technicians shall have the ability to connect a laptop or terminal and keyboard to troubleshoot the components.

10.9.6 Maintainability

The System hardware shall be designed with the following specifications:

- ✓ Modular replaceable and repairable components to allow for easy and quick maintenance.
- ✓ All components that perform the same function shall be interchangeable.
- ✓ There shall be a second source for manufacture for all parts and it shall be identified in the Bill of Materials. All exceptions shall be noted and approved by the Commission.
- ✓ All replacements shall be plug-in compatible with no changes required. All exceptions shall be noted.

10.9.7 Repair and Replacement of Faulty Components

During the warranty period, the Proposer shall repair or replace any faulty components. In the event that faulty components are replaced from the spares inventory by Operator staff, the Proposer shall repair or replace the faulty component. Each faulty component will be shipped to the Proposer, who shall return a new or repaired component within two weeks of originally receiving it.

If the Proposer determines a returned component is not faulty, the Commission must receive the original component back in working order within three days of the Proposer originally receiving the returned component.

All components received back from the Proposer will be tested by the Commission in accordance with the original Acceptance Test Procedures, and returned to the Proposer if faulty. The Proposer shall pay all shipping charges and any duties associated with the repair or replacement of faulty units. Returned or replaced spare components shall be packaged, organized, bar coded and labeled in the same manner as the original supply of spare components.

The Proposer warrants that all equipment furnished is guaranteed to be free from fleet and related defects for the warranty period. A fleet defect is defined as the failure of twenty-five (25) or more percent identical items covered by the warranty period. The Asset List shall be used to track the replacement of defective parts.

System-wide replacement shall require the Proposer to replace all units of the suspect component throughout the System, whether or not they have exhibited any fault.

The Proposer shall be obligated to complete the System wide replacement if the need was documented before the end of the warranty period, even if the replacement extends beyond the end of the warranty period.

10.9.8 On-Call Support

The Proposer shall provide Commission staff and its agents with access to knowledgeable technical support personnel and trained field service personnel as may be required for the successful maintenance and operation of the System. Support personnel shall be available to assist the Commission to diagnose System problems, monitor vehicle on-board units, fixed-end devices, and Host server performance and availability levels; and troubleshoot hardware and

software errors in a timely manner. The terms of the Technical Support agreement shall be specified in the Service Level Agreement that should accompany the contract, including expected levels of effort, hours, and costs for maintenance support.

10.9.9 Local and Escalated Support

The Proposer shall provide for local support from one or more qualified firms to be available when needed by the Commission to assist with fault diagnosis or component replacement. The proposal must include a list of the local support firms, their support responsibilities and the response arrangements and DBE status.

If a local support firm does not respond within the agreed response timeframe for critical or non-critical support, or when a local support firm is not able to provide the needed support, the Proposer shall provide supplementary support in accordance with an agreed escalation procedure. The escalation procedure can initially involve telephone support, but must include the Proposer providing on-site support if needed. The proposal must define the proposed support escalation procedure.

10.10 Spare Components

The Proposer shall provide an initial supply of spare fleet components to the Operators. The initial supplied quantity of spares for each component shall be at least 10% or one (1), whichever is greater. The availability of spare components by the Operators does not relieve the Proposer from its responsibility for on-site fault diagnosis, and component replacement by Proposer technicians.

The proposal shall include a list of the spare components provided in the Asset List and As-Built Document. On-board and spare components should be bar coded to aid in inventory control and materials management.

At any time during the warranty period, the Commission shall have the option to purchase additional spare components at the “Agreement” price for two years after Final System Acceptance. These additional spare components shall be packaged, organized bar coded and labeled in the same manner as the original supply of spare components. These additional spare components will carry the same warranties as offered for the overall system, for two years beginning from the date of Final Acceptance of the spare components by the Commission.

The Proposer shall also provide a second source for manufacture of all parts and spare equipment. It is also desirable that Proposer furnish a list of other client properties using the installed System where hardware part exchanges may be feasible and Proposer should specify which identical hardware the reference properties utilize. The initial spare parts inventory shall be made available to the Commission’s maintenance staff upon acceptance of the implementations.

10.11 Schedule Requirements

The Proposer shall complete installation and acceptance testing and fully invoice the Commission for its services by the end of 2017.

APPENDIX

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Required Submittals (RFP Checklist)

All of the below referenced documents are required as part of your proposal submittal and any required forms and/or certifications **shall be signed** by an individual or individuals authorized to execute legal documents on behalf of the proposer. Proposers are instructed to include a copy of this RFP Checklist with their proposal submission indicating compliance for each item marked by a checked box. Wherever the word "Consultant" appears in the attachments, it should be read as the equivalent to the word "Contractor." Wherever the words "bid" or "bidder" appear in the attachments, they should be read as the equivalent to the words "proposal" or "Proposer."

- ☐ Seven (7) hard copies of the proposal, including one (1) signed original
- ☐ One (1) CD-ROM or USB flash drive containing a soft copy of the written proposal in its entirety, in Adobe Acrobat (PDF) format
- ☐ Acknowledgement of Receipt Form
- ☐ Table of Compliance
- ☐ Price Summary Forms, Including Optional Technologies Price Forms
- ☐ Milestone Payment Schedule
- ☐ Certification of Restriction on Lobbying
- ☐ Disadvantaged Business Enterprise
- ☐ Certification of Primary Participant Regarding Debarment, Suspension, and Other Responsibility Matters
- ☐ Mail-In Reference Questionnaire
- ☐ Bid Form

Attachment A - Acknowledgement of Receipt Form

In acknowledgement of receipt of this Request for Proposal: 17-90164-AVL, "AVL / Passenger Information System," the undersigned agrees that he / she has received:

☐ Complete copy of the Request for Proposal beginning with the Title Page and ending with page 241.

☐ Addendum No:

☐ Addendum No:

☐ Addendum No:

(Bidders are to modify this sheet and Insert Additional Addenda references as necessary)

The acknowledgement of receipt should be filled out completely and submitted to the Ventura County Transportation Commission's Maintenance Manager prior to the bid deadline (date and time). It is ultimately your responsibility to check and acknowledge all amendments and addendums.

FIRM:					
REPRESENTATIVE:					
TITLE:		PHONE NO:			
E-MAIL:		FAX NO:			
ADDRESS:					
CITY:		STATE:		ZIP CODE:	
SIGNATURE:			DATE:		

This name and address will be used for all correspondence related to the Request for Proposal.

Firm **does / does not** (circle one) intend to respond to the Request for Proposal.

Attachment B - Table of Compliance

	Request for Proposals	Your Proposal	If your proposal does not fully comply, where in your proposal is this explained?
	Requirement (see corresponding RFP section for full requirement description)	**Mark "F" for fully Comply, "P" for Partially Comply or N for "Do Not Comply"**	
8.0	**Functional Requirements**		
	As Specified.		
8.1	**General Requirements**		
	As Specified.		
	✓ All equipment will be new and meet or exceed applicable ISO, IEEE and ANSI standards.		
8.2	**Automated Vehicle Location (AVL)**		
	✓ AVL tracking accuracy shall be 30 feet or less.		
	✓ Vehicle movements on AVL maps and displays shall be based on actual vehicle location reports and shall not be simulated.		
8.2.1.	**GPS Antenna**		
	✓ Combine existing and Proposer's GPS antenna.		
	✓ The MDT shall integrate with the GPS receiver, mobile data communications radio modem, bulk data transfer system interface, covert alarm switch, covert microphone, voice radio and an SAE J-1708 or J-1939 interface to support integration with other future in-vehicle technologies.		
	✓ GPS receivers shall report latitude, longitude, speed, time, direction of travel and whether the GPS position is classified as "good" given the current Horizontal Dilution of Precision (HDOP).		

	Request for Proposals	Your Proposal	If your proposal does not fully comply, where in your proposal is this explained?
	Requirement (see corresponding RFP section for full requirement description)	**Mark "F" for fully Comply, "P" for Partially Comply or N for "Do Not Comply"**	
	✓ The GPS receivers shall be parallel tracking receivers, capable of simultaneously tracking at least four GPS satellites in the best available geometry, while also serially tracking the four next best satellites and upcoming (rising) satellites.		
	✓ Onboard GPS receivers must be capable of providing position accuracy within 10 feet at least 95 percent of the time.		
	✓ The GPS receiver shall have a cold start solution time of two minutes or less and a re-acquisition time of 15 seconds or less.		
	✓ The GPS equipment shall include multi-path rejection capabilities to help eliminate spurious signals caused by reflections off of buildings or other structures.		
	✓ Velocity measurements provided by the GPS equipment shall be accurate to within 0.3 feet per second.		
	✓ If the GPS antenna is not contained in the MDT, the GPS antenna shall be a low-profile unit housed in a rugged and weather tight enclosure. The GPS antenna shall be securely mounted on the exterior of the vehicle, clear of obstructions and interference-generating devices. GPS antenna location shall be determined in collaboration with Commission staff.		
	✓ If the GPS antenna is not contained in the MDT, the antenna, mounting and sealants shall provide protection from the environment, including moisture, snow, heat (20^{o} F to $+115^{o}$ F), wind, debris, etc.		
	✓ The GPS receivers shall be capable of integrating with on board		

	Request for Proposals	Your Proposal	If your proposal does not fully comply, where in your proposal is this explained?
	Requirement (see corresponding RFP section for full requirement description)	**Mark "F" for fully Comply, "P" for Partially Comply or N for "Do Not Comply"**	
	systems to report required information electronically.		
8.2.1.1	**Vehicle Location Reporting**		
	✓ Reporting of vehicle locations based upon on-board Global Positioning System (GPS) equipment shall be provided by the System. In addition, any data sources used to back up the GPS equipment when the GPS signal cannot be received shall also be supported.		
	✓ Location data shall always be reported as part of all data messages.		
	✓ Regardless of the reporting scheme used, vehicles shall report their location at least once every 30 seconds or at a rate designated by the System Administrator within the range of 5 through 30 seconds. After the initial transmission of an Emergency Alarm, vehicles in an Emergency Alarm state shall report their location at a rapid polling interval designated by the System Administrator with the range of 5 through 30 seconds.		
	✓ There will likely be locations of momentary GPS signal blockage and / or distortion, such as in a downtown area. Accordingly, the selected Proposer shall investigate to become aware of the GPS satellite coverage throughout the Commission's service area.		
	✓ In the event of loss of GPS derived vehicle position information, vehicle location shall be determined with dead reckoning techniques utilizing the existing vehicle odometer or other means and technologies which provide position accuracy equivalent to		

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	Requirement (see corresponding RFP section for full requirement description)	**Mark "F" for fully Comply, "P" for Partially Comply or N for "Do Not Comply"**	
	GPS tracking.		
	✓ When dead reckoning is utilized an event shall be recorded.		
8.2.1.2	**Handling Communication Exceptions**		
	As Specified		
8.2.2	**Vehicle Logic Unit**		
	✓ The System shall include a single Vehicle Logic Unit (VLU) central processing device and data storage device installed onboard for all vehicles and powered by the vehicle's electrical system.		
	✓ The VLU shall be AVA, APC, Farebox, Headsign, etc., ready.		
	✓ The System shall begin gathering AVL location data when the ignition is turned on and continue reporting until the ignition is turned off (based on a programmable time period, i.e., 30 minutes, etc.)		
	✓ The VLU shall integrate with the onboard equipment on each vehicle that provides route / destination announcements and vehicle informational signs with both audible and textual messages, fare collection and automated passenger counting (if installed). Where alternate efficiencies can reduce cost and improve reliability, alternate solutions shall be proposed.		
	✓ The VLU shall interface to capture, record, and transmit vehicle Automated Passenger Counter (APC) data, and Passenger fare payment information/data if installed.		
	✓ A Global Positioning System (GPS) receiver shall be integrated into the VLU used to provide time and location data for AVL functions..		

	Request for Proposals	Your Proposal	If your proposal does not fully comply, where in your proposal is this explained?
	Requirement (see corresponding RFP section for full requirement description)	**Mark "F" for fully Comply, "P" for Partially Comply or N for "Do Not Comply"**	
	✓ The VLU shall provide the interface / transmission of data to and from all subsystems such as passenger informational sign content, public address, passenger counter data, and farebox systems.		
	✓ The VLU shall meet environmental and vibration standards as defined by MIL-STD-810F and SAE J1455-06.		
	✓ The VLU shall meet electromagnetic immunity standards of SAE J1113 / 13 and protect against surge, and reverse polarity.		
	✓ The VLU shall be capable of real time updates to and from the vehicle.		
	✓ Provide GTFS-Realtime feed(s) for live Trip, Service and Vehicle Position updates to Google and applicable third party software		
	✓ Provided interfaces shall include USB, RS232, RS485, J1708, J1939, Ethernet, discrete inputs and outputs, odometer, spare I/O pins, audio inputs and outputs.		
	✓ The VLU shall allow for future expansion and interoperability with add on modems to include USB interfaces.		
	✓ Allow for easy access to System setup and configuration both remotely and onboard through non-proprietary interfaces such as RDP and USB. On-board access should be in the same location on every bus for standardization of configuration or locations documented for Commission staff.		
	✓ Data storage capacity shall be sufficient to store the complete current and pending route schedules, announcement files, and event messages.		

	Request for Proposals	Your Proposal	If your proposal does not fully comply, where in your proposal is this explained?
	Requirement (see corresponding RFP section for full requirement description)	**Mark "F" for fully Comply, "P" for Partially Comply or N for "Do Not Comply"**	
	✓ System configuration settings related specifically to a vehicle shall be stored in a vehicle configuration module such that the VLU unit can be swapped out and vehicle information not lost.		
8.2.3	**Map Requirements**		
	✓ Maps shall cover all areas of Ventura County, southern Santa Barbara and northwestern Los Angeles counties.		
	✓ Proposer is responsible for import and initialization of maps.		
	✓ All functions necessary for successfully incorporating map data shall be provided as part of System.		
	✓ The displayed map shall be capable of supporting a variety of map attributes that shall include, but not be limited to, all streets, highways, prominent geographical features (e.g., rivers, major bodies of water, mountains), important landmarks (bridges, airports, transit centers, Vehicle Maintenance Facilities, important buildings, etc.), routes, bus stops, time points, and transfer points. The major bodies of water shall be displayed as areas of solid blue or cyan on the geographical map display.		
	✓ The System shall include mechanisms to allow for periodic independent updates by the Commission to built-in maps in the software and on-board systems.		
	✓ Selective updates of the base map and to any selected overlays shall be possible without re-importing the entire map and all overlays and without loss of prior map.		
	✓ Where minor data entries are required, such entries, and		

	Request for Proposals	Your Proposal	If your proposal does not fully comply, where in your proposal is this explained?
	Requirement (see corresponding RFP section for full requirement description)	**Mark "F" for fully Comply, "P" for Partially Comply or N for "Do Not Comply"**	
	corrections shall be stored (e.g., as a script) for reapplication in subsequent imports.		
	✓ The Proposer shall provide the GIS editing license (if necessary) for any built-in maps as part of the proposed solution for maintenance of AVL maps.		
	✓ GIS functionality shall include the ability to define service-based zones (e.g., Americans with Disabilities Act (ADA) complementary demand response service area, fare zones).		
	✓ The System shall have full geocoding capability, allowing the System to locate the address on the map when an address is entered.		
	✓ The street segments database shall be sufficiently complete to assure a geocoding success rate of 90 percent or better.		
	✓ The Commission shall be able to develop additional overlay map layers that can include polygons (e.g., municipal boundaries, fare zones), lines (e.g., route traces) and points (e.g., landmarks, transfer locations, time points, stops), with the color, shape and thickness being selectable.		
	✓ The System shall allow the user to calculate the distance along a line drawn on the map as a sequence of straight lines between points (e.g. the distance of a route trace).		
	✓ The System shall allow Commission users to save and reload a map view in the AVL window.		
	✓ The System shall be capable of defining an unlimited number of		

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	Requirement (see corresponding RFP section for full requirement description)	**Mark "F" for fully Comply, "P" for Partially Comply or N for "Do Not Comply"**	
	bus stops and nodes.		
	✓ The System shall permit the user to define bus stops using a variety of methods, including direct entry of GPS determined coordinates, and setting the stop location with a mouse click.		
	✓ The System shall accurately align vehicle locations with the streets and routes on which the vehicles are operating. There shall be no visible offsetting of vehicle positions from the displayed streets and routes.		
	✓ The System shall be capable of allowing stops to be properly positioned at intersections.		
	✓ The System shall be capable of allowing the user to assign stop amenities (*e.g.*, bench, shelter, etc.) to each stop and other supplemental data.		
	✓ The System shall also have the ability to import stop data from an external system in Excel or comma separated value (CSV) file format.		
	✓ The System shall also have the ability to import stop data from INIT (GOLD COAST OPTIONAL ITEM)		
	✓ The System shall allow any number of trip patterns to be defined as distinct bus stop sequences, including the designation of selected stops in each trip pattern as schedule time points and whether a trip pattern is inbound or outbound.		
	✓ The System shall be capable of generating a list of turning movements for an entire trip pattern.		

