



CONTRACT NO. 500229
(RFP 805839)
CAD/AVL SYSTEM REPLACEMENT

CONTRACTOR:

TRAPEZE SOFTWARE GROUP, INC., DBA VONTAS
5265 ROCKWELL DRIVE NE
CEDAR RAPIDS, IOWA 52402
PHONE: 319-743-1000
EMAIL: PETER.ACZEL@VONTASCOM

AWARD DATE: APRIL 11, 2025

CONTRACT TERM: MAY 14, 2025 THRU MAY 13, 2027

PRICE: \$6,749,111.81

PROJECT MANAGER:

Telephone #	Jonathan Tanzer (512) 369-6053
Email Address	jonathan.tanzer@capmetro.org

CONTRACT ADMINISTRATOR:

Telephone #	Sean Wighaman (512) 369-6243
Email Address	sean.wighaman@capmetro.org

PROCUREMENT DEPARTMENT
CAPITAL METROPOLITAN TRANSPORTATION AUTHORITY
2910 E. 5th STREET
AUSTIN, TEXAS 78702



**CONTRACT 500229
(RFP 805839)**

**CAD/AVL SYSTEM REPLACEMENT
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CAPITAL METROPOLITAN TRANSPORTATION AUTHORITY AUSTIN, TEXAS		
AWARD/CONTRACT FORM		
1. SOLICITATION NO: RFP 805839	2. CONTRACT NO: 500229	3. EFFECTIVE DATE: Upon Execution
4. CONTRACTS ADMINISTRATOR: Sean Wighamam		PHONE: 512-369-6243
5. SHIP TO ADDRESS:	6. DELIVERY TERMS:	
CapMetro 2910 East 5 th Street Austin, Texas 78702	F.O.B. Destination	
7. DISCOUNTS FOR PROMPT PAYMENT: N/A		
8. CONTRACTOR NAME & ADDRESS:	9. REMITTANCE ADDRESS: (If different from Item 8)	
Trapeze Software Group, Inc., dba Vontas 5265 Rockwell Drive NE Cedar Rapids, Iowa 52402		
PHONE: 319-743-1000	EMAIL: peter.aczel@vontascom	
10. SBE GOAL: N/A		
CONTRACT EXECUTION		
CAUTION: A false statement in any bid or proposal submitted to CMTA may be a criminal offense in violation of Section 37.10 of the Texas Penal Code.		
☒ NEGOTIATED AGREEMENT:	(Contractor is required to sign below and return to the Contracting Officer within three (3) calendar days of receipt.)	
Contractor agrees to perform, furnish and deliver all the services set forth or otherwise identified in the following items and all relevant attachments and addenda for the base and option years. The rights and obligations of the parties to this contract shall be subject to and governed by the following documents: (a) this Award/Contract, (b) the solicitation, as amended, and (c), such provisions, representations, certifications, and specifications, as are attached or incorporated by reference herein.		
SIGNATURE OF CONTRACTOR:		
Name/Title: <u>Peter Aczel, General Manager</u> Signature: <u></u> Date: <u>March 10, 2025</u>		
☒ AWARD:	Items listed below are changes from the original offer and solicitation as submitted.	
This Award/Contract Form may be executed in multiple originals, and an executed facsimile or email copy shall have the same force and effect as an original document.		
ALTERATIONS IN CONTRACT: Changes are as follows:		
Refer to Exhibit E-Revised-1, Contractual Terms and Conditions. Exhibit E-Revised-1, Contractual Terms and Conditions shall be replaced with Exhibit E-Revised-2 , attached hereto and made a part hereof for all pertinent purposes. The following sections in Exhibit E have been changed with strikethrough, red text, and highlight, marked with a vertical line in the margin.		
1. DEFINITIONS 3. PERFORMANCE BOND 10. INSURANCE 16. SUBCONTRACTORS AND OUTSIDE CONSULTANTS 18. CONTRACTOR AND SUBCONTRACTOR ANNUAL AUDITED FINANCIAL STATEMENTS AND ABILITY TO PERFORM 23. TERMINATION FOR CONVENIENCE 25. INTELLECTUAL PROPERTY; DATA PRIVACY PROVISIONS 27. INSPECTIONS AND APPROVALS 37. LIMITATION OF LIABILITY 44. INDEMNIFICATION 56. MISCELLANEOUS		
Refer to Exhibit K, IT On-Premises Solutions. Exhibit K, IT On-Premises Solutions shall be replaced with Exhibit K-Revised-1 , attached hereto and made a part hereof for all pertinent purposes. The following sections in Exhibit K have been changed with strikethrough, red text, and highlight, marked with a vertical line in the margin.		
1. DEFINITIONS 8. USE OF ON-PREMISES SYSTEM, THE SOFTWARE AND THE AUTHORITY DATA AND AUTHORITY ELECTRONIC PROPERTY		
Refer to Exhibit L, IT Hosted Solutions. Exhibit L, IT Hosted Solutions shall be replaced with Exhibit L-Revised-1 , attached hereto and made a part hereof for all pertinent purposes. The following sections in Exhibit K have been changed with strikethrough, red text, and highlight, marked with a vertical line in the margin.		
1. DEFINITIONS 12. THE AUTHORITY'S RIGHTS TO ACCESS AND USE APPLICATION		
11. ACCEPTED AS TO: All items specified in Exhibit A-Revised-2, Pricing Schedule, Section 7. GRAND TOTAL SUMMARY: BASE AND OPTION PERIODS, Item 1.0: BASE PERIOD (CONTRACT YEAR 1 & YEAR 2) Implementation, in an amount not to exceed \$ 6,749,111.81.		
SIGNATURE OF CONTRACTING OFFICER:		
Muhammad Abdullah, C.P.M., VP Procurement & Chief Contracting Officer		E-SIGNED by Muhammad Abdullah on 2025-05-14 20:01:00 GMT Signature: _____ Date: <u>May 14, 2025</u>

CAPITAL METROPOLITAN TRANSPORTATION AUTHORITY

**EXHIBIT A-REVISED-2
FPR****PRICING SCHEDULE****RFP 805839****THE OFFEROR IS REQUIRED TO SIGN AND DATE EACH PAGE OF THIS SCHEDULE****1. IDENTIFICATION OF OFFEROR AND SIGNATURE OF AUTHORIZED AGENT**

Company Name (Printed)	Trapeze Software Group, Inc., dba Vontas		
Address	5265 Rockwell Drive NE		
City, State, Zip	Cedar Rapids, Iowa 52402		
Phone, Fax, Email	319-743-1000	319-366-7406	peter.aczel@vontascom
The undersigned agrees, if this offer is accepted within the period specified, to furnish any or all supplies and/or services specified in the Schedule at the prices offered therein.			
Authorized Agent Name and Title (Printed)	Peter Aczel, General Manager		
Signature and Date			December 20, 2024

2. ACKNOWLEDGEMENT OF AMENDMENTS

The offeror must acknowledge amendment(s) to this solicitation in accordance with the ACKNOWLEDGMENT OF AMENDMENTS section of Exhibit C.

3. PROMPT PAYMENT DISCOUNT

# of Days	N/A	Percentage	%
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Note, payment terms are specified in Exhibit E, Contractual Terms and Conditions.

4. AUTHORITY'S ACCEPTANCE (TO BE COMPLETED UPON AWARD BY CAPITAL METRO)

The Authority hereby accepts this offer.

Authorized Agent Name and Title (Printed)	
Signature and Date	
Accepted as to:	See Award/Contract Form

CAPITAL METROPOLITAN TRANSPORTATION AUTHORITY

5. DOCUMENTS ENCLOSED WITH THE PROPOSAL

Proposals shall be submitted electronically via the Authority's PB System™ by PlanetBids ("PlanetBids"). See Exhibit C, Solicitation Instructions and Conditions, Section 4, PREPARATION OF PROPOSALS and Section 8. SUBMISSION OF PROPOSALS, for instructions on registering with, and submitting proposals on, PlanetBids.

Mark X each box below, to indicate that the submittals have been included in the offer. See Exhibit C, Solicitation Instructions and Conditions, Section 4, PREPARATION OF PROPOSALS for a description of the required proposal format.

Email Delivery of the Final Proposal Revision (FPR) shall be submitted electronically with the subject heading clearly identified as **RFP 805839, CAD/AVL System Replacement, FPR Volume 1 and FPR Volume 2**, to the following email addresses:

To: Procure.Help@capmetro.org
Cc: Sean.Wighaman@capmetro.org

☐

Exhibit A-Revised-2 – Pricing Schedule (signed PDF and Excel format)

Exhibit B – Representations and Certifications

Exhibit C-1 – Exceptions and Assumptions Form (if applicable)

Exhibit F-1-Revised-1 – Compliance Matrix

Exhibit H – Authorization of Work Product

Exhibit J – IT Consultant Access and Use Agreement

Firm Financial Data, as described in Exhibit C, Contents of Proposal

Note: Failure to submit the required submittals along with the offer may result in rejection of the offer.

Remainder of page intentionally left blank.

Signature of Authorized Agent:



Date: December 20, 2024

The remainder of Exhibit A – Pricing Schedule has been redacted.

For further information regarding Exhibit A, you may:

- Reach out to the Contractor directly via the Contractor contact details provided on the cover page of this contract.

OR

- Submit a public information request directly to PIR@capmetro.org.

For more information regarding the Public Information Act and submitting public information requests, follow this link to our website: <https://www.capmetro.org/legal/>

EXHIBIT B

REPRESENTATIONS AND CERTIFICATIONS

(LOCALLY FUNDED SUPPLY/SERVICE/CONSTRUCTION CONTRACTS)

MUST BE RETURNED WITH THE OFFER

1. TYPE OF BUSINESS

(a) The offeror operates as (mark one):

- ☐ An individual
☐ A partnership
☐ A sole proprietor
☒ A corporation
☐ Another entity _____

(b) If incorporated, under the laws of the State of:

Delaware

2. PARENT COMPANY AND IDENTIFYING DATA

(a) The offeror (mark one):

- ☒ is
☐ is not

owned or controlled by a parent company. A parent company is one that owns or controls the activities and basic business policies of the offeror. To own the offering company means that the parent company must own more than fifty percent (50%) of the voting rights in that company.

(b) A company may control an offeror as a parent even though not meeting the requirements for such ownership if the company is able to formulate, determine, or veto basic policy decisions of the offeror through the use of dominant minority voting rights, use of proxy voting, or otherwise.

(c) If not owned or controlled by a parent company, the offeror shall insert its own EIN (Employer's Identification Number) below:

(d) If the offeror is owned or controlled by a parent company, it shall enter the name, main office and EIN number of the parent company, below:

Modaxo USA Holdings, Inc.
5265 Rockwell Drive NE
Cedar Rapids, IA 52402

3. CERTIFICATION OF INDEPENDENT PRICE DETERMINATION

(a) The offeror (and all joint venture members, if the offer is submitted by a joint venture) certifies that in connection with this solicitation:

(1) the prices offered have been arrived at independently, without consultation, communication, or agreement for the purpose of restricting competition, with any other offeror or with any other competitor;

(2) unless otherwise required by law, the prices offered have not been knowingly disclosed by the offeror and will not knowingly be disclosed by the offeror prior to opening of bids in the case of an invitation for bids, or prior to contract award in the case of a request for proposals, directly or indirectly to any other offeror or to any competitor; and

(3) no attempt has been made or will be made by the offeror to induce any other person or firm to submit or not to submit an offer for the purpose of restricting competition.

(b) Each signature on the offer is considered to be a certification by the signatory that the signatory:

(1) is the person in the offeror's organization responsible for determining the prices being offered in this bid or proposal, and that the signatory has not participated and will not participate in any action contrary to paragraphs (a)(1) through (a)(3) of this provision; or

(i) has been authorized, in writing, to act as agent for the following principals in certifying that those principals have not participated, and will not participate in any action contrary to paragraphs (a)(1) through (a)(3) of this provision _____ [insert full name of person(s) in the offeror's organization responsible for determining the prices offered in this bid or proposal, and the title of his or her position in the offeror's organization];

(ii) as an authorized agent, does certify that the principals named in subdivision (b)(1)(i) of this provision have not participated, and will not participate, in any action contrary to paragraphs (a)(1) through (a)(3) of this provision; and

(iii) as an agent, has not personally participated, and will not participate, in any action contrary to paragraphs (a)(1) through (a)(3) of this provision.

(c) If the offeror deletes or modifies paragraph (a)(2) of this provision, the offeror must furnish with its offer a signed statement setting forth in detail the circumstances of the disclosure.

4. DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

(a) In accordance with the provisions of 2 C.F.R. (Code of Federal Regulations), part 180, the offeror certifies to the best of the offeror's 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 (3) year period preceding this offer been convicted of or had a civil judgment rendered against them for the 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 (a)(2) above; and

(4) have not within a three (3) year period preceding this offer had one or more public transactions (Federal, State, or local) terminated for cause or default.

(b) Where the offeror is unable to certify to any of the statements above, the offeror shall attach a full explanation to this offer.

(c) For any subcontract at any tier expected to equal or exceed \$25,000:

(1) In accordance with the provisions of 2 C.F.R. part 180, the prospective lower tier subcontractor certifies, by submission of this offer, that neither it nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

(2) Where the prospective lower tier participant is unable to certify to the statement, above, an explanation shall be attached to the offer.

(3) This certification (specified in paragraphs (c)(1) and (c)(2), above) shall be included in all applicable subcontracts and a copy kept on file by the prime contractor. The prime contractor shall be required to furnish copies of the certifications to the Authority upon request.

5. **COMMUNICATIONS**

(a) All oral and written communications with the Authority regarding this solicitation shall be exclusively with, or on the subjects and with the persons approved by, the persons identified in this solicitation. Discussions with any other person not specified could result in disclosure of proprietary or other competitive sensitive information or otherwise create the appearance of impropriety or unfair competition and thereby compromise the integrity of the Authority's procurement system. If competition cannot be resolved through normal communication channels, the Authority's protest procedures shall be used for actual or prospective competitors claiming any impropriety in connection with this solicitation.

(b) By submission of this offer, the offeror certifies that it has not, and will not prior to contract award, communicate orally or in writing with any Authority employee or other representative of the Authority (including Board Members, Capital Metro contractors or consultants), except as described below:

Individual's Name	Date/Subject of Communication
Not Applicable (Attach continuation form, if necessary.)	

6. **CONTINGENT FEE**

(a) Except for full-time, bona fide employees working solely for the offeror, the offeror represents as part of its offer that it (mark one):

- ☐ has
☒ has not

employed or retained any company or persons to solicit or obtain this contract, and (mark one):

- ☐ has
☒ has not

paid or agreed to pay any person or company employed or retained to solicit or obtain this contract any commission, percentage, brokerage, or other fee contingent upon or resulting from the award of this contract.

(b) The offeror agrees to provide information relating to (a) above, when any item is answered affirmatively.

7. CODE OF ETHICS

(a) Statement of Purpose

The brand and reputation of Capital Metro is determined in large part by the actions or ethics of representatives of the agency. Capital Metro is committed to a strong ethical culture and to ethical behavior by all individuals serving Capital Metro as employees, members of the Board of Directors or volunteers. Individuals serving Capital Metro will conduct business with honesty and integrity. We will make decisions and take actions that are in the best interest of the people we serve and that are consistent with our mission, vision and this policy. The Code of Ethics (the "Code") documents Capital Metro's Standards of Ethical Conduct and policies for Ethical Business Transactions. Compliance with the Code will help protect Capital Metro's reputation for honesty and integrity. The Code attempts to provide clear principles for Capital Metro's expectations for behavior in conducting Capital Metro business. We have a duty to read, understand and comply with the letter and spirit of the Code and Capital Metro policies. You are encouraged to inquire if any aspect of the Code needs clarification.

(b) Applicability

The Code applies to Capital Metro employees, contractors, potential contractors, Board Members and citizen advisory committee members. Violation of the Code of Ethics may result in discipline up to and including termination or removal from the Board of Directors.

(c) Standards of Ethical Conduct

The public must have confidence in our integrity as a public agency and we will act at all times to preserve the trust of the community and protect Capital Metro's reputation. To demonstrate our integrity and commitment to ethical conduct we will:

- (1) Continuously exhibit a desire to serve the public and display a helpful, respectful manner.
- (2) Exhibit and embody a culture of safety in our operations.
- (3) Understand, respect and obey all applicable laws, regulations and Capital Metro policies and procedures both in letter and spirit.
- (4) Exercise sound judgment to determine when to seek advice from legal counsel, the Ethics Officer or others.
- (5) Treat each other with honesty, dignity and respect and will not discriminate in our actions toward others.
- (6) Continuously strive for improvement in our work and be accountable for our actions.
- (7) Transact Capital Metro business effectively and efficiently and act in good faith to protect the Authority's assets from waste, abuse, theft or damage.
- (8) Be good stewards of Capital Metro's reputation and will not make any representation in public or private, orally or in writing, that states, or appears to state, an official position of Capital Metro unless authorized to do so.
- (9) Report all material facts known when reporting on work projects, which if not revealed, could either conceal unlawful or improper practices or prevent informed decisions from being made.
- (10) Be fair, impartial and ethical in our business dealings and will not use our authority to unfairly or illegally influence the decisions of other employees or Board members.
- (11) Ensure that our personal or business activities, relationships and other interests do not conflict or appear to conflict with the interests of Capital Metro and disclose any potential conflicts.

(12) Encourage ethical behavior and report all known unethical or wrongful conduct to the Capital Metro Ethics Officer or the Board Ethics Officer.

(d) Roles and Responsibilities

It is everyone's responsibility to understand and comply with the Code of Ethics and the law. Lack of knowledge or understanding of the Code will not be considered. If you have a question about the Code of Ethics, ask.

It is the responsibility of Capital Metro management to model appropriate conduct at all times and promote an ethical culture. Seek guidance if you are uncertain what to do.

It is Capital Metro's responsibility to provide a system of reporting and access to guidance when an employee wishes to report a suspected violation and to seek counseling, and the normal chain of command cannot, for whatever reason, be utilized. If you need to report something or seek guidance outside the normal chain of command, Capital Metro provides the following resources:

(1) Anonymous Fraud Hotline – Internal Audit

(2) Anonymous Online Ethics Reporting System

(3) Contact the Capital Metro Ethics Officer, Vice-President of Internal Audit, the EEO Officer or Director of Human Resources

(4) Safety Hotline

The Capital Metro Ethics Officer is the Chief Counsel. The Ethics Officer is responsible for the interpretation and implementation of the Code and any questions about the interpretation of the Code should be directed to the Ethics Officer.

(e) Ethical Business Transactions

Section 1. Impartiality and Official Position

(1) A Substantial Interest is defined by Tex. Loc. Govt. Code, § 171.002. An official or a person related to the official in the first degree by consanguinity or affinity has a Substantial Interest in:

(i) A business entity if the person owns ten percent (10%) or more of the voting stock or shares of the business entity or owns either 10% or more or \$15,000 or more of the fair market value of the business entity OR funds received by the person from the business entity exceed 10% of the person's gross income for the previous year; or

(ii) Real property if the interest is an equitable or legal ownership with a fair market value of \$2,500 or more.

Capital Metro will not enter into a contract with a business in which a Board Member or employee or a Family Member of a Board Member or employee as defined in Section 8 has a Substantial Interest except in case of emergency as defined in the Acquisition Policy PRC-100 or the business is the only available source for essential goods and services or property.

(2) No Board Member or employee shall:

(i) Act as a surety for a business that has work, business or a contract with Capital Metro or act as a surety on any official bond required of an officer of Capital Metro.

(ii) Represent for compensation, advise or appear on behalf of any person or firm concerning any contract or transaction or in any proceeding involving Capital Metro's interests.

(iii) Use his or her official position or employment, or Capital Metro's facilities, equipment or supplies to obtain or attempt to obtain private gain or advantage.

(iv) Use his or her official position or employment to unfairly influence other Board members or employees to perform illegal, immoral, or discreditable acts or do anything that would violate Capital Metro policies.

(v) Use Capital Metro's resources, including employees, facilities, equipment, and supplies in political campaign activities.