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	Requirement (see corresponding RFP section for full requirement description)	**Mark "F" for fully Comply, "P" for Partially Comply or N for "Do Not Comply"**	
	✓ The System shall allow routes to be defined as a sequence of trips using selected trip patterns during defined time periods.		
	✓ The System shall display route traces.		
	✓ Display vehicle Estimated Time of Arrival (ETA) at a specified destination location as part of the vehicle label. Vehicle ETA shall be available for next bus arrival signs, SMS text, website, web enabled smart devices (phones/tablets) and iOS and Android apps.		
	✓ Position deviation of a fixed route vehicle from on-route, on-time position as determined by vehicle on-board position measurements shall initiate a System event and shall automatically increase the vehicle polling rate to a rapid rate selectable by the System Administrator within a range of 15 to 30 seconds.		
	✓ The System shall be able to display fixed routes, and clearly mark each route when more than one travels on the same street segments.		
	✓ The locations of all AVL-equipped vehicles shall be indicated by special symbols that are overlaid on the geographical map display. A vehicle identifier shall be displayed adjacent to, or within each vehicle symbol. These vehicle identifiers shall uniquely identify each vehicle by their Operator name, vehicle number, fixed-route block number, or driver number.		
	✓ When multiple vehicles are located too close together to be displayed without overlapping at the selected zoom level, the System shall provide a means for the user to see the individual		

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	vehicle identities for the overlapped vehicles.		
	✓ Vehicles reporting an Emergency Alarm shall always be visible on the geographical map display regardless of the user's current filtering criteria and data partition assignments.		
	✓ The System shall be capable of printing maps to peripheral devices (e.g., printers, plotters) directly attached to the workstation or available over a Local Area Network (LAN) or Virtual Private Network (VPN).		
8.2.4	**Mobile Data Terminal (MDT)**		
	✓ MDT shall be ruggedized, designed for transit.		
	✓ The MDT shall integrate with the GPS receiver, mobile data communications radio modem, bulk data transfer system interface, covert alarm switch, covert microphone, voice radio and an SAE J-1708 or J-1939 interface to support integration with other future in-vehicle technologies.		
	✓ The MDT and AVL system shall automatically engage when the vehicle is started, and shut down a programmable amount of time after the vehicle is turned off.		
	✓ The MDT shall store the most recent location received from the GPS receiver, so that if the GPS receiver is not able to report the location the "last known good" location will remain available.		
	✓ Electrical power for MDTs and all other on-board components shall be drawn from vehicle unconditioned nominal 12V DC power supply. All data inputs and outputs shall be designed to absorb "routine"		

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	intermittent low voltage, over-voltage and reverse polarity conditions, and to use inexpensive and easily replaceable components to open circuits in the event of "extraordinary" conditions (e.g., through the use of fuses, transorbs, optical isolation).		
	✓ The Proposer shall include a solution that facilitates a "Single Log-on", whereby an input device serves as the primary Operator interface and eliminates the need to log on to disperse systems.		
	✓ The MDT shall incorporate a color graphical screen capable of displaying fonts of variable size and can change colors between day and night or has automatic brightness controls.		
	✓ The MDT shall be equipped with appropriate functional buttons capable of controlling other onboard systems (e.g. fare boxes, head signs, card readers) and will include a numeric keypad.		
	✓ The MDT display shall be readable by the Operator from the seated position under the full range of ambient illumination conditions, through the incorporation of such measures as driver-operated brightness / contrast control, anti-glare coating and adjustable orientation mounting.		
	✓ MDT application software shall be operated using either at least eight programmable function keys or touch screen programmable buttons.	Jeff	
	✓ The MDT shall be capable of providing unique audio tones to alert the Operator of incoming messages.		
	✓ The MDT shall be capable of, but not limited to, displaying the		

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	Requirement (see corresponding RFP section for full requirement description)	**Mark "F" for fully Comply, "P" for Partially Comply or N for "Do Not Comply"**	
	following onboard information and interface to onboard systems during operation of the vehicle: ✓ Logon ✓ Emergency Alarm ✓ Data Messaging ✓ Transfer Notification ✓ Schedule Adherence ✓ Head Sign Control ✓ Farebox Control ✓ Maintenance ✓ Stop Announcement ✓ Trip / Schedule Display Control ✓ Route Guidance		
	✓ MDTs and all other on-board components shall be designed to operate within the following environmental specifications:		
	✓ Ambient humidity from 5% to 80%, non-condensing.		
	✓ Temperatures from 20^{o} F to +120^{o} F.		
	✓ Vibration and shock forces associated with transit vehicles.		
	✓ MDTs and all other on-board components shall be shielded to avoid radiating electromagnetic interference.		
	✓ MDTs and all other on-board components shall be housed in enclosures which cannot be opened with standard hand tools.		
	✓ All Operator actions performed via the MDT that are processed entirely by the System on-board equipment shall be completed in		

	Request for Proposals	Your Proposal	If your proposal does not fully comply, where in your proposal is this explained?
	Requirement (see corresponding RFP section for full requirement description)	**Mark "F" for fully Comply, "P" for Partially Comply or N for "Do Not Comply"**	
	three seconds.		
	✓ The System shall support en-route changes of the assigned Operators for cases such as mechanical breakdowns and Operator substitutions.		
	✓ The System shall collect lift / ramp data indicating when the lift / ramp on a vehicle is raised and lowered. The data collected shall enable generation of statistics for lift / ramp usage by location and the time it takes to board / de-board passengers using the lift / ramp.		
	✓ The System shall provide for automatic control of all destination signs in fixed route vehicles. The destination signs shall be automatically updated by the System at Operator logon and at predefined points along each route (e.g., at the end of a trip). The points at which destination sign messages shall be automatically changed shall be definable by the System Administrator.		
	✓ The MDT shall not be usable by the Operator when the vehicle is in motion above 5 MPH and above.		
	✓ The MDC shall be equipped with a navigation assistance element that allows Operators to visually see a route on a map for fixed route vehicles (detours, training, etc.).		
8.2.5	**Covert Emergency Alarm (Silent Alarm)**		
	✓ The Proposer shall provide a Covert Emergency Alarm (CEA) with a hidden microphone which will activate a silent alarm when an Operator presses an existing button located in an inconspicuous		

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	location of the Operator's area.		
	✓ The CEA shall be a recessed push button located on the Operator's left side instrument panel.		
	✓ Emergency Alarms shall have the highest priority of all data messages.		
	✓ A CEA event indication shall not be noticeable to passengers on any vehicle.		
	✓ When Dispatch receives a CEA the following events shall occur, in sequence: ✓ An audio alarm shall be triggered and a visual alarm shall be displayed in a separate window on the AVL of each Dispatcher ✓ When a Dispatcher responds to the Emergency Alarm, an incident report shall be generated. ✓ An Emergency Alarm acknowledgment message shall be sent to the vehicle. ✓ The Dispatcher shall have the ability to listen in on the vehicle audio. ✓ Receive audio on the vehicle shall be silenced.		
	✓ The Dispatcher shall have the ability to downgrade an Emergency Alarm if conditions warrant.		
8.2.6	**Real-Time Monitor (RTM) Editor**		
	✓ Configure vehicle attributes such as restricting displayed vehicles by route (for public-facing information displays)		
	✓ Create and edit stops and routes with ease using drawing tools		

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	such as polygons, lines, and points		
	✓ Annotate vehicle, route, stop, and landmark information		
	✓ Configure scheduled arrival and departure times for vehicle schedule adherence tracking		
	✓ Import existing route schedule parameters from GTFS data.		
	✓ Import existing route schedule parameters from INIT's scheduling application.		
	✓ Customize map appearance, color scheme, and image editor		
	✓ Adjust map extent and frame and support for zoom and pan functions		
	✓ Support for copy, paste, and screen capture functions		
8.3	**Computer Aided Dispatch (CAD)**		
8.3.1	**General Requirements**		
	✓ Dispatchers shall be able to zoom in to a map level that allows at least four vehicles lined-up within a 200-foot distance to be clearly distinguished, without overlap of the vehicle symbols. The map textual information such as street names, vehicle identities, route names, and landmark names displayed at the various zoom levels shall be clearly readable. Route and street names shall be repeated along lengthy routes and streets.		
	✓ Vehicle status information conveyed to the Dispatchers shall include, but not be limited to, the following attributes: ✓ Schedule status (early, on-schedule, or late) ✓ Silent Emergency Alarm conditions		

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	✓ Route status (on or off-route) ✓ Type of vehicle (fixed route, supervisor, or other non-revenue, if AVL equipped) ✓ Non-scheduled - logged on (e.g., fill-in, trip, special event vehicles) ✓ Not logged on ✓ Vehicle Operator name ✓ Direction of travel ✓ Estimated time of arrival calculated by the System for a selected vehicle at a selected destination		
	✓ Dispatchers shall be able to quickly and easily configure their map view to show only the attributes that are desired		
	✓ The Dispatcher shall be able to manually turn on or off the available layers of the map		
	✓ A Dispatcher shall be able to restrict the display of AVL-equipped vehicles on the geographical map to any combination of the following criteria: ✓ All bus vehicles on all routes ✓ Buses on selected routes ✓ A single bus vehicle		
	✓ Provide Dispatchers with the capability to filter within the queues to tailor information as operationally required by each Dispatcher.		
	✓ Provide Dispatchers with schedule information by block and / or run including real time status.		

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	✓ Provide Dispatchers with pull-in and pull-out status from Garages and lunch/layover locations including alarms for late and missed pull-ins and pull-outs.		
	✓ Provide Dispatchers with roster information for logging in / out Operators and changing assignments.		
	✓ Provide capability for Dispatchers to log in Operators with selectable requirement for Operator acknowledgement.		
	✓ Provide Dispatchers with maintenance information of real time vehicle monitoring status including query capability for vehicle historical status (if option exercised).		
	✓ Provide Dispatchers capability to perform service adjustments for individual time points and stops.		
	✓ Allow Dispatchers capability to add new services (i.e., overloads).		
	✓ Allow Dispatchers to temporarily change times within a schedule (i.e., offsets, detours, etc.).		
	✓ Provide Dispatchers capability to cancel an entire block of service.		
	✓ Provide Dispatchers with communication history for reviewing most recent data communications with ability to create incident reports from the history list.		
	✓ Allow Dispatchers to review Operator generated transfers and cancel transfer requests.		
	✓ Capability for Dispatchers to intervene in the transfer process when operationally required.		
8.3.2	**Vehicle Status**		

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	✓ Logon to indicate the start of a shift. The logon process shall allow the Dispatcher to use the System to indicate the time and identify the Driver.		
	✓ Accept base schedules for routes, runs, and Drivers.		
	✓ See Operators assignments to routes and runs.		
	✓ Display current bus status for all buses, and highlight those buses reporting some irregular status (e.g. ahead of schedule, behind schedule, off-route).		
	✓ Hear distinct audible alarm and / or see flashing on-screen icon if status received from bus is one of a set defined as disabling or emergency (e.g. covert alarm).		
	✓ Add buses to and delete buses from service.		
	✓ Deploy route detours (sending predefined detours as text messages through the bus MDT).		
	✓ Playback a sequence for a specified vehicle on a specified route at a specified time, in chronological order and review the path of the vehicle and its time at each reported location on its run. The Dispatcher shall be able to control the speed of playback.		
8.3.3	**Daily Schedule Selection**		
	✓ The schedule of trips for each service day shall be automatically selected by the System based upon the date, day of the week, and any special schedules applicable to particular days. In general, schedules include weekday, Saturday, and Sunday schedules. In addition, special (exception) schedules are generated for school		

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	closures and early-outs, special events, and holidays. Holidays and other special dates may be defined by the Operators in real-time.		
8.3.4	**Service Performance**		
	✓ The System shall monitor off route status – for each vehicle off route, the distance off route, the time that the vehicle went off route and the next scheduled time point shall be displayed		
	✓ The System shall monitor off schedule status – for each vehicle that is off schedule, the schedule deviation and the next scheduled time point shall be displayed		
	✓ The System shall monitor late pull outs – for each block with a late pull out, the scheduled pull out time, and the associated vehicle status, if logged in, shall be displayed		
	✓ The System shall monitor late pull ins – for each block that is late pulling in, the scheduled pull in time, and the associated vehicle status, if logged in, shall be displayed		
	✓ The System shall accurately monitor the schedule adherence of all fixed route revenue vehicles that are operating on defined schedules. Fill-in vehicles (extra vehicles placed on a route) and special event / service vehicles that are without defined schedules shall not be monitored for schedule adherence.		
	✓ Schedule adherence shall be calculated at each defined time point and accurately estimated between defined time points. The time delay between the receipt of a vehicle's position and the availability of the calculated / estimated schedule adherence status shall not		

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	exceed five seconds. Schedule deviations beyond pre-defined, System Administrator-adjustable thresholds shall produce an event.		
	✓ Schedule adherence to defined time points (i.e., those in official published schedules) shall be based on the scheduled departure time at each time point, with the exception of those specific stops that have both arrival and departure times (e.g., layovers) and the end of a trip. The number of time points shall range from 2 to 100 time points per route per direction. Time point departures shall be determined by the System to an accuracy of ± 5 seconds, regardless of whether the vehicle stops at the time point or passes the time point without stopping.		
	✓ The System shall provide the Dispatcher the projected recovery time based on the next terminal departure.		
	✓ A vehicle's schedule adherence status shall be available for presentation to the Operator and to Dispatchers, and for generation of schedule adherence deviation events.		
8.3.5	**Route Guidance**		
	✓ The System shall have the capability of providing detour options to the Dispatcher and to the Operator via the MDT.		
8.3.6	**Turn Back Monitoring**		
	✓ The System shall detect and adjust for turn-backs within a fixed route vehicle's assigned block. The System shall issue a turn-back event when a vehicle has turned around before the end of a current		

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	trip and proceeds along the route in the opposite direction for a subsequent trip within the same block.		
	✓ Following a turn-back, the System shall automatically determine which trip the vehicle has jumped to within the System assigned block based on the current time, the vehicle's new geographic location, the vehicle's direction, and the vehicle's schedule.		
	✓ After a turn-back adjustment, the System shall resume schedule and route adherence monitoring and automated voice announcements for the vehicle based on the new trip assignment. All turn-backs shall produce events.		
8.3.7	**Data Messaging**		
	✓ The System shall enable Dispatchers to send data messages to one or more selected vehicles and routes using any of the selection methods specified. Custom, free-form data messages and a set of canned data messages shall be supported. Pre-defined data messages shall be configurable by authorized Dispatchers and shall be available for rapid selection.		
	✓ Re-Route Notices ✓ The System shall provide a means for Dispatchers to issue re-route notices that describe detours and other short-term route changes to active vehicles based on their route assignments. ✓ Once defined, re-route notices shall be automatically delivered to all vehicles that log onto the affected routes throughout the service day. Re-route notices shall remain in effect until they		

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	are removed by a user, or until a user-specified expiration date has passed, rather than have the notices expire at the end of each service day.		
	✓ Capability to assign priority levels for display ordering and filtering of message types within the message queues.		
8.3.8	**Vehicle Operator Changes**		
	As Specified		
8.4	**Cellular Communications Network**		
	As Specified		
8.5	**Passenger Information System (PIS)**		
	✓ The Passenger Information System shall use GPS information, historic traffic patterns and vehicle schedules to determine a best estimate for all bus arrival and / or departure times. ✓ The Passenger Information System shall be able to accurately identify vehicle locations for in-service vehicles. ✓ The Passenger Information System shall be able to generate live maps for selected Operator routes that display accurate vehicle information, including route names, street and landmark names, vehicle location and estimated arrival time at bus stops. ✓ The Passenger Information System shall be updated whenever new routes or schedules are created using the fixed-route management tool; the management tool must be directly accessible by Commission / Operator staffs for schedule changes.		
8.5.1	**Predictive Bus Arrival and Departure Algorithms**		

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	As Specified		
8.5.2	**Changeable Message Signs (CMS)**		
	✓ During times when some routes are not in operation, the CMS shall display the message "No Service At This Time" next to any route not in service.		
	✓ CMS' shall be either an LCD screen or large LED screen capable of displaying between one and at least eight lines.		
	✓ CMS' shall be constructed and rated for outdoor installation in a hardened environment such as those common to a roadside or transit installations.		
	✓ CMS controllers shall be securely affixed to the back side of the display with keyed entry.		
	✓ CMS' shall have brightness control.		
	✓ CMS' shall produce message that conform to ADA requirements for character legibility and accessibility. At minimum, ADA compliant 3-inch characters (one line) shall be supported.		
	✓ CMS' shall be designed for operating outdoors and /or indoors in the temperature range 20^{o} F to 120^{o} F.		
	✓ CMS's shall use a local power supply (115V).		
	✓ CMS' must be protected using vandal resistant enclosures.		
	✓ The front face of the CMS shall provide high contrast, low sunlight reflection in all weather and site conditions.		
	✓ CMS displays shall be legible when sunlight is shining directly on the display face or when the sun is directly behind the display.		

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	✓ All internal CMS components shall be removable and replaceable by a single technician with basic hand tools.		
	✓ Removal of a CMS display module will not be required to access the internal components of the display.		
	✓ CMS controllers shall be capable of being configured both remotely via wireless data connection, and locally using a portable computer via a USB, an Ethernet, or an RS-232 connection.		
	✓ Each CMS controller shall be connected to photoelectric sensor(s) sufficient to automatically adjust CMS output to address the requirements for legibility under varying ambient illumination conditions.		
	✓ The CMS controller shall have a time of day clock and calendar. The time and date shall be in sync with the system time at the Commission.		
	✓ The CMS controller shall be configurable with a unique name for the display.		
	✓ Next vehicle arrival prediction messages shall be generated automatically by the CMS controller, incorporating the arrival time prediction data as it is received from the servers prediction software.		
	✓ The format of the message template shall be "(route #) (route /destination name) (countdown minutes)", or an alternative format approved by the Commission.		
	✓ When the CMS receives a message from the application indicating		

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	that current prediction data is not available, the CMS shall display an alternate message approved by the Commission.		
	✓ Hold times for each message display and the blanking interval between message displays shall be variable in 0.1 second increments.		
	✓ The CMS shall include ongoing self-diagnostics and shall send an alarm message to the software in the event that a diagnostic fault is detected.		
	✓ Proposer will describe the communications infrastructure requirements.		
	✓ Proposer will recommend sizes, types and locations of CMS' at Transit Centers.		
8.5.3	**CMS Audible Component**		
	✓ Proposer shall determine best method for supporting ADA audible functions.		
	✓ The CMS shall include a manually-activated audio announcement system, which shall read out the sign text once successively in English and Spanish after a pushbutton has been pressed.		
	✓ Audio sign messages shall be constructed in real-time by the CMS in a manner that avoids the need to send audio data over the radio system, using either prerecorded announcements or text-to-speech generation of quality acceptable to the Commission.		
	✓ The audio announcement system shall be made through speakers built-in to the CMS enclosure or installed nearby.		

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	✓ The pushbutton must be mounted no higher than 48 inches and no lower than 15 inches from the finished floor of the CMS.		
	✓ An unobstructed pathway no less than 36 inches wide connecting the pushbutton to an adjoining or overlapping accessible route must be provided. A clear floor space of no less than 30 inches wide by 48 inches long must exist at the device (wheelchair footprint).		
	✓ The pushbutton must be operable with one hand; not require tight grasping, pinching, or twisting of the wrist.		
	✓ The pushbutton shall emit a brief low volume sound every few seconds (e.g., "chirp") to guide the visually impaired to the pushbutton location.		
	✓ The audio volume shall be automatically adjusted based on the current ambient sound level in front of the CMS to ensure that it is only loud enough to be understandable within a five foot radius from the sign.		
8.5.4	**Bus Stop Signage**		
	As Specified		
8.5.5	**Customer Website / Customer Communication Devices**		
	✓ The System shall allow a person using a personal computer, or web-based personal mobile device to visit a publicly accessible Web address to select a route, direction and stop, and in response receive the current predicted arrival time from the prediction software at the initiating device.		

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	✓ The System shall provide support for mobile access, using simplified version of the Proposer / Commission Website specifically designed for handheld devices, and/or customized mobile applications (e.g., iPhone. Droid Apps, etc.)		
	✓ The Proposer shall provide all Web pages, data feeds and scripts needed to enable this Web service on the Commission's Website.		
	✓ The response Web page shall be continuously updated (whenever a new predicted arrival time is determined), until the user closes the web page.		
	✓ The System shall provide the ability to display route, stops and real-time location of a vehicle on a route on a web-based/app map display. The location shall be automatically refreshed at least every 60 seconds.		
	✓ The Web-based/App interface shall allow users to select the routes and stops of their choice for which they want to see real-time vehicle information.		
	✓ The Web-based/App interface shall provide the ability to zoom in / out and pan the map.		
	✓ The map display shall be automatically formatted to fit the screen size of the customer device (i.e. mobile device and personal computer).		
	✓ The vehicles shall be shown using a distinct icon approved by the Commission and also indicate the direction of movement of the vehicle.		

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	✓ Clicking on a vehicle icon must show the current status of the vehicle (early / late / on-time).		
	✓ Clicking on a stop icon shall display arrival times for the next three buses for each route passing by that stop.		
	✓ The System shall provide the Commission the ability to publish any service alerts on the Web page showing real-time vehicle location display.		
	✓ The System shall provide real-time information alerts to Operators' customers based on their preferences. Customers shall be able to subscribe or unsubscribe to this service as desired. Also, the System shall allow customers to configure their preferences for the content and time interval for receiving real-time information alerts.		
	✓ The System shall automatically notify customers of the real-time status of buses at a specific stop on a requested route and direction. The notification will be made in the form of an email, App notification or SMS message.		
8.5.6	**Customer Trip Planner**		
	As Specified.		
8.6	**Information Technology Architecture**		
8.6.1	**Server Site**		
	✓ Proposer shall provide and justify their solution architecture.		
	✓ Proposer shall meet planned uptime requirements of 99.9%.		
	✓ Proposer shall provide a System architecture for all technologies, including the Optional Technologies		

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	✓ Proposer shall provide a System architecture for all supporting hardware, software, operating systems, databases, redundancies, environments, Disaster Recovery, and Security, etc.		
	✓ A backup system shall be available to the Commission in the event of failure of the centralized servers.		
	✓ The Commission shall be informed at least thirty (30) days in advance in writing of upgrades that require updated software or higher speed Internet connectivity, etc.		
	✓ The Proposer shall monitor and insure Internet connectivity to the services		
	✓ The system shall be available 24 hours a day, seven days a week.		
	✓ Secure access to the full system functionality shall be available to Commission staff remotely from any computer that meets the Proposer's stated requirements.		
	✓ Remote access to the system shall be secure and protected by password or other equivalent-or-improved security measure.		
	✓ The Commission's data shall be securely stored by the Proposer and accessible only by authorized individuals.		
	✓ The Commission's data shall be securely backed up on a daily basis, and backups shall be stored in a secure facility remote from the primary Host site.		
	✓ The Proposer may not retain data if the Commission requests its destruction, deletion or transfer.		
	✓ The Proposer shall relinquish all of the Commission's data to the		

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	Commission upon request.		
	✓ The Proposer's Hosted site must be protected by current virus protection, internet security, and other security software against catastrophic failure and malicious attacks, if utilized.		
8.6.2	**Ownership of Data**		
	As Specified		
8.6.3	**Activity Logging**		
	✓ The System shall log all user actions.		
	✓ The activity log shall be real-time and accessible on-line.		
	✓ Each user logon and logoff shall be recorded in the historical event log.		
	✓ The recorded data shall include the date and time that the logon / logoff was executed, the name of the workstation, and the identification of the user. All functions performed by all users shall be stored in the historical event log.		
8.6.4	**Access Security**		
	✓ Access to the System shall be strictly limited to designated and authorized System Administrators.		
	✓ Users without proper minimum authorization shall be denied access to all System functions and data, as well as all System resources such as servers, printers, workstations, etc.		
	✓ Each user shall have a unique username that is assigned by the System Administrator.		
	✓ A function shall be provided for users to log off.		

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	✓ Access to System functions and capabilities shall be based upon each user's authorization level and not the physical workstation being used.		
	✓ A minimum of four user-access levels shall be supported by the System. The term "user" alone shall refer to all levels except when it is clear from the context that another meaning is intended. The minimum user-access levels shall be: ✓ Information User — these users shall have only read-only access to System historical data via the information server resources, but shall have no access to System functions. ✓ Customer Service User – these users shall have all the rights of an Information User plus read-only access to selected Dispatcher functions (e.g., AVL functions). ✓ Dispatcher — these users shall have all of the rights of a Customer Service user plus full access to specific System functions as determined by the System Administrator. ✓ System Administrator — these users shall have unrestricted access to System functions and shall have special privileges required to administer overall access security and to maintain the System. A secure method shall be provided for the System Administrator to change passwords and user identifications and establish functional partitions. ✓ Operator Groups — to simplify user administration, categorization of users: Information, Customer Service, Dispatcher and System Admin by Operator name is desired.		

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8.6.5	**Data Backups**		
	As Specified		
8.6.6	**Data Archival And Restore**		
	As Specified		
8.6.7	**Scheduled Maintenance**		
	As Specified		
8.6.10	**Version Tracking Requirements**		
	As Specified		
8.6.11	**System Administration Functions**		
	✓ Fixed-Route Data Retrieval		
	✓ Interim Schedule Maintenance		
	✓ AVL Map Retrieval and Maintenance		
	✓ Destination Sign Data Maintenance		
	✓ In-Vehicle Announcement Data Maintenance		
	✓ All parameters in the System that users may need to modify shall be adjustable by authorized System Administrators.		
	✓ System Administrators shall be able to define data partitions that specify, via selection criteria or other means, a subset of all System data, including events that Users are permitted to access.		
8.6.10	**Disaster Recovery**		
	As Specified		
8.6.11	**Continuity of Services**		
	As Specified		
9.0	**Optional Requirements**		

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9.1	**Automated Voice Annunciators**		
	✓ The Proposer shall install new interior DMS. However, the Proposer may propose the use of any existing interior DMS if it can ensure that the proposed AVA system can integrate with the existing DMS to provide desired visual AVA features.		
	✓ The DMS shall display the "stop requested" message when stop requested or the wheelchair area stop request is activated by a customer.		
	✓ If stop request signal is received while another message is being displayed on the DMS, the AVA system shall show stop requested message after current message is completed.		
	✓ The AVA shall provide text announcements for configurable duration, which will be set using the central recording software.		
	✓ The AVA shall make an exterior announcement of the current route number and destination when doors open at a stop. At other locations (e.g., major intersections), the controller shall make preset location-based interior announcements.		
	✓ The Operator shall have the capability of overriding the automatic initiation of visual announcements and instead manually select from a menu of predefined messages for display to passengers. The override shall be reported as an event.		
	✓ Interior signs shall display stop requested, bus stop arrival, major intersections and landmarks, date / time information, and other preformatted messages.		

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	✓ The interior sign system data files shall be updatable remotely.		
	✓ The AVA shall provide announcements to passengers on-board fixed-route revenue vehicles. This function shall support next stop announcements as well as annunciation of major intersections, key transfer points, promotional information, public service information, Vehicle Operator initiated messages and advertising.		
	✓ Next stop, major intersection and key transfer point announcement capacity shall be sufficient to support all of the routes in the service area and all of the trips made by each vehicle during a service day, plus a 50% spare capacity for other types of announcements.		
	✓ The AVA shall use the vehicle location information from the AVL system to trigger the appropriate announcements on-board the vehicle whenever the vehicle enters a "trigger zone." A trigger zone is a user-defined area that is located just prior to each stop location. For example, the trigger zone may begin 800 feet before a stop as well as at selected other announcement locations.		
	✓ Trigger zones shall be pre-defined by the software for AVA trigger management and downloaded to the controller over WLAN.		
	✓ Trigger zones shall be configurable by stop to accommodate for differences in operations, including but not limited to, the direction of approach and size of stop.		
	✓ Time-based announcements / displays shall be programmed to be made on-board the vehicle at specific times of the day or at a set frequency within specified time periods, on specific days of the		

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	week.		
	✓ Location-based announcements / displays shall be programmed to be made on-board the vehicle when that vehicle passes any designated location(s).		
	✓ In the event that a vehicle is operating off-route, the automated announcements / displays shall not be made. Once the route is reacquired, the System shall automatically determine and announce the next valid bus stop or other designated location.		
	✓ The Operator shall have the ability to manually trigger the activation of any pre-recorded announcements if needed.		
	✓ The DMS shall display the current date / time when not displaying a triggered announcement.		
	✓ Dispatch shall have the ability to send a free form announcement message to one bus, a group of buses, to the AVA interior DMS.		
	✓ The AVA shall have the capability to create and schedule public service or advertising messages.		
	✓ Audio levels shall be controllable by the Operator within a usable audio range. The Operator shall have the capability of overriding the automatic initiation of audio announcements and instead manually select from a menu of predefined messages for announcements to passengers. The override shall be reported as an event.		
	✓ The volume of the internal announcements shall be automatically adjusted according to the noise level on the vehicle at the time, and		

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	the vehicle operator shall not be able to lower the announcement volume.		
	✓ The AVA shall provide the capability to adjust external speaker volume levels based on time and location settings.		
	✓ The AVA shall provide the capability to adjust the minimum and maximum volume levels separately for interior and exterior announcements.		
	✓ The AVA announcements and PA volume level controls shall also allow the Operator to separately adjust the volumes for the Operator and handset speakers.		
	✓ Operator-initiated announcements / displays (e.g., safety-related announcements) shall be programmed to be made at the Operator's discretion.		
	✓ Operator use of the on-board PA system shall override any automated announcements.		
	✓ Dispatchers shall be able to activate the announcements simultaneously on a group of buses.		
9.2	***Automated Passenger Counters (APC)***		
	✓ Ability to accurately detect passengers boarding and alighting and eliminate false positive counts of passengers loitering near the boarding zone.		
	✓ Support for multiple entries, and for wider entry common to certain vehicle designs.		
	✓ Support for wheelchair boarding counts.		

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	✓ Ability to detect whether the vehicle door is open or closed (the APC shall only count passengers when the door is open).		
	✓ The APC solution shall be designed for the transit industry and not adapted for its intended purpose.		
	✓ Sensors shall operate automatically and without the need for manual intervention.		
	✓ Data shall automatically be compiled by the APC and integrated to the VLU and / or MDT in real-time.		
	✓ APC data shall be time-stamped for ease in associating the counts to validating farebox data.		
	✓ APC data shall be stored along with stop records.		
	✓ The APC shall meet or exceeds the relevant SAE specifications for vibration, humidity, electrical tolerance, and particulate matter.		
	✓ The APC for all doorways shall be connected to a single APC controller.		
	✓ The APC shall be able to separately count successive passengers that are walking as close together as is practicable, either one behind the other or side by side.		
	✓ The APC shall not register as multiple passengers the passage of a single passenger that reaches into or out of the doorway passage, or is swinging their arms, while passing through the sensor beams.		
	✓ The APC shall not separately count objects carried by passengers, such as shopping bags or umbrellas.		
	✓ The APC controller shall be interfaced with a wheelchair / ramp		

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	sensor with the number of wheelchair / ramps cycles recorded for each stop.		
	✓ The APC will have sufficient on-board memory capacity to allow for storage of at least 72 hours of APC data.		
	✓ The APC subsystem shall provide a backup method (for use when the WLAN subsystem is temporarily unavailable) for bi-directional data transfer.		
	✓ Be accepted by NTD for reporting purposes.		
9.3	**Farebox Integration**		
	As specified		
9.4	**Headsign Integration**		
	As specified		
9.5	**Single-point Log-on**		
	As specified		
10.0	**Additional Requirements**		
10.1	**AVL Analytics**		
	✓ Analysis of vehicle activity including schedule adherence and on-time performance		
	✓ Historical playback of time-elapsed route activity using rewind, fast forward, pause, and play controls		
	✓ Analysis of stop times by route, block, run and trip		
	✓ Analysis of passenger loads by route, block, run and trip (with optional APC integration)		
	✓ Analysis of route performance including run times, average vehicle		

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	speeds, and relative spacing between buses on the route		
	✓ Analysis of Driver run performance including, late pull-out/pull-in to Garage and schedule adherence		
	✓ Extensive report generation and query capabilities, including export functions.		
10.2	**Reports**		
	✓ Schedule Adherence Report: Measures driver on-time performance in relation to Paddles and published schedules.		
	✓ Average Arrival Times Report: Measures statistical mean of arrival times for user-defined parameters such as stop, route, vehicle, Driver, reporting period, etc.		
	✓ Idle Report: Measures periods of excessive inactivity based on vehicle engine diagnostic data.		
	✓ Detailed Trip Log: Records passenger activity (if APC option is exercised) by stop and arrival and departure times, based on user-defined parameters including stop, route, vehicle, direction, etc.		
	✓ Miles and Hours Report: Summarizes vehicle service hours and service mileage for revenue and non-revenue service (based on NTD definitions).		
	✓ Shift Report: Records the timestamp for Driver login and logout from AVL / MDT / VLU System.		
	✓ **Exception Reports:** Measure the frequency of occurrences for exceptions to user-defined parameters such as speed limits (by segment or global), route adherence, etc.		

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	✓ **Ridership Reports:** Include statistical averages for ridership by route during defined time periods, drill-down of daily boarding's and alighting's by route and time of day for single day or range of dates. (Option-requires Automatic Passenger Counters)		
	✓ **Passenger Web/App Activity Reports:** Provide a record of activity (e.g., number of "hits", type of information requested, etc) associated with the Contractor-furnished Customer Website and Apps for the Operators' Passenger Information System.		
	✓ **Performance Reports:** Reports shall be made available on the System that display summarized and detailed data on the status of operation, including a description of any failure (e.g., AVL downtime).		
10.2.1	**Dispatch Activity Reports**		
	As specified.		
10.2.2	**Schedule Deviation Reports**		
	✓ The System shall produce reports showing daily, weekly, and monthly schedule deviation.		
	✓ These reports shall summarize the schedule deviations that occurred during the time periods covered by the reports. The following statistics shall be produced for the fixed-route fleet, for each bus route, run and for each Driver:		
	✓ Total number of blocks.		
	✓ Total number of early blocks (i.e., blocks that were early departing from any time point).		

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	✓ Average number of minutes early.		
	✓ Total number of late blocks (i.e., blocks that were late departing from any time point by more than a user-specified threshold).		
	✓ Average number of minutes late.		
	✓ The report output shall be configurable to allow the user to filter certain types of specific schedule deviations. The types of deviations that can be filtered shall include early times on selected routes and at selected stops, where early times are acceptable.		
	✓ The daily reports should provide the above statistics broken down on an hourly basis along with daily totals. The weekly reports should provide the above statistics broken down on a daily basis along with weekly totals. The monthly report should provide the above statistics broken down on a daily basis along with weekly and monthly totals.		
	✓ National Transit Database (NTD) annual reports in accordance with federal transit administration rules.		
10.2.3	**Customized Reports**		
	As Specified		
10.2.4	**Data Summarization**		
	As Specified		
10.2.5	**Report Filtering**		
	As Specified		
10.2.6	**Drill Down Capability**		
	As Specified		

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10.2.7	**Report Response Time**		
	As Specified		
10.3	**Transit Analytics (Dashboard)**		
	As Specified		
10.4	**Training**		
10.4.1	**Training Plan**		
	✓ Overall description of the training program		
	✓ Breakdown of total number of hours devoted to training: hours of classroom training, number of classes, anticipated number of students, hours developing training materials, etc.		
	✓ Proposed training delivery schedule		
	✓ Purpose of each training class		
	✓ Who should attend class		
	✓ Anticipated duration of the class (hours / days)		
	✓ Training materials, including manuals, guides and other supporting items, and techniques to be used		
	✓ Facility / equipment requirements		
10.4.2	**Training Facilities**		
	As Specified		
10.4.3	**Scheduling and Preparation for Training**		
	As Specified		
10.4.4	**Timing for Training**		
	As Specified		
10.4.5	**Training Materials**		

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	Requirement (see corresponding RFP section for full requirement description)	**Mark "F" for fully Comply, "P" for Partially Comply or N for "Do Not Comply"**	
	As Specified		
10.4.6	**Maintenance Training**		
	As Specified		
10.4.7	**Dispatcher / Operator Training**		
	As Specified		
10.4.8	**System Administrator Training**		
	As Specified		
10.4.9	**Manual Quantities**		
	As Specified		
10.4.10	**Supplemental Training**		
	As Specified		
10.4.11	**Bus-In-A-Box**		
	As Specified.		
10.5	**Testing**		
	✓ Be responsible for successfully completing all tests required.		
	✓ Furnish all test instruments and any other materials, equipment and personnel needed to perform the tests.		
	✓ Be fully responsible for the replacement of all equipment damaged as a result of the tests, and shall bear all associated costs.		
	✓ Maintain comprehensive records of all tests.		
	✓ Notify the Commission in writing, no less than 14 days prior to each test activity.		
	✓ Provide test plans, procedures, records and reports to the Commission for approval.		

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10.5.1	**Acceptance Test Plan**		
	✓ Scope and Purpose: Clearly state the scope, case, and conditions the procedure tests.		
	✓ Pre-requisites: Describe test environment and the pre-requisites, including access, availability, and equipment configuration for each group of functions.		
	✓ Tools: List test equipment and tools, with calibration data for each item.		
	✓ Personnel: List test participants and roles.		
	✓ Procedure: Contain enumerated step-by-step procedures. Procedures shall include regression test and Pass Fail Criteria.		
	✓ Drawings: Include detailed drawings depicting test setup. Drawings shall include list of equipment, parts and material used and tested.		
	✓ Test Data Form: The form will include space to record the tools with calibration date, environmental condition during the test (i.e. rainy, cloudy, temperature, etc.), test measurement, pass / fail criteria and space to record the pass / fail outcome and the signature of the test engineer and a test witness.		
	✓ Test Exception Form: The form shall be used to record the identifier of the defect report / problem report(s) generated as a result of faults / problems detected during the test. All the troubleshooting techniques and corrective actions shall be documented on this form.		
10.5.2	**Testing Requirements**		

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	As Specified		
10.5.3	**Test Procedures**		
	✓ Test schedule		
	✓ Responsibilities of Commission and Proposer personnel		
	✓ Record-keeping procedures and forms		
	✓ Procedures for monitoring, correcting, and retesting variances		
	✓ Procedures for controlling and documenting all changes made to the System after the start of testing		
	✓ A list of individual tests to be performed, the purpose of each test segment		
	✓ Identification of special hardware, software, tools, and test equipment to be used during the test		
	✓ Copies of any certified test data (e.g., environmental data) to be used in lieu of testing		
	✓ Detailed, step-by-step procedures to be followed		
	✓ All inputs, expected results and measurements for successful sign-off for the full implementation tests		
10.5.4	**Functional Tests**		
	✓ Inspection of all equipment for conformance to drawings, specifications, and applicable standards, and for satisfactory appearance		
	✓ Testing of the proper functioning of all hardware by thoroughly exercising all devices, both individually and collectively		
	✓ Testing of the proper functioning of all software and firmware		

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	features and functions, including test cases with normal and exception data		
	✓ Testing of the proper functioning of all data communication features and facilities and all communications control functions		
	✓ Testing of all AVL on-board functions, and of optional add-on equipment, using actual vehicle equipment items supplied as part of the Project		
	✓ Input and output signals from devices supplied by others or already installed on the vehicles shall be simulated if the Commission cannot provide actual devices for testing		
	✓ Testing of AVL functions using a mobile test vehicle and appropriate test map and database information for the routes that will be traversed		
	✓ Verification of all data transfers to the appropriate databases		
	✓ Testing of all user interface functions		
	✓ Simulation of hardware failures and failover of each AVL and Passenger Information device that has a backup unit		
	✓ Verification that spare capacity and ultimate sizing requirements have been met, including all expansion requirements		
	✓ Verification of the accuracy of the system performance monitoring software		
	✓ Verification that the processor loading and system response time requirements have been met while exercising all Proposer-supplied software and performing functions		

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	✓ Verification of device and system recovery from AC power failures		
	✓ Verification of the accuracy of hardware and software documentation via random checks		
	✓ Testing of the System User Interface, real-time monitor (RTM), and Customer Websites		
	✓ Testing of all software and database maintenance functions		
	✓ Verification of all reports provided by the system		
	✓ Testing of data exchanges between devices supplied by others or already installed on the vehicles (e.g., GFI farebox, AVA, APC, etc.)		
	✓ Tests of data exchanges that are not required in real time		
	✓ Verify the System stability and availability is free of problems caused by interactions between software and hardware while the System is operating as an integrated whole		
10.5.5	**Cellular Communications Coverage Test**		
	As Specified		
10.5.6	**30-Day Rolling Operational Test**		
	As Specified		
10.5.7	**Test Records and Reports**		
	As Specified		
10.5.8	**System Acceptance**		
	As Specified		
10.6	**Documentation**		
10.6.1	**General Manual Requirements**		

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	Requirement (see corresponding RFP section for full requirement description)	**Mark "F" for fully Comply, "P" for Partially Comply or N for "Do Not Comply"**	
	As Specified		
10.6.2	**Maintenance Service Manual**		
	As Specified		
10.7	**Design / Implementation**		
	✓ The proposed installation schedule, detailing phases and / or installation segments. Once the baseline schedule is approved by the Commission, monthly updates identifying all schedule changes and work progress in the form of percentage completions shall be submitted to the Commission for review.		
	✓ The minimum resource allocation requirement for any installation phase or segment.		
	✓ How the Contractor will manage delivery and staging of the AVL and Passenger Information System equipment that is to be installed.		
	✓ The order in which equipment items are to be installed, with estimated durations.		
	✓ Any special or unique installation requirements.		
	✓ Equipment to be used to perform installation.		
	✓ A detailed component list and how each item version number and serial number shall be recorded for each installation configuration.		
10.7.1	**Work Standards and Requirements**		
	As Specified		
10.7.2	**Commission Participation**		
	As Specified		