(vi) Participate in a contract for a contractor or first-tier subcontractor with Capital Metro for a period of one (1) year after leaving employment on any contract with Capital Metro.

(vii) Participate for a period of two (2) years in a contract for a contractor or first-tier subcontractor with Capital Metro if the Board Member or employee participated in the recommendation, bid, proposal or solicitation of the Capital Metro contract or procurement.

Section 2. Employment and Representation

A Board Member or employee must disclose to his or her supervisor, appropriate Capital Metro staff or the Board Chair any discussions of future employment with any business which has, or the Board Member or employee should reasonably foresee is likely to have, any interest in a transaction upon which the Board Member or employee may or must act or make a recommendation subsequent to such discussion. The Board Member or employee shall take no further action on matters regarding the potential future employer.

A Board Member or employee shall not solicit or accept other employment to be performed or compensation to be received while still a Board Member or employee, if the employment or compensation could reasonably be expected to impair independence in judgment or performance of their duties.

A Board Member or employee with authority to appoint or hire employees shall not exercise such authority in favor of an individual who is related within the first degree, within the second degree by affinity or within the third degree by consanguinity as defined by the Capital Metro Nepotism Policy in accordance with Tex. Govt. Code, Ch. 573.

Section 3. Gifts

It is critical to keep an arms-length relationship with the entities and vendors Capital Metro does business with in order to prevent the appearance of impropriety, undue influence or favoritism.

No Board Member or employee shall:

(1) Solicit, accept or agree to accept any benefit or item of monetary value as consideration for the Board Member's or employee's decision, vote, opinion, recommendation or other exercise of discretion as a public servant. [Tex. Penal Code §36.02(c)]

(2) Solicit, accept or agree to accept any benefit or item of monetary value as consideration for a violation of any law or duty. [Tex. Penal Code §36.02(a)(1)]

(3) Solicit, accept or agree to accept any benefit or item of monetary value from a person the Board Member or employee knows is interested in or likely to become interested in any Capital Metro contract or transaction if the benefit or item of monetary value could reasonably be inferred as intended to influence the Board Member or employee. [Tex. Penal Code §36.08(d)]

(4) Receive or accept any gift, favor or item of monetary value from a contractor or potential contractor of Capital Metro or from any individual or entity that could reasonably be inferred as intended to influence the Board Member or employee.

Exception: Consistent with state law governing public servants, a gift does not include a benefit or item of monetary value with a value of less than \$50, excluding cash or negotiable instruments, unless it can reasonably be inferred that the item was intended to influence the Board Member or employee. A department may adopt more restrictive provisions if there is a demonstrated and documented business need. [Tex. Penal Code § 36.10(a)(6)]

Exception: A gift or other benefit conferred, independent of the Board Member's or employee's relationship with Capital Metro, that is not given or received with the intent to influence the Board Member or employee in the performance of his or her official duties is not a violation of this policy. The Capital Metro Ethics Officer or Board Ethics Officer must be consulted for a determination as to whether a potential gift falls within this exception.

Exception: Food, lodging, or transportation that is provided as consideration for legitimate services rendered by the Board Member or employee related to his or her official duties is not a violation of this policy.

If you are uncertain about a gift, seek guidance from the Ethics Officer.

Section 4. Business Meals and Functions

Board Members and employees may accept invitations for free, reasonable meals in the course of conducting Capital Metro's business or while attending a seminar or conference in connection with Capital Metro business as long as there is not an active or impending solicitation in which the inviting contractor or party may participate and attendance at the event or meal does not create an appearance that the invitation was intended to influence the Board Member or employee.

When attending such events, it is important to remember that you are representing Capital Metro and if you chose to drink alcohol, you must do so responsibly. Drinking irresponsibly may lead to poor judgment and actions that may violate the Code or other Capital Metro policies and may damage the reputation of Capital Metro in the community and the industry.

Section 5. Confidential Information

It is everyone's responsibility to safeguard Capital Metro's nonpublic and confidential information.

No Board Member or employee shall:

- (1) Disclose, use or allow others to use nonpublic or confidential information that Capital Metro has not made public unless it is necessary and part of their job duties and then only pursuant to a nondisclosure agreement approved by legal counsel or with consultation and permission of legal counsel.
- (2) Communicate details of any active Capital Metro procurement or solicitation or other contract opportunity to any contractor, potential contractor or individual not authorized to receive information regarding the active procurement or contract opportunity.

Section 6. Financial Accountability and Record Keeping

Capital Metro's financial records and reports should be accurate, timely, and in accordance with applicable laws and accounting rules and principles. Our records must reflect all components of a transaction in an honest and forthright manner. These records reflect the results of Capital Metro's operations and our stewardship of public funds.

A Board Member or employee shall:

- (1) Not falsify a document or distort the true nature of a transaction.
- (2) Properly disclose risks and potential liabilities to appropriate Capital Metro staff.
- (3) Cooperate with audits of financial records.

- (4) Ensure that all transactions are supported by accurate documentation.
- (5) Ensure that all reports made to government authorities are full, fair, accurate and timely.
- (6) Ensure all accruals and estimates are based on documentation and good faith judgment.

Section 7. Conflict of Interest

Employees and Board Members are expected to deal at arms-length in any transaction on behalf of Capital Metro and avoid and disclose actual conflicts of interest under the law and the Code and any circumstance which could impart the appearance of a conflict of interest. A conflict of interest exists when a Board Member or employee is in a position in which any official act or action taken by them is, may be, or appears to be influenced by considerations of personal gain rather than the general public trust.

Conflict of Interest [Tex. Loc. Govt. Code, Ch. 171 & 176, § 2252.908]

No Board Member or employee shall participate in a matter involving a business, contract or real property transaction in which the Board Member or employee has a Substantial Interest if it is reasonably foreseeable that an action on the matter would confer a special economic benefit on the business, contract or real property that is distinguishable from its effect on the public. [Tex. Loc. Govt. Code, § 171.004]

Disclosure

A Board Member or employee must disclose a Substantial Interest in a business, contract, or real property that would confer a benefit by their vote or decision. The Board Member or employee may not participate in the consideration of the matter subject to the vote or decision. Prior to the vote or decision, a Board Member shall file an affidavit citing the nature and extent of his or her interest with the Board Vice Chair or Ethics Officer. [Tex. Loc. Govt. Code, § 171.004]

A Board Member or employee may choose not to participate in a vote or decision based on an appearance of a conflict of interest and may file an affidavit documenting their recusal.

Section 8. Disclosure of Certain Relationships [Tex. Loc. Govt. Code, Ch. 176]

Definitions

(1) A Local Government Officer is defined by Tex. Loc. Govt. Code § 176.001(4). A Local Government Officer is:

(i) A member of the Board of Directors;

(ii) The President/CEO; or

(iii) A third party agent of Capital Metro, including an employee, who exercises discretion in the planning, recommending, selecting or contracting of a vendor.

(2) A Family Member is a person related within the first degree by consanguinity or the second degree by affinity as defined by Tex. Govt. Code, Ch. 573.

(3) A Family Relationship is a relationship between a person and another person within the third degree by consanguinity or the second degree by affinity as defined by Tex. Govt. Code, Ch. 573.

(4) A Local Government Officer must file a Conflicts Disclosure Statement (FORM CIS) if:

(i) The person or certain Family Members received at least \$2,500 in taxable income (other than investment income) from a vendor or potential vendor in the last twelve (12) months through an employment or other business relationship;

(ii) The person or certain Family Members received gifts from a vendor or potential vendor with an aggregate value greater than \$100 in the last 12 months; or

(iii) The vendor (or an employee of the vendor) has a Family Relationship with the Local Government Officer.

- (5) A vendor doing business with Capital Metro or seeking to do business with Capital Metro is required to file a completed questionnaire (FORM CIQ) disclosing the vendor's affiliations or business relationship with any Board Member or local government officer or his or her Family Member.

Section 9. Duty to Report and Prohibition on Retaliation

Board Members and employees have a duty to promptly report any violation or possible violation of this Code of Ethics, as well as any actual or potential violation of laws, regulations, or policies and procedures to the hotline, the Capital Metro Ethics Officer or the Board Ethics Officer.

Any employee who reports a violation will be treated with dignity and respect and will not be subjected to any form of retaliation for reporting truthfully and in good faith. Any retaliation is a violation of the Code of Ethics and may also be a violation of the law, and as such, could subject both the individual offender and Capital Metro to legal liability.

Section 10. Penalties for Violation of the Code of Ethics

In addition to turning over evidence of misconduct to the proper law enforcement agency when appropriate, the following penalties may be enforced:

(1) If a Board Member does not comply with the requirements of this policy, the Board member may be subject to censure or removal from the Board in accordance with Section 451.511 of the Texas Transportation Code.

(2) If an employee does not comply with the requirements of this policy, the employee shall be subject to appropriate disciplinary action up to and including termination.

(3) Any individual or business entity contracting or attempting to contract with Capital Metro which offers, confers or agrees to confer any benefit as consideration for a Board Member's or employee's decision, opinion, recommendation, vote or other exercise of discretion as a public servant in exchange for the Board Member's or employee's having exercised his official powers or performed his official duties, or which attempts to communicate with a Board Member or Capital Metro employee regarding details of a procurement or other contract opportunity in violation of Section 5, or which participates in the violation of any provision of this Policy may have its existing Capital Metro contracts terminated and may be excluded from future business with Capital Metro for a period of time as determined appropriate by the President/CEO.

(4) Any individual who makes a false statement in a complaint or during an investigation of a complaint with regard to a matter that is a subject of this policy is in violation of this Code of Ethics and is subject to its penalties. In addition, Capital Metro may pursue any and all available legal and equitable remedies against the person making the false statement or complaint.

Section 11. Miscellaneous Provisions

(1) This Policy shall be construed liberally to effectuate its purposes and policies and to supplement such existing laws as they may relate to the conduct of Board Members and employees.

(2) Within sixty (60) days of the effective date for the adoption of this Code each Board Member and employee of Capital Metro will receive a copy of the Code and sign a statement acknowledging that they have read, understand and will comply with Capital Metro's Code of Ethics. New Board Members and employees will receive a copy of the Code and are required to sign this statement when they begin office or at the time of initial employment.

(3) Board Members and employees shall participate in regular training related to ethical conduct, this Code of Ethics and related laws and policies.

8. RESERVED

9. TEXAS ETHICS COMMISSION CERTIFICATION

In accordance with Section 2252.908, Texas Government Code, upon request of the Authority, the selected contractor may be required to electronically submit a "Certificate of Interested Parties" with the Texas Ethics Commission in the form required by the Texas Ethics Commission, and furnish the Authority with the original signed and notarized document prior to the time the Authority signs the contract. The form can be found at www.ethics.state.tx.us. Questions regarding the form should be directed to the Texas Ethics Commission.

10. TEXAS LABOR CODE CERTIFICATION (CONSTRUCTION ONLY)

Contractor certifies that Contractor will provide workers' compensation insurance coverage on every employee of the Contractor employed on the Project. Contractor shall require that each Subcontractor employed on the Project provide workers' compensation insurance coverage on every employee of the Subcontractor employed on the Project and certify coverage to Contractor as required by Section 406.96 of the Texas Labor Code, and submit the Subcontractor's certificate to the Authority prior to the time the Subcontractor performs any work on the Project.

11. CERTIFICATION REGARDING ISRAEL

As applicable and in accordance with Section 2271.002 of the Texas Government Code, the Contractor certifies that it does not boycott Israel and will not boycott Israel during the term of this Contract.

12. CERTIFICATION REGARDING FOREIGN TERRORIST ORGANIZATIONS

Contractor certifies and warrants that it is not engaged in business with Iran, Sudan, or a foreign terrorist organization, as prohibited by Section 2252.152 of the Texas Government Code.

13. VERIFICATION REGARDING FIREARM ENTITIES AND FIREARM TRADE ASSOCIATIONS

As applicable and in accordance with Section 2274.002 of the Texas Government Code, Contractor verifies that it does not have a practice, policy, guidance, or directive that discriminates against a firearm entity or firearm trade association and will not discriminate during the term of the Contract against a firearm entity or firearm trade association.

14. BOYCOTT OF ENERGY COMPANIES PROHIBITED

Pursuant to Chapter 2274 of Texas Government Code, Contractor verifies that:

(a) it does not, and will not for the duration of the Contract, boycott energy companies, as defined in Section 2274.002 of the Texas Government Code, or

(b) the verification required by Section 2274.002 of the Texas Government Code does not apply to Contractor and this Contract. If circumstances relevant to this provision change during the course of the Contract, Contractor shall promptly notify the Authority.

15. CRITICAL INFRASTRUCTURE PROHIBITION

Pursuant to Chapter 2274 of Texas Government Code, Contractor certifies that, if this Contract or any contract between Contractor and Capital Metro relates to critical infrastructure, as defined in Chapter 2274 of the Texas Government Code, Contractor is not owned by or the majority of stock or other ownership interest of its firm is not held or controlled by:

- (a) individuals who are citizens of China, Iran, North Korea, Russia, or a Governor-designated country; or
- (b) a company or other entity, including a governmental entity, that is owned or controlled by citizens of or is directly controlled by the government of China, Iran, North Korea, Russia, or a Governor-designated country; or
- (c) headquartered in China, Iran, North Korea, Russia, or a Governor-designated country.

16. CERTIFICATION OF PRIME CONTRACTOR PARTICIPATION

- (a) The Prime Contractor certifies that it shall perform no less than thirty percent (30%) of the work with his own organization. The on-site production of materials produced by other than the Prime Contractor's forces shall be considered as being subcontracted.
- (b) The organization of the specifications into divisions, sections, articles, and the arrangement and titles of the project drawings shall not control the Prime Contractor in dividing the work among subcontractors or in establishing the extent of the work to be performed by any trade.
- (c) The offeror further certifies that no more than seventy percent (70%) of the work will be done by subcontractors.

17. REPRESENTATION REGARDING CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT

(a) *Prohibition.* This Contract is subject to the Public Law 115-232, Section 889, and 2 Code of Federal Regulations (CFR) Part 200, including §200.216 and §200.471 related to the prohibition of certain "covered telecommunications equipment and services", which includes:

(1) Telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities)

(2) For the purpose of public safety, security of government facilities, physical security surveillance of critical infrastructure, and other national security purposes, video surveillance and telecommunications equipment produced by Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities).

(3) Telecommunications or video surveillance services provided by such entities or using such equipment.

(4) Telecommunications or video surveillance equipment or services produced or provided by an entity that the Secretary of Defense, in consultation with the Director of National Intelligence or the Director of the Federal Bureau of Investigation, reasonably believes to be an entity owned or controlled by, or otherwise connected to, the government of a covered foreign country.

(b) *Procedures.* The Offeror shall review the list of excluded parties in the System for Award Management (SAM) (<https://www.sam.gov>) for entities excluded from receiving federal awards for "covered telecommunications equipment or services".

(c) *Representation.* The Offeror represents that—

(1) It

- ☐ will
☒ will not

provide covered telecommunications equipment or services to the Authority in the performance of any contract, sub-contract or other contractual instrument resulting from this solicitation. The Offeror shall provide the additional disclosure information required at paragraph (d)(1) of this section if the Offeror responds "will" in paragraph (c)(1) of this section; and

(2) After conducting a reasonable inquiry, for purposes of this representation, the Offeror represents that—

- ☐ does
☒ does not

use covered telecommunications equipment or services, or use any equipment, system, or service that uses covered telecommunications equipment or services. The Offeror shall provide the additional disclosure information required at paragraph (d)(2) of this section if the Offeror responds "does" in paragraph (c)(2) of this section.

(d) *Disclosures.*

(1) Disclosure for the representation in paragraph (c)(1) of this provision. If the Offeror has responded "will" in the representation in paragraph (c)(1) of this provision, the Offeror shall provide the following information as part of the offer:

(i) For covered equipment—

(A) The entity that produced the covered telecommunications equipment (include entity name, unique entity identifier, CAGE code, and whether the entity was the original equipment manufacturer (OEM) or a distributor, if known);

(B) A description of all covered telecommunications equipment offered (include brand; model number, such as OEM number, manufacturer part number, or wholesaler number; and item description, as applicable); and

(C) Explanation of the proposed use of covered telecommunications equipment and any factors relevant to determining if such use would be permissible under the prohibition in paragraph (a)(1) of this provision.

(ii) For covered services—

(A) If the service is related to item maintenance: A description of all covered telecommunications services offered (include on the item being maintained: Brand; model number, such as OEM number, manufacturer part number, or wholesaler number; and item description, as applicable); or

(B) If not associated with maintenance, the Product Service Code (PSC) of the service being provided; and explanation of the proposed use of covered telecommunications services and any factors relevant to determining if such use would be permissible under the prohibition in paragraph (a)(1) of this provision.

(2) Disclosure for the representation in paragraph (c)(2) of this provision. If the Offeror has responded "does" in the representation in paragraph (c)(2) of this provision, the Offeror shall provide the following information as part of the offer:

(i) For covered equipment—

(A) The entity that produced the covered telecommunications equipment (include entity name, unique entity identifier, CAGE code, and whether the entity was the OEM or a distributor, if known);

18. SIGNATURE BLOCK FOR ALL REPRESENTATIONS AND CERTIFICATIONS

(a) These representations and certifications concern a material representation of fact upon which reliance will be placed in awarding a contract. If it is later determined that the offeror knowingly rendered an erroneous or false certification, in addition to all other remedies the Authority may have, the Authority may terminate the contract for default and/or recommend that the offeror be debarred or suspended from doing business with the Authority in the future.

(b) The offeror shall provide immediate written notice to the Authority if, at any time prior to contract award, the offeror learns that the offeror's certification was, or a subsequent communication makes, the certification erroneous.

(c) Offerors must set forth full, accurate and complete information as required by this solicitation (including this attachment). Failure of an offeror to do so may render the offer nonresponsive.

(d) A false statement in any offer submitted to the Authority may be a criminal offense in violation of Section 37.10 of the Texas Penal Code.

(e) I understand that a false statement on this certification may be grounds for rejection of this submittal or termination of the awarded contract.

Name of Offeror:

Trapeze Software Group, Inc. dba Vontas

Type/Print Name of Signatory:

Peter Aczel

Signature:



Date:

9/12/2024

EXHIBIT E-REVISED-2
CONTRACTUAL TERMS AND CONDITIONS
(SERVICES CONTRACT)

1. DEFINITIONS

As used throughout this Contract, the following terms shall have the meaning set forth below:

- (a) "Applicable Anti-Corruption and Bribery Laws" means international, federal, state, provincial and local laws, rules, regulations, directives and governmental requirements currently in effect and as they become effective relating in any way to the Contractor's provision of goods and/or services to Authority, including without limitation "FCPA" or any applicable laws and regulations, including in the jurisdiction in which the Contractor operates and/or manufactures goods for the Authority, relating to anti-corruption and bribery.
- (b) "Authority", "Capital Metro", "CapMetro", "CMTA" means Capital Metropolitan Transportation Authority.
- (c) "Authority Data" means all data, content and information (i) submitted by or on behalf of the Authority or its customers to the Contractor or loaded into the **On-Premises System, and the Application, or** (ii) obtained, developed, produced or processed by ~~the Contractor or by the Application or the On-Premises System~~ in connection with the Contract, ~~or (iii) to which the Contractor has access in connection with the Contract, and all derivative versions of such data, content and information, and any derivative versions thereof, in any form or format but excluding any data or information that is expressly defined as owned by the Contractor in the Contract.~~
- (d) "Authority Electronic Property" means (i) any websites controlled **and owned** by the Authority, (ii) any Authority **owned** mobile device apps, (iii) any application programming interfaces (API) **created by the Authority for connection** to the Authority's information technology systems, (iv) any other kiosks, devices or properties for consumer interaction that are created, **and** owned, ~~or controlled~~ by the Authority, and (v) versions and successors of the foregoing, any form or format now known or later developed, that may be used by customers obtaining products or services from the Authority.
- (e) "Change Order" means a written order to the Contractor signed by the Contracting Officer, issued after execution of the Contract, authorizing a change in the term or scope of the Contract.
- (f) "Contract" or "Contract Documents" means this written agreement between the parties comprised of all the documents listed in the Table of Contents, Change Orders and/or Contract Modifications that may be entered into by the parties.
- (g) "Contract Award Date" means the date of the Contract award notice, which may take the form of a purchase order, signed Contract or Notice of Award, issued by the Authority.
- (h) "Contract Modification" means any changes in the terms or provisions of the Contract which are reduced to writing and fully executed by both parties.
- (i) "Contract Sum" means the total compensation payable to the Contractor for performing the Services as originally contracted for or as subsequently adjusted by Contract Modification.
- (j) "Contract Term" means period of performance set forth in the paragraph entitled "Term" contained in Exhibit E.
- (k) "Contracting Officer" means a person with the authority to enter into, administer, and/or terminate contracts and make related determinations and findings on behalf of the Authority. The term includes certain authorized representatives of the Contracting Officer acting within the limits of their authority as delegated by the Contracting Officer.
- (l) "Contractor" means the entity that has assumed the legal obligation to perform the Services as identified in the Contract.