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10.7.3	**Kick-Off Meeting**		
	As Specified		
10.7.4	**System Design**		
	As Specified		
10.7.5	**Preliminary Design Review**		
	As Specified		
10.7.6	**Design Plan General Requirements**		
	As Specified		
10.7.7	**Design Documentation**		
	As Specified		
10.7.8	**Final Design Review**		
	✓ Final Design Review (FDR) package shall be one complete submittal sufficient to provide all the required details for overall system integration and operation. Design review requirements defined within the individual subsystem specification sections, shall be consolidated and submitted as a single package. The FDR package shall be submitted to the Commission no later than 75 days after the NTP date.		
	✓ The Final Design Review submittal package shall not be submitted until the Commission has approved all individual PDR submittals. The FDR Submittal Package shall be organized to include the following final design information:		
	✓ Approved and updated versions of all previously submitted design review materials. Updated material shall represent		

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	complete design, final calculation; detailed product (component level) parts list, drawings, phasing and interface details required for installation. All the new and revised sections of the subsystem PDRs shall have a side revision bar to reflect the changes. The previous information submitted in the PDRs shall be organized by subsystem.		
	✓ Updated product submittals for all, materials and components for which product submittals were not previously submitted and approved.		
	✓ Complete Drawing index.		
	✓ Complete list of items to be serialized.		
	✓ Complete cable identification and equipment labels.		
	✓ Complete wiring diagrams for all equipment to be installed, modified, upgraded, or interfaced to under this contract.		
	✓ Top level mechanical drawings, if applicable.		
	✓ Grounding details.		
	✓ Power panel schedule and distribution.		
10.7.9	**Installation**		
	✓ Furnish and install all wiring and connectors for on-board and fixed-end equipment and connections to power and communications enclosures and external systems integration. This includes the proper termination of all power and communication cables and wiring (copper or fiber optic) to connect the individual components into a fully operational System that complies with applicable		

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	standards and specifications.		
	✓ Furnish and install all hardware, equipment, brackets, computer enclosures, pull boxes, junction boxes, conduits, power and communications infrastructure, and other such items as required to support System proper functioning.		
	✓ Furnish environmental control devices, such as Universal Power Supplies, as required.		
	✓ Furnish and install all electronics and other devices in their respective cabinets as required to provide a fully operational System.		
	✓ Furnish and install System equipment, including, but not limited to, GPS antennas and receivers, AVL components, communications devices, vehicle logic units, etc.		
	✓ As an option, furnish and install Automated Passenger Counter (APC) equipment, as specified.		
	✓ As an option, furnish and install Automated Voice Annunciation System equipment, as specified.		
	✓ Furnish and install Mobile Data Terminals (MDT), in the quantity and configuration directed by the Commission.		
	✓ Furnish and install Passenger Information Displays, in the quantity and configuration directed by the Commission.		
	✓ Furnish and install Changeable Message Sign (CMS) System, with optional add-on audio equipment, solar electric power systems, and cellular communications equipment, in the quantity and		

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	configuration directed by the Commission.		
	✓ As an option, furnish and install standalone IVR phone solution, as specified.		
	✓ Validate all cable and wire terminations via a test process to ensure that the cable is connected to the correct location on each end and that the cable / wire is properly terminated.		
	✓ Test the full communications networks to validate proper functioning.		
	✓ Power up and provide a field check out / installation acceptance test of all Systems, to be witnessed and approved by the Commission. Track progress toward completion of all installation requirements using a "punch list".		
	✓ Calibration and testing of the System, as further described in full accordance with OEM supplier guidelines.		
10.7.9.1	**Modern OEM Products**		
	✓ The Contractor shall supply modern, unmodified, OEM products of computer and communication equipment required for its System.		
	✓ All OEM products utilized shall be from authorized distributors. Evidence that products were obtained by the selected Proposer from authorized distributors shall be provided to the Commission upon request.		
	✓ The equipment shall be delivered with the latest firmware, patches, and software updates available at the time of delivery.		
10.7.9.2	**Work Standards**		

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	Requirement (see corresponding RFP section for full requirement description)	**Mark "F" for fully Comply, "P" for Partially Comply or N for "Do Not Comply"**	
	As Specified		
10.7.9.3	**Equipment Removal, Relocation and Restoration Plan**		
	✓ All the items (by subsystem and location) requiring restoration, rebuild and / or upgrades to its original condition or better.		
	✓ All the items (by subsystem and location) requiring removal.		
	✓ All the items (by subsystem and location) requiring salvage and packaging to keep original condition or better.		
	✓ A plan for temporary relocation and offsite storage.		
10.7.9.4	**Equipment List**		
	As Specified		
10.7.9.5	**As-Built Documents**		
	As Specified		
10.7.9.6	**Bill of Materials (BOM)**		
	As Specified		
10.7.10	**Obsolescence**		
	As Specified		
10.7.11	**Environmental**		
	As Specified		
10.7.12	**System Scalability**		
	As Specified		
10.8	**Project Management**		
10.8.1	**Project Staffing**		
	As Specified		
10.8.2	**Project Schedule**		

	Request for Proposals	Your Proposal	If your proposal does not fully comply, where in your proposal is this explained?
	Requirement (see corresponding RFP section for full requirement description)	**Mark "F" for fully Comply, "P" for Partially Comply or N for "Do Not Comply"**	
	As Specified		
10.8.3	**Weekly Status Meetings**		
	As Specified		
10.8.4	**Monthly Status Reports**		
	As Specified		
10.8.5	**Formal Correspondence**		
	As Specified		
10.8.6	**Punch List**		
	As Specified		
10.8.7	**Deliverables**		
	✓ Implementation Plan		
	✓ Implementation Schedule		
	✓ Staffing Plan		
	✓ Asset List		
	✓ Design Document		
	✓ Test Plan / Procedures		
	✓ Training Plan / Materials		
	✓ Maintenance Manuals / Documentation		
	✓ Operators Manual		
	✓ Dispatchers Manual		
	✓ As-Built Documents		
	✓ Functional (software usage) Documentation		
	✓ Quality Assurance Plan		
	✓ Final Acceptance Test Report		

	Request for Proposals	Your Proposal	If your proposal does not fully comply, where in your proposal is this explained?
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10.8.8	**Asset Management**		
	✓ Product description and manufacturer		
	✓ Quantity installed and quantity as spares		
	✓ Serial numbers, where available		
	✓ Installation or storage locations, including fleet unit #		
	✓ Status of equipment (e.g. installed, spare, awaiting repair, etc.)		
	✓ Item Value, if over $2,500		
	✓ Replacement status of each part and reason for replacement		
10.8.9	**Quality Assurance Plan**		
	As Specified		
10.8.10	**Invoicing**		
	As Specified		
10.8.11	**Project Closeout**		
	As Specified		
10.9	**Warranty / Maintenance**		
10.9.1	**Installation Warranty**		
	As Specified		
10.9.2	**Extended Warranty Period**		
	As Specified		
10.9.3	**Availability and Mean-Time-Between-Failure (MTBF) Targets**		
	As Specified		
10.9.4	**Chargeable and Non-Chargeable Failures**		
	As Specified		
10.9.5	**Diagnostics**		

	Request for Proposals	Your Proposal	If your proposal does not fully comply, where in your proposal is this explained?
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	As Specified		
10.9.6	**Maintainability**		
	As Specified		
10.9.7	**Repair and Replacement of Faulty Equipment**		
	As Specified		
10.9.8	**On-Call Support**		
	As Specified		
10.9.9	**Local and Escalated Support**		
	As Specified		
10.10	**Spare Components**		
	As Specified		
10.11	**Schedule Requirements**		
	As Specified		

SIGNATURE OF CONTRACTOR'S AUTHORIZED OFFICIAL DATE

NAME AND TITLE OF CONTRACTOR'S AUTHORIZED OFFICIAL

Attachment C - Price Summary Forms

Proposers are required to submit their price proposals using the Price Summary Form presented here or a table consistent with its format. The Summary consists of two forms: one form to be used for each discrete solution cost; and one form summarizing the total cost for all solutions. Proposers shall submit a cost for each applicable line item. For each solution, a total capital cost and estimated cost of operation and maintenance should be listed and described. The operation and maintenance cost shall include and detail all anticipated sources of ongoing costs, including, but not limited to: royalties, software license fees, technical support, training, rentals or anticipated replacements.

Recurring costs, such as licenses and fees shall be listed for the cost per year per unit, and indicated as a recurring cost.

Pricing for Optional Technologies should be entered using Price Summary form C-I, with one form completed for each of the nine transit Operators (i.e. nine C-I forms must be completed).

The Proposer shall complete the forms, leaving no requested fields blank. In the case of fields that represent items with no cost associated, or items that shall not be provided by the proposer, the number zero shall be used. For items that Proposers cannot identify a discrete solution cost, a single combined cost for the combined items may be accepted. The applicable cells should indicate which items/costs are combined.

The price summary form represents the total cost of the Proposer to furnish all labor, materials and services at the prices as quoted herein, in conformance with all the specifications and contract documents. The units submitted shall be consistent with the numbers specified in the RFP, and shall include spares as determined by the Commission for effective system operation.

The Proposer should modify or clarify entries, as necessary, so that the price summary represents the total cost to provide the System. The total cost shall include all incidentals associated with the hardware and software, such as mounting hardware, cables, fasteners, brackets and housings. **The Commission shall not incur additional costs for any additional equipment, services, shipping, handling, communications, installation or testing.**

The contract shall be a firm fixed price contract.

The Price Summary Form will be used as a basis for cost calculations during the Project and it is understood that these unit prices will be held firm until Final System Acceptance.

C - PRICE SUMMARY FORM

A. Fixed Route Fleet Implementation						
RFP Section	**Component**	**Unit Cost**	**# of Units**	**Installation Cost for All Units**	**Total Cost**	**Recurring Cost? Indicate Yes or No)**
10.1	Design for each vehicle type					
10.1	Cabling and wiring of vehicle					
8.2	GPS Antenna					
8.2	Vehicle Logic Unit (VLU) / Mobile Data Terminal (MDT)					
8.2	Covert Alarm					
8.7	Cellular Communications Network					
10.4	Operator / Dispatch Training					
10.7	Installation of all hardware in each vehicle					
	Other – please describe					
Fixed Route Implementation Subtotal						

B. System Initiation Requirements						
RFP Section	**Component**	**Unit Cost**	**# of Units**	**Installation Cost for All Units**	**Total Cost**	**(Recurring Cost? Indicate Yes or No)**
8.2	Database Conversion					
	GTFS Conversion					
8.10	Server Site Equipment Acquisition and Setup (servers: application, database, communications, reports, SNMP, etc.; necessary routers / firewalls, redundancies and environments. Please itemize!					
	Other – please describe					
	System Initiation Subtotal					

C. Passenger Information System						
RFP Section	**Component**	**Unit Cost**	**# of Units**	**Installation Cost for All Units**	**Total Cost**	**Recurring Cost? (Indicate Yes or No)**
10.7	Integration Design at each location					
10.7	Cabling and wiring at each location		40			
8.9	Multiple Line (Terminal) Passenger Information System Display(s) (ML CMS')		4			
8.9	Single Line (Bus stop) Passenger Information System Displays (SL CMS')		36			
8.9	CMS Audible Component					
8.9	CMS' Cellular Communications Network					
8.9	Passenger Information Data Management and Dissemination					
8.9	Passenger Information System Hardware and / or Software License					
	GTFS Realtime feed					
8.9	Passenger Information System Website/ Mobile Apps					
8.9	Customer Trip Planner					
10.7	Installation of all hardware at each location		40			
	Other – please describe					
	Passenger Information System Subtotal					

D. Spare Components (Describe the types and quantities of spares, along with cost and total cost, as per RFP Section 10.10)						
RFP Section	**Component**	**Unit Cost**	**# of Units**	**Installation Cost for All Units**	**Total Cost**	**Recurring Cost? (Indicate Yes or No)**
Spare Components Subtotal						

E. Additional Items						
RFP Section		**Unit Cost**	**# of Units**	**Installation Cost for All Units**	**Total Cost**	**Recurring Costs? (Indicate Yes or No)**
10.1	AVL Analytics					
10.2	Reports (customized)					
10.3	Transit Analytics (Dashboard)					
10.4	Training					
10.5	Testing					
10.6	Documentation					
10.7	Design / Implementation					
10.8	Project Management					
10.9	Service / Warranty (2 years)					
	Other – please describe (use more lines as needed)					
	Additional Items Subtotal					

F. Extended Service / Maintenance (out years): Including Fixed Route, Integration, and Passenger Information System				
Item	**Unit Cost**	**# of Units**	**Installation Cost for All Units**	**Total Cost**
Extended Service / Maintenance, Year Three (Required)				
Extended Service / Maintenance, Year Four (Required)				
Extended Service / Maintenance, Year Five (Required)				
Additional Service / Maintenance Out Year Sub-Total Cost				

Price Summary				
Item	**Unit Cost**	**# of Units**	**Installation Cost for All Units**	**Total Cost**
Table A – Fixed Route Vehicles				
Table B - System Initiation				
Table C – Passenger Information System				
Table D - Spare Components				
Table E - Additional Items				
Table F - Extended Maintenance (Years 3-5)				
Total Cost				

_____ _____

SIGNATURE OF CONTRACTOR'S AUTHORIZED OFFICIAL **DATE**

_____

NAME AND TITLE OF CONTRACTOR'S AUTHORIZED OFFICIAL

OPTIONAL TECHNOLOGIES PRICE SUMMARY FORM C-I
Please complete a form for each of the nine transit operators (below)
Note: Some items do not apply.
See Operators Fleet and System Composition Schedule (Attachment #) for fleet-specific Optional Technologies needs

FORM C-I. Optional Technologies for Fleet No 1: VCTC INTERCITY						
RFP Section	**Component**	**Unit Cost**	**# of Units**	**Installation Cost for All Units**	**Total Cost**	**Recurring Cost? (Indicate Yes or No)**
10.7	Integration Design for each vehicle type					
10.7	Cabling and wiring of vehicle					
9.1	Automated Voice Annunciators System (AVA)					
9.1	Automated Voice Annunciators (AVA) / System Integration	N/A	N/A	N/A	N/A	N/A
9.2	Automatic Passenger Counter System (APC)	N/A	N/A	N/A	N/A	N/A
9.2	Automatic Passenger Counters (APC) System Integration					
9.3	Farebox (GFI) Integration					
9.4	Headsign control Integration					
9.5	Single Point Log-on for integrated systems					
10.7	Installation of all hardware in each vehicle					
	Other – please describe					
	Optional Technologies Total for Operator					

FORM C-I. Optional Technologies for Fleet No. 2: VALLEY EXPRESS						
RFP Section	**Component**	**Unit Cost**	**# of Units**	**Installation Cost for All Units**	**Total Cost**	**Recurring Cost? (Indicate Yes or No)**
10.7	Integration Design for each vehicle type					
10.7	Cabling and wiring of vehicle					
9.1	Automated Voice Annunciators System (AVA)					
9.1	Automated Voice Annunciators (AVA) / Integration	N/A	N/A	N/A	N/A	N/A
9.2	Automatic Passenger Counters System (APC)					
9.2	Automatic Passenger Counters (APC) Integration	N/A	N/A	N/A	N/A	N/A
9.3	Farebox (GFI) Integration					
9.4	Headsign control Integration					
9.5	Single Point Log-on for integrated systems					
10.7	Installation of all hardware in each vehicle					
	Other – please describe					
	Optional Technologies Total for Operator					

FORM C-I. Optional Technologies for Fleet No 3: GOLD COAST TRANSIT DISTRICT						
RFP Section	**Component**	**Unit Cost**	**# of Units**	**Installation Cost for All Units**	**Total Cost**	**Recurring Cost? (Indicate Yes or No)**
10.7	Integration Design for each vehicle type					
10.7	Cabling and wiring of vehicle					
9.1	Automated Voice Annunciators System (AVA)					
9.1	Automated Voice Annunciators (AVA) / Integration	N/A	N/A	N/A	N/A	N/A
9.2	Automatic Passenger Counters (APC)	N/A	N/A	N/A	N/A	N/A
9.2	Automatic Passenger Counters (APC) System Integration					
9.3	Farebox (GFI) Integration					
9.4	Headsign control Integration					
9.5	Single Point Log-on for integrated systems					
10.7	Installation of all hardware in each vehicle					
	Other – please describe					
	Optional Technologies Total for Operator					

FORM C-I. Optional Technologies for Fleet No. 4: SIMI VALLEY TRANSIT						
RFP Section	**Component**	**Unit Cost**	**# of Units**	**Installation Cost for All Units**	**Total Cost**	**Recurring Cost? (Indicate Yes or No)**
10.7	Integration Design for each vehicle type					
10.7	Cabling and wiring of vehicle					
9.1	Automated Voice Annunciators System (AVA)					
9.1	Automated Voice Annunciators (AVA) Integration	N/A	N/A	N/A	N/A	N/A
9.2	Automatic Passenger Counters System (APC)	N/A	N/A	N/A	N/A	N/A
9.2	Automatic Passenger Counters (APC) Integration	N/A	N/A	N/A	N/A	N/A
9.3	Farebox (GFI) Integration					
9.4	Headsign control Integration					
9.5	Single Point Log-on for integrated systems					
10.7	Installation of all hardware in each vehicle					
	Other – please describe					
	Optional Technologies Total for Operator					

FORM C-I. Optional Technologies for Fleet No. 5: THOUSAND OAKS TRANSIT						
RFP Section	**Component**	**Unit Cost**	**# of Units**	**Installation Cost for All Units**	**Total Cost**	**Recurring Cost? (Indicate Yes or No)**
10.7	Integration Design for each vehicle type					
10.7	Cabling and wiring of vehicle					
9.1	Automated Voice Annunciators System (AVA)					
9.1	Automated Voice Annunciators (AVA) /Integration	N/A	N/A	N/A	N/A	N/A
9.2	Automatic Passenger Counters (APC)	N/A	N/A	N/A	N/A	N/A
9.2	Automatic Passenger Counters (APC) System Integration					
9.3	Farebox (GFI) Integration					
9.4	Headsign control Integration					
9.5	Single Point Log-on for integrated systems					
10.7	Installation of all hardware in each vehicle					
	Other – please describe					
	Optional Technologies Total for Operator					

FORM C-I. Optional Technologies for Fleet No. 6: MOORPARK CITY TRANSIT						
RFP Section	**Component**	**Unit Cost**	**# of Units**	**Installation Cost for All Units**	**Total Cost**	**Recurring Cost? (Indicate Yes or No)**
10.7	Integration Design for each vehicle type					
10.7	Cabling and wiring of vehicle					
9.1	Automated Voice Annunciators (AVA)	N/A	N/A	N/A	N/A	N/A
9.1	Automated Voice Annunciators (AVA) / System Integration					
9.2	Automatic Passenger Counters System (APC)					
9.2	Automatic Passenger Counters (APC) Integration	N/A	N/A	N/A	N/A	N/A
9.3	Farebox (GFI) Integration					
9.4	Headsign control Integration					
9.5	Single Point Log-on for integrated systems					
10.7	Installation of all hardware in each vehicle					
	Other – please describe					
	Optional Technologies Total for Operator					

FORM C-I. Optional Technologies for Fleet No. 7: OJAI TROLLEY						
RFP Section	**Component**	**Unit Cost**	**# of Units**	**Installation Cost for All Units**	**Total Cost**	**Recurring Cost? (Indicate Yes or No)**
10.7	Integration Design for each vehicle type					
10.7	Cabling and wiring of vehicle					
9.1	Automated Voice Annunciators System (AVA)					
9.1	Automated Voice Annunciators (AVA) / Integration	N/A	N/A	N/A	N/A	N/A
9.2	Automatic Passenger Counters System (APC)					
9.2	Automatic Passenger Counters (APC) Integration	N/A	N/A	N/A	N/A	N/A
9.3	Farebox (GFI) Integration					
9.4	Headsign control Integration					
9.5	Single Point Log-on for integrated systems					
10.7	Installation of all hardware in each vehicle					
	Other – please describe					
	Optional Technologies Total for Operator					

FORM C-I. Optional Technologies for Fleet No. 8: CAMARILLO AREA TRANSIT						
RFP Section	**Component**	**Unit Cost**	**# of Units**	**Installation Cost for All Units**	**Total Cost**	**Recurring Cost? (Indicate Yes or No)**
10.7	Integration Design for each vehicle type					
10.7	Cabling and wiring of vehicle					
9.1	Automated Voice Annunciators System (AVA)					
9.1	Automated Voice Annunciators (AVA) / Integration	N/A	N/A	N/A	N/A	N/A
9.2	Automatic Passenger Counters System (APC)					
9.2	Automatic Passenger Counters (APC) Integration	N/A	N/A	N/A	N/A	N/A
9.3	Farebox (GFI) Integration					
9.4	Headsign control Integration					
9.5	Single Point Log-on for integrated systems					
10.7	Installation of all hardware in each vehicle					
	Other – please describe					
	Optional Technologies Total for Operator					

FORM C-I. Optional Technologies for Fleet No. 9 – KANAN SHUTTLE						
RFP Section	**Component**	**Unit Cost**	**# of Units**	**Installation Cost for All Units**	**Total Cost**	**Recurring Cost? (Indicate Yes or No)**
10.7	Integration Design for each vehicle type					
10.7	Cabling and wiring of vehicle					
9.1	Automated Voice Annunciators System (AVA)					
9.1	Automated Voice Annunciators (AVA) / Integration	N/A	N/A	N/A	N/A	N/A
9.2	Automatic Passenger Counters System (APC)					
9.2	Automatic Passenger Counters (APC) Integration	N/A	N/A	N/A	N/A	N/A
9.3	Farebox (GFI) Integration					
9.4	Headsign control Integration					
9.5	Single Point Log-on for integrated systems					
10.7	Installation of all hardware in each vehicle					
	Other – please describe					
	Optional Technologies Total for Operator					

PROPOSER SIGNATURE FOR FORM C-I FLEETS 1 - 9:

_____ _____

SIGNATURE OF CONTRACTOR'S AUTHORIZED OFFICIAL DATE

_____

NAME AND TITLE OF CONTRACTOR'S AUTHORIZED OFFICIAL

Attachment D - Milestone Payment Schedule

Implementation Milestone Task Payment Schedule

Please Specify a suggested Milestone / Payment Schedule for the following In Accordance With The Scope Of Work Of This RFP (include in each Task Description, total hours, FTE's, Classification and hourly rates):

Item #	Task	Proposer's description of specific work to be accomplished.	Estimated Task Hours	Blended Hourly Rate	Estimated Task Cost
10.7	Installation (Fleet 1)				
10.7	Installation (Fleet 2)				
10.7	Installation (Fleet 3)				
10.7	Installation (Fleet 4)				
10.7	Installation (Fleet 5)				
10.7	Installation (Fleets 6, 7, 8 and 9)				
10.7	Installation (CMS Locations 1-20)				
10.7	Installation (CMS Locations 20-40)				
10.2	Reports				
10.4	Training				
10.5	Testing				

Item #	Task	Proposer's description of specific work to be accomplished.	Estimated Task Hours	Blended Hourly Rate	Estimated Task Cost
10.5	30-Day Operational (Acceptance) Testing				
10.7	System Design				
10.8	Planning Documents				
10.6	Documentation				
	TOTAL OF MILESTONE PAYMENTS				

SIGNATURE OF CONTRACTOR'S AUTHORIZED OFFICIAL DATE

NAME AND TITLE OF CONTRACTOR'S AUTHORIZED OFFICIAL

The above milestone payment schedule refers to the tasks identified above. Payment for service/maintenance warranty coverage shall be made upon commencement of warranty period(s) as applicable (e.g. 2 year, three one-year periods etc).

Attachment E - Certification of Restrictions on Lobbying

RETURN THIS FORM WITH YOUR BID

Contractors who apply or bid for an award of $100,000 or more shall file the certification required by 49 CFR part 20, "New Restrictions on Lobbying." Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. 1352. Each tier shall also disclose the name of any registrant under the Lobbying Disclosure Act of 1995 who has made lobbying contacts on its behalf with non-Federal funds with respect to that Federal contract, grant or award covered by 31 U.S.C. 1352. Such disclosures are forwarded from tier to tier up to the recipient.

Lobbying Certification

As required by U.S. DOT regulations, "New Restrictions on Lobbying," at 49 CFR 20.110, I certify to the best of my knowledge and belief that for each application for federal assistance exceeding $100,000: (1) No Federal appropriated funds have been or will be paid, by or on behalf of _____, to any person for influencing or attempting to influence 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 pertaining to the award of any Federal assistance, or the extension, continuation, renewal, amendment, or modification of any Federal assistance agreement; and (2) If any funds other than Federal appropriated funds have been or will be paid to any person for influencing or attempting to influence 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 any application to FTA for Federal assistance, I assure that Standard Form-LLL, "Disclosure Form to Report Lobbying," would be submitted and would include all information required by the form's instructions.

I understand that this certification is a material representation of fact upon which reliance is placed and that submission of this certification is a prerequisite for providing Federal assistance for a transaction covered by 31 U.S.C. 1352. I also understands that any person who fails to file a required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each failure.

_____ _____

Signature & Title of Authorized Official Date

Attachment F - Disadvantaged Business Enterprise

RETURN THIS FORM WITH YOUR BID

_____ hereby certifies that all reasonable efforts have been made to secure maximum disadvantaged business enterprise (DBE) participation in this contract.

BY: _____
Authorized Official

_____
Title

Please include on a separate sheet the names, addresses of all DBEs contacted or that will participate in the contract, the scope of work, dollar amount of for each participating DBE. Also describe all efforts which have been made to secure maximum DBE participation.

All participating DBEs must complete the DBE affidavit, attached.

Affidavit of Disadvantaged Business Enterprise

RETURN THIS FORM WITH YOUR BID

I hereby declare and affirm that I am a qualifying DBE as describe in 49 CFR part 26 and that I will provide information to document this fact.

I DO SOLEMNLY DECLARE AND AFFIRM UNDER THE PENALTIES OF PERJURY THAT THE FOREGOING STATEMENTS ARE TRUE AND CORRECT, AND THAT I AM AUTHORIZED, ON BEHALF OF THE ABOVE FIRM, TO MAKE THIS AFFIDAVIT.

BY: _____

Title: _____

Date: _____

Attachment G - Certification of Primary Participant Regarding Debarment, Suspension, and other Responsibility Matters

RETURN THIS FORM WITH YOUR BID

CERTIFICATION OF PRIMARY PARTICIPANT REGARDING DEBARMENT, SUSPENSION, AND OTHER RESPONSIBILITY MATTERS

The Primary Participant (applicant for an FTA grant or cooperative agreement, or Potential Contractor for a major third party contract), certifies to the best of its knowledge and belief, that it and its principals:

1. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency,-
2. Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction,- violation of Federal or state antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
3. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State, or local) with commission of any of the offenses enumerated in paragraph (2) of this certification; and
4. Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

(If the primary participant (applicant for an FTA grant, or cooperative agreement, or potential third party contractor) is unable to certify to any of the statements in this certification, the participant shall attach an explanation to this certification.)

THE PRIMARY PARTICIPANT (APPLICATION FOR AN FTA GRANT OR COOPERATIVE AGREEMENT, OR POTENTIAL CONTRACTOR FOR A MAJOR THIRD PARTY CONTRACT),_____
CERTIFIES OR AFFIRMS THE TRUTHFULNESS AND ACCURACY OF THE CONTENTS OF THE STATEMENTS SUBMITTED ON OR WITH THIS CERTIFICATION AND UNDERSTANDS THAT THE PROVISIONS OF 31 U.S.C. SECTIONS 3801 ET. SEQ. ARE APPLICABLE THERETO.

_____ _____
Signature of Contractor's Authorized Official Date

_____
Typed Name and Title of Contractor's Authorized Official

Attachment H - Mail-In Reference Questionnaire

Proposer Company: _____ Date: _____

Reference Company: _____ Phone: _____

Contact Name: _____

Title: _____

I. Instructions for Completion

A. Proposing Company

1. Type your company name on “Proposing Company” line.
2. Type the company name of your reference on “Reference Company” line.
3. **Mail or e-mail** this form to your references; three (3) are required. To ensure receipt of an adequate number of reference responses, send Questionnaires to more than three (3) companies.
4. Under no circumstances will reference questionnaires be accepted directly from proposer.
5. It is your responsibility to follow up with your references to ensure timely receipt of questionnaires.
6. The Commission will not be an acceptable reference, nor will any member of the Proposer's organization.

B. Reference Company

1. Print the responding individual’s name, title, phone # and date on the appropriate lines.
2. Legibly write or type your response in the following manner. Use this form or using a separate sheet of paper, restate each question followed by your answer.
3. Mail, email or fax your completed questionnaire to:

   Ventura County Transportation Commission
   Attn: Aaron Bonfilio
   950 County Square Drive, 207
   Ventura, CA 93003

4. This completed questionnaire MUST be received by the RFP due date: May 2, 2017.
5. DO NOT return this questionnaire to the proposing company.

II. Qualifying Questions – PLEASE ANSWER ALL QUESTIONS

1. Are you the primary person responsible for contract administration with the proposing company?

Yes ☐ No ☐

2. What was the nature of the project you contracted with the proposing company for?

_____

_____

3. When did your contract with the proposing company begin?

_____

_____

4. When did your contract with the proposing company end? **(If not ended, when will it end?)**

_____

_____

5. What was the approximate annual cost of the proposing company's contract with you?

_____

_____

III. Evaluated Questions. Please answer the following sixteen (16) questions using the scale provided:

1. Please rate the quality of the proposing company's overall service.

   Excellent ☐ Good ☐ Fair ☐ Poor ☐

2. How well did the proposing company meet your stated goals?

   Excellent ☐ Good ☐ Fair ☐ Poor ☐

3. How would you rate the response time of the proposing company to your calls or emails?

   Excellent ☐ Good ☐ Fair ☐ Poor ☐

4. Were the proposing company communications with you clear and concise?

   Always ☐ Usually ☐ Sometimes ☐ Never ☐

5. Were the milestones identified for the project schedule consistently met?

   Always ☐ Usually ☐ Sometimes ☐ Never ☐

6. Did the proposing company keep you informed of progress?

   Always ☐ Usually ☐ Sometimes ☐ Never ☐

7. Did the proposing company keep you informed of problems that would affect a timely and satisfactory outcome of your project?

   Always ☐ Usually ☐ Sometimes ☐ Never ☐

8. Was the team originally assigned to your project (including project manager) maintained for the duration of your project?

   Yes ☐ No ☐

9. If proposing company replaced a project manager or staff, was your prior approval obtained?

   Yes ☐ No ☐

10. Have you ever had to request that any of the proposing company's team be replaced?

    Yes ☐ No ☐

    If yes, please explain:

    _____

    _____

11. Did you experience any problems with the accuracy of the proposing company's billing?

    Yes ☐ No ☐

12. Did you experience problems with the proposing company canceling meetings or conference calls?

    Yes ☐ No ☐

13. Was the proposing company reasonable and prudent with travel and incidental expenses?

    Yes ☐ Usually ☐ Sometimes ☐ No ☐

14. Have the problems you experienced with the proposing company been dealt with to your satisfaction?

    Always or No Problem ☐ Usually ☐ Sometimes ☐ Never ☐

15. Was the proposing company flexible in meeting your requirements?

Yes ☐ Usually ☐ Sometimes ☐ No ☐

If no, please explain.

_____

_____

16. From the beginning of your first contract with the proposing company, how long did it take for you to receive benefits from the proposing company's efforts on your behalf?

    One Year ☐ Two Years ☐ Three Years ☐ Four Years or More ☐

IV. Additional Questions

1. What would you do differently next time you undertake a similar contract?

   _____

   _____

2. Explain why you would or would not do business with the proposing company again.

   _____

   _____

3. Did you use specific performance criteria to measure progress on your project? Would you be willing to share them with us?

   _____

   _____

4. What suggestions do you have to make the process easier and/or more productive?

   _____

   _____

Attachment I - Bid Form

VENTURA COUNTY TRANSPORTATION COMMISSION

Automated Vehicle Location & Passenger Information System
Request for Proposals No. 17-90164-AVL

BID FORM

To: Ventura County Transportation Commission

Pursuant to and in compliance with your Request for Proposals, calling for bids and related documents, the undersigned bidder, having familiarized himself with the terms and conditions of the contract, the local conditions affecting the performance of the contract, the cost of the work at the place where the work is to be done and the drawings and specifications and other contract documents, proposes and agrees to perform the contract within the time stipulated; including all of its component parts and everything required to be performed, and to provide and furnish any and all of the labor, materials, tools, expendable equipment, and all applicable taxes, utility and transportation services necessary to perform the contract and complete in a workmanlike manner all of the work required in connection with this proposal and all in strict conformity with the drawings and specifications and other contract documents, including addenda number _____.

The bidder has carefully examined the plans and specifications for this project prepared and furnished by Ventura County Transportation Commission and acknowledge their sufficiency.

It is understood and agreed that the work under the contract shall commence by the bidder, if awarded the contract, on the date to be stated in Ventura County Transportation Commission's "Notice to Proceed."

I, the bidder identified below, declare under penalty of perjury, that the information provided and representations made in this bid are true and correct and that this declaration was executed on:

_____ day of _____, 2017

NAME OF BIDDER: _____

CORPORATE OR
COMPANY NAME: _____

ADDRESS: _____

TELEPHONE: _____ FAX: _____

SIGNATURE: _____ DATE: _____

Attachment J - Federally Required & Other Model Contract Clauses

No Obligation by the Federal Government *(Required for all Contracts)*

The VCTC and the Contractor acknowledge and agree that, notwithstanding any occurrence by the Federal Government in or approval of this solicitation or award of this 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 VCTC, the Contractor, or any other party (whether or not a party to this Contract) pertaining to any matter resulting from this Contract.

The Contractor agrees to include the above clause in each subcontract financed in whole or 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.

Program Fraud and False Or Fraudulent Statements And Related Acts *(Required for all Contracts)*

The Contractor acknowledges that the provisions of the Program Fraud Civil Remedies Act of 1986, as amended, 31 U.S.C. 3801 et seq. And U.S. Department of Transportation (DOT) regulations, "Program Fraud Civil Remedies," 49 CFR Part 31, apply to its actions pertaining to this Contract. Upon execution of this 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 this 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.

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 U.S.C. 5307, the Government reserves the right to impose the penalties of 18 U.S.C. 1001 and 49 U.S.C. 5307(n)(1) on the Contractor, to the extent the Federal Government deems appropriate.

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.

Access to Records *(Required for all Contracts)*

The Contractor agrees to provide VCTC, the FTA Administrator, the Comptroller General of the United States or of any of their authorized representatives access to any books, documents, papers and records of the Contractor which are directly pertinent to this Contract for the purposes of making and conducting audits, inspections, examinations, excerpts, and transcriptions.

The Contractor also agrees, pursuant to 49 CFR 633.1.7, to provide the FTA Administrator or his or her authorized representatives, including any Project Management Oversight (PMO) contractor, access to the Contractor's records and construction sites pertaining to a major capital project, defined at 49 U.S.C. 5302(a)1, which is receiving federal financial assistance through the programs described in 49 U.S.C. 5307, 5309 or 5311. The Contractor agrees to permit any of the foregoing parties to reproduce by any means whatsoever or to copy excerpts and transcriptions as reasonably needed.

The Contractor agrees to maintain all books, records, accounts and reports required under this Contract for a period of not less than three years after the date of termination or expiration of this Contract, except in the event of litigation or settlement of claims arising from the performance of this Contract, in which case the Contractor agrees to maintain such books, records, account and reports until the VCTC, the FTA Administrator, the Comptroller general, or any of their duly authorized representatives, have disposed of all such litigation, appeals, claims or exceptions related thereto.

Federal Changes *(Required for all Contracts)*

The Contractor shall at all times comply with all applicable Federal Transit Administration (FTA) regulations, policies, procedures and directives, including without limitation those listed directly or by reference in the grant agreements between the Ventura County Transportation Commission (VCTC) and FTA, as they may be amended or promulgated from time to time during the term of this contract. Failure by the Contractor to so comply shall constitute a material breach of this contract. In the event any such changes significantly affect the cost or the schedule to perform the work, the Contractor shall be entitled to submit a claim for an equitable adjustment under the applicable provisions of this contract.

Termination *(Required for all projects over $10,000)*

Termination for Convenience - The VCTC, by written notice, may terminate this contract, in whole or in part, when it is in the Government's interest. If this contract is terminated, the Recipient shall be liable only for payment under the payment provisions of this contract for services rendered before the effective date of termination.

Termination for Default [Breach or Cause] - If the Contractor does not deliver supplies in accordance with the contract delivery schedule, or, if the contract is for services, the Contractor fails to perform in the manner called for in the contract, or if the Contractor fails to comply with any other provisions of the contract, the VCTC may terminate this contract for default. Termination shall be effected by serving a notice of termination on the contractor setting forth the manner in which the Contractor is in default. The contractor will only be paid the contract price for supplies delivered and accepted, or services performed in accordance with the manner of performance set forth in the contract.

If it is later determined by the VCTC that the Contractor had an excusable reason for not performing, such as a strike, fire, or flood, events which are not the fault of or are beyond the control of the Contractor, the VCTC, after setting up a new delivery of performance schedule, may allow the Contractor to continue work, or treat the termination as a termination for convenience.

Opportunity to Cure (General Provision) - The VCTC in its sole discretion may, in the case of a termination for breach or default, allow the Contractor [an appropriately short period of time] in

which to cure the defect. In such case, the notice of termination will state the time period in which cure is permitted and other appropriate conditions
If Contractor fails to remedy to VCTC's satisfaction the breach or default or any of the terms, covenants, or conditions of this Contract within ten (10) days after receipt by Contractor or written notice from VCTC setting forth the nature of said breach or default, VCTC shall have the right to terminate the Contract without any further obligation to Contractor. Any such termination for default shall not in any way operate to preclude VCTC from also pursuing all available remedies against Contractor and its sureties for said breach or default.

Waiver of Remedies for any Breach - In the event that VCTC elects to waive its remedies for any breach by Contractor of any covenant, term or condition of this Contract, such waiver by VCTC shall not limit VCTC's remedies for any succeeding breach of that or of any other term, covenant, or condition of this Contract.

Title VI Of The Civil Rights Act Of 1964 *(Required for all Contracts)*

During the performance of this Contract, the Contractor, for itself, its assignees and successors in interest (hereinafter referred to as the "Contractor"), and subcontractors agree as follows:

A. Compliance with Regulations. The Contractor shall comply with the Regulations relative to nondiscrimination in federally assisted programs of the Department of Transportation (hereinafter "DOT) Title 49, Code of Federal Regulations, Part 21, as they may be amended from time to time, (hereinafter referred to as the Regulations), which are herein incorporated by reference and made a part of this contract.

B. Nondiscrimination. In accordance with Title VI of the Civil Rights act, as amended, 42 U.S.C. 200d section 3 03 of the Age Discrimination Act of 1975, as amended, 42 U.S.C. 6102, section 202 of the Americans with Disabilities Act of 1990, 42 U.S.C. 12132, and Federal Transit laws at 49 U.S.C. 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.