- (m) "Days" means calendar days. In computing any period of time established under this Contract, the day of the event from which the designated period of time begins to run shall not be included, but the last day shall be included unless it is a Saturday, Sunday, or Federal or State of Texas holiday, in which event the period shall run to the end of the next business day.
- (n) "FAR" means the Federal Acquisition Regulations codified in 48 C.F.R. Title 48.
- (o) "FCPA" means the United States Foreign Corrupt Practices Act, 15 U.S.C. §§ 78dd-1, et seq., as amended.
- (p) "Force Majeure Event" means **an unforeseeable cause beyond a party's reasonable control, including but not limited to:** strikes, lockouts, or other industrial disputes; explosions, epidemics, civil disturbances, acts of domestic or foreign terrorism, wars within the continental United States, riots or insurrections; embargos, natural disasters, including but not limited to landslides, earthquakes, floods or washouts; interruptions by government or court orders; declarations of emergencies by applicable federal, state or local authorities; and present or future orders of any regulatory body having proper jurisdiction.
- (q) "FTA" means the Federal Transit Administration.
- (r) "Fully Burdened Hourly Labor Rate" means an hourly rate that includes all salary, overhead costs, general and administrative expenses, and profit.
- (s) "Intellectual Property Rights" means the worldwide legal rights or interests evidenced by or embodied in: (i) any idea, software, design, concept, personality right, method, process, technique, apparatus, invention, discovery, or improvement, including any patents, trade secrets, and know-how; (ii) any work of authorship, including any copyrights, moral rights or neighboring rights, and any derivative works thereto; (iii) any trademark, service mark, trade dress, trade name, or other indicia of source or origin; (iv) domain name registrations; and (v) any other proprietary or similar rights. The Intellectual Property Rights of a party include all worldwide legal rights or interests that the party may have acquired by assignment or license with the right to grant sublicenses.
- (t) "Manufacturing Materials" mean any completed or partially completed supplies and materials, parts, dies, jigs, fixtures, plans, drawings, information, and contract rights specifically produced or specially acquired by the Contractor for the performance of the Contract **excluding Contractor Hardware and Contractor Software.**
- (u) "Notice of Award" means formal notice of award of the Contract to the Contractor issued by the Contracting Officer.
- (v) "Notice to Proceed" means written authorization for the Contractor to start the Services.
- (w) "Project Manager" means the designated individual to act on behalf of the Authority, to monitor and certify the technical progress of the Contractor's Services under the terms of this Contract.
- (x) "Proposal" means the offer of the proposer, submitted on the prescribed form, stating prices for performing the work described in the Scope of Services.
- (y) "Services" means the services to be performed by the Contractor under this Contract, and includes services performed, workmanship, and supplies furnished or utilized in the performance of the Services.
- (z) "Subcontract" means the Contract between the Contractor and its Subcontractors.
- (aa) "Subcontractor" means subcontractors of any tier.
- (bb) "Works" means any tangible or intangible items or things that have been or will be specifically, generated, prepared, created, or developed by the Contractor (or such third parties as the Contractor may be permitted to engage) at any time following the effective date of the Contract, for the exclusive use of, and ownership by, Authority under the Contract, including but not limited to any (i) works of authorship (such as literary works, musical works,

dramatic works, choreographic works, pictorial, graphic and sculptural works, motion pictures and other audiovisual works, sound recordings and architectural works, which includes but is not limited to manuals, instructions, printed material, graphics, artwork, images, illustrations, photographs, computer software, scripts, object code, source code or other programming code, HTML code, data, information, multimedia files, text web pages or web sites, other written or machine readable expression of such works fixed in any tangible media, and all other copyrightable works), (ii) trademarks, service marks, trade dress, trade names, logos, or other indicia of source or origin, (iii) ideas, designs, concepts, personality rights, methods, processes, techniques, apparatuses, inventions, formulas, discoveries, or improvements, including any patents, trade secrets and know-how, (iv) domain names, (v) any copies, and similar or derivative works to any of the foregoing, and (vi) all documentation and materials related to any of the foregoing.

2. FIXED PRICE CONTRACT

This is a fixed price Contract for the Services specified and stated elsewhere in the Contract.

3. PERFORMANCE BOND

(a) The Contractor shall provide a Performance Bond in an amount equal to **one hundred seventy five percent (100%) (75%)** of the Base Period contract amount, less the Software Licensing cost. The Contractor shall be required to submit the required bond to the Contracting Officer within ten (10) days from the date of Contract Award Date. The surety company providing the bond must be listed in the latest United States Treasury Department Circular 570, be authorized to do business in Texas and have an underwriting limitation equal to or greater than the penal sum of the bond. If any surety upon any bond furnished in connection with the Contract becomes insolvent, or otherwise not authorized to do business in the State, the Contractor shall promptly furnish equivalent security to protect the interest of the Authority and of persons supplying labor, materials and/or equipment in the prosecution of the Work.

(b) The bond shall be accompanied by a valid Power-of-Attorney, issued by the surety company and attached, signed and sealed, with the corporate embossed seal, to the bond, authorizing the agent who signs the bond to commit the surety company to the terms of the bond, and stating on the face of the Power-of-Attorney the limit, if any, in the total amount for which he/she is empowered to issue a single bond.

(c) A surety bond rider increasing or decreasing the dollar amount of any payment and performance bond will be required for any Change Order that increases or decreases the contract amount.

(d) In addition, the Authority may request a surety bond increasing the dollar amount if:

- (1) any surety upon any bond furnished with this Contract becomes unacceptable to the Authority; or
- (2) any surety fails to furnish reports on its financial condition as required by the Authority.

(e) The Contractor shall provide a Performance Bond in an amount equal to twenty percent (20%) of the contract amount for the effective option periods during maintenance and warranty terms.

4. TERM

The term of the Contract shall be two (2) years from the Contract Notice to Proceed. No Services shall be performed under this Contract prior to issuance of a Notice to Proceed.

5. OPTION TO EXTEND CONTRACT TERM

The Authority shall have the unilateral right and option to extend the Contract for up to three (3) option periods for a twelve (12) month duration each at the option prices set forth in Exhibit A - Pricing Schedule upon written notice to the Contractor.

6. ADDITIONAL OPTION TO EXTEND CONTRACT PERFORMANCE

If the options granted in Paragraph 5 have been exercised in their entirety, the Authority shall have the unilateral right and option to require continued performance of any services within the limits and rates specified in the Contract.

This option may be exercised more than once, but the extension of performance hereunder shall not exceed a total of 6 months. The Authority may exercise the option by written notice to the Contractor.

7. INVOICING AND PAYMENT

(a) Invoices may be submitted once per month, or by payment milestones, for work completed and accepted by the Authority, and marked "Original" to:

Accounts Payable
Capital Metropolitan Transportation Authority
P.O. Box 6308
Austin, Texas 78762-6308

Or via e-mail to: ap_invoices@capmetro.org

and shall conform to policies or regulations adopted from time to time by the Authority. Invoices shall be legible and shall contain, as a minimum, the following information:

- (1) the Contract and order number (if any);
- (2) a complete itemization of all costs including quantities ordered and delivery order numbers (if any);
- (3) any discounts offered to the Authority under the terms of the Contract;
- (4) evidence of the acceptance of the supplies or Services by the Authority; and
- (5) any other information necessary to demonstrate entitlement to payment under the terms of the Contract.

(b) All undisputed invoices shall be paid within the time period allowed by law through the Texas Prompt Payment Act, Tex. Gov't Code § 2251.021(b).

(c) The Contractor shall be responsible for all costs/expenses not otherwise specified in this Contract, including by way of example, all costs of equipment provided by the Contractor or Subcontractor(s), all fees, fines, licenses, bonds, or taxes required or imposed against the Contractor and Subcontractor(s), travel related expenses, and all other Contractor's costs of doing business.

(d) In the event an overpayment is made to the Contractor under this Contract or the Authority discovers that the Authority has paid any invoices or charges not authorized under this Contract, the Authority may offset the amount of such overpayment or unauthorized charges against any indebtedness owed by the Authority to the Contractor, whether arising under this Contract or otherwise, including withholding payment of an invoice, in whole or in part, or the Authority may deduct such amounts from future invoices. If an overpayment is made to the Contractor under this Contract which cannot be offset under this Contract, the Contractor shall remit the full overpayment amount to the Authority within thirty (30) calendar days of the date of the written notice of such overpayment or such other period as the Authority may agree. The Authority reserves the right to withhold payment of an invoice, in whole or in part, or deduct the overpayment from future invoices to recoup the overpayment. Furthermore, if the Work is unacceptable to the Authority, the Authority reserves the right to withhold payment of an invoice, in whole or in part, until Contractor revises the Work to the Authority's satisfaction and the Authority accepts the Work in writing.

(e) **Release of Payment Claims by Contractor.** The final invoice submitted by Contractor shall be accompanied by a complete and legally effective release of the Authority from all known and unknown payment claims relating to the Contract on a form provided by the Authority. Contractor's acceptance of final payment constitutes a waiver of all known or unknown payment claims against the Authority related to the Contract, other than those specifically excepted in the General Release of Claims Form.

8. PAYMENT MILESTONES AND PERFORMANCE DEFICIENCY CREDITS (PDC)

The foundation of a successful project is the adherence to scope, schedule, and budget with the quality expected. The Project Schedule as agreed between the parties and incorporated into the contract will be used to manage Contractor performance. At the discretion of CapMetro and for reasons caused solely by Contractor, the Contractor will be assessed a PDC when a Phase End Milestone due date is missed. When that occurs, the Contractor is expected to provide additional resources or other measures needed to get back on schedule. The Contractor will not be assessed a PDC for any delays caused by CapMetro. Payment percentages are based on Contract award amount and the Contractor shall not invoice for any milestone without prior acceptance by the Authority.

Table 1

No.	Payment Milestone	Payment %	Deficiency Credits
1	Project Planning and Discovery	5%	See Table 2
2	Final Design Review	5%	See Table 2
3	Factory Acceptance Testing	5%	See Table 2
4	System Integration Testing	5%	See Table 2
5	Mini-Fleet Testing	10%	See Table 2
6	Full Fleet Deployment 100%	10%	See Table 2
7	Training	5%	See Table 2
8	System Acceptance Testing	10%	See Table 2
9	Final Documentation Submittal	5%	See Table 2
10	Completion of Burn-in Period and System Acceptance	40%	See Table 3
	TOTAL	100%	

Table 2

Payment Milestone Applicability	Performance Deficiency Credits		
	Disincentive	Payment Received	Payment Withheld
Milestones 1-9	< 30 days late	95%	5%
	31-60 days late	90%	10%
	61-120 days late	85%	15%
	> 120 days late	80%	20%

Table 3

Payment Milestone Applicability	Maximum Total Payment	Performance Deficiency Credits			
		Disincentive	Payment Received	Payment Withheld	Note
Milestone 10	100% of Milestone 10 + Any Payments Withheld from previous milestones	< 30 days late	95%	5%	
		31 days late to 180 days late	85-93%	2% lost for every 30 days of delay after 30 days late	E.g. if Milestone 10 is completed within 91 to 120 days, 2% each would be lost for days 31-60 and 61-90, resulting in payment of 94%
		> 180 days late	55-82%	3% lost for every 30 days of delay after 180 days late	E.g. if Milestone 10 is completed within 240 to 270 days, 3% each would be lost for days 181-210 and 211-240, resulting in payment of 81%

9. ACCEPTANCE CRITERIA

A review of the Contractor's Services will be performed by the Authority upon delivery. If any Services performed under this Contract are deemed incomplete or unacceptable in any way, per Acceptance Criteria referenced in Exhibit F, Scope of Services, and Exhibit F-1, Compliance Matrix, the Authority will require the Contractor to take corrective measures at no additional cost to the Authority.

10. INSURANCE

(a) The Contractor shall furnish proof of CapMetro-stipulated insurance requirements specified below. All insurance policies shall be primary and non-contributing with any other valid and collectible insurance or self-insurance available to the Authority and shall contain a contract waiver of subrogation in favor of the Authority. The Contractor shall furnish to the Authority certificate(s) of insurance evidencing the required coverage and endorsement(s) and, upon request, a certified duplicate original of any of those policies. Prior to the expiration of a certificate of insurance, a new certificate of insurance shall be furnished to the Authority showing continued coverage. Each policy shall be endorsed to provide thirty (30) days written notice of cancellation or non-renewal to the Authority and the Authority shall be named as an Additional Insured under each policy except Professional Liability insurance if required by this Contract. All insurance policies shall be written by reputable insurance company or companies acceptable to the Authority with a current Best's Insurance Guide Rating of A+ and Class XIII or better. All insurance companies shall be authorized to transact business in the State of Texas. The Contractor shall notify the Authority in writing of any material alteration of such policies, including any change in the retroactive date in any "claims-made" policy or substantial reduction of aggregate limits, if such limits apply or cancellation thereof at least thirty (30) days prior thereto. The below requirements only represent the minimum coverage acceptable to the Authority and these requirements are not intended to represent the maximum risk or the maximum liability of the Contractor. The Contractor shall be responsible for setting its own insurance requirements, if any, for the kind and amounts of insurance to be carried by its Subcontractors in excess of the insurance required by the Authority.

The Contractor shall carry and pay the premiums for insurance of the types and in the amounts stated below.

CAPMETRO MINIMUM COVERAGE REQUIREMENTS

(1) **Comprehensive General Liability Insurance** Coverage with limits of not less than One Million Dollars and No/100 Dollars (\$1,000,000) with an aggregate of Two Million Dollars and No/100 Dollars (\$2,000,000) with coverage that includes:

- (i) Products and Completed Operations Liability
- (ii) Independent Contractors
- (iii) Personal Injury Liability extended to claims arising from employees of Contractor and the Authority.
- (iv) Contractual Liability pertaining to the liabilities assumed in the agreement.

(2) **Automobile Liability Insurance** covering all owned, hired and non-owned automobiles used in connection with work with limits not less than One Million and No/100 Dollars (\$1,000,000) Combined Single Limit of Liability for Bodily Injury and Property Damage.

(3) **Statutory Workers' Compensation Insurance** coverage in the State of Texas. Employers Liability Insurance with minimum limits of liability of One Million Dollars and No/100 Dollars (\$1,000,000).

(4) **Technology Errors & Omissions Insurance:** Combined Technology & Omissions Policy with a minimum One Million and No/100 Dollars (\$1,000,000) claim limit, including (a) Professional Liability Insurance covering negligent acts, errors and omissions arising from the Contractor's work to pay damages for which the Contractor may become legally obligated (such coverage to be maintained for at least two (2) years after termination of this contract, which obligation shall expressly survive termination of this contract; and (b) Privacy, Security and Media Liability

Insurance providing liability for unauthorized access or disclosure, security breaches or system attacks, as well as infringement of copyright and trademark that might result from this contract

(5) All policies shall include Terrorism Coverage.

(b) The limits of liability as required above may be provided by a single policy of insurance or by a combination of primary, excess or umbrella policies but in no event shall the total limits of liability available for any one occurrence or accident be less than the amount required above.

(c) The Contractor, and all of its insurers shall, in regard to the above stated insurance, agree to waive all rights of recovery or subrogation against the Authority, its directors, officers, employees, agents, successors and assigns, and the Authority's insurance companies arising out of any claims for injury(ies) or damages resulting from the Services performed by or on behalf of the Contractor under this Contract and/or use of any Authority premises or equipment under this Contract.

(d) Each insurance policy shall contain the following endorsements: PRIMARY AND NON-CONTRIBUTORY INSURANCE and WAIVER OF TRANSFER OF RIGHTS OF RECOVERY AGAINST OTHERS, which shall be evidenced on the Certificate of Insurance. The General Liability insurance shall include contractual endorsement(s) which acknowledge all indemnification requirements under the Agreement. All required endorsements shall be evidenced on the Certificate of Insurance, which shall be evidenced on the Certificate of Insurance. Proof that insurance coverage exists shall be furnished to the Authority by way of a Certificate of Insurance before any part of the Contract work is started.

(e) If any insurance coverage required to be provided by the Contractor is canceled, terminated, or modified so that the required insurance coverages are no longer in full force and effect, the Authority may terminate this Contract or obtain insurance coverages equal to the required coverage, the full cost of which will be the responsibility of the Contractor and shall be deducted from any payment due the Contractor.

(f) If any part of the Contract is sublet, the Contractor shall be liable for its Subcontractor's insurance coverages of the types and in the amounts stated above, and shall furnish the Authority with copies of such Certificates of Insurance. No delay in the Services caused by the Contractor's enforcement of its Subcontractor's insurance requirements shall be excusable delay in the Contract. In the event a Subcontractor is unable to furnish insurance in the limits required under the Contract, the Contractor shall endorse the Subcontractor as an ADDITIONAL INSURED on the Contractor's policies.

(g) All insurance required to be maintained or provided by the Contractor shall be with companies and through policies approved by The Authority. The Authority reserves the right to inspect in person, prior to the commencement of the Services, all of the Contractor's insurance policy required under this Contract.

(h) The Contractor must furnish proof of the required insurance within five (5) days of the award of the Contract. Certificate of Insurance must indicate the Contract number and description. The insurance certificate should be furnished to the attention of the Contracting Officer.

(i) The Contractor and its lower tier Subcontractors are required to cooperate with the Authority and report all potential claims (workers' compensation, general liability and automobile liability) pertaining to this Contract to the Authority's Risk Management Department at (512) 389-7549 within two (2) days of the incident.

11. PERFORMANCE OF SERVICES BY THE CONTRACTOR

Except as otherwise provided herein, the Contractor shall perform no less than thirty percent (30%) of the Services with its own organization. If, during the progress of Services hereunder, the Contractor requests a reduction in such performance percentage and the Authority determines that it would be to the Authority's advantage, the percentage of the Services required to be performed by the Contractor may be reduced; provided, written approval of such reduction is obtained by the Contractor from the Authority.

12. REMOVAL OF ASSIGNED PERSONNEL

The Authority may require, in writing, that the Contractor remove from the Services any employee or Subcontractor of the Contractor that the Authority deems inappropriate for the assignment.

13. REPRESENTATIONS AND WARRANTIES

The Contractor represents and warrants to the Authority, that the Services shall be performed in conformity with the descriptions and other data set forth in this Contract and with sound professional principles and practices in accordance with accepted industry standards, and that work performed by the Contractor's personnel shall reflect sound professional knowledge, skill and judgment. If any breach of the representations and warranties is discovered by the Authority during the process of the work or within one (1) year after acceptance of the work by the Authority, the Contractor shall again cause the nonconforming or inadequate work to be properly performed at the Contractor's sole expense and shall reimburse for costs directly incurred by the Authority as a result of reliance by the Authority on services failing to comply with the representations and warranties.

14. INDEPENDENT CONTRACTOR

The Contractor's relationship to the Authority in the performance of this Contract is that of an independent contractor. The personnel performing Services under this Contract shall at all times be under the Contractor's exclusive direction and control and shall be employees of the Contractor and not employees of the Authority. The Contractor shall be fully liable for all acts and omissions of its employees, Subcontractors, and their suppliers and shall be specifically responsible for sufficient supervision and inspection to assure compliance in every respect with Contract requirements. There shall be no contractual relationship between any Subcontractor or supplier of the Contractor and the Authority by virtue of this Contract. The Contractor shall pay wages, salaries and other amounts due its employees in connection with this Agreement and shall be responsible for all reports and obligations respecting them, such as Social Security, income tax withholding, unemployment compensation, workers' compensation and similar matters.