C. Equal Employment Opportunity. The following equal employment opportunity requirements apply to this Contract:

1. **Race, Color, Creed, National Origin, Sex** – In accordance with title VII of the Civil Rights Act, as amended, 42 U.S.C. 5332, the Contractor agrees to comply with all applicable equal employment opportunity requirements of the U.S. Department of Labor (USDOL) 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 Relating to Equal Employment Opportunity," as amended by Executive Order No. 11375, "Amending Executive Order No. 11246 Relating to Equal Employment Opportunity," 42 U.S.C. 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 for which this Contract work is being performed. 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 of 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 accordace with section 4 of the Age discrimination in Employment Act of 1967, as amended, 29 U.S.C. 623 and Federal Transit laws at 49 U.S.C. 5332, the Contractor agrees to refrain from discrimination against present and prospective employees for reasons 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 of 1990, as amended, 42 U.S.C. 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.

4. **Immigration and Naturalization Act of 1986** – In connection with the execution of this Contract, the Contractor must comply with all aspects of the federal Immigration and Naturalization Act of 1986.

D. Solicitations for Subcontractors, Including Procurement of Materials and Equipment. In all solicitations either by competitive bidding or negotiation made by the Contractor for work to be performed under a subcontract, including procurement of materials or leases of equipment, each potential subcontractor or supplier shall be notified by the Contractor of the Contractor's obligations under this contract and the Regulations relative to non-discrimination on the grounds of race, color, or national origin.

E. Information and Reports. The Contractor shall provide all information and reports required by the Regulations or directives issued pursuant thereto, and shall permit access to its books, records, accounts, other sources of information and its facilities as may be determined by City or the Federal Transit Administration to be pertinent to ascertain compliance with such Regulations, orders and instructions. Where any information required of a Contractor is in the exclusive possession of another who fails or refuses to furnish this information, the Contractor shall so certify to City or the Federal Transit Administration as appropriate, and shall set forth what efforts it has made to obtain the information.

F. Sanctions for Noncompliance. In the event of the Contractor's noncompliance with nondiscrimination provisions of this contract, City shall impose contract sanctions as it or the Federal Transit Administration may determine to be appropriate, including, but not limited to:

1. withholding of payments to the Contractor under the contract until the Contractor complies; and/or
2. cancellation, termination, or suspension of the contract, in whole or in part.

G. Subcontracts. 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.

Disadvantaged Business Enterprises *(Required for all Contracts)*

The Ventura County Transportation Commission (VCTC) has established a DBE Program pursuant to 49 C.F.R. Part 26, which applies to this Agreement. The requirements and procedures of VCTC's DBE Program are hereby incorporated by reference into this Agreement. Failure by any party to this Agreement to carry out VCTC's DBE Program procedures and requirements or applicable requirements of 49 C.F.R. Part 26 shall be considered a material breach of this Agreement, and may be grounds for termination of this Agreement, or such other appropriate administrative remedy. Each party to this Agreement shall ensure that compliance with VCTC's DBE Program shall be included in any and all sub-agreements entered into which arise out of or are related to this Agreement.

CONTRACTOR's failure to make good faith efforts to comply with VCTC's DBE Program shall be considered a material breach of this AGREEMENT and may give rise to certain administrative penalties and proceedings, including, but not limited to, those set forth in 49 C.F.R. Part 26.107.

No later than Thirty (30) working days after receiving payment of retention from City for work satisfactorily performed by any of its subcontractors for services rendered arising out of or related to this Agreement, CONTRACTOR shall make full payment to its subcontractors of all compensation due and owing under the relevant subcontract agreement, unless excused by City for good cause pursuant to provisions of Section 1.1 below.

No later than Thirty (30) days after receiving payment of retention from City for work satisfactorily performed by any of its subcontractors for services rendered arising out of or related to this Agreement, CONTRACTOR shall also make full payment to its subcontractors of all retentions withheld by it pursuant to the relevant subcontract agreement, unless excused by City for good cause pursuant to provisions of Section 5.1 below.

There shall be no substitution of any DBE subcontractors subsequent to award of this Contract without the written approval of the City's DBE Officer.

Incorporation of Federal Transit Administration (FTA) Terms *(Required for all Contracts)*

The Contractor shall take such action with respect to any subcontract or procurement as VCTC or the Federal Transit Administration may direct as a means of enforcing such provisions including sanctions for noncompliance: provided, however, that, in the event a Contractor becomes involved in, or is threatened with, litigation with a subcontractor or supplier as a result of such direction, the Contractor may request VCTC, and in addition, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

Debarment and Suspension *(Required by all projects greater than $25,000)*

A. The Contractor shall include in each subcontract exceeding $25,000, regardless of tier, a clause requiring each lower tiered subcontractor to provide the certification set forth in paragraph B of this section. Each subcontract, regardless of tier, shall contain a provision that the subcontractor shall knowingly enter into any lower tier subcontract exceeding $25,000 with a person who is disbarred, suspended or declared ineligible from obtaining federal assistance funds. If a proposed subcontractor is unable to certify to the statements in the following certification, the Contractor shall promptly notify VCTC and provide all applicable documentation.

B. Each subcontractor with a subcontract exceeding $25,000 shall certify as follows (**COMPLETE ATTACHMENT "G" FOR CERTIFICATION FORM**):

CERTIFICATION OF PRIMARY PARTICIPANT REGARDING DEBARMENT, SUSPENSION, AND OTHER RESPONSIBILITY MATTERS

The Primary Participant (applicant for an FTA grant or cooperative agreement, or Potential Contractor for a major third party contract), certifies to the best of its knowledge and belief, that it and its principals:

1. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency,-
2. Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction,- violation of Federal or state antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
3. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State, or local) with commission of any of the offenses enumerated in paragraph (2) of this certification; and
4. Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

(If the primary participant (applicant for an FTA grant, or cooperative agreement, or potential third party contractor) is unable to certify to any of the statements in this certification, the participant shall attach an explanation to this certification.)

THE PRIMARY PARTICIPANT (APPLICATION FOR AN FTA GRANT OR COOPERATIVE AGREEMENT, OR POTENTIAL CONTRACTOR FOR A MAJOR THIRD PARTY CONTRACT),_____
CERTIFIES OR AFFIRMS THE TRUTHFULNESS AND ACCURACY OF THE CONTENTS OF THE STATEMENTS SUBMITTED ON OR WITH THIS CERTIFICATION AND UNDERSTANDS THAT THE PROVISIONS OF 31 U.S.C. SECTIONS 3801 ET. SEQ. ARE APPLICABLE THERETO.

_____ _____
Signature of Contractor's Authorized Official Date

_____
Typed Name and Title of Contractor's Authorized Official

Buy America *(Required for Construction Projects and Materials and Supplies greater than $100,000)*

The contractor agrees to comply with 49 U.S.C. 5323(j) and 49 C.F.R. Part 661, which provide that Federal funds may not be obligated unless steel, iron, and manufactured products used in FTA-funded projects are produced in the United States, unless a waiver has been granted by FTA or the product is subject to a general waiver. General waivers are listed in 49 C.F.R. 661.7, and include final assembly in the United States for 15 passenger vans and 15 passenger wagons produced by Chrysler Corporation, and microcomputer equipment and software. Separate requirements for rolling stock are set out at 49 U.S.C. 5323(j)(2)(C) and 49 C.F.R. 661.11. Rolling stock must be assembled in the United States and have a 60 percent domestic content.

A bidder or offeror must submit to the FTA recipient the appropriate Buy America certification (below) with all bids or offers on FTA-funded contracts, except those subject to a general waiver. Bids or offers that are not accompanied by a completed Buy America certification must be rejected as nonresponsive. This requirement does not apply to lower tier subcontractors.

BUY AMERICA CERTIFICATION REQUIREMENT FOR PROCUREMENT OF STEEL, IRON, OR MANUFACTURED PRODUCTS.

Certificate of Compliance with 49 U.S.C. 5323(j)(1) The bidder or offeror hereby certifies that it will meet the requirements of 49 U.S.C. 5323(j)(1) and the applicable regulations in 49 CFR Part 661.5.

Date _____

Signature_____

Company Name_____

Title _____

Certificate of Non-Compliance with 49 U.S.C. 5323(j)(1) The bidder or offeror hereby certifies that it cannot comply with the requirements of 49 U.S.C. 5323(j)(1) and 49 C.F.R. 661.5, but it may qualify for an exception pursuant to 49 U.S.C. 5323(j)(2)(A), 5323(j)(2)(B), or 5323(j)(2)(D), and 49 C.F.R. 661.7.

Date _____

Signature _____

Company Name _____

Title _____

Breach of Contract *(Required for Contracts Greater than $100,000)*

Disputes - Disputes arising in the performance of this Contract which are not resolved by agreement of the parties shall be decided in writing by the authorized representative of (Recipient)'s [title of employee]. This decision shall be final and conclusive unless within [ten (10)] days from the date of receipt of its copy, the Contractor mails or otherwise furnishes a written appeal to the [title of employee]. In connection with any such appeal, the Contractor shall be afforded an opportunity to be heard and to offer evidence in support of its position. The decision of the [title of employee] shall be binding upon the Contractor and the Contractor shall abide by the decision.

Performance During Dispute - Unless otherwise directed by (Recipient), Contractor shall continue performance under this Contract while matters in dispute are being resolved.

Claims for Damages - Should either party to the Contract suffer injury or damage to person or property because of any act or omission of the party or of any of his employees, agents or others

for whose acts he is legally liable, a claim for damages therefor shall be made in writing to such other party within a reasonable time after the first observance of such injury of damage.

Remedies - Unless this contract provides otherwise, all claims, counterclaims, disputes and other matters in question between the (Recipient) and the Contractor arising out of or relating to this agreement or its breach will be decided by arbitration if the parties mutually agree, or in a court of competent jurisdiction within the State in which the (Recipient) is located.

Rights and Remedies - The duties and obligations imposed by the Contract Documents and the rights and remedies available thereunder shall be in addition to and not a limitation of any duties, obligations, rights and remedies otherwise imposed or available by law. No action or failure to act by the (Recipient), (Architect) or Contractor shall constitute a waiver of any right or duty afforded any of them under the Contract, nor shall any such action or failure to act constitute an approval of or acquiescence in any breach thereunder, except as may be specifically agreed in writing.

Clean Air *(Required for Projects greater than $100,000)*

The contractor shall comply with all air pollution control rules, regulations, ordinances and statutes which apply to any work performed pursuant to the Contract, including any air pollution control rules, regulations, ordinances and statutes, specified in Section 1 1017 of the California Government Code. All Contractors and suppliers shall be required to submit evidence, if requested, to City that the governing air pollution control criteria will be met.

The Contractor also agrees to include these requirements in each subcontract exceeding $100,000 under this Contract.

Clean Water *(Only required for projects over $100,000)*

(1) The Contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251 et seq . The Contractor agrees to report each violation to the Purchaser and understands and agrees that the Purchaser will, in turn, report each violation as required to assure notification to FTA and the appropriate EPA Regional Office.

(2) The Contractor also agrees to include these requirements in each subcontract exceeding $100,000 financed in whole or in part with Federal assistance provided by FTA.

Lobbying *(Required for all FTA Contracts over $100,000)*

Contractors who apply or bid for an award of $100,000 or more shall file the certification required by 49 CFR part 20, "New Restrictions on Lobbying." Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. 1352. Each tier shall also disclose the name of any registrant under the Lobbying Disclosure Act of 1995 who has made lobbying contacts on its behalf with non-Federal funds with respect to that Federal contract, grant

or award covered by 31 U.S.C. 1352. Such disclosures are forwarded from tier to tier up to the recipient.

Lobbying Certification

As required by U.S. DOT regulations, "New Restrictions on Lobbying," at 49 CFR 20.110, I certify to the best of my knowledge and belief that for each application for federal assistance exceeding $100,000: (1) No Federal appropriated funds have been or will be paid, by or on behalf of _____, to any person for influencing or attempting to influence 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 pertaining to the award of any Federal assistance, or the extension, continuation, renewal, amendment, or modification of any Federal assistance agreement; and (2) If any funds other than Federal appropriated funds have been or will be paid to any person for influencing or attempting to influence 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 any application to FTA for Federal assistance, I assure that Standard Form-LLL, "Disclosure Form to Report Lobbying," would be submitted and would include all information required by the form's instructions.

I understand that this certification is a material representation of fact upon which reliance is placed and that submission of this certification is a prerequisite for providing Federal assistance for a transaction covered by 31 U.S.C. 1352. I also understands that any person who fails to file a required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each failure.

_____ _____

Signature & Title of Authorized Official Date

Cargo Preference *(Required for Rolling Stock Purchase, Construction and Materials and Supplies which includes transport by an ocean vessel)*

The contractor agrees:

a. *to use* privately owned United States-Flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to the underlying contract to the extent such vessels are available at fair and reasonable rates for United States-Flag commercial vessels;

b. *to furnish within* 20 working days following the date of loading for shipments originating within the United States or within 30 working days following the date of leading for shipments originating outside the United States, a legible copy of a rated, "on-board" commercial ocean bill-of -lading in English for each shipment of cargo *described in the preceding paragraph* to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590 and to the FTA recipient (*through the contractor in the case of a subcontractor's bill-of-lading.)*

c. *to include these* requirements in *all subcontracts issued pursuant to this contract when the subcontract may involve the transport of equipment, material, or commodities by ocean vessel.*

Fly America Requirements *(Required for all Contracts)*

The Contractor agrees to comply with 49 U.S.C. 40118 (the "Fly America" Act) in accordance with the General Services Administration's regulations at 41 CFR Part 301-10, which provide that recipients and subrecipients of Federal funds and their contractors are required to use U.S. Flag air carriers for U.S Government-financed international air travel and transportation of their personal effects or property, to the extent such service is available, unless travel by foreign air carrier is a matter of necessity, as defined by the Fly America Act. The Contractor shall submit, if a foreign air carrier was used, an appropriate certification or memorandum adequately explaining why service by a U.S. flag air carrier was not available or why it was necessary to use a foreign air carrier and shall, in any event, provide a certificate of compliance with the Fly America requirements. The Contractor agrees to include the requirements of this section in all subcontracts that may involve international air transportation.

Davis-Bacon and Copeland Anti-Kickback Acts (Required for Construction Projects Greater than $2,000)

(1) **Minimum wages** - (i) All laborers and mechanics employed or working upon the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR Part 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classifications and wage rates conformed under paragraph (1)(ii) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

(ii)(A) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officershall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met: 1. Except with respect to helpers as defined as 29 CFR 5.2(n)(4), the work to be performed by the classification requested is not performed by a

classification in the wage determination; and, 2 The classification is utilized in the area by the construction industry; and 3. The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination; and 4. With respect to helpers as defined in 29 CFR 5.2(n)(4), such a classification prevails in the area in which the work is performed.

(B) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(C) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (a)(1)(ii) (B) or (C) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof. (iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program. (v)(A) The contracting officer shall require that any class of laborers or mechanics which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefor only when the following criteria have been met:

1. The work to be performed by the classification requested is not performed by a classification in the wage determination; and
2. The classification is utilized in the area by the construction industry; and
3. The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(B) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(C) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination with 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (a)(1)(v) (B) or (C) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(2) **Withholding** - The [***insert name of grantee***] shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), all or part of the wages required by the contract, the [***insert name of grantee***] may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

(3) **Payrolls and basic records** - (i) Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work (or under the United States Housing Act of 1937, or under the Housing Act of 1949, in the construction or development of the project). Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that

the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(ii)(A) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the [***insert name of grantee***] for transmission to the Federal Transit Administration. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under section 5.5(a)(3)(i) of Regulations, 29 CFR part 5. This information may be submitted in any form desired. Optional Form WH-347 is available for this purpose and may be purchased from the Superintendent of Documents (Federal Stock Number 029-005-00014-1), U.S. Government Printing Office, Washington, DC 20402. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors.

(B) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following: (1) That the payroll for the payroll period contains the information required to be maintained under section 5.5(a)(3)(i) of Regulations, 29 CFR part 5 and that such information is correct and complete; (2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3; (3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (a)(3)(ii)(B) of this section.

(D) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.
(iii) The contractor or subcontractor shall make the records required under paragraph (a)(3)(i) of this section available for inspection, copying, or transcription by authorized representatives of the Federal Transit Administration or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the Federal agency may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

(4) **Apprentices and trainees** - (i) Apprentices - Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Bureau of Apprenticeship and

Training, or with a State Apprenticeship Agency recognized by the Bureau, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator of the Wage and Hour Division of the U.S. Department of Labor determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Bureau of Apprenticeship and Training, or a State Apprenticeship Agency recognized by the Bureau, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) *Trainees* - Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved. (iii) *Equal employment opportunity* - The utilization of apprentices, trainees and journeymen under this part

shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

(5) **Compliance with Copeland Act requirements** - The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

(6) **Subcontracts** - The contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as the Federal Transit Administration may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

(7) **Contract termination: debarment** - A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

(8) **Compliance with Davis-Bacon and Related Act requirements** - All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

(9) **Disputes concerning labor standards** - Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

(10) **Certification of eligibility** - (i) By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1). (ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1). (iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

Contract Work Hours And Safety Standards Act *(Required for Operations/Management, Rolling Stock Purchases and Construction Projects over $2,500)*

Overtime Requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

Violation; Liability For Unpaid Wages; Liquidated Damages. In the event of any violation of the clause set forth in paragraph (1) of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States for liquidated damages. Such liquidated damages shall be computed with respect to each indivdual laborer or mechanic, including

watchmen, and guards, employed in violation of the clause set forth in paragraph (I) of this section, in the sum of $10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1) of this section.

Withholding For Unpaid Wages And Liquidated Damages. The (write the name of the grantee or recipient) shall upon its own action or upon written request of an authorized representative of the department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2) of this section.

Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in this section and also a clause requiring the subcontractor to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in this section.

(Section 102 non-construction contracts should also have the following provision:)

Payrolls and Basic Records. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work (or under the United States Housing Act of 1937, or under the Housing Act of 1949, in the construction or development of the project). Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions thereof of the types described in section 1(a)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(This section is applicable to construction contracts only)

The Contractor agrees to comply with section 107 of the Contract Work Hours and safety Standards Act, 40 U.S.C. section 333, and applicable DOL regulations, “Safety and Health Regulations for Construction” 29 C.F.R. Part 1926. Among other things, the Contractor agrees that it will not require any laborer or mechanic to work in unsanitary, hazardous, or dangerous surroundings or working conditions.

Subcontracts – The Contractor also agrees to include the requirements of this section in each subcontract. The term "subcontract" under this section is considered to refer to a person who agrees to perform any part of the labor or material requirements of a contract for construction, alteration or repair. A person who undertakes to perform a portion of a contract involving furnishing of supplies or materials will be considered a "subcontractor" under this section if the work in question involves the performance of construction work and is to be performed: (I) directly on or near the construction site, or (2) by the employer for the specific project on a customized basis. Thus, a supplier of materials which will become an integral part of the construction is a "subcontractor" if the supplier fabricates or assembles the goods or materials in question specifically for the construction project and the work involved may be said to be construction activity. If the goods or materials in question are ordinarily sold to other customers from regular inventory, the supplier is not a "subcontractor." The requirements of this section do not apply to contracts or subcontracts for the purchase of supplies or materials or articles normally available on the open market.

Bonding (Required for Construction Projects greater than $100,000)

The Recipient agrees to comply with the following bonding requirements and restrictions as provided in Federal regulations and guidance, except as FTA determines otherwise in writing: (1) Construction. As provided by Federal regulations and modified by FTA guidance, for Project activities involving construction, it will provide: (a) Bid guarantee bonds, (b) Contract performance bonds, and (c) Payment bonds, and (2) Activities Not Involving Construction. For Project activities not involving construction: (a) It will not impose excessive bonding, and (b) It will follow FTA guidance Bid Bond Requirements

Seismic Safety *(Required for Professional Services (A&E) and Construction Projects and Materials and Supplies)*

The contractor agrees that any new building or addition to an existing building will be designed and constructed in accordance with the standards for Seismic Safety required in Department of Transportation Seismic Safety Regulations 49 CFR Part 41 and will certify to compliance to the extent required by the regulation. The contractor also agrees to ensure that all work performed under this contract including work performed by a subcontractor is in compliance with the standards required by the Seismic Safety Regulations and the certification of compliance issued on the project.