15. COMPOSITION OF CONTRACTOR

If the Contractor hereunder is comprised of more than one legal entity, each such entity shall be jointly and severally liable hereunder.

16. SUBCONTRACTORS AND OUTSIDE CONSULTANTS

Any Subcontractors and outside associates or consultants required by the Contractor in connection with the Services covered by the Contract will be limited to such individuals or firms as were specifically identified and agreed to by the Authority in connection with the award of this Contract. Any substitution in such Subcontractors, associates, or consultants will be subject to the prior approval of the Authority **which shall not be unreasonably withheld**.

17. EQUITABLE ADJUSTMENTS

(a) Any requests for equitable adjustments under any provision shall be governed by the following provisions:

(1) Upon written request, the Contractor shall submit a proposal, in accordance with the requirements and limitations set forth in this paragraph, for Services involving contemplated changes covered by the request. The proposal shall be submitted within the time limit indicated in the request for any extension of such time limit as may be subsequently granted. The Contractor's written statement of the monetary extent of a claim for equitable adjustment shall be submitted in the following form:

(i) Proposals totaling \$5,000 or less shall be submitted in the form of a lump sum proposal with supporting information to clearly relate elements of cost with specific items of Services involved to the satisfaction of the Contracting Officer, or his/her authorized representative.

(ii) For proposals in excess of \$5,000, the claim for equitable adjustment shall be submitted in the form of a lump sum proposal supported with an itemized breakdown of all increases and decreases in the Contract.

(b) No proposal by the Contractor for an equitable adjustment shall be allowed if asserted after final payment under this Contract.

18. CONTRACTOR AND SUBCONTRACTOR ANNUAL AUDITED FINANCIAL STATEMENTS AND ABILITY TO PERFORM

The Contractor must provide evidence of its financial resources and its ability to perform the services for which Contractor is submitting a response. This includes information Contractor or believes is pertinent that demonstrates its financial capability, financial solvency, and capability to fulfill the requirements of this contract.

The Contractor shall provide to the Authority a copy of Contractors' and Subcontractors' latest audited or non-audited financial statements, which may include Contractor's balance sheet, statements of income, retained earnings, cash flows, and the notes to the financial statements, as well as Contractor's most current 10-K, if applicable, throughout the term of the Contract provided such financial disclosure are permitted by Contractor's corporate parent company, Constellation Software Inc., a Canadian-based company, publicly traded on the Toronto Stock Exchange (TSX) under the symbol CSU, which provides public financial information at <https://money.tmx.com/en/quote/CSU>. The audited financial statements shall be provided annually. The financial statements shall be provided to the Authority within ninety (90) calendar days from the end of Contractor's fiscal period. For instance, if Contractor's fiscal period ends each December 31st, then the financial statements shall be provided to the Authority no later than March 31st of the following year. The Authority, at its' discretion, may accept unaudited financial reports.

19. PERSONNEL ASSIGNMENTS

(a) The Contractor shall perform the Services in an orderly and workmanlike manner, and shall utilize persons skilled and qualified for the performance of the Services. The Authority will have the right to review the experience of each person assigned to perform the Services and approve personnel assignments, including those to be performed by Subcontractors,

(b) The Contractor certifies that the Contractor, and each Subcontractor, have established a criminal history background policy that complies with guidance issued by the U.S. Equal Employment Opportunity Commission and that the Contractor and each Subcontractor conducts criminal history checks on its assigned personnel in accordance with such policy to identify, hire and assign personnel to work on this Contract whose criminal backgrounds are appropriate for the Services being performed, considering the risk and liability to the Contractor and the Authority. The Authority reserves the right to require the Contractor and any Subcontractor to disclose any criminal or military criminal convictions of assigned personnel and the right to disapprove the use of assigned personnel with criminal or military convictions.

(c) At the commencement of the Contract, the Contractor shall provide a list of candidates to be used to provide the Services and shall certify that a criminal history background check has been completed on each candidate within the preceding 6-month period. Thereafter during the Term, the Contractor shall submit quarterly report containing a list of all persons (including Subcontractors) assigned to perform Services under the Contract and a certification that each named person has undergone a criminal background check as required by this Contract. The Authority shall have the right to audit the Contractor's records for compliance with the provisions of this Section. Criminal background checks shall include the following:

(1) State Criminal History: The Contractor shall research criminal history, including driving records (where applicable), covering all jurisdictions within the state, including local counties and municipalities.

(2) Out of State Criminal History: The Contractor shall research criminal history, including state driving records (where applicable), for all 50 states.

(3) National Sex Offender Registry

(4) Military Discharge: For any candidates that have served in the military, the Contractor shall review the DD Form 214 "Certificate of Release or Discharge from Active Duty" (Long Form).

*Matters identified on the Long Form as military discipline will be considered in accordance with the corresponding crime listed below with respect to classification, severity and time elapsed.

The Contractor shall disclose to the Authority the type of arrests with pending dispositions and convictions for crimes according to the classification of offense and the timetable below:

Offense Type	Action Required
Crimes Against the Person (other than sex crimes)	
Felony	Submit to CapMetro for review if less than 10 years from date of release from confinement
Class A or B Misdemeanor	Submit to CapMetro for review if less than 7 years from date of conviction
Class C Misdemeanor	Submit to CapMetro for review if less than 5 years from date of conviction
Crimes Against the Person - Sex Crimes/Registered Sex Offenders	
ALL	Submit to CapMetro for review
Crimes Against Property	
Felony	Submit to CapMetro for review if less than 10 years from date of release from confinement
Moral Crimes, including, but not limited to: Drug Crimes, Prostitution, Bigamy, Illegal Gambling, Child Pornography	
Felony	Submit to CapMetro for review if less than 10 years from date of release from confinement
Class A or B Misdemeanor	Submit to CapMetro for review if less than 7 years from date of conviction
Class C Misdemeanor	Submit to CapMetro for review if less than 5 years from date of conviction
Driving Offenses	
Class A or B Misdemeanor, DWI/DUI or other "serious driving offense"	Disqualified if less than 7 years from date of conviction or deferred adjudication. Submit to CapMetro for review if between 7-10 years since conviction or deferred adjudication or more than 2 convictions in a lifetime
Class C Misdemeanor Moving Violations	Disqualified from driving if more than 2 moving violations in the past 5 years (Any more than one driving safety course taken for a moving violation that appears on a five (5) year record will be treated as a moving violation and will count against the employee)

The Contractor may not assign an employee to provide Services if the employee has any conviction in the applicable categories listed above, unless an exception is granted by the Authority in accordance with subparagraph (d).

(d) The Contractor may request the Authority perform an individual assessment of a candidate with a criminal conviction meeting one of the above categories. In conducting an individual assessment, the Authority's review will include, but not be limited to, the following factors:

- (1) The nature and gravity of the offense or conduct;
- (2) The degree of harm caused by the offense or conduct;
- (3) The time that has elapsed since the conviction or completion of probation or jail time;

- (4) The nature of the job sought, including the job duties, environment, and level of supervision;
- (5) Any incorrect criminal history;
- (6) Wrongful identification of the person;
- (7) The facts and circumstances surrounding the offense or conduct;
- (8) The number of offenses for which the candidate was convicted;
- (9) The subsequent conviction for another relevant offense;
- (10) The age of the person at the time of conviction or completion of probation or jail time;
- (11) Evidence that the person performed the same type of work, post-conviction, with the same or different employer, with no known incidents of criminal conduct;
- (12) The length and consistency of employment history before and after the conviction in a similar field as the current position sought;
- (13) Rehabilitation efforts, e.g., education, treatment, training;
- (14) Employment or character references and any other information regarding fitness for the particular position;
- (15) Whether the person is bonded or licensed under any federal, state or local program or any licensing authority;
- (16) The person's statement of the circumstances surrounding the offense and conviction and relevant factors is consistent with publicly available record related to the crime and conviction; and
- (17) Any other factors deemed relevant in the consideration of a particular assessment.

At the time a request is made for an individual assessment, the Contractor must include the following documentation:

- the candidate's application/resume;
- a copy of the criminal conviction history, including those tried in a military tribunal;
- available court information related to the conviction;
- any publicly available information related to the offense and conviction;
- a statement from the candidate addressing any/all factors set forth above and explaining why the person is qualified for the assignment notwithstanding the conviction; and
- a statement from the candidate explaining why the person is an acceptable risk for the work to be performed by the candidate.

The Authority will provide a written decision to the Contractor within five (5) working days of receipt of all required documentation from the Contractor.

- (e) The Contractor will conduct new criminal history background checks on all assigned personnel every year during the Contract to ensure the preceding criterion are still met by the assigned personnel and notify the Authority if an employee has a subsequent arrest with pending disposition or conviction (or change in driving record, as

applicable) that requires further review by the Authority using the criterion set forth above. The Authority reserves the right to request that the assigned individual be removed from performing work under this Contract.

20. BADGES AND ACCESS CONTROL DEVICES

(a) The Contractor and each of the Contractor's employees, as well as each Subcontractor of any tier and any workers working on behalf of Subcontractor, shall be required to wear a CapMetro Contractor Photo Identification Badge ("badge") at all times while on the Authority's premises. The badge will be provided by CapMetro. If any badge holder loses or misplaces his or her badge, the Contractor shall immediately notify the Project Manager upon discovery. The Contractor will be charged a \$50.00 replacement fee for each lost or misplaced badge, which fee shall be deducted any amounts due and owing to the Contractor or if the Contract is terminated upon demand by the Authority. The Contractor shall return all badges provided when any badge holder is no longer working on the Contract, and all badges shall be returned upon completion of the Contract. In the event the Contractor fails to do so, the Contractor will pay a \$50.00 per badge fee deducted from any amounts due and owing to the Contractor or if the Contract is terminated upon demand by the Authority. All badges should be returned to the Project Manager. All requests for new and replacement badges must be submitted in writing to the Project Manager. The misuse of a badge may result in termination of the Contract.

(b) Access Control Devices will be issued to employees of the Contractor and to each Subcontractor of any tier and any worker working on behalf of Subcontractor as necessary to perform the Contract. Access Control Devices are not transferable between the Contractor employees or workers working on behalf of the Subcontractor. The Contractor employees and workers on behalf of the Subcontractor are prohibited from loaning Access Control Devices or providing access to an unauthorized person into restricted areas without prior arrangements with the Project Manager. All requests for new and replacement Access Control Devices must be submitted in writing to the Project Manager. Lost Access Control Devices must be reported to the Project Manager immediately upon discovery. All Access Control Devices should be returned to the Project Manager. The misuse of an Access Control Device(s) may result in termination of the Contract. The Contractor shall return all Access Control Devices once an assigned employee or worker is no longer working on the Contract or upon termination of the Contract. In the event the Contractor fails to do so, then the Contractor shall be responsible for the replacement cost of an Access Control Device which shall be deducted from any amounts due and owing to the Contractor or payable on demand if the Contract has terminated. The replacement cost will be calculated at current market value to include labor and materials.

(c) The provisions of this paragraph survive termination of the Contract.

21. CHANGES

(a) The Authority may, at any time, by written order, make changes within the general scope of the Contract in the Services to be performed. If such changes cause an increase or decrease in the Contractor's cost of, or time required for, performance of any Services under this Contract, whether or not changed by any order, an equitable adjustment shall be made and the Contract shall be modified in writing accordingly. Any claim of the Contractor for adjustment under this paragraph must be asserted in writing within thirty (30) days from the date of receipt by the Contractor of the notification of change unless the Contracting Officer grants a further period of time before the date of final payment under the Contract.

(b) No Services for which an additional cost or fee will be charged by the Contractor shall be furnished without the prior written authorization of the Authority.

(c) Any other written order (which, as used in this paragraph (c), includes direction, instruction, interpretation, or determination) from the Contracting Officer that causes a change in the Contractor's obligations shall be treated as a Change Order under this paragraph; provided that the Contractor gives the Contracting Officer written notice stating (1) the date, circumstances, and source of the order and (2) that the Contractor regards the order as a Change Order.

(d) Except as provided in this paragraph, no order, statement, or conduct of the Contracting Officer shall be treated as a change under this paragraph or entitle the Contractor to an equitable adjustment.

(e) If any change under this paragraph causes an increase or decrease in the Contractor's cost of, or the time required for, the performance of any part of the Services under this Contract, whether or not changed by any such order, the Contracting Officer may make an equitable adjustment and modify the Contract in writing in accordance with the provisions in paragraph entitled "Equitable Adjustments" contained in Exhibit E.

22. TERMINATION FOR DEFAULT

(a) The Authority may, subject to the provisions of subparagraph (c) below, by written notice of default to the Contractor, terminate the whole or any part of this Contract in either one of the following circumstances:

(1) if the Contractor fails to perform the Services within the time specified herein or any extension thereof;
or

(2) if the Contractor fails to perform any of the other provisions of this Contract and does not cure such failure within a period of ten (10) days (or such longer period as the Authority may authorize in writing) after receipt of notice from the Authority specifying such failure.

(b) In the event the Authority terminates this Contract in whole or in part as provided in subparagraph (a) of this paragraph, the Authority may procure, upon such terms and in such manner as the Authority may deem appropriate, supplies or services similar to those so terminated, and the Contractor shall be liable to the Authority for any excess costs for such similar supplies or services; provided, that the Contractor shall continue the performance of this Contract to the extent, if any, it has not been terminated under the provisions of this subparagraph.

(c) Except with respect to the defaults of Subcontractors, the Contractor shall not be liable for any excess costs if the failure to perform the Contract arises out of causes beyond the control and without the fault or negligence of the Contractor. Such causes may include, but are not restricted to Force Majeure Events; provided, however, in every case the failure to must be beyond the control and without the fault or negligence of the Contractor. If the failure to perform is caused by the default of a Subcontractor and if such default arises out of causes beyond the control of both the Contractor and Subcontractor and without the fault or negligence of either of them, the Contractor shall not be liable for any excess costs for failure to perform, unless the supplies or Services to be furnished by the Subcontractor were obtainable from other sources in sufficient time to permit the Contractor to meet the required delivery schedule.

(d) If this Contract is terminated as provided in subparagraph (a), the Authority, in addition to any other rights provided in this subparagraph, may require the Contractor to transfer title and deliver to the Authority in the manner and to the extent directed by the Authority any Manufacturing Materials as the Contractor has specifically produced or specifically acquired for the performance of such part of this Contract as has been terminated; and the Contractor shall, upon direction of the Authority, protect and preserve property in possession of the Contractor in which the Authority has an interest. Payment for completed Manufacturing Materials delivered to and accepted by the Authority shall be at the Contract price. The Authority may withhold from amounts otherwise due the Contractor for such completed Manufacturing Materials such sum as the Authority determines to be necessary to protect the Authority against loss because of outstanding liens or claims of former lien holders.

(e) If, after notice of termination of this Contract under the provisions of this paragraph, it is determined by the Authority that the Contractor was not in default or that the default was excusable under the provisions of this paragraph, the rights and obligations of the parties shall be those provided in the paragraph entitled "Termination for Convenience" contained in this Exhibit E.

(f) The rights and remedies of the Authority provided in this paragraph shall not be exclusive and are in addition to any other rights and remedies provided by law or under this Contract.

23. TERMINATION FOR CONVENIENCE

(a) The Authority may, whenever the interests of the Authority so require, terminate this Contract, in whole or in part, for the convenience of the Authority. The Authority shall give written notice of the termination to the Contractor

specifying the part of the Contract terminated and when termination becomes effective, **which shall be at least 30 days from the date of the written notice.**

(b) The Contractor shall incur no further obligations in connection with the terminated orders, and, on the date set forth in the notice of termination, the Contractor will stop providing Services to the extent specified. The Contractor also shall terminate outstanding orders and subcontracts as they relate to the terminated order. The Contractor shall settle the liabilities and claims arising out of the termination of subcontracts and orders connected with the terminated orders. The Authority may direct the Contractor to assign the Contractor's right, title, and interest under terminated orders or Subcontracts to the Authority. The Contractor must still complete any orders not terminated by the notice of termination and may incur such obligations as are necessary to do so.

(c) The Authority may require the Contractor to transfer title and deliver to the Authority in the manner and to the extent directed by the Authority: (1) any completed supplies; and (2) such partially completed supplies and materials, parts, tools, dies, jigs, fixtures, plans, drawings, information and contract rights (hereinafter called "Manufacturing Materials") **the Authority has fully paid for and** as the Contractor has specifically produced or specially acquired for the performance of the terminated part of this Contract. The Contractor shall, upon direction of the Authority, protect and preserve **any such Manufacturing Materials property** in the possession of the Contractor in which the Authority has an interest. If the Authority does not exercise this right, the Contractor shall use its best efforts to sell such supplies and Manufacturing Materials.

(d) The Authority shall pay the Contractor the following amounts:

(1) Contract prices for supplies accepted under the Contract;

(2) costs incurred in preparing to perform and performing the terminated portion of the Services plus a fair and reasonable profit on such portion of the Services (such profit shall not include anticipatory profit or consequential damages), less amounts paid or to be paid for accepted supplies; provided, however, that if it appears that the Contractor would have sustained a loss if the entire Contract would have been completed, no profit shall be allowed or included, and the amount of compensation shall be reduced to reflect the anticipated rate of loss;

(3) costs of settling and paying claims arising out of the termination of subcontracts (these costs must not include costs paid in accordance with subparagraph (2) of this paragraph); and

(4) the reasonable settlement costs of the Contractor and other expenses reasonably necessary for the preparation of settlement claims and supporting data with respect to the terminated portion of the Contract and for the termination and settlement of subcontracts thereunder, together with reasonable storage, transportation, and other costs incurred in connection with the protection or disposition of property allocable to the terminated portion of this Contract.

(5) The total sum to be paid the Contractor under this paragraph shall not exceed the total Contract Sum plus the reasonable settlement costs of the Contractor reduced by the amount of payments otherwise made, the proceeds of any sales of supplies and Manufacturing Materials under this paragraph, and the contract price of orders not terminated.

24. CONTRACTOR CERTIFICATION

The Contractor certifies that the fees in this Contract have been arrived at independently without consultation, communication, or agreement for the purpose of restricting competition, as to any matter relating to such fees with any other firm or with any competitor.

25. INTELLECTUAL PROPERTY; DATA PRIVACY PROVISIONS

(a) **As between the Contractor and the Authority, the Works and Intellectual Property Rights therein are and shall be owned exclusively by CapMetro, and not the Contractor. The Contractor specifically agrees that all Works shall be considered "works made for hire" and that the Works shall, upon creation, be owned exclusively by the Authority. To the extent that the Works, under applicable law, may not be considered works made for hire, the Contractor hereby**

agrees that this Contract effectively transfers, grants, conveys, assigns, and relinquishes exclusively to the Authority all right, title and interest in and to all worldwide ownership rights in the Works, and all Intellectual Property Rights in the Works, without the necessity of any further consideration, and the Authority shall be entitled to obtain and hold in its own name all Intellectual Property Rights in and to the Works.

(b) — The Contractor, upon request and without further consideration, shall perform any acts that may be deemed necessary or desirable by the Authority to evidence more fully the transfer of ownership of all Works to the Authority to the fullest extent possible, including but not limited to the execution, acknowledgement and delivery of such further documents in a form determined by the Authority. In the event the Authority shall be unable for any reason to obtain the Contractor's signature on any document necessary for any purpose set forth in the foregoing sentence, the Contractor hereby irrevocably designates and appoints the Authority and its duly authorized officers and agents as the Contractor's agent and the Contractor's attorney-in-fact to act for and in the Contractor's behalf and stead to execute and file any such document and to do all other lawfully permitted acts to further any such purpose with the same force and effect as if executed and delivered by the Contractor.