Transit Employees Protective Act *(Required for Operations and Management Projects)*

The Contractor agrees to the comply with applicable transit employee protective requirements as follows:

1. General Transit Employee Protective Requirements - To the extent that FTA determines that transit operations are involved, the Contractor agrees to carry out the transit operations work on the underlying contract in compliance with terms and conditions determined by the U.S. Secretary of Labor to be fair and equitable to protect the interests of employees employed under this contract and to meet the employee protective requirements of 49 U.S.C. A 5333(b), and U.S. DOL guidelines at 29 C.F.R. Part 215, and any amendments thereto. These terms and conditions are identified in the letter of

certification from the U.S. DOL to FTA applicable to the FTA Recipient's project from which Federal assistance is provided to support work on the underlying contract. The Contractor agrees to carry out that work in compliance with the conditions stated in that U.S. DOL letter. The requirements of this subsection (1), however, do not apply to any contract financed with Federal assistance provided by FTA either for projects for elderly individuals and individuals with disabilities authorized by 49 U.S.C. § 5310(a)(2), or for projects for nonurbanized areas authorized by 49 U.S.C. § 5311. Alternate provisions for those projects are set forth in subsections (b) and (c) of this clause.

2. Transit Employee Protective Requirements for Projects Authorized by 49 U.S.C. § 5310(a)(2) for Elderly Individuals and Individuals with Disabilities - If the contract involves transit operations financed in whole or in part with Federal assistance authorized by 49 U.S.C. § 5310(a)(2), and if the U.S. Secretary of Transportation has determined or determines in the future that the employee protective requirements of 49 U.S.C. § 5333(b) are necessary or appropriate for the state and the public body subrecipient for which work is performed on the underlying contract, the Contractor agrees to carry out the Project in compliance with the terms and conditions determined by the U.S. Secretary of Labor to meet the requirements of 49 U.S.C. § 5333(b), U.S. DOL guidelines at 29 C.F.R. Part 215, and any amendments thereto. These terms and conditions are identified in the U.S. DOL's letter of certification to FTA, the date of which is set forth Grant Agreement or Cooperative Agreement with the state. The Contractor agrees to perform transit operations in connection with the underlying contract in compliance with the conditions stated in that U.S. DOL letter.

3. Transit Employee Protective Requirements for Projects Authorized by 49 U.S.C.§ 5311 in Nonurbanized Areas - If the contract involves transit operations financed in whole or in part with Federal assistance authorized by 49 U.S.C. § 5311, the Contractor agrees to comply with the terms and conditions of the Special Warranty for the Nonurbanized Area Program agreed to by the U.S. Secretaries of Transportation and Labor, dated May 31, 1979, and the procedures implemented by U.S. DOL or any revision thereto.

The Contractor also agrees to include the any applicable requirements in each subcontract involving transit operations financed in whole or in part with Federal assistance provided by FTA.

Charter Service and School Bus Operations *(Required for Operations and/or Management Projects)*

The contractor agrees to comply with 49 U.S.C. 5323(d) and 49 CFR Part 604, which provides that recipients and subrecipients of FTA assistance are prohibited from providing charter service using federally funded equipment or facilities if there is at least one private charter operator willing and able to provide the service, except under one of the exceptions at 49 CFR 604.9. Any charter service provided under one of the exceptions must be "incidental," i.e., it must not interfere with or detract from the provision of mass transportation.

Federal Privacy Act *(Required for all Contracts)*

Contracts Involving Federal Privacy Act Requirements - The following requirements apply to the Contractor and its employees that administer any system of records on behalf of the Federal Government under any contract:

The Contractor agrees to comply with, and assures the compliance of its employees with, the information restrictions and other applicable requirements of the Privacy Act of 1974, 5 U.S.C. § 552a. Among other things, the Contractor agrees to obtain the express consent of the Federal Government before the Contractor or its employees operate a system of records on behalf of the Federal Government. The Contractor understands that the requirements of the Privacy Act, including the civil and criminal penalties for violation of that Act, apply to those individuals involved, and that failure to comply with the terms of the Privacy Act may result in termination of the underlying contract.

The Contractor also agrees to include these requirements in each subcontract to administer any system of records on behalf of the Federal Government financed in whole or in part with Federal assistance provided by FTA.

Drug and Alcohol Testing *(Required for Operations and Management Programs)*

The Recipient agrees to comply, and assures its Third Party Participants will comply with: (a) Federal transit laws, specifically 49 U.S.C. § 5331, as amended by MAP-21, (b) FTA regulations, "Prevention of Alcohol Misuse and Prohibited Drug Use in Transit Operations," 49 C.F.R. part 655, *and* (c) Applicable provisions of DOT regulations, "Procedures for Transportation Workplace Drug and Alcohol Testing Programs," 49 C.F.R. part 40, and (2) Remedies for Non-Compliance.

Recipient agrees that if FTA determines that a Recipient of funds or a Third Party Participant receiving funds under 49 U.S.C. Chapter 53 is not in compliance with 49 C.F.R. part 655, the Federal Transit Administrator may bar that Recipient or Third Party Participant from receiving all or a portion of the Federal transit assistance it would otherwise receive.

Patent Rights *(Only applies for experimental, developmental or research work)*

The term "subject data" used in this clause means recorded information, whether or not copyrighted, that is delivered or specified to be delivered under the contract. The term includes graphic or pictorial delineation in media such as drawings or photographs; text in specifications or related performance or design-type documents; machine forms such as punched cards, magnetic tape, or computer memory printouts; and information retained in computer memory. Examples include, but are not limited to: computer software, engineering drawings and associated lists, specifications, standards, process sheets, manuals, technical reports, catalog item identifications, and related information. The term "subject data" does not include financial reports, cost analyses, and similar information incidental to contract administration.

The following restrictions apply to all subject data first produced in the performance of the contract to which this Attachment has been added:

Except for its own internal use, the Purchaser or Contractor may not publish or reproduce subject data in whole or in part, or in any manner or form, nor may the Purchaser or Contractor authorize others to do so, without the written consent of the Federal Government, until such time as the Federal Government may have either released or approved the release of such data to the public; this restriction on publication, however, does not apply to any contract with an academic institution.

In accordance with 49 C.F.R. § 18.34 and 49 C.F.R. § 19.36, the Federal Government reserves a royalty-free, non-exclusive and irrevocable license to reproduce, publish, or otherwise use, and to authorize others to use, for "Federal Government purposes," any subject data or copyright described in subsections (2)(b)1 and (2)(b)2 of this clause below. As used in the previous sentence, "for Federal Government purposes," means use only for the direct purposes of the Federal Government. Without the copyright owner's consent, the Federal Government may not extend its Federal license to any other party. Any subject data developed under that contract, whether or not a copyright has been obtained; and Any rights of copyright purchased by the Purchaser or Contractor using Federal assistance in whole or in part provided by FTA.

When FTA awards Federal assistance for experimental, developmental, or research work, it is FTA's general intention to increase transportation knowledge available to the public, rather than to restrict the benefits resulting from the work to participants in that work. Therefore, unless FTA determines otherwise, the Purchaser and the Contractor performing experimental, developmental, or research work required by the underlying contract to which this Attachment is added agrees to permit FTA to make available to the public, either FTA's license in the copyright to any subject data developed in the course of that contract, or a copy of the subject data first produced under the contract for which a copyright has not been obtained. If the experimental, developmental, or research work, which is the subject of the underlying contract, is not completed for any reason whatsoever, all data developed under that contract shall become subject data as defined in subsection (a) of this clause and shall be delivered as the Federal Government may direct. This subsection (c) , however, does not apply to adaptations of automatic data processing equipment or programs for the Purchaser or Contractor's use whose costs are financed in whole or in part with Federal assistance provided by FTA for transportation capital projects.

Unless prohibited by state law, upon request by the Federal Government, the Purchaser and the Contractor agree to indemnify, save, and hold harmless the Federal Government, its officers, agents, and employees acting within the scope of their official duties against any liability, including costs and expenses, resulting from any willful or intentional violation by the Purchaser or Contractor of proprietary rights, copyrights, or right of privacy, arising out of the publication, translation, reproduction, delivery, use, or disposition of any data furnished under that contract. Neither the Purchaser nor the Contractor shall be required to indemnify the Federal Government for any such liability arising out of the wrongful act of any employee, official, or agents of the Federal Government.

Nothing contained in this clause on rights in data shall imply a license to the Federal Government under any patent or be construed as affecting the scope of any license or other right otherwise granted to the Federal Government under any patent.

Data developed by the Purchaser or Contractor and financed entirely without using Federal assistance provided by the Federal Government that has been incorporated into work required by the underlying contract to which this Attachment has been added is exempt from the requirements of subsections (b), (c), and (d) of this clause , provided that the Purchaser or Contractor identifies that data in writing at the time of delivery of the contract work.

Unless FTA determines otherwise, the Contractor agrees to include these requirements in each subcontract for experimental, developmental, or research work financed in whole or in part with Federal assistance provided by FTA.

Unless the Federal Government later makes a contrary determination in writing, irrespective of the Contractor's status (i.e. , a large business, small business, state government or state

instrumentality, local government, nonprofit organization, institution of higher education, individual, etc.), the Purchaser and the Contractor agree to take the necessary actions to provide, through FTA, those rights in that invention due the Federal Government as described in U.S. Department of Commerce regulations, "Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements," 37 C.F.R. Part 401.

The Contractor also agrees to include these requirements in each subcontract for experimental, developmental, or research work financed in whole or in part with Federal assistance provided by FTA.

Patent Rights - This following requirement applies to each contract involving experimental, developmental, or research work:

General - If any invention, improvement, or discovery is conceived or first actually reduced to practice in the course of or under the contract to which this Attachment has been added, and that invention, improvement, or discovery is patentable under the laws of the United States of America or any foreign country, the Purchaser and Contractor agree to take actions necessary to provide immediate notice and a detailed report to the party at a higher tier until FTA is ultimately notified. Unless the Federal Government later makes a contrary determination in writing, irrespective of the Contractor's status (a large business, small business, state government or state instrumentality, local government, nonprofit organization, institution of higher education, individual), the Purchaser and the Contractor agree to take the necessary actions to provide, through FTA, those rights in that invention due the Federal Government as described in U.S. Department of Commerce regulations, "Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements," 37 C.F.R. Part 401.

The Contractor also agrees to include the requirements of this clause in each subcontract for experimental, developmental, or research work financed in whole or in part with Federal assistance provided by FTA.

Energy Conservation *(Required for all Contracts)*

The contractor agrees to comply with 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.

Recycled Products *(Required for Operations and Management, Construction and Materials and Supplies Projects greater than $10,000)*

The contractor agrees to comply with all the requirements of Section 6002 of the Resource Conservation and Recovery Act (RCRA), as amended (42 U.S.C. 6962), including but not limited to the regulatory provisions of 40 CFR Part 247, and Executive Order 12873, as they apply to the procurement of the items designated in Subpart B of 40 CFR Part 247.

National Intelligent Transportation Systems Architecture and Standards *(Required for all Contracts)*

The Recipient agrees to: (1) Conform to the National Intelligent Transportation Systems (ITS) Architecture requirements of 23 U.S.C. § 517(d), as amended by MAP-21, unless it obtains an exemption from those requirements, and (2) Except as the Federal Government determines otherwise in writing, follow: (a) FTA Notice, "FTA National ITS Architecture Policy on Transit Projects," 66 *Fed. Reg.* 1455, January 8, 2001, and (b) Other applicable Federal guidance.

Access Requirements For Persons With Disabilities (ADA) *(required for all contracts)*
The Recipient agrees to comply with the requirements of 49 U.S.C. § 5301(d) which states the Federal policy that the elderly and persons with disabilities have the same right as other persons to use mass transportation service and facilities, and that special efforts shall be made in planning and designing those services and facilities to implement that policy. The Recipient also agrees to comply with all applicable requirements of section 504 of the Rehabilitation Act of 1973, as amended, 29 U.S.C. § 794, which prohibits discrimination on the basis of handicaps, and with the Americans with Disabilities Act of 1990 (ADA), as amended, 42 U.S.C. §§ 12101 *et seq*., which requires that accessible facilities and services be made available to persons with disabilities, including any subsequent amendments thereto. In addition, the Recipient agrees to comply with all applicable requirements of the following regulations and any subsequent amendments thereto:

(1) U.S. DOT regulations, "Transportation Services for Individuals with Disabilities (ADA)," 49 C.F.R. Part 37;

(2) U.S. DOT regulations, "Nondiscrimination on the Basis of Handicap in Programs and Activities Receiving or Benefiting from Federal Financial Assistance," 49 C.F.R. Part 27;
(3) Joint U.S. Architectural and Transportation Barriers Compliance Board/U.S. DOT regulations, "Americans With Disabilities (ADA) Accessibility Specifications for Transportation Vehicles," 36 C.F.R. Part 1192 and 49 C.F.R. Part 38;
(4) U.S. DOJ regulations, "Nondiscrimination on the Basis of Disability in State and Local Government Services," 28 C.F.R. Part 35;
(5) U.S. DOJ regulations, "Nondiscrimination on the Basis of Disability by Public Accommodations and in Commercial Facilities," 28 C.F.R. Part 36;
(6) U.S. General Services Administration (U.S. GSA) regulations, "Accommodations for the Physically Handicapped," 41 C.F.R. Subpart 101-19;
(7) U.S. Equal Employment Opportunity Commission, "Regulations to Implement the Equal Employment Provisions of the Americans with Disabilities Act," 29 C.F.R. Part 1630;
(8) U.S. Federal Communications Commission regulations, "Telecommunications Relay Services and Related Customer Premises Equipment for the Hearing and Speech Disabled," 47 C.F.R. Part 64, Subpart F; and
(9) FTA regulations, "Transportation for Elderly and Handicapped Persons," 49 C.F.R. Part 609; and
(10) Any implementing requirements FTA may issue.

State and Local Government Laws/Regulations **(***Required for all Contracts)*

To the extent required under Federal law, the State, as the Recipient, agrees to provide the following information about FTA funding for State Programs or Projects: a. Types of Information. The State will provide information including: (1) Identification of FTA as the Federal agency providing the Federal funds for the Program or Project, (2) The Catalog of Federal Domestic Assistance Number of the Program from which the Federal funding for the Program or Project is authorized, and (3) The amount of Federal funds FTA has provided for the Program or Project, and b. Documents. The State will provide the information required under this provision in the

following documents: (1) Requests for proposals, (2) Solicitations, (3) Grant or cooperative agreement applications, (4) Forms, (5) Notifications, (6) Press releases, and (7) Other publications.

Bus Testing Certification *(Required for Rolling Stock Purchases)*

The Contractor [Manufacturer] agrees to comply with 49 U.S.C. A 5323(c) and FTA's implementing regulation at 49 CFR Part 665 and shall perform the following:

1. A manufacturer of a new bus model or a bus produced with a major change in components or configuration shall provide a copy of the final test report to the recipient at a point in the procurement process specified by the recipient which will be prior to the recipient's final acceptance of the first vehicle.

2. A manufacturer who releases a report under paragraph 1 above shall provide notice to the operator of the testing facility that the report is available to the public.

3. If the manufacturer represents that the vehicle was previously tested, the vehicle being sold should have the identical configuration and major components as the vehicle in the test report, which must be provided to the recipient prior to recipient's final acceptance of the first vehicle. If the configuration or components are not identical, the manufacturer shall provide a description of the change and the manufacturer's basis for concluding that it is not a major change requiring additional testing.

4. If the manufacturer represents that the vehicle is "grandfathered" (has been used in mass transit service in the United States before October 1, 1988, and is currently being produced without a major change in configuration or components), the manufacturer shall provide the name and address of the recipient of such a vehicle and the details of that vehicle's configuration and major components.

CERTIFICATION OF COMPLIANCE WITH FTA'S BUS TESTING REQUIREMENTS

The undersigned [Contractor/Manufacturer] certifies that the vehicle offered in this procurement complies with 49 U.S.C. A 5323(c) and FTA's implementing regulation at 49 CFR Part 665.
The undersigned understands that misrepresenting the testing status of a vehicle acquired with Federal financial assistance may subject the undersigned to civil penalties as outlined in the Department of Transportation's regulation on Program Fraud Civil Remedies, 49 CFR Part 31. In addition, the undersigned understands that FTA may suspend or debar a manufacturer under the procedures in 49 CFR Part 29.

Date: _____

Signature: _____

Company Name: _____

Title: _____

Pre-Award and Post-Delivery Audit Requirements *(Required for Rolling Stock Purchases over $100,000)*

The Contractor agrees to comply with 49 U.S.C. § 5323(l) and FTA's implementing regulation at 49 C.F.R. Part 663 and to submit the following certifications:

1. Buy America Requirements: The Contractor shall complete and submit a declaration certifying either compliance or noncompliance with Buy America. If the Bidder/Offeror certifies compliance with Buy America, it shall submit documentation which lists 1) component and subcomponent parts of the rolling stock to be purchased identified by manufacturer of the parts, their country of origin and costs; and 2) the location of the final assembly point for the rolling stock, including a description of the activities that will take place at the final assembly point and the cost of final assembly.

2. Solicitation Specification Requirements: The Contractor shall submit evidence that it will be capable of meeting the bid specifications.

3. Federal Motor Vehicle Safety Standards (FMVSS): The Contractor shall submit 1) manufacturer's FMVSS self-certification sticker information that the vehicle complies with relevant FMVSS or 2) manufacturer's certified statement that the contracted buses will not be subject to FMVSS regulations.

Attachment K – Resolution 91-05 VCTC Contract Protest Procedures

RESOLUTION 91-05

A RESOLUTION OF THE VENTURA COUNTY TRANSPORTATION COMMISSION ADOPTING CONTRACT PROTEST PROCEDURES

SECTION I.

THE VENTURA COUNTY TRANSPORTATION COMMISSION DOES HEREBY DETERMINE AND FIND AS FOLLOWS:

A. The Ventura County Transportation Commission (hereinafter, "VCTC") does from time to time solicit bids from contractors for work and/or proposals for professional services; and

B. There is a potential that an Interested Party (as defined in Section II.A, below), may at some time wish to protest the determinations hereinafter set forth as protestable; and

C. It is in the interest of the health, safety and general welfare of the residents of Ventura County and potential Interested Parties that the Commission establish procedures for protests to contracts awarded by, and bids or proposals on contracts received by VCTC, as hereinafter set forth:

SECTION II.

NOW, THEREFORE, THE VENTURA COUNTY TRANSPORTATION COMMISSION DOES HEREBY RESOLVE AS FOLLOWS:

A. <u>GENERAL.</u>

1. This policy specifies procedures for Interested Parties (as hereinafter defined) protesting the following staff actions:

   (a) A written notice, by, or on behalf of, the Executive Director denying a bidder's or proposer's request for a change in contract requirement; and

   (b) A written recommendation to Ventura County Transportation Commission ("VCTC") or a decision made by, or on behalf of, the Executive Director to disqualify a proposer, bidder or subcontractor; and

   (c) A written recommendation by, or on behalf of, the Executive Director that VCTC award a contract to a particular bidder or proposer.

2. This policy does not govern any VCTC staff decision not listed in this Section II.A.

3. When a protest has been properly filed, pursuant to the procedures hereinafter set forth, prior to contract award, the VCTC shall not award the contract prior to deciding the protest. When a protest has been properly filed before the opening of bids, bids shall not be opened prior to the VCTC decision on the protest. When a protest has been filed properly after the contract is awarded, the contract shall not be executed until the protest is resolved by the VCTC.

4. Materials submitted as a part of the protest resolution process will be available to the public except to the extent that:

   (a) The information is designated proprietary by the person submitting the information to VCTC. If the person submitting material to VCTC considers that the material contains proprietary material which should be withheld, a statement advising of this fact shall be affixed to the front page of the material submitted and the alleged proprietary information must be specifically identified in the body of the materials wherever it appears.