(c) — To the extent that any pre-existing rights and/or third-party rights or limitations are embodied, contained, reserved or reflected in the Works, the Contractor shall either:

(1) — grant to the Authority the irrevocable, perpetual, non-exclusive, worldwide, royalty-free right and license to:

(i) — use, execute, reproduce, display, perform, distribute copies of, and prepare derivative works based upon such pre-existing rights and any derivative works thereof in connection with the sale, offering for sale, marketing, advertising, and promotion of the Authority's goods and services, and in all forms of media, media channels and/or publicity that may now exist or hereafter be created or developed, including but not limited to television, radio, print, Internet, and social media (e.g., Facebook, Twitter, YouTube, etc.) and

(ii) — authorize others to do any or all of the foregoing, or

(2) — where the obtaining of worldwide rights is not reasonably practical or feasible, provide written notice to the Authority of such pre-existing or third-party rights or limitations, request the Authority's approval of such pre-existing or third-party rights, obtain a limited right and license to use such pre-existing or third-party rights on such terms as may be reasonably negotiated, and obtain the Authority's written approval of such pre-existing or third-party rights and the limited use of same. The Contractor shall provide the Authority with documentation indicating a third party's written approval for the Contractor to use any pre-existing or third-party rights that may be embodied, contained, reserved or reflected in the Works. The Contractor shall indemnify, defend and hold the Authority harmless from and against any and all claims, demands, regulatory proceedings and/or causes of action, and all losses, damages, and costs (including attorneys' fees and settlement costs) arising from or relating to, directly or indirectly, any claim or assertion by any third-party that the Works infringe any third-party rights. The foregoing indemnity obligation shall not apply to instances in which the Authority either:

(i) — exceeded the scope of the limited license that was previously obtained by the Contractor and agreed to by the Authority, or

(ii) — obtained information or materials, independent of the Contractor's involvement or creation, and provided such information or materials to the Contractor for inclusion in the Works, and such information or materials were included by the Contractor, in an unaltered and unmodified fashion, in the Works.

(d)(a) The Contractor hereby warrants and represents to the Authority that individuals or characters appearing or depicted in any advertisement, marketing, promotion, publicity or media, of any type or form that may now exist or hereafter be created or developed by or on behalf of the Contractor for the use by or benefit of the Authority, have provided their written consent for the use, reproduction, display, performance, and distribution of, and/or preparation of derivative works to, their persona or personality rights, including name, biographical information, picture, portrait, likeness, performance, voice and/or identity ("Personality Rights"), and have been compensated for such Personality Rights, if appropriate. If such permission has been obtained for a limited time, the Contractor shall be responsible for any costs associated with claims resulting from such use, etc., of the Personality Rights after the expiration of those

time limits. The Contractor agrees to defend, indemnify and hold the Authority harmless from any claims, including but not limited to claims for invasion of privacy, infringement of the right of publicity, libel, unfair competition, false advertising, intentional or negligent infliction of emotional distress, copyright or trademark infringement, and/or claims for attorney's fees, resulting from such use, etc., of the Personality Rights.

(e) — The Contractor hereby irrevocably and forever waives, and agrees never to assert, any Moral Rights in or to the Works which the Contractor may now have or which may accrue to the Contractor's benefit under U.S. or foreign copyright laws and any and all other residual rights and benefits which arise under any other applicable law now in force or hereafter enacted. The term "Moral Rights" shall mean any and all rights of paternity or integrity of the Works and the right to object to any modification, translation or use of the Works, and any similar rights existing under the judicial or statutory law of any country in the world or under any treaty, regardless of whether or not such right is denominated or referred to as a Moral Right.

(f) — The Contract is intended to protect the Authority's proprietary rights pertaining to the Works, and the Intellectual Property Rights therein, and any misuse of such rights would cause substantial and irreparable harm to the Authority's business. Therefore, the Contractor acknowledges and stipulates that a court of competent jurisdiction should immediately enjoin any material breach of the intellectual property and confidentiality provisions of this Contract, upon a request by the Authority, without requiring proof of irreparable injury as same should be presumed.

(g) — Upon the request of the Authority, but in any event upon termination of this Contract, the Contractor shall surrender to the Authority all documents and things pertaining to the Works, including but not limited to drafts, memoranda, notes, records, drawings, manuals, computer software, reports, data, and all other documents or materials (and copies of same) generated or developed by the Contractor or furnished by the Authority to the Contractor, including all materials embodying the Works, any Authority confidential information, or Intellectual Property Rights, regardless of whether complete or incomplete. This paragraph is intended to apply to all Works made or compiled by the Contractor, as well as to all documents and things furnished to the Contractor by the Authority or by anyone else that pertains to the Works.

(h)(b) The Contractor and its subcontractors and their respective employees and personnel may have access to the Authority Data (including without limitation, personally identifiable information ("PII")) in connection with the performance of the Contract. PII shall be any information that identifies or describes a person or can be directly linked to a specific individual, including ridership and usage data. Examples of PII include, but are not limited to, name, address, phone or fax number, signature, date of birth, e-mail address, method of payment, ridership and travel pattern data. Customer Personally Identifiable Information, or Customer PII, means any PII relating to the Authority's customers. To the extent any Authority Data (including PII) is made available to the Contractor under the Contract, the Contractor shall take reasonable steps to maintain the confidentiality, security, safety, and integrity of all PII and other Authority Data in accordance with the Authority's Proprietary Rights and Data Security Addendum, which will be attached as an addendum to the Contract, as applicable.

(i)(c) The Contractor and its subcontractors, employees and consultants may require access to the Authority Electronic Property and related Authority Data in connection with the performance of services under the Contract. In such event, the Contractor agrees that it will, and it will cause its subcontractors and any of their respective employees and personnel to, execute the Authority's Access and Use Agreement, which will be attached as an addendum to the Contract, as applicable.

(i)(d) This Section 25 will survive termination or expiration of this Agreement for any reason.

(e) Other than the rights of use expressly conferred upon the Authority pursuant to this Contract, the Authority shall have no further rights to the Software, third party software, the documentation related to the Software, or the Application (as these terms are defined in the Contract) and shall not copy, reproduce, modify, adapt, reverse engineer, disassemble or translate them, without the express written authority of Contractor. Contractor shall retain all rights in patents, copyrights, trademarks, trade secrets, and any other intellectual property in the Software, the documentation related to the Software or the Application whether pre-existing or developed under this Agreement. Furthermore, neither this Agreement nor the delivery of any services hereunder shall be construed as granting, either by estoppel or otherwise, any right in, or license under, any present or future data, drawings, plans, ideas or methods disclosed in this Agreement or under any invention, patent, copyright or trade secret now or hereafter owned or

controlled by Contractor. The Authority agrees to: (i) take reasonable steps to maintain Contractor's and/or its sub-contractors' intellectual property rights; (ii) not sell, transfer, publish, display, disclose, or make available the Software, Third Party Software or the documentation related to the Software, or copies of the Software, Third Party Software or the documentation related to the Software, to third parties except where the Authority may disclose software to designated government representatives under a nondisclosure agreement executed by both parties, (iii) not use or allow to be used, the Software, Third Party Software or the documentation related to the Software either directly or indirectly for the benefit of any other person or entity, and (iv) not use the Software or the documentation related to the Software, along with its updates, patches or upgrades, on any equipment other than the equipment on which it was originally installed, without Contractor's written consent.

26. STANDARDS OF PERFORMANCE

The Contractor shall perform the Services hereunder in compliance with all applicable federal, state, and local laws and regulations. The Contractor shall use only licensed personnel to perform Services required by law to be performed by such personnel.

27. INSPECTIONS AND APPROVALS

(a) All Services performed by the Contractor, or its Subcontractors or consultants shall be subject to the inspection and approval of the Authority **in accordance with the terms of the Contract at all times**, but such approval shall not relieve the Contractor of responsibility for the proper performance of the Services. The Contractor shall provide sufficient, safe, and proper facilities at all times for such inspection of the Services and shall furnish all information concerning the Services and give the Authority or its representatives free access at all reasonable times to the facilities where the Services are performed.

(b) The Contractor shall provide and maintain an inspection system acceptable to the Authority covering the Services under this Contract. Complete records of all inspection work performed by the Contractor shall be maintained and made available to the Authority during Contract performance and for as long afterwards and the Contract requires.

(c) The Authority has the right to inspect and test all Services called for by this Contract, to the extent practicable, at all times and places during the term of the Contract. The Authority shall perform inspections and tests in a manner that will not unduly delay the Services.

(d) If any of the Services do not conform with Contract requirements, the Authority may require the Contractor to perform the Services again in conformity with the Contract requirements, at no increase in the Contract Sum. When the defects in services cannot be corrected by performance, the Authority may (1) require the Contractor to take necessary action to ensure that future performance conforms to Contract requirements and (2) reduce the Contract Sum to reflect the reduced value of the Services performed.

(e) **If the Contractor fails promptly to perform the Services again or to take the necessary action to ensure future performance in conformity with Contract requirements, the Authority may (1) by contract or otherwise, perform the Services and charge to the Contractor any cost incurred by the Authority that is directly related to the performance of such service or (2) terminate the Contract for default.**

28. SUSPENSION OF SERVICES

(a) The Authority may order the Contractor in writing to suspend all or any part of the Services for such period of time as the Authority determines to be appropriate for the convenience of the Authority.

(b) If the performance of all or any part of the Services is, for an unreasonable period of time, suspended or delayed by an act of the Authority in the administration of this Contract, or by the Authority's failure to act within the time specified in this Contract (or, if no time is specified, within a reasonable time), an adjustment shall be made for any increase in cost of performance of this Contract (excluding profit) necessarily caused by such unreasonable suspension or delay, and the Contract modified in writing accordingly. However, no adjustment shall be made under this paragraph for any suspension or delay to the extent (1) that performance would have been suspended or delayed by any

other cause, including the fault or negligence of the Contractor, or (2) for which an equitable adjustment is provided for or excluded under any other provision of this Contract.

(c) No claim under this paragraph shall be allowed (1) for any costs incurred more than twenty (20) days before the Contractor shall have notified the Authority in writing of the act or failure to act involved (but this requirement shall not apply to a claim resulting from a suspension order), and (2) unless the claim, in an amount stated, is asserted in writing as soon as practicable after the termination of such suspension or delay, but not later than the date of final payment. No part of any claim based on the provisions of this subparagraph shall be allowed if not supported by adequate evidence showing that the cost would not have been incurred but for a delay within the provisions of this paragraph.

29. PAYMENT TO SUBCONTRACTORS

(a) Payments by contractors to subcontractors associated with Authority contracts are subject to the time periods established in the Texas Prompt Payment Act, Tex. Gov't Code § 2251.

(b) A false certification to the Authority under the provisions of the paragraph entitled "Invoicing and Payment" hereof may be a criminal offense in violation of Tex. Penal Code § 10.

30. FEDERAL, STATE AND LOCAL TAXES

The Contract Sum includes all applicable federal, state, and local taxes and duties. The Authority is exempt from taxes imposed by the State of Texas and local sales and use taxes under Texas Tax Code § 151.309, and any such taxes included on any invoice received by the Authority shall be deducted from the amount of the invoice for purposes of payment. The Contractor may claim exemption from payment of applicable State taxes by complying with such procedures as may be prescribed by the State Comptroller of Public Accounts. The Contractor bears sole and total responsibility for obtaining information pertaining to such exemption.

31. EQUAL OPPORTUNITY

During the performance of this Contract, the Contractor agrees that it will, in good faith, afford equal opportunity required by applicable federal, state, or local law to all employees and applicants for employment without regard to race, color, religion, sex, national origin, disability or any other characteristic protected by federal, state or local law.

32. CONFLICT OF INTEREST

(a) Reference is made to Exhibit B, Representations and Certifications, Code of Ethics, which is incorporated herein and made a part of this Contract. Capitalized terms used in this paragraph and not otherwise defined shall have the meanings as described to them in the Code of Ethics.

(b) The Contractor represents that no Employee has a Substantial Interest in the Contractor or this Contract, which Substantial Interest would create or give rise to a Conflict of Interest. The Contractor further represents that no person who has a Substantial Interest in the Contractor and is or has been employed by the Authority for a period of two (2) years prior to the date of this Contract has or will (1) participate, for the Contractor, in a recommendation, bid, proposal or solicitation on any Authority contract, procurement or personnel administration matter, or (2) receive any pecuniary benefit from the award of this Contract through an ownership of a Substantial Interest (as that term is defined in Paragraph II, subparagraphs (1) and (3) of the Code of Ethics) in a business entity or real property.

(c) The Contractor agrees to ensure that the Code of Ethics is not violated as a result of the Contractor's activities in connection with this Contract. The Contractor agrees to immediately inform the Authority if it becomes aware of the existence of any such Substantial Interest or Conflict of Interest, or the existence of any violation of the Code of Ethics arising out of or in connection with this Contract.

(d) The Authority may, in its sole discretion, require the Contractor to cause an immediate divestiture of such Substantial Interest or elimination of such Conflict of Interest, and failure of the Contractor to so comply shall render this Contract voidable by the Authority. Any willful violation of these provisions, creation of a Substantial Interest or

existence of a Conflict of Interest with the express or implied knowledge of the Contractor shall render this Contract voidable by the Authority.

(e) In accordance with paragraph 176.006, Texas Local Government Code, "vendor" is required to file a conflict-of-interest questionnaire within seven business days of becoming aware of a conflict of interest under Texas law. The conflict of interest questionnaire can be obtained from the Texas Ethics Commission at www.ethics.state.tx.us. The questionnaire shall be sent to the Authority's Contract Administrator.

33. GRATUITIES

The Authority may cancel this Contract, without liability to the Contractor, if it is found that gratuities in the form of entertainment, gifts, or otherwise were offered or given by the Contractor or any agent or representative to any Authority official or employee with a view toward securing favorable treatment with respect to the performance of this Contract. In the event this Contract is canceled by the Authority pursuant to this provision, the Authority shall be entitled, in addition to any other rights and remedies, to recover from the Contractor a sum equal in amount to the cost incurred by the Contractor in providing such gratuities.

34. PUBLICATIONS

All published material and written reports submitted under this Contract must be originally developed material unless otherwise specifically provided in the Contract document. When material, not originally developed, is included in a report, it shall have the source identified. This provision is applicable when the material is in a verbatim or extensive paraphrased format.

35. REQUEST FOR INFORMATION

(a) The Contractor shall not provide information generated or otherwise obtained in the performance of its responsibilities under this Contract to any party other than the Authority and its authorized agents except as otherwise provided by this Contract or after obtaining the prior written permission of the Authority.

(b) This Contract, all data and other information developed pursuant to this Contract shall be subject to the Texas Public Information Act. The Authority shall comply with all aspects of the Texas Public Information Act.

(c) The Contractor is instructed that any requests for information regarding this Contract and any deliverables shall be referred to the Authority.

(d) The requirements of Subchapter J, Chapter 552, Government Code, may apply to this bid/contract and the contractor or vendor agrees that the contract can be terminated if the contractor or vendor knowingly or intentionally fails to comply with a requirement of that subchapter.

(1) The requirement of Subchapter J, Chapter 552, Government Code as amended currently applies to expenditures of at least \$1 million in public funds for the purchase of goods or services.

36. RIGHTS TO PROPOSAL AND CONTRACTUAL MATERIAL

(a) All documentation related to or prepared in connection with any proposal, including the contents of any proposal contracts, responses, inquiries, correspondence, and all other material submitted in connection with the proposal shall become the property of the Authority upon receipt.

(b) All documents, reports, data, graphics and other materials produced under this Contract shall become the sole possession of the Authority upon receipt and payment, subject only to the Contractor's professional obligation to maintain copies of its work product.

37. LIMITATION OF LIABILITY

Notwithstanding any other provisions of this Contract or exhibits to the contrary, in no event shall either party the Authority or its officers, directors, agents or employees be liable in contract or tort, to the other party or any third party Contractor or its Subcontractors for special, indirect, incidental or consequential damages, resulting from a party's the Authority's performance, nonperformance, or delay in performance of its obligations under this Contract, or either party's the Authority's termination of the Contract with or without cause, or the Authority's suspension of the Services. This limitation of liability shall not apply to willful misconduct intentional tort or fraud. The Contractor shall include similar liability provisions in all its Subcontracts. Notwithstanding anything to the contrary in the Contract or the Exhibits, the Contractor's aggregate liability and responsibility for any and all claims, damages, costs or losses whatsoever arising either jointly or solely from or in connection with this Contract or the use of the Hardware, Software or Services (whether or not in the manner permitted by this Contract), including claims for breach of contract, tort, misrepresentation, or otherwise, shall in no event exceed the total value of the Contract.

38. LAWS, STATUTES AND OTHER GOVERNMENTAL REQUIREMENTS

The Contractor agrees that it shall be in compliance with all laws, statutes, and other governmental requirements, regulations or standards prevailing during the term of this Contract.

39. CLAIMS

In the event that any claim, demand, suit, or other action is made or brought by any person, firm, corporation, or other entity against the Contractor arising out of this Contract, the Contractor shall give written notice thereof, to the Authority within three (3) working days after being notified of such claim, demand, suit, or action. Such notice shall state the date and hour of notification of any such claim, demand, suit, or other action; the name and address of the person, firm, corporation, or other entity making such claim or instituting or threatening to institute any type of action or proceeding; the basis of such claim, action, or proceeding; and the name of any person against whom such claim is being made or threatened. Such written notice shall be delivered either personally or by mail and shall be directly sent to the attention of the President/CEO, Capital Metropolitan Transportation Authority, 2910 E. 5th Street, Austin, Texas 78702.

40. LICENSES AND PERMITS

The Contractor shall, without additional expense to the Authority, be responsible for obtaining any necessary licenses, permits, and approvals for complying with any federal, state, county, municipal, and other laws, codes, and regulations applicable to the Services to be provided under this Contract including, but not limited to, any laws or regulations requiring the use of licensed Subcontractors to perform parts of the work.

41. NOTICE OF LABOR DISPUTES

(a) If the Contractor has knowledge that any actual or potential labor dispute is delaying or threatens to delay the timely performance of this Contract, the Contractor immediately shall give notice, including all relevant information, to the Authority.

(b) The Contractor agrees to insert the substance of this paragraph, including this subparagraph (b), in any Subcontract under which a labor dispute may delay the timely performance of this Contract; except that each Subcontract shall provide that in the event its timely performance is delayed or threatened by delay by any actual or potential labor dispute, the Subcontractor shall immediately notify the next higher tier Subcontractor or the Contractor, as the case may be, of all relevant information concerning the dispute.

42. PUBLICITY RELEASES

All publicity releases or releases of reports, papers, articles, maps, or other documents in any way concerning this Contract or the Services hereunder which the Contractor or any of its Subcontractors desires to make for the purposes of publication in whole or in part, shall be subject to approval by the Authority prior to release.

43. INTEREST OF PUBLIC OFFICIALS

The Contractor represents and warrants that no employee, official, or member of the Board of the Authority is or will be pecuniarily interested or benefited directly or indirectly in this Contract. The Contractor further represents and warrants that it has not offered or given gratuities (in the form of entertainment, gifts or otherwise) to any employee, official, or member of the Board of the Authority with a view toward securing favorable treatment in the awarding, amending, or evaluating the performance of this Contract. For breach of any representation or warranty in this paragraph, the Authority shall have the right to terminate this Contract without liability and/or have recourse to any other remedy it may have at law or in equity.

44. INDEMNIFICATION

(a) **THE CONTRACTOR WILL INDEMNIFY, DEFEND AND HOLD THE AUTHORITY AND ITS OFFICERS, DIRECTORS, EMPLOYEES, AGENTS AND REPRESENTATIVES (THE AUTHORITY AND EACH SUCH PERSON OR ENTITY IS AN "INDEMNIFIED PARTY") HARMLESS FROM AND AGAINST AND PAY ANY AND ALL DAMAGES (AS DEFINED HEREIN) DIRECTLY OR INDIRECTLY RESULTING FROM, RELATING TO, ARISING OUT OF OR ATTRIBUTABLE TO ANY OF THE FOLLOWING:**

(1) **ANY BREACH OF ANY REPRESENTATION OR WARRANTY THAT THE CONTRACTOR HAS MADE IN THIS CONTRACT;**

(2) **ANY BREACH, VIOLATION OR DEFAULT BY OR THROUGH THE CONTRACTOR OR ANY OF ITS SUBCONTRACTORS OF ANY OBLIGATION OF THE CONTRACTOR IN THIS CONTRACT OR ANY OTHER AGREEMENT BETWEEN THE CONTRACTOR AND THE AUTHORITY;**

(3) **THE USE, CONDITION, OPERATION OR MAINTENANCE OF ANY PROPERTY, VEHICLE, FACILITY OR OTHER ASSET OF THE AUTHORITY TO WHICH THE CONTRACTOR HAS ACCESS OR AS TO WHICH THE CONTRACTOR PROVIDES SERVICES; OR**

(4) **ANY NEGLIGENT ACT OR OMISSION OR WILLFUL MISCONDUCT OF THE CONTRACTOR OR ANY OF ITS SUBCONTRACTORS OR ANY OF THEIR OFFICERS, DIRECTORS, EMPLOYEES, AGENTS, CUSTOMERS, INVITEES, REPRESENTATIVES OR VENDORS.**

(b) **"ACTION" MEANS ANY ACTION, APPEAL, PETITION, PLEA, CHARGE, COMPLAINT, CLAIM, SUIT, DEMAND, LITIGATION, MEDIATION, HEARING, INQUIRY, INVESTIGATION OR SIMILAR EVENT, OCCURRENCE OR PROCEEDING.**

(c) **"DAMAGES" MEANS ALL DIRECT OR INDIRECT DAMAGES, LOSSES, LIABILITIES, DEFICIENCIES, SETTLEMENTS, CLAIMS, AWARDS, INTEREST, PENALTIES, JUDGMENTS, FINES, OR OTHER COSTS OR EXPENSES OF ANY KIND OR NATURE WHATSOEVER, WHETHER KNOWN OR UNKNOWN, CONTINGENT OR VESTED, MATURED OR UNMATURED, AND WHETHER OR NOT RESULTING FROM THIRD-PARTY CLAIMS, INCLUDING COSTS (INCLUDING, WITHOUT LIMITATION, REASONABLE FEES AND EXPENSES OF ATTORNEYS, OTHER PROFESSIONAL ADVISORS AND EXPERT WITNESSES) RELATED TO ANY INVESTIGATION, ACTION, SUIT, ARBITRATION, APPEAL, CLAIM, DEMAND, INQUIRY, COMPLAINT, MEDIATION, INVESTIGATION OR SIMILAR EVENT, OCCURRENCE OR PROCEEDING.**

(d) **"THREATENED" MEANS A DEMAND OR STATEMENT HAS BEEN MADE (ORALLY OR IN WRITING) OR A NOTICE HAS BEEN GIVEN (ORALLY OR IN WRITING), OR ANY OTHER EVENT HAS OCCURRED OR ANY OTHER CIRCUMSTANCES EXIST THAT WOULD LEAD A PRUDENT PERSON OR ENTITY TO CONCLUDE THAT AN ACTION OR OTHER MATTER IS LIKELY TO BE ASSERTED, COMMENCED, TAKEN OR OTHERWISE PURSUED IN THE FUTURE.**

(e) **IF ANY ACTION IS COMMENCED OR THREATENED THAT MAY GIVE RISE TO A CLAIM FOR INDEMNIFICATION (A "CLAIM") BY ANY INDEMNIFIED PARTY AGAINST THE CONTRACTOR, THEN SUCH INDEMNIFIED PARTY WILL PROMPTLY GIVE NOTICE TO THE CONTRACTOR AFTER SUCH INDEMNIFIED PARTY BECOMES AWARE OF SUCH CLAIM. FAILURE TO NOTIFY THE CONTRACTOR WILL NOT RELIEVE THE CONTRACTOR OF ANY LIABILITY THAT IT MAY HAVE TO THE INDEMNIFIED PARTY, EXCEPT TO THE EXTENT THAT THE DEFENSE OF SUCH ACTION IS MATERIALLY AND IRREVOCABLY PREJUDICED BY THE**

INDEMNIFIED PARTY'S FAILURE TO GIVE SUCH NOTICE. THE CONTRACTOR WILL ASSUME AND THEREAFTER DILIGENTLY AND CONTINUOUSLY CONDUCT THE DEFENSE OF A CLAIM WITH COUNSEL THAT IS SATISFACTORY TO THE INDEMNIFIED PARTY. THE INDEMNIFIED PARTY WILL HAVE THE RIGHT, AT ITS OWN EXPENSE, TO PARTICIPATE IN THE DEFENSE OF A CLAIM WITHOUT RELIEVING THE CONTRACTOR OF ANY OBLIGATION DESCRIBED ABOVE. IN NO EVENT WILL THE CONTRACTOR APPROVE THE ENTRY OF ANY JUDGMENT OR ENTER INTO ANY SETTLEMENT WITH RESPECT TO ANY CLAIM WITHOUT THE INDEMNIFIED PARTY'S PRIOR WRITTEN APPROVAL, WHICH WILL NOT BE UNREASONABLY WITHHELD. UNTIL THE CONTRACTOR ASSUMES THE DILIGENT DEFENSE OF A CLAIM, THE INDEMNIFIED PARTY MAY DEFEND AGAINST A CLAIM IN ANY MANNER THE INDEMNIFIED PARTY REASONABLY DEEMS APPROPRIATE. THE CONTRACTOR WILL REIMBURSE THE INDEMNIFIED PARTY PROMPTLY AND PERIODICALLY FOR THE DAMAGES RELATING TO DEFENDING AGAINST A CLAIM AND WILL PAY PROMPTLY THE INDEMNIFIED PARTY FOR ANY DAMAGES THE INDEMNIFIED PARTY MAY SUFFER RELATING TO A CLAIM.

(f) THE INDEMNIFICATION OBLIGATIONS AND RIGHTS PROVIDED FOR IN THIS CONTRACT DO NOT REQUIRE (AND SHALL NOT BE CONSTRUED AS REQUIRING) THE CONTRACTOR TO INDEMNIFY, HOLD HARMLESS, OR DEFEND ANY INDEMNIFIED PARTY (OR ANY THIRD PARTY) AGAINST ANY ACTION OR CLAIM (OR THREATENED ACTION OR CLAIM) CAUSED BY THE NEGLIGENCE OR FAULT, THE BREACH OR VIOLATION OF A STATUTE, ORDINANCE, GOVERNMENTAL REGULATION, STANDARD, OR RULE, OR THE BREACH OF CONTRACT OF ANY INDEMNIFIED PARTY, ITS AGENTS OR EMPLOYEES, OR ANY THIRD PARTY UNDER THE CONTROL OR SUPERVISION OF ANY INDEMNIFIED PARTY, OTHER THAN THE CONTRACTOR OR ITS AGENTS, EMPLOYEES, OR SUBCONTRACTORS OF ANY TIER.

(g) THIS PARAGRAPH WILL SURVIVE ANY TERMINATION OR EXPIRATION OF THIS CONTRACT.

45. RECORD RETENTION; ACCESS TO RECORDS AND REPORTS

(a) The Contractor will retain, and will require its Subcontractors of all tiers to retain, complete and readily accessible records related in whole or in part to the Contract, including, but not limited to, data, documents, reports, statistics, sub-agreements, leases, subcontracts, arrangements, other third party agreements of any type, and supporting materials related to those records.

(b) If this is a cost-reimbursement, incentive, time and materials, labor hour, or price determinable Contract, or any combination thereof, the Contractor shall maintain, and the Authority and its representatives shall have the right to examine, all books, records, documents, and other evidence and accounting procedures and practices sufficient to reflect properly all direct and indirect costs of whatever nature claimed to have been incurred and anticipated to be incurred for the performance of this Contract.

(c) If the Contractor submitted certified cost or pricing data in connection with the pricing of this Contract or if the Contractor's cost of performance is relevant to any change or modification to this Contract, the Authority and its representatives shall have the right to examine all books, records, documents, and other data of the Contractor related to the negotiation, pricing, or performance of such Contract, change, or modification for the purpose of evaluating the costs incurred and the accuracy, completeness, and currency of the cost or pricing data submitted. The right of examination shall extend to all documents necessary to permit adequate evaluation of the costs incurred and the cost or pricing data submitted, along with the computations and projections used therein.

(d) The Contractor shall maintain all books, records, accounts and reports required under this paragraph for a period of at not less than three (3) 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 records shall be maintained until the disposition of all such litigation, appeals, claims or exceptions related thereto.

(e) The Contractor agrees to provide sufficient access to the Authority and its contractors to inspect and audit records and information related to performance of this Contract as reasonably may be required.

(f) The Contractor agrees to permit the Authority and its contractors' access to the sites of performance under this Contract as reasonably may be required.

(g) If an audit pursuant to this paragraph reveals that the Authority has paid any invoices or charges not authorized under this Contract, the Authority may offset or recoup such amounts against any indebtedness owed by it to the Contractor, whether arising under this Contract or otherwise, over a period of time equivalent to the time period over which such invoices or charges accrued.

(h) This paragraph will survive any termination or expiration of this Contract.

46. EXCUSABLE DELAYS

(a) Except for defaults of Subcontractors at any tier, the Contractor shall not be in default because of any failure to perform this Contract under its terms if the failure arises from Force Majeure Events. In each instance, the failure to perform must be beyond the control and without the fault or negligence of the Contractor. "Default" includes failure to make progress in the performance of the Services.

(b) If the failure to perform is caused by the failure of a Subcontractor at any tier to perform or make progress, and if the cause of the failure was beyond the control of both the Contractor and Subcontractor and without the fault or negligence of either, the Contractor shall not be deemed to be in default, unless:

- (1) the subcontracted supplies or services were obtainable from other sources;
- (2) the Authority ordered the Contractor in writing to obtain these services from the other source; and
- (3) the Contractor failed to comply reasonably with this order.

(c) Upon the request of the Contractor, the Authority shall ascertain the facts and extent of the failure. If the Authority determines that any failure to perform results from one or more of the causes above, the delivery schedule or period of performance shall be revised, subject to the rights of the Authority under this Contract.

47. LOSS OR DAMAGE TO PROPERTY

The Contractor shall be responsible for any loss or damage to property including money securities, merchandise, fixtures and equipment belonging to the Authority or to any other individual or organization, if any such loss or damage was caused by the Contractor or any Subcontractor at any tier, or any employee thereof, while such person is on the premises of the Authority as an employee of the Contractor or Subcontractor.

48. CONTRACTOR CONTACT/AUTHORITY DESIGNEE

The Contractor shall provide the Authority with a telephone number to ensure immediate communication with a person (not a recording) anytime during Contract performance. Similarly, the Authority shall designate an Authority representative who shall be similarly available to the Contractor.

49. QUALITY ASSURANCE

A periodic review of the Contractor's scheduled work may be performed by the Authority. If work is deemed incomplete or unacceptable in any way, the Authority will determine the cause and require the Contractor to take corrective measures in accordance with the terms of the Contract.

50. INTERPRETATION OF CONTRACT – DISPUTES

All questions concerning interpretation or clarification of this Contract, or the acceptable fulfillment of this Contract by the Contractor shall be immediately submitted in writing to the Authority's Contracting Officer for determination. All determinations, instructions, and clarifications of the Contracting Officer shall be final and conclusive unless the Contractor files with the CapMetro President/CEO within two (2) weeks after the Authority notifies the Contractor of any such determination, instruction or clarification, a written protest, stating in detail the basis of the protest. The President/CEO shall consider the protest and notify the Contractor within two (2) weeks of the protest filing of his or her final decision. The President/CEO's decisions shall be conclusive subject to judicial review. Notwithstanding any

disagreement the Contractor may have with the decisions of the President/CEO, the Contractor shall proceed with the Services in accordance with the determinations, instructions, and clarifications of the President/CEO. The Contractor shall be solely responsible for requesting instructions or interpretations and liable for any cost or expenses arising from its failure to do so. The Contractor's failure to protest the Contracting Officer's determinations, instructions, or clarifications within the two-week period shall constitute a waiver by the Contractor of all of its rights to further protest.

51. TOBACCO FREE WORKPLACE

(a) Tobacco products include cigarettes, cigars, pipes, snuff, snus, chewing tobacco, smokeless tobacco, dipping tobacco and any other non-FDA approved nicotine delivery device.

(b) The tobacco free workplace policy refers to all CapMetro owned or leased property. Note that this includes all buildings, facilities, work areas, maintenance facilities, parking areas and all Authority owned vehicles.

(c) Tobacco use is not permitted at any time on CapMetro owned or leased property, including personal vehicles parked in CapMetro parking lots.

(d) Littering of tobacco-related products on the grounds or parking lots is also prohibited.

52. ORDER OF PRECEDENCE

In the event of inconsistency between the provisions of this Contract, unless otherwise provided herein, the inconsistency shall be resolved by giving precedence in the following order, as revised:

1. Exhibit A - Pricing Schedule
2. Exhibit E - Contractual Terms and Conditions
3. Exhibit H – Authorization of Work Product
4. Exhibit B - Representations and Certifications
5. Exhibit F - Scope of Services
6. Exhibit F-1 - Compliance Matrix
7. Exhibit I - IT Proprietary Rights and Data Security Addendum
8. Exhibit J - IT Consultant Access and Use Agreement
9. Exhibit K - IT On-Premise Solutions-Additional Terms and Conditions
10. Exhibit L - IT Hosted Solutions-Additional Terms and Conditions
11. Other provisions or attachments to the Contract

53. ANTI-CORRUPTION AND BRIBERY LAWS

The Contractor shall comply with all Applicable Anti-Corruption and Bribery Laws. The Contractor represents and warrants that it has not and shall not violate or cause the Authority to violate any such Anti-Corruption and Bribery Laws. The Contractor further represents and warrants that, in connection with supplies or Services provided to the Authority or with any other business transaction involving the Authority, it shall not pay, offer, promise, or authorize the payment or transfer of anything of value, directly or indirectly to: (a) any government official or employee (including employees of government owned or controlled companies or public international organizations) or to any political party, party official, or candidate for public office or (b) any other person or entity if such payments or transfers would violate applicable laws, including Applicable Anti-Corruption and Bribery Laws. Notwithstanding anything to the contrary herein contained, the Authority may withhold payments under this Contract, and terminate this Contract immediately by way of written notice to the Contractor, if it believes, in good faith, that the Contractor has violated or caused the Authority to violate the Applicable Anti-Corruption and Bribery Laws. The Authority shall not be liable to the Contractor for any claim, losses, or damages related to its decision to exercise its rights under this provision.

54. VARIATION IN ESTIMATED QUANTITY

If the quantity of a unit-priced item in this Contract is an estimated quantity and the actual quantity of the unit-priced item varies more than ten percent (10%) above or below the estimated quantity, an equitable adjustment in the

Contract price shall be made upon demand of either party. The equitable adjustment shall be based upon any increase or decrease in costs due solely to the variation above one hundred ten percent (110%) or below ninety percent (90%) of the estimated quantity. If the quantity variation is such as to cause an increase in the time necessary for completion, the Contractor may request (in writing) an extension of time to be received by the Contracting Officer within ten (10) days from the beginning of the delay, or within such further period as may be granted by the Contracting Officer before the date of final settlement of the Contract. Upon the receipt of a written request for an extension, the Contracting Officer shall ascertain the facts and make an adjustment for extending the completion date as, in the judgment of the Contracting Officer, is justified.

55. ORGANIZATIONAL CONFLICT OF INTEREST (OCI)

(a) This Contract may task the Contractor to prepare or assist in preparing work statements that directly, predictably and without delay are used in future competitive acquisitions. The parties recognize that by the Contractor providing this support a potential conflict of interest arises as defined by FAR 9.5.

(b) For the purposes of this paragraph, the term "Contractor" means the Contractor, its subsidiaries and affiliates, joint ventures involving the Contractor, any entity with which the Contractor may hereafter merge or affiliate and any other successor or assignee of the Contractor.

(c) The Contractor acknowledges the full force and effect of this paragraph. It agrees to be bound by its terms and conditions and understands that violation of this paragraph may, in the judgment of the Contracting Officer, be cause for Termination for Default. The Contractor also acknowledges that this does not represent the sole and exclusive remedy available to the Authority in the event the Contractor breaches this or any other Organizational Conflict of Interest paragraph.

56. MISCELLANEOUS

(a) This Contract does not intend to, and nothing contained in this Contract shall create any partnership, joint venture or other equity type agreement between the Authority and the Contractor.

(b) All notices, statements, demands, requests, consents or approvals required under this Contract or by law by either party to the other shall be in writing and may be given or served by depositing same in the United States mail, postage paid, registered or certified and addressed to the party to be notified, with return receipt requested; by personally delivering same to such party; an agent of such party; or by overnight courier service, postage paid and addressed to the party to be notified; or by e-mail with delivery confirmation. Notice deposited in the U.S. mail in the manner hereinabove described shall be effective upon such deposit. Notice given in any other manner shall be effective only if and when received by the party to be notified.

If to the Contractor: As set forth in Exhibit B to this Contract

If to the Authority: Capital Metropolitan Transportation Authority
Attn: Chief Contracting Officer
2910 E. 5th Street
Austin, Texas 78702

Address for notice can be changed by written notice to the other party.

(c) In the event the Authority finds it necessary to employ legal counsel to enforce its rights under this Contract, or to bring an action at law, or other proceeding against the Contractor to enforce any of the terms, covenants or conditions herein, the Contractor shall pay to the Authority its reasonable attorneys' fees and expenses, **regardless of whether suit is filed as determined by a court of competent jurisdiction.**

(d) If any term or provision of this Contract or any portion of a term or provision hereof or the application thereof to any person or circumstance shall, to any extent, be void, invalid or unenforceable, the remainder of this Contract will remain in full force and effect unless removal of such invalid terms or provisions destroys the legitimate purpose of the Contract in which event the Contract will be terminated.

- (e) This Contract represents the entire agreement between the parties concerning the subject matter of this Contract and supersedes any and all prior or contemporaneous oral or written statements, agreements, correspondence, quotations and negotiations. In executing this Contract, the parties do not rely upon any statement, promise, or representation not expressed herein. This Contract may not be changed except by the mutual written agreement of the parties.
- (f) A facsimile signature shall be deemed an original signature for all purposes. For purposes of this paragraph, the phrase "facsimile signature" includes without limitation, an image of an original signature.
- (g) Whenever used herein, the term "including" shall be deemed to be followed by the words "without limitation". Words used in the singular number shall include the plural, and vice-versa, and any gender shall be deemed to include each other gender. All Exhibits attached to this Contract are incorporated herein by reference.
- (h) All rights and remedies provided in this Contract are cumulative and not exclusive of any other rights or remedies that may be available to the Authority, whether provided by law, equity, statute, or otherwise. The election of any one or more remedies the Authority will not constitute a waiver of the right to pursue other available remedies.
- (i) The Contractor shall not assign the whole or any part of this Contract or any monies due hereunder without the prior written consent of the Contracting Officer. No assignment shall relieve the Contractor from any of its obligations hereunder. Any attempted assignment, transfer or other conveyance in violation of the foregoing shall be null and void.
- (j) The failure of the Authority to insist upon strict adherence to any term of this Contract on any occasion shall not be considered a waiver or deprive the Authority thereafter to insist upon strict adherence to that term or other terms of this Contract. Furthermore, the Authority is a governmental entity, and nothing contained in this Contract shall be deemed a waiver of any rights, remedies or privileges available by law.
- (k) This Contract shall be governed by and construed in accordance with the laws of the State of Texas. Any dispute arising with respect to this Contract shall be resolved in the state or federal courts of the State of Texas, sitting in Travis County, Texas and the Contractor expressly consents to the personal jurisdiction of these courts.
- (l) This Contract is subject to the Texas Public Information Act, Tex. Gov't Code, Chapter 552.
- (m) The Contractor represents, warrants and covenants that: (a) it has the requisite power and authority to execute, deliver and perform its obligations under this Contract; and (b) it is in compliance with all applicable laws related to such performance.
- (n) The person signing on behalf of the Contractor represents for himself or herself and the Contractor that he or she is duly authorized to execute this Contract.
- (o) No term or provision of this Contract is intended to be, or shall be, for the benefit of any person, firm, organization, or corporation for a party hereto, and no such other person, firm, organization or corporation shall have any right or cause of action hereunder.
- (p) CapMetro is a governmental entity and nothing in this Contract shall be deemed a waiver of any rights or privileges under the law.
- (q) Funding for this Contract after the current fiscal year is subject to revenue availability and appropriation of funds in the annual budget approved by the Authority's Board of Directors.
- (r) Time is of the essence for all delivery, performance, submittal, and completion dates in this Contract.