B. FILING A PROTEST

1. Protests maybe filed only by "Interested Parties". "Interested Parties" are defined as (a) bidders who have responded, and prospective bidders who may respond, to a request for bids, (b) prospective professional services contractors who may respond, and professional service contractors who have responded, to a request for proposals on a VCTC contract and/or a generally funded contract, and (c) subcontractors or suppliers at any tier who have a substantial economic interest in an award, a provision of the specifications, or a bid or proposal submitted to VCTC by a prime contractor, or in the interpretation of the provisions of such documents.

2. Protests to a contract requirement must be filed at least ten (10) working days prior to bid opening or the deadline for receiving proposals. Protests to VCTC staff actions must be filed within five (5) working days of receipt by the bidder or proposer from the Executive Director, or a person authorized to act on behalf of the Executive Director, or written notice of the VCTC staff action.

3. Protests shall be addressed to Ventura County Transportation Commission, 950 County Square Drive, Suite 207, Ventura, California, 93003, or such other address as may appear on the request for proposal for bid solicitation.

4. Protests shall be in writing and contain a statement of the ground(s) for protest. At least ten (10) copies of the protest shall be submitted by the protestor in the time and manner specified in this section.

5. The Executive Director, or an authorized person acting on behalf of the Executive Director, shall provide notice, by telephone, telephone facsimile (FAX) or by letter, to all bidders and/or persons who have submitted proposals on the contract which

is subject to the protest known to VCTC. Such notice shall state that a protest has been filed with VCTC and identify the name of the protestor. The notice shall be given not more than five (5) working days after receipt of a properly filed protest. The notice shall state that bidders will receive further information relative to the protest only by submitting a written request for further information to the Executive Director.

C. VCTC PRELIMINARY RESPONSE TO A PROTEST: MEETING WITH STAFF TO ATTEMPT EARLY RESOLUTION OF THE PROTEST

1. Not more than ten (10) working days after receipt of a properly filed protest, the Executive Director, or a person authorized to act on his or her behalf, shall prepare and distribute to the protestor and to all persons specified in Section B.5, above:

    (a) A written preliminary response to the protest. This response shall include a brief explanation of the reasons why the protested VCTC staff action is justified; and

    (b) The time, date and place of the meeting described in Section C.2, below.

2. The Executive Director and/or appropriate VCTC staff shall meet with the protestor to discuss and attempt to resolve the protest within thirty (30) days of the response required by section C.1(a) above.

3. After the meeting required by Section C.2, above the protestor shall within five (5) working days give the Executive Director written notice that either the protest is withdrawn or, alternately, that the protestor requests further consideration of the protest. In the event that the protestor fails to file the notice required by this Section C.3 at the office of the Executive Director within five (5) working days after the meeting, the protest shall be deemed withdrawn.

D. FURTHER INVESTIGATION

1. If a protest is not withdrawn pursuant to Section C.3, above, the Executive Director shall, within thirty (30) days of receipt of the notice from the protestor described in Section C.3, above, further investigate the protest with the assistance of the VCTC staff.

2. The Executive Director may contract for third-party consulting services when necessary to investigate a protest. The Executive Director may negotiate with the protestor and other interested parties the sharing of the cost of such consulting services.

3. As part of the investigation, the Executive Director shall establish a reasonable time within which VCTC, the protestor, and other interested parties shall exchange all documents and arguments relevant to the protest; provided, however, that

such time shall not exceed thirty (30) days without the concurrence of the protestor and the Executive Director.

E. INTENDED DECISION: COMMENTS BY PROTESTOR AND OTHER PARTIES

1. Following investigation, the Executive Director shall, within thirty (30) days, prepare and distribute to the protestor and all persons specified in Section B.5:

   (a) An intended decision recommending actions which the Executive Director believes the VCTC should take to resolve the protest and specifying the reasons for the recommended action of the VCTC.

   (b) A statement of the date within which the protestor and other persons must submit written comments with respect to the intended decision. Such date shall allow a reasonable period for rebuttal and shall vary according to the complexity of the particular protest;

   (c) Given written notice to all Interested Parties of the time, date and place of the VCTC meeting at which the protest will be considered.

2. The following materials shall be included in the agenda package sent to VCTC members prior to the VCTC meeting and shall be available to any person at the VCTC office at least five (5) working days before the hearing:

   (a) The intended decision described in Section E.1(a), above.

   (b) All written comments received within the submittal period described in Section E.1(b), above.

   (c) If the Executive Director has revised his/her intended decision since its distribution pursuant to Section E.2(a), above, a written description of the new intended decision and the reasons for revision.

F. VCTC CONSIDERATION

1. At the hearing, VCTC staff and any person may present evidence relating to the protest. At the beginning of the hearing, the Chair of the VCTC may announce time limits on testimony and other procedural rules which, in the opinion of the Chair, are reasonable necessary to preclude repetitious or irrelevant testimony and afford all persons wishing to testify the opportunity to be heard.

2. In rendering its decision on the protest:

   (a) VCTC may adopted or amend the intended decision and findings of fact prepared by the Executive Director and Staff; or

(b) Make findings and adopt a decision different from the findings and intended decision of the Executive Director; or

(c) Elect to defer its decision and direct VCTC staff

(d) To Further investigate the protest; or

(e) Hire an impartial hearing officer to conduct a hearing and prepare a written recommended decision, including findings of fact, to be returned to VCTC for decision which shall be made pursuant to the procedures outlined in this Section.

Attachment L - Defined Terms / Acronyms

A listing of abbreviations and acronyms and their non-abbreviated spellings used in the Specification is provided below:

Acceptance Testing: Includes all testing to verify the requirements of the Agreement as defined in this Scope of Work.
ADA: The Americans with Disabilities Act of 1990
AES: Advanced Encryption Standard
AFCS: Automated Fare Collection System
Agreement: The Agreement between the Contractor and Commission for the Automatic Vehicle Location (AVL) and Passenger Information System Installation, Implementation, and Maintenance Support.

APC: Automatic Passenger Counter
ARRA: American Recovery and Reinvestment Act
ASCII: American Standard Code for Information Interchange
ASP: Application Service Provider, i.e., the Contractor
Automatic Vehicle Location (AVL) System: A system consisting of a global positioning system (GPS) receiver used for vehicle tracking as defined in the Scope of Work.
AVM: Automated Vehicle Monitoring
Availability: A ratio of the actual time a system, subsystem, or equipment is deemed operable and functioning properly as required by this Specification relative to the total time elapsed in said interval.
BOM: Bill of Materials
Changeable Message Sign (CMS): The signs that Contractor may be authorized to install at designated key transfer points or bus stops that display bus arrival and departure information, or user-defined messages, as defined in the Scope of Work.
Single Line Changeable Message Sign (SL CMS): CMS that have a scrolling or changeable display with only a single line of text (Also referred to as bus stop CMS)
Multiple Line Changeable Message Sign (ML CMS): CMS that have larger display screens capable of displaying up to 8 lines of scrolling or changeable text (Also called Transit Terminal CMS)
Computer-Aided Dispatch (CAD): A related system in which some, but not all, control center functions may be performed with the use of a computer.
CAD/AVL: Computer Aided Dispatch/ Automatic Vehicle Locator
CAE: Covert Emergency Alarm
Commission: The Ventura County Transportation Commission (VCTC / Commission).
Commission Designated Representatives: Person or persons authorized by Commission to represent the Commission in all dealings with the Contractor.
Contractor: The successful Proposer selected by Commission to install, implement and support the on-going maintenance of the Automatic Vehicle Location (AVL) and Passenger Information System.
COTS: Commercially Off-the-Shelf hardware and software supplied by the Contractor under this Agreement.
CPPS: Cutover Phasing Plan and Schedule
Customized Hardware: Any AVL and Passenger Information System hardware provided by the Contractor under this Agreement that is designed and certified by the Contractor.
Design Documentation: System design documentation required under the Scope of Work, including the System Requirements Document and System Design Document.
Downtime: Any period of time when a system, subsystem, or equipment is deemed unavailable for use. The opposite of “Uptime”.
DSD: Detailed System Design
DVD: Digital Video Disc
DTD: Document Type Definitions
EA: Emergency Alarm
ECM: Engine Control Module
End-to-End: “End-to-end” means all software/hardware/interfaces and labor to ensure proper

operation and availability of Systems implemented as part of this Project.
Factory Acceptance Test (FAT): The testing performed by the Contractor in accordance with the Scope of Work.
FDR: Final Design Review
Force majeure: Any occurrence which is outside the control of either Commission, Operators, or the Contractor, such as natural disasters, that could not be evaded through the exercise of due care.
FTA: Federal Transit Authority Administration
Geo-fence: A user-defined boundary that has been created, viewed, and edited visually on an interactive map to monitor the location and movement of an object (such as a vehicle).
GPS: Global Positioning System
GUI: Graphical User Interface
HTML: Hypertext Markup Language
Hosted System: Information technology model where all hardware, services and support needed to effectively operate a system are provided by the Contractor as part of ongoing monthly costs associated with ownership of the system. (see also “Application Service Provider” or “ASP”)
ICD: Interface Control Document
ID: Identification
I/O: Input / Output
ITS: Intelligent Transportation Systems
Interactive Voice Response (IVR) System: An interactive technology that allows a computer to detect voice and keypad inputs, such as the Bay Area’s 511 IVR telephone system.
JMS: Java Message Service
LAN: Local Area Network
LCD: Liquid Crystal Display
LDAP: Lightweight Directory Access Protocol
MAR: Mobile Access Router
MDR: Mobile Data Radio
MDT: Mobile Data Terminal
MRS: Maintenance Radio System
MTBF: Mean Time Between Failures
MTTRR: Mean Time to Repair and Respond
NIC: Network Interface Card
NTCIP: National Transportation Communications for Intelligent Transportation Systems Protocol
ODBC: Open Database Connectivity
OEA: Overt Emergency Alarm
OEM: Original Equipment Manufacturer
Operator/Operators: The collection of fixed route transit providers seeking services through this RFP that the Commission is acting on behalf of, including the Commission operated systems VCTC Intercity and Valley Express; as well as, Gold Coast Transit District, Simi Valley, Thousand Oaks Transit, Moorpark City Transit, Ojai Trolley, Camarillo Area Transit / Trolley, and Kanan Shuttle.
Operational Testing: The testing conducted after the initial AVL System deployment for

Stagecoach and Shuttle vehicles whose purpose is to ensure and verify system reliability, accuracy, and performance as described in this Scope of Work.
PA: Public Access System
PDF: Portable Document Format
PDR: Preliminary Design Review
Project: Commission's Automatic Vehicle Location (AVL) and Passenger Information System
Project Management Plan: The plan developed by the Contractor for the Project in accordance with this Scope of Work and approved by Commission, as the same may be amended from time to time by written agreement of Commission and the Contractor.
PRTT: Priority Request To Talk
QA/QC: Quality Assurance and Quality Control Program
QoS: Quality of Service
Recovery Act: American Reinvestment and Recovery Act of 2009
RF: Radio Frequency
RFP: Request For Proposal
RMA: Return Merchandise Authorization
ROI: Return On Investment
RTM: Real-Time Monitor
RTIS: Real-time Transit Information System
RTT: Request To Talk
SA: System Administrator
SAE: Society of Automotive Engineers
SDD: System Design Document
Service Level Agreement: A set of performance standards similar to those contained in Section 9.0 of this Scope of Work that shall govern the Contractor's maintenance and uptime responsibilities that support the Hosted AVL and Passenger Information System.
System: The complete AVL and Passenger Information System that includes the hardware and software required to meet the technical and operational requirements of the Scope of Work.
System Acceptance: Commission's final acceptance of each or any phase of the Project shall be deemed to have occurred when Commission in its sole discretion, determines that the Contractor has complied with all of the completion requirements set forth for the Project in this Scope of Work.
SIT: System Integration Testing
STS: Special Transportation Services
TCH: Transit Control Head
TCIP: Transit Communications Interface Profiles
TCP/IP: Transfer Control Protocol / Internet Protocol
TSP: Traffic Signal Priority
Uptime: See "Availability"
USB: Universal Serial Bus
VAN: Vehicle Area Network
VCTC: Ventura County Transportation Commission (VCTC / Commission)
Vehicle Logic Unit (VLU): The main data collection computer on-board the vehicle
VLAN: Virtual Local Area Network

VLU: Vehicle Logic Unit
VMCS: Vehicle Monitoring and Communication System
VMS: Vehicle Monitoring System
VOIP: Voice Over Internet Protocol
WAN: Wide Area Network
Wi-Fi: Wireless Fidelity
WLAN: Wireless Local Area Network
Work: Scope of Work. Includes deliverables, tasks and services described herein.
WPA2: Wireless Protected Access
XML: Extensible Markup Language

Attachment M - Operators Fleet and System Composition Schedule

Operators Fleet and Systems Composition Schedule

VEHICLE SPECIFICATIONS					ADDITIONAL SPECIFICATIONS RE: OPTIONAL TECHNOLOGIES FOR INSTALLATION AND/OR INTEGRATION							
					AUTOMATIC PASSENGER COUNTERS (APC)			AUTOMATED VOICE ANUNCIATORS (AVA)		FAREBOX	HEADSIGN	
FLEET No. 1	Total	Make	Model Year	Model	Door Opening (" F	R	System Installed?	Microphone/PA System	System Installed?	Make/Model	Make/Model	
VCTC INTERCITY	14	MCI	2014	D4500	NA	NA	Yes. UTA - Integration Pricing Sought	SpeakEasy	None. System Pricing Sought	GFI Odyssey - Integration Pricing Sought	Hanover- Integration Pricing Sought	
	11	MCI	2015	D4505	NA	NA		REI				
	1	MCI	2015	D4500	NA	NA		SpeakEasy				
	2	MCI	2016	D4500	NA	NA		SpeakEasy				
	2	MCI	2008	J-Series	NA	NA		REI				
	3	Volvo	2013	3400	NA	NA		*TBD*				
Total	33											

FLEET No. 2	Total	Make	Model Year	Model	AUTOMATIC PASSENGER COUNTERS (APC) Door Opening (" F	R	System Installed?	AUTOMATED VOICE ANUNCIATORS (AVA) Microphone/PA System	System Installed?	FAREBOX Make/Model	HEADSIGN Make/Model	
VALLEY EXPRESS	10	Chev - Cutaway	2014	El Dorado	N/A	N/A	*No - Not seeking pricing at this time*	Factory Install	None. System Pricing Sought	GFI Card Quest Readers (Planned) - Integration Pricing Sought	Manual Roller Signs - No Integration	
	5	GMC Cutaway	2014	Arboc	38"	N/A	No. New System Pricing Sought				Hanover- Integration Pricing Sought	
Total	15											

FLEET No. 3	Total	Make	Model Year	Model	AUTOMATIC PASSENGER COUNTERS (APC) Door Opening (" F	R	System Installed?	AUTOMATED VOICE ANUNCIATORS (AVA) Microphone/PA System	System Installed?	FAREBOX Make/Model	HEADSIGN Make/Model	
GOLD COAST TRANSIT DISTRICT	9	NABI	2008	35LF	NA		Yes. UTA - Integration Pricing Sought	SpeakEasy	None. System Pricing Sought	GFI Odyssey - Integration Pricing Sought	Luminator-Integration Pricing Sought	
	8	NABI	2009	35LF								
	26	New Flyer	2006	C40LFR								
	8	Gillig	2015	40'								
	5	Gillig	2016	40'								
Total	56											

FLEET No. 4	Total	Make	Model Year	Model	AUTOMATIC PASSENGER COUNTERS (APC) Door Opening (" F	R	System Installed?	AUTOMATED VOICE ANUNCIATORS (AVA) Microphone/PA System	System Installed?	FAREBOX Make/Model	HEADSIGN Make/Model	
SIMI VALLEY TRANSIT	3	New Flyer	2014	XN40	TBD	TBD	No. New System Pricing Sought	REI	None. System Pricing Sought	GFI Odyssey - Integration Pricing Sought	Hanover DG3 - Integration pricing sought	
	3	New Flyer	2014	XN35	TBD	TBD		REI				
	3	New Flyer	2011	C40LFR	TBD	TBD		REI				
	2	NABI	2005	40LFW-32	TBD	TBD		REI				
Total	11											

Attachment M - Operators Fleet and System Composition Schedule (Continued)

FLEET No. 5	Total	Make	Model Year	Model	AUTOMATIC PASSENGER COUNTERS (APC) Door Opening (" F	R	System Installed?	AUTOMATED VOICE ANUNCIATORS (AVA) Microphone/PA System	System Installed?	FAREBOX Make/Model	HEADSIGN Make/Model
THOUSAND OAKS TRANSIT	4	Orion	2008	VII	NA	NA	Yes. UTA - Integration Pricing Sought	Factory Installed	None. System Pricing Sought	GFI Odyssey - Integration Pricing Sought	Luminator - Integration Pricing Sought
	2	Gillig	2014	BRT	NA	NA		N/A	*Yes. Clever Devices - Integration Pricing Sought*		Hanover- Integration Pricing Sought
	1	Ford Cutaway	2009	Allstar	NA	NA		Factory Installed	None. System Pricing Sought		
	2	Ford Cutaway	2015	Allstar	NA	NA		Factory Installed	None. System Pricing Sought		
Total	9										

Fleet No. 6	Total	Make	Model Year	Model	AUTOMATIC PASSENGER COUNTERS (APC) Door Opening (" F	R	System Installed?	AUTOMATED VOICE ANUNCIATORS (AVA) Microphone/PA System	System Installed?	FAREBOX Make/Model	HEADSIGN Make/Model
MOORPARK CITY TRANSIT	3	El Dorado	2010	EZ Rider II	40	34	None	Factory Installed	Yes. Clever Devices	GFI Odyssey/Cardquest TBD (Planned) - Integration Pricing Sought	Twin Vision- Integration Pricing Sought
	3	El Dorado	2015	EZ Rider II	40	34	None	Factory Installed	Yes. Clever Devices		Hanover- Integration Pricing Sought
Total	6										

FLEET No. 7	Total	Make	Model Year	Model	AUTOMATIC PASSENGER COUNTERS (APC) Door Opening (" F	R	System Installed?	AUTOMATED VOICE ANUNCIATORS (AVA) Microphone/PA System	System Installed?	FAREBOX Make/Model	HEADSIGN Make/Model
OJAI TROLLEY	5	Trolley	*TBD*	*TBD*	*TBD*	WC Lift	None - system pricing sought	*TBD*	None-system pricing sought	GFI Card Quest (Planned) - Integration Pricing Sought	*TBD*
Total	5										

FLEET No.8	Total	Make	Model Year	Model	AUTOMATIC PASSENGER COUNTERS (APC) Door Opening (" F	R	System Installed?	AUTOMATED VOICE ANUNCIATORS (AVA) Microphone/PA System	System Installed?	FAREBOX Make/Model	HEADSIGN Make/Model
CAMARILLO AREA TRANSIT	1	Chevy	2015	Arboc	35"	NA	None- System Pricing Sought	Factory Install	None. System Pricing Sought	GFI Card Quest (Planned) Integration Pricing Sought	Hanover- Integration Pricing Sought
Total	1										

FLEET No.9	Total	Make	Model Year	Model	AUTOMATIC PASSENGER COUNTERS (APC) Door Opening (" F	R	System Installed?	AUTOMATED VOICE ANUNCIATORS (AVA) Microphone/PA System	System Installed?	FAREBOX Make/Model	HEADSIGN Make/Model
KANAN SHUTTLE	4	Starcarft	2014	Allstar	28"	WC Lift	None	Factory Installed	None - Integration request TBD	GFI Card Quest (Planned) Integration Pricing Sought	TwinVision
Total	4										
TOTAL FLEET	*140*										

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