57. FUNDING AVAILABILITY

Funding after the current fiscal year of any contract resulting from this solicitation is subject to revenue availability and appropriation of funds in the annual budget approved by the Authority's Board of Directors.

EXHIBIT F
SCOPE OF SERVICES

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1. Introduction

CapMetro requests proposals from qualified firms to provide an integrated Computer Aided Dispatching and Automatic Vehicle Location (CAD/AVL) system to support dispatch, planning, scheduling, passenger information, and management of its transit operations.

This procurement will include an upgrade or replacement to the core CAD/AVL system.

This Request for Proposal (RFP) covers the purchase, design, installation, configuration, testing, deployment, and maintenance of all scoped systems and hardware.

Exhibit 1 identifies the system elements that are considered to be in scope as part of this procurement. Items listed as “Core” are mandatory system elements. **Please note: to be considered compliant, vendors are required to bid for all system elements. CapMetro, as its full discretion, will determine which (if any) optional system elements are awarded.**

System Element	Scope
CAD/AVL Bus	Core
CAD/AVL Rail	Core

Exhibit 1 - CAD/AVL Procurement Scope Items

2. Project Goals and Objectives

This project is intended to fulfil the following high-level goals for CapMetro’s technology systems:

- 1) Replace or upgrade CapMetro’s existing CAD/AVL system with a next generation CAD/AVL system.
- 2) Ensure that any technology implemented is flexible, adaptable, and configurable enough to meet both current and future technology needs. All systems are intended to be integrated in real-time or designed for data sharing with other systems through standardized and/or documented API or other commonly using interfacing mechanisms.
- 3) Enable CapMetro staff to be able to quickly and intuitively perform all user functions, including:
 - a) managing fixed route bus operations;
 - b) providing customers with real-time information about their trip onboard both buses and commuter rail vehicles;
 - c) generate real-time vehicle and trip data to provide to customers through CapMetro’s real-time information dissemination systems;
 - d) provide planning staff with accurate, reliable, and detailed data for reporting and analytics needs from the CAD/AVL system;
 - e) provide maintenance staff the data, diagnostics, troubleshooting, and configurability to effectively perform any maintenance needed on the technology systems; and
 - f) enable IT staff to manage administrative functions related to the technology systems
- 4) Improve data-sharing and coordination among CapMetro’s departments, streamline associated processes, and reduce manual data entry to increase resource and technology efficiency.
- 5) Provide seamless integration between the new CAD/AVL system and supporting CapMetro systems.

3. Statement of Work

This section summarizes the overall scope of services required to deliver the CAD/AVL system. Subsequent sections provide specific detail as to the system requirements for major systems being deployed as part

of the CAD/AVL system as well as specific services related to the implementation, maintenance, and overall management of the system.

3.1. CAD/AVL Scope

For reference throughout this document, the “CAD/AVL System” will include all fixed end computer hardware, IT environments, web-based applications, vendor supplied CAD/AVL software, on-board vehicle hardware, and any additional optional systems and components procured as part of this RFP.

The intent of this procurement is to upgrade or replace CapMetro’s current CAD/AVL system as well as all associated hardware required to properly run and maintain all core systems, subsystems, and integrations to other systems that support CapMetro transit operations. Please refer to Exhibit F-1, Compliance Matrix (CAD/AVL System Requirements) of this RFP for technical and functional requirements related to the CAD/AVL system specifications required to properly adhere to CapMetro’s business needs.

To deliver and maintain the CAD/AVL system, the vendor shall supply a complete, operating CAD/AVL solution. This CAD/AVL solution shall be cloud hosted, off-premise, by the CAD/AVL vendor. The CAD/AVL vendor shall be responsible for maintaining the performance of the CAD/AVL system, managing system availability, uptime, and cybersecurity, as well as ensuring the continued maintenance and operations of all scoped system integrations.

Where specified, allowed, and coordinated with CapMetro personnel, the vendor shall be responsible for installing or assisting in the installation and testing of all deployed systems.

The proposed solution shall include all hardware, software, and services necessary to accomplish the supply, engineering, project management, installation, configuration, integration, documentation, testing, training, startup, maintenance, and other services required to configure, deploy, and accept the system.

CapMetro seeks systems that automate data entry and business processes to the maximum extent possible. The vendor shall supply, license, install, integrate and implement the CAD/AVL system on identified CapMetro vehicles.

3.2. Open Solution Design

CapMetro seeks to procure and implement a CAD/AVL system with an open solutions architecture design. This design shall allow for the implementation and utilization of CAD/AVL features in a modular approach, meaning that CapMetro wishes to selectively deploy elements of CAD/AVL system functions (e.g., incident management, detour/disruption management, headway management, etc.) As part of this design, the architecture shall be an open solution design, allowing CapMetro to replace specific functionality with other operational technologies now and in the future. To achieve this design, Vendors shall propose a system built on open Application Programming Interfaces (API’s) or industry data standards (such as ITxPT, Transit Operational Data Standard, etc) that allow for the seamless integration of the CAD/AVL system to other systems as well as through CapMetro’s Enterprise Data Warehouse for business intelligence and reporting purposes.

Any proposed design shall incorporate these elements and allow for CapMetro to seamlessly and easily replace or integrate select functionality during the deployment and evolution of the CAD/AVL system and on-board system architecture and evolution of the vehicle network and communications network.

3.3. Supported Business Functions

The CAD/AVL system shall support all CapMetro fixed route transit operations. The vendor shall deliver a system, at a minimum, that achieves the functionality listed below and meets the requirements laid out in Exhibit F-1, Compliance Matrix.

Function	Process/Capability
Control of voice (bus only) and data communications	• Voice communication between vehicles and the control centers. • Data communication between vehicles and the control center. • Data messaging. • Vehicle announcements.
Computer Aided Dispatch (CAD)	• Central tracking and management of all vehicles in the field. • Schedule and vehicle management. • Detour management and computer assisted service recovery. • Enhanced map elements. • Vehicle visibility (map view) for bus and non-revenue vehicles. • Route/schedule/movement violations. • Incidents/Accidents. • Bus bridging. • Emergency and other alarms. • Covert monitoring. • Real-time views of electric vehicle charge status.
Automatic Vehicle Location (AVL)	• Vehicle location/status mapping. • Route adherence monitoring. • Schedule adherence monitoring.
Reporting	• Dashboard reporting views of On Time Performance (OTP) and CapMetro defined Key Performance Indicators (KPI's) • Advanced data and analytics of all operator and vehicle metrics.

Function	Process/Capability
	- Integration to allow effective and comprehensive data integration between CAD/AVL system and CapMetro data warehouses and reporting solutions, including for APC reporting data. Open data architecture for creating reports from multiple tools and databases. - Automated, ad-hoc, custom, and canned reports.
Driver's daily log	- On-duty and driving time. - Operator performance metrics.
On-board Announcement & Displays	- Internal vehicle announcements. - External vehicle audio announcements. - Visual message display signs. - Stop annunciation/display. - Public Address/Variable Message Board display.
Non-revenue vehicle (NRV) functions	Ability to receive external location feeds and display on CAD map.

Exhibit 2 - CAD/AVL System Capabilities (Summary)

4. CAD/AVL System Requirements

The section provides a high-level summary of requirements for the CAD/AVL system.

4.1. Overview

The vendor shall supply an integrated and fully functional CAD/AVL system that includes all engineering, project management, and other services necessary to accomplish the supply, installation, testing, documentation, training, and start-up of the complete system (including spare parts and service).

The CAD/AVL system will fully replace the current CAD/AVL system deployed on the CapMetro's bus and rail fleet and provide passenger information announcement capabilities for rail. The CAD/AVL system shall consist of all elements and functionality of a proven fixed-route CAD/AVL system. The vendor proposed system shall include all onboard and central systems, software and integration, systems and operational support tools, and hosting services. The system is expected to provide enhanced real-time information, improved dispatching capabilities and reliability, increased on-time performance, and improvements in business process workflow, data availability, and operational support. The system shall be flexible in design and support integration with third party systems, hardware, and be built with an open architecture that allows integration and data sharing with current and future systems.

The Proposer shall supply a complete, operating CAD/AVL system that shall include:

- (a) Hosting and managed services of the CAD/AVL system.

- (b) Vendor-provided software. Third-party software shall include operating systems, database software, and LAN software as necessary to support the Vendor's proposed system configuration and the performance specifications.
- (c) Integration with radio subsystem fixed-site hardware (transceivers, antenna systems, filters, comparators, etc.) and software.
- (d) For the fixed-route revenue fleet the vendor-provided onboard vehicle equipment shall include Vehicle Logic Units (VLU's) mobile data terminals (MDTs), a vehicle area network (VAN), GPS receivers and antennas, cabling, interfaces to other onboard systems, and all selected optional equipment, as required by the Contract. Equipment shall also include all accessories, cables, switches, and other components required to install the system and associated equipment. The vendor shall be responsible for the final onboard vehicle configuration including the de-installation of the existing onboard equipment, cabling, and antennas.

Please note: All items listed above are for description and information purposes. The hardware and sub system configuration will be different based on deployment of bus and rail.

The supplied CAD/AVL system shall leverage CapMetro's LAN/WAN infrastructure. If there are any software and hardware items not explicitly defined in the system requirements document that are necessary to make the CAD/AVL system complete, the vendor shall identify and furnish all such items. The vendor shall provide all required items in the amounts necessary regardless of whether these items were identified by the vendor during the proposal period.

IF CapMetro elects to bring the CAD/AVL system in house, on premises, or a CapMetro controlled hosting environment (including cloud), existing licensing purchased shall be transferrable away from any proposed hosting environment to an environment of CapMetro's choosing. The selected Vendor shall provide technical support to assist in transferring, including, but not limited to, information such as hardware and operating system requirements, information on software dependencies such as databases, and information to allow for configuration of software and networking to support migration.

4.2. System Functionality & Operating Environment

This section provides detail on the required and optional system functionality and components for the CAD/AVL system.

4.2.1. CAD/AVL Base System Functionality

All functionality outlined in the CAD/AVL system requirements, Exhibit F-1, Compliance Matrix, is considered core to system delivery unless directly expressed as optional in the systems requirements. Base functionality is considered as:

1. CAD/AVL system implementation on all fixed route bus vehicles.
2. Passenger announcement system capabilities for rail. This design does not require an operator user interface, voice or data communications, or canned messaging. AVL information will be provided via integration to CapMetro's on-board mobile gateway router.

4.3. CAD/AVL System Interfaces

The CAD/AVL system is critical to CapMetro's daily operations and customer experiences. As such, this system shall serve as a major source of data to other CapMetro systems used for planning, maintenance, and operation purposes. Additionally, the CAD/AVL system will need to receive information from other

CapMetro systems in order to perform critical business functions and streamline business operations reliably and accurately.

The selected Vendor shall be responsible for understanding, designing, documenting, supporting implementation, testing, and providing on-going support for these system interfaces. This section is intended as an overview, specific reference to system integration requirements should be made to the system requirements in Exhibit F-1, Compliance Matrix.

Please note: the design of all system interfaces shall be architected in a way that allows flexibility for CapMetro to selectively upgrade, replace, or introduce new third-party applications freely without disrupting the CAD/AVL system or requiring customized coding or programming from the CAD/AVL vendor.

System Interfacing with CAD/AVL	Summary Description of Interface
Trapeze FX (Scheduling)	Ability to import scheduling, stop, and map information from the scheduling system.
Trapeze Ops (Daily Operations/Workforce Management)	Trapeze Ops is the primary resource for operator and vehicle scheduling and assignments. Frequent changes are made on short notice to reflect changing operational conditions. The CAD/AVL system requires near-real time integration with Trapeze Ops to reflect changes made by bus operations. This is expected to be a bi-directional interface. As an example, a trip or block cancelled should be reflected in the CAD/AVL system and vice-versa.
Enterprise Data Warehouses	All data from the CAD/AVL system shall be automatically extractable, storable, and usable via CapMetro Enterprise Data Warehouse.
Swiftly	The CAD/AVL system shall need to interface with Swiftly's real-time arrival/prediction engine (or future prediction engine). Detour management and headway decisions, and supporting data (e.g., stop information) to flow between Swiftly and CAD/AVL system (bi-directional) regardless of which system initiates the operation change. Real-time passenger information and updates to station signage, displays, and associated customer information.
LCRA Voice and Data Infrastructure (Land-Mobile Radio)	Leverage LCRA infrastructure to provide voice communications between vehicles, dispatch, and operations.
Electric Vehicle Monitoring and Charge Management Systems	Provide operational information and vehicle status information in the CAD/AVL system.
Human Resources Management	Receive personnel information from the HR system.

System Interfacing with CAD/AVL	Summary Description of Interface
Transit Signal Priority (TSP)	Integration with TSP system to provide for signal priority throughout CapMetro's vehicle network.
GFI Odyssey Farebox System	Integration to support single-point logon across required hardware.
General open API System Architecture	Allows data integration with data warehouse and enterprise reporting tools. Allows CapMetro to connect to cloud-based integration platforms for integration with multiple cloud and/or on-premise systems. Allows for the select replacement of operational systems to central CAD/AVL system.
Third Party Consumer Applications	Ability to generate data for and leverage third-party applications using GTFS and GTFS-RT data.

Exhibit 3 - CAD/AVL System Interface Summary

4.4. Expected Users

The exhibits in this section summarize the user information for the CAD/AVL system for bus and rail.

For the purpose of this section the following definitions apply:

- (a) User Role – the specific role/function of the CapMetro user.
- (b) Individual User # – a unique user that may require access to the system. General Access users will not all be utilizing the system concurrently.

4.4.1. Expected Users Bus

Exhibit Exhibit 4 provides high-level user information for the CAD/AVL system for bus operations.

User Role	Individual User #
Bus Operations Controller Workstations	10
Bus Road Supervisor	40
Bus Division (Maintenance & Dispatch)	10-20
General Access (view only, such as Customer Information)	15-20
Bus Training and Testing	15-20 (Train the Trainers)

Exhibit 4 - Expected User Listing (Bus)

4.4.2. Expected Users Rail

Exhibit 5 provides high-level user information for the CAD/AVL system for rail operations.

User Role	Individual User #
Rail Planning	5
Rail Division (Maintenance & Dispatch)	10
Rail Training and Testing	10

Exhibit 5 - Expected User Listing (Rail)

4.5. Fleet Overview

This section contains summary level detail as to the characteristics and volumes of CapMetro's bus and rail fleet. This information is provided to display the make-up, size, and age of CapMetro's fleet for vendor consideration when responding to this RFP. Please note that this fleet information is subject to change and all vehicle design elements and installation components per vehicle type and volume will be determined during systems design, prior to system installation.

Please refer to Exhibit 6 for detailed listing of all vehicle counts and subsystems currently in place.

4.5.1. Bus

CAD/AVL system requirements in Exhibit F-1, Compliance Matrix within this RFP are applicable to all CapMetro fixed route buses. The table below details the current bus fleet.

Manufacturer	Model	Year	Count
Gillig	G27B102N4	2016	21
		2017	6
	G27D102N4	2015	1
		2016	76
		2017	34
		2019	24
		2020	23
MCI	D4500	2016	6
		2019	28
New Flyer	D35LFR	2009	7
		2010	8

CAPITAL METROPOLITAN TRANSPORTATION AUTHORITY

Manufacturer	Model	Year	Count
	D40LFR	2012	54
		2008	14
		2009	32
	XE-40	2020	4
		2022	14
	XE-60	2020	2
NOVA Bus Corp.	LFS40	2014	18
		2017	8
	LFS60	2013	22
		2017	7
Proterra	CATALYST E2	2020	6
	ZX-5	2023	4
TOTAL			419

Exhibit 6 - CapMetro Bus Vehicle Counts

Exhibit 7 - Bus Vehicle Hardware Replacement or Integration Exhibit 7 details on the on-board vehicle systems in scope that require replacement or integration to current subsystems in place for bus.

Hardware/System	Replace or Leverage Existing/Future
Mobile Data Terminal	Replace
Vehicle Logic Unit	Replace
Mobile Access Router	Leverage Existing
Land Mobile Radio	Leverage Future LCRA Radio
Automatic Passenger Counters	Leverage Existing
GPS Antenna	Replace
Wireless LAN Access Antenna	Replace

Hardware/System	Replace or Leverage Existing/Future
Interior Passenger Information Signage	Replace or Leverage Existing
Headsign	Leverage Existing
Farebox	Leverage Future or Existing
Passenger Announcement System (PA amp, Voice Control Modules, etc.)	Replace
Microphones and Speakers	Replace or Leverage Existing

Exhibit 7 - Bus Vehicle Hardware Replacement or Integration

4.5.2. Rail

CAD/AVL system requirements in Exhibit F-1, Compliance Matrix within this RFP are applicable to all CapMetro rail vehicles. The table below details the current rail fleet.

Manufacturer	Model	Year	Count
Stadler	G1	2010	12
	G4	2016	8
TOTAL			20

Exhibit 8 - CapMetro Rail Vehicle Counts

Exhibit 9 details on the on-board vehicle systems in scope that require replacement or integration to current subsystems in place for rail.

Hardware/System	Replace or Integrate to Existing
Mobile Access Router	Leverage Existing
Passenger Information Displays	Replace
Passenger Announcement System	Replace

Exhibit 9 - Rail Vehicle Hardware Replacement or Integration

5. Implementation Scope and Professional Services

This section describes the professional services, implementation activities, and delivery support required for the implementation and acceptance of the CAD/AVL system. All elements contained within the section should appear in the overall proposed work plan, approach, and schedule. The overall phasing and sequencing of events will be at the discretion of the vendor but should provide a logical approach for delivering the system in an efficient, realistic, and achievable manner that provides for a robust implementation that is well configured, well tested, and well trained.

5.1. Project Management Personnel, Project Plans, and Required Project Meetings

This subsection describes the key personnel and initial project plans and activities that will need to be established at the beginning of the project.

5.1.1. Project Manager and Dedicated Key Staff

A Project Manager shall be designated by the vendor to manage the work of this contract. Formal communication shall be between the vendor's project manager and CapMetro's project manager. Change of the vendor's project manager after contract acceptance shall only be permissible with CapMetro's written approval. The Project Manager shall be responsible for tracking scope, schedule, risks, action items, coordinating vendor activities, and coordinating project elements with CapMetro.

In addition to a dedicated Project Manager, the vendor shall provide dedicated project leads responsible for the daily delivery of all project activities. Leads shall be designated based on each major project element. For example, a vehicle installation lead, a systems communications/architecture lead, a training lead, etc. Project leads shall be dedicated to this project and shall not be replaced without the written approval of CapMetro.

If a change in Project Manager or Project Lead(s) is required during the project, CapMetro, at their discretion, shall have the ability to review resumes from proposed alternative personnel and make the final decision on resource assignment.

5.1.2. Project Management Plan (PMP)

The vendor shall develop and maintain a formal Project Management Plan (PMP) that describes and details the project organization structures, project controls, activity plans, and schedules. The plan shall be submitted to CapMetro within 30 days following Notice to Proceed and shall be subject to CapMetro's review and approval. The PMP shall include the following, at minimum:

- (a) An organization chart identifying all project roles for the prime vendor, CapMetro, and any subcontractors (if applicable).
- (b) A master program schedule, emphasizing key milestones, work activities, and deliverables. This project schedule shall encompass all activities for the period from Notice to Proceed to completion of the Warrant Period. A plan for how the schedule will be monitored and maintained shall also be included.
- (c) The process used for scope change management and control.
- (d) The process used for risk management, issues management, and escalation procedures.
- (e) Process for review and acceptance of all formal deliverables, payment milestones, and phase completion criteria.
- (f) A configuration management plan for all submittals and subsequent revisions. This plan will need to follow a formal framework developed as part of the contract.
- (g) A document management plan describing how all project documents will be stored and kept, shared, and made accessible to CapMetro. The vendor shall maintain a master record of all project documents. This will require the vendor establishing a formal project collaboration site, or portal, to store and share project documentation with CapMetro. It shall be the responsibility of the vendor to maintain security and access control of this collaboration site.
- (h) A subcontractor management and communications plan outlining the vendor's methods and procedures for organizing and communicating with subcontractors (if applicable). This shall also

include Procedures and processes to be followed for the replacement of any subcontractors throughout the duration of the Contract.

- (i) Program approach to Quality Assurance and Quality Control (QA/QC). The QA/QC plan shall be designed to ensure the quality delivery of all project activities, including design, purchasing, inspection, handling, assembly, fabrication, testing, training, storage, shipping, and warranty/repair work. The plan shall describe all quality control procedures of the vendor and any sub-suppliers.
- (j) A formal communications plan identifying the communication types, cadence, and methods for communicating project progress and activities with key CapMetro stakeholders.
- (k) An Organizational Change Management (OCM) plan, detailing the methods and approach the vendor shall utilize to manage stakeholder involvement, expectations, and project support.

The PMP and all sub-plans shall require CapMetro review and approval prior to being adopted as the formal PMP for the project.

5.1.3. Weekly Project Status Meetings

The vendor shall lead weekly project status meetings with the CapMetro project management team, other CapMetro staff, and outside consultants as determined by the CapMetro project manager.

The agenda for these meetings will be to discuss the most current status of and plans related to all identified project activities and issues. CapMetro reserves the right to identify for discussion any additional issues beyond those identified.

A status report shall be issued to CapMetro at least one workday prior to each project status meeting, including (1) an agenda for the upcoming meeting highlighting key discussion items; (2) an updated action item list with updates from the previous week's project activities; and (3) an updated project schedule showing any variance between the proposed project schedule (from PMP) and current project status.

The vendor shall provide and maintain a call-in option for the meeting and shall be responsible for administering the status meeting. The vendor shall submit meeting minutes within two days of each project status meeting.

5.1.4. Monthly Project Status Reports

The vendor shall submit monthly progress reports comparing actual progress with planned progress. Special reports may be requested, and reviews held to address problem areas. Progress reports shall also include the following, at minimum:

- (a) A schedule variance summary. Outlining where the project is in relation to the most recent schedule. This should include schedule for all project tasks and activities in scope of delivery by the prime vendor and any subcontractors (if applicable).
- (b) A summary of completed, pending and upcoming vendor and CapMetro activities during the previous and the next two reporting periods, along with required completion dates.
- (c) The status of unresolved contract questions and change requests.
- (d) A description of current and anticipated project problem areas, risks, and action items that include steps to be taken to resolve each item.
- (e) Items or actions needed from CapMetro to achieve upcoming project milestones.

5.1.5. Monthly Governance Meetings

The vendor shall prepare for and lead a Monthly Governance call with the CapMetro project Steering Committee. The purpose of this meeting is to keep the Steering Committee aware of high-level project status, issues, risks, and needs required to manage the project. The vendor shall develop a structured format for conducting these meetings and prepare presentation content aimed at keeping executive level stakeholders informed of overall project status and health.

5.1.6. Project Mobilization and Kickoff

The project mobilization meeting shall take place no later than 20 days after NTP. CapMetro personnel will be introduced to the Vendor's management team at CapMetro facilities. During these meetings, the Vendor shall present the program/control methodology and convey the plans for the initial activities prior to formal progress reporting.

The objectives of the project mobilization meeting shall be to familiarize CapMetro with the Vendor's intended design and implementation activities, resolve outstanding questions, confirm project scope and boundaries, and provide the basis for proceeding to system design. The initial activities meeting shall cover the following:

- (a) Schedule review.
- (b) Confirm Vendor's management team and areas of scope, including subcontractors (if applicable).
- (c) Provide a functional block diagram of the system and equipment.
- (d) Provide narrative descriptions of the major subsystems proposed by the Vendor, including identification of components supplied by subcontractors for each equipment type
- (e) Identify the approach for designing, managing, and maintaining all interfaces between the major systems, subsystems, and CapMetro's data warehouse. Provide a schedule and identify responsibilities for completion of detailed definition of the interfaces.
- (f) Identify information needs and decisions required from CapMetro.
- (g) Provide description of problem tracking, resolution, and reporting process.
- (h) Schedule a project kick-off meeting. This meeting shall include key Vendor and subcontractor resources dedicated to the project. This meeting will need to be conducted within 45 days of NTP and prior to beginning system design activities.
- (i) Initiate an on-going action log for tracking activity tracking throughout the project.

5.2. Systems Requirements Validation

Prior to generating design documents, the Vendor shall conduct a series of meetings with CapMetro stakeholders to review the system requirements in Exhibit F-1, Compliance Matrix. During this meeting the Vendor shall:

- (a) Discuss the requirements in detail with CapMetro subject matter experts, address any concerns, and validate Vendor understanding of the requirements.
- (b) Resolve any requirement and system related questions for the purpose of adding more specificity to the requirements, if needed.

- (c) Conceptually detail and discuss how the requirements will be achieved via the design of the system.
- (d) Conceptually detail how the Vendor's system architecture plans achieves the Open Solution System design that is desired by CapMetro. This shall include detail of how the system API's will be formatted and architected to interface with all required systems and subsystems as well as how the design will allow flexibility for CapMetro to interface with future systems.

The Vendor is responsible for delivering the system per their response and adherence to the system requirements. As such, no change orders that increase the contract value will be permitted during system requirements validations. Clarifying questions or concerns related to requirements should be asked prior to submission of the system requirements. The system requirements validation meeting is not an opportunity to relax or soften requirements.

Any modification of the requirements based on the validation sessions will require approval by CapMetro. Any modification request to the originally stated requirements should be submitted formally via written request and traced to the original requirement document via a requirements traceability matrix.

5.3. System Design

The Vendor's program for design, configuration, and delivery of the CAD/AVL system shall meet the requirements and process in the following subsections:

5.3.1. Design Principles

Commonly accepted design principles shall be employed throughout the design and manufacturing processes. Design calculations, layouts, and other documentation shall summarize how the system will be configured, installed, and managed. All design documents will require review and approval from CapMetro prior to acceptance and system set-up.

5.3.2. Vehicle System Engineering

As part of the design process, the Vendor shall perform a full inventory of the CapMetro fleet for bus and rail vehicles within scope of the project. Based on this inventory, the vendor shall:

- (a) Inspect each series/type of vehicle for approach on how to best implement on-board vehicle components.
- (b) Develop design documents for how each component will be installed on each series/type of vehicle. This should follow the design review process described in following sections below and include both Preliminary Design Review (PDR) and Final Design Reviews (FDR). Generic system design documents that lack detail on the specifications and exact characteristics of how components will be installed on each vehicle type will be rejected.
- (c) Submitted Vehicle System Engineering design documents should be complete documents that clearly identify the specifications and location of each component being installed on the vehicle.
- (d) Provide detailed installation manuals that include exact instructions for how each vehicle component will be installed and include cabling, wiring, wrenching, welding, etc., plans.
- (e) In addition to vehicle design documents, provide system design documents that cover the functionality and configuration design of all software modules that will be implemented.
- (f) Provide design review packages. All design documents will need to be reviewed and accepted by CapMetro prior to system configuration and vehicle installations.

5.3.3. Design Reviews

A formal design review process shall be conducted to evaluate the progress and adequacy of the system design in accordance with the performance requirements of the Contract.

All design documents shall be designed in a manner that emulates CapMetro's operating environment. The vendor shall be responsible for thoroughly understanding CapMetro's operations and shall incorporate these business process appropriately into the design documents to ensure that the system design is being engineered to fit CapMetro's operational needs.

Design documents shall cover both hardware installed on vehicles as well as software systems configuration design. Software design reviews shall cover each system module being implemented as well as detail the complete system architecture being deployed, including detail of all system interfaces.

The vendor shall conduct the following formal design reviews:

5.3.3.1. Preliminary Design Review (PDR)

The PDR shall cover the following:

- (a) Detailed technical descriptions of the system's major components. PDR documents shall make clear reference to the achievement of system requirements in Exhibit F-1, Compliance Matrix .
- (b) Detailed software configuration documents for each module that will be implemented as part of the CAD/AVL system. Each software configuration design document shall detail the overall functionality, utility, configuration, and system architecture map of each module and how it is integrated to the central CAD/AVL system and other, supporting, operational systems. As part of this design package, an overall system architecture map shall be created that details all system interfaces and how those interfaces will be designed, formatted, and maintained.
- (c) Detailed interface descriptions, including mounting arrangements and installation methods. This shall include interface descriptions of all subsystems connected on the vehicle, even if some subsystems are not provided or installed by the Vendor.
- (d) Block diagrams for each device, including a functional overview.
- (e) Detailed network diagram including all wiring and communications interfaces.
- (f) List of special tools and test equipment required.
- (g) User interfaces for the following:
 - i. Equipment.
 - ii. Software applications.
- (h) Software system-level flow charts.
- (i) Software data backup and business continuity / disaster recovery procedures.
- (j) Software version and configuration control system.
- (k) Draft Engineering Drawings.
- (l) System interfaces summaries, details, and control documents.
- (m) Storage, management, cleansing, and importing of historical or legacy data.

The vendor is encouraged to categorize the PDR information into logical topics. Ideally, the formal PDR meetings should be limited to confirmation of previously reviewed, commented on, and approved-in-principle submittals and resolution of open items.

Copies of the specific submittals shall be provided prior to PDR. Each drawing submittal shall include a USB drive/flash drive with the drawings in electronic format (.pdf), electronic format placement in an electronic document control site of CapMetro's choosing, and one reproducible on regular paper.

5.3.3.2. Final Design Review (FDR)

The Final Design Review (FDR) shall be conducted when detailed design is complete and production drawings are ready for release. The objective of the FDR is to determine whether the detailed design will satisfy the design requirements established in the Contract. Data submitted for the PDR shall be updated to a level of detail consistent with the completed design and submitted for the FDR. The FDR shall cover the following:

- (a) Updated system overview and architecture diagrams, as well as descriptions reflecting resolution of CapMetro questions and comments from PDR.
- (b) Updated software configuration design documents reflecting resolution of CapMetro questions and comments from PDR.
- (c) Complete overview of system functionality.
- (d) Latest revisions of the drawings and documentation submitted for the PDR. FDR documents shall make clear reference to the achievement of system requirements in Exhibit F-1, Compliance Matrix.
- (e) Assembly drawings down to the lowest replacement unit level.
- (f) Software documentation consisting of structured data flow diagrams with software module descriptions (or elemental process descriptions) in structured narrative format. Input and output data definitions.
- (g) Error handling routines.
- (h) Data dictionary.
- (i) Updated system interfaces summaries and details.
- (j) Final Engineering Drawings.
- (k) Bill of Materials (BOM) and specifications for component purchases.
- (l) Requirements traceability adherence documentation to prove that the system requirements in Exhibit F-1, Compliance Matrix were met with the overall systems design. This documentation shall include which modules, capabilities, and design documents achieve/show compliance with the system requirements.

Copies of the specific submittals shall be provided prior to FDR. Each drawing submittal shall include a USB drive/flash drive with the drawings in electronic format (.pdf), electronic format placement in an electronic document control site, and one reproducible on regular paper.

The review of drawings shall be construed neither as permitting any departure from the system requirements nor as relieving the vendor of the responsibility for any error, including details, dimensions, and materials.

For the purposes of change control, the design baseline shall be established as FDR. This shall include the conformed system requirements and agreed to supporting descriptions. The vendor shall submit to CapMetro for approval changes beyond FDR that affect the design characteristics agreed to at FDR.

5.4. Factory Acceptance Testing (FAT)

The equipment to be tested in the Factory Acceptance Test (FAT) shall be the equipment used for the final system implementation. Factory Acceptance Testing shall be conducted prior to any site installations.

The FAT shall consist of a vendor-performed dry-run FAT, a formal FAT, unstructured testing, and a System Stability test period. FAT shall formally test for the correct operation of all functions using the fully integrated solution, including console positions and related equipment, fixed-site radio equipment, and onboard vehicle equipment. Unless CapMetro elects to conduct FAT on-site at their facilities, all tests shall be performed in the vendor's factory utilizing over-the-air mobile radios, antennas, wireless LAN, and CapMetro-provided equipment.

Successful completion of FAT shall be a prerequisite for manufacturing of vehicle equipment. The vendor shall provide all necessary supplies, including testing plans, for the FAT. CapMetro oversight and sign-off of all FAT outcomes is required for FAT to be considered successful.

If a design change is made at any time after the FAT results have been accepted, the performance of the modified equipment shall be demonstrated as conforming to the specifications and the re-test results shall be submitted to CapMetro for approval. Metro representatives may choose to witness any portion of the retest. If retesting cannot be accommodated during the FAT, travel expenses for CapMetro representatives to witness retesting shall be incurred by the vendor.

5.5. System Integration Testing (SIT)

Following completion and acceptance of the FAT, the vendor shall perform the Systems Integration Testing (SIT) at CapMetro. The purpose is to demonstrate the control, data monitoring and reporting functions as specified in system requirements with full integration of the systems, including radio, over CapMetro's network. The radio, and other required systems, shall be connected in a manner simulating the final system to be installed. Interfaces with third party software and any optionally selected systems or modules shall also be tested.

All interface connections shall be inspected for proper installation. The vendor shall identify each integrated function in the Detailed Test Procedures, including the boundary conditions and security provisions for each.

All communications between the CAD/AVL system and vehicle/mobile equipment shall be inspected for accuracy. Inaccurate communications shall be recorded as a failure. The vendor shall take any corrective action necessary to ensure the proper performance of all functions during the system integration tests. Successful completion of this level of testing will be required prior to vehicle installations.

The vendor shall provide all necessary supplies, including testing plans, for SIT. A minimum of two rounds of SIT is required and/or until proven that the system runs error free.

5.6. Mini-Fleet Testing

Mini-fleet testing will consist of enough vehicles to adequately cover peak operations. The fleet being tested shall be selected by CapMetro and contain a combination of vehicles and lines that properly allow for the testing of all CAD/AVL system functionality in high demand scenarios. These vehicles shall be equipped with all required on-board vehicle equipment. These vehicles shall be operated in actual or simulated revenue or non-revenue service to fully test schedule and route adherence, AVL, voice and data

messaging, emergency alarm processing, real-time passenger information, and all other system equipment and functions under actual service conditions.

This test shall verify that all system components have been supplied, installed, and perform all functions in accordance with the system requirements.

The test shall also verify mechanical, electrical, and electromagnetic compatibility with all other existing on-board systems.

This testing will be repeated as necessary until the system is ready to support revenue service for the entire fleet. CapMetro shall provide on-site support during this test to assist in the testing and to help identify variances.

5.7. Installation Phase-Over Plan (IPOP)

After Mini-Fleet testing, but prior to installation of the remainder of the revenue fleet, the Vendor shall submit an Installation Phase Over Plan (IPOP). The IPOP shall detail the steps, procedures, and schedule for system installation (hardware and software) and for managing the phase over to the new system. The IPOP shall be reviewed and approved prior to FDR. The IPOP shall retain flexibility to allow for normal operational contingencies that may impact fleet conversion rates to the new system

The IPOP shall describe a smooth and secure transition between existing operations and the new system, with no effective loss of control over dispatching operation and no adverse impact on CapMetro service. This plan shall allow for a period of parallel operation of the existing and new system.

Following the successful completion of Mini-Fleet, correction of system issues and variances to CapMetro's satisfaction, and approval of the IPOP, the Vendor shall begin phasing over the remainder of the CapMetro fleet to revenue operations on the new system. During the phase-over to revenue operations, system performance will be monitored for any failure or degradation of the system or its components. Any failure or degradation shall be promptly corrected by the Vendor at no cost to CapMetro.

Vendor provided training shall be completed prior to the phase-over to revenue operations to ensure that all CapMetro personnel have adequate knowledge of system functions and operations. Training shall be delivered in stages so that it is delivered in close proximity to the roll-out of each system or module, respectively and shall include follow-up refresher training.

It is the Vendor's responsibility to perform all hardware and software installation and system testing as part of the phase-over to revenue operations. The Vendor shall maintain a formal Acceptance Test Procedure (approved by CapMetro) and checklist of all vehicle components and systems installed as part of the phase-over and shall verify that each element has been properly installed and tested prior to accepting a vehicle into revenue operations.

5.8. Full-Fleet Installations

The following subsections detail the requirements and activities for installing the system across CapMetro's full-fleet and phasing over to revenue operations:

5.8.1. Installation Guidelines

The Vendor shall be responsible for delivery, installation, and testing of all software and equipment. Final installation locations for equipment will be selected by CapMetro. Each installation will be inspected and tested in accordance with the requirements specified in Pricing Schedule and will be subject to CapMetro approval.

All hardware and systems installed shall be the latest component and version generation available by the Vendor(s) **at the time of installs**.

The Vendor shall be responsible for obtaining all applicable permits related to system installation. CapMetro will assist the vendor in obtaining of such permits.

The Vendor shall be responsible for installing all hardware, software, accessories, wiring, or other equipment needed to establish a fully functional system as specified within this RFP.

The Vendor shall identify all electrical, mechanical, and physical interfaces associated with the equipment installation. These shall include, but not be limited to, the following interfaces:

- (a) Between the various systems, subsystems, and equipment listed this specification.
- (b) Between the systems, subsystem, equipment, and materials included in this specification and existing systems, subsystems, and equipment.

The Vendor provided system, subsystem, and equipment shall be designed to have the characteristics required to ensure that electrical, mechanical, and physical interfaces achieve the specified grade of service and performance levels on a non-interfering basis with existing system and equipment functions.

The Vendor shall be fully responsible for the correct interfacing of the systems, facilities, and equipment that are provided under this contract with the existing systems, subsystem, equipment, and facilities. If any incompatibility is discovered, the Vendor shall correct the incompatibility by modifying the additional required equipment and material and correcting the manuals and drawings at no additional cost to CapMetro. Unless otherwise specified or approved by CapMetro, modifications to the equipment of existing systems, subsystems, and facilities shall not be permitted.

The vendor shall be responsible for the storage and security of all equipment following the delivery of equipment to CapMetro and prior to the installation of such equipment.

All work areas shall be cleaned at the end of each workday. The Vendor shall keep all premises clear of all rubbish and debris generated by the work involved and shall leave all premises neat and clean at the end of each workday. The Vendor, at their own expense, shall dispose of all rubbish, and debris. While on CapMetro properties, the vendor and their subcontractors shall comply with CapMetro safety policies and guidelines. The vendor shall be responsible for any travel expenses for their staff associated with surveys, meetings, delivery, and installation of the system.

5.8.2. System Setup

With CapMetro's support and input, the vendor shall be responsible for initially setting up the system and for entering or loading all the required data into the devices and systems. This shall include all system configuration parameters, user accounts, security permissions, system databases, CAD event and incident que parameters, canned messaging, importing of all scheduling data and personnel information, configuring all network devices for security and accessibility, installing the latest update of GIS database or mapping layers, or any other data required to run and manage the CAD/AVL system.

5.8.3. Vehicle Installations

The Vendor shall inspect each approved installation site and develop site preparation and installation plans for each site. The site preparation and installation plans shall be submitted to for review and approval prior to the Vendor commencing any work.

As part of site preparation planning the Vendor shall submit a security plan for how they will store and safeguard all installation tools and equipment. The vendor shall be responsible for the storage and security

of all equipment following the delivery of equipment to CapMetro and prior to the installation of such equipment (Vendor provided connex box or something similar).

Any vehicle installation plan proposed shall be developed in a manner that accounts for a single installation per vehicle (i.e., each vehicle only touched/installed on a single time).

The vehicle installation plan needs to account for the following operational constraints:

- Installations can occur at one or both CapMetro operational facilities
- Installations will be completed at each CapMetro facility and will occur at locations that are designated by CapMetro
- Storage of equipment and palette would be at a location designated by CapMetro, at each CapMetro facility.
- Pilot vehicles may only be installed and tested during:
 - Daytime working hours of 8am – 3pm local time during weekdays
- The full-fleet installation may be conducted during
 - Daytime working hours (8am-3pm)
 - Night Working Hours of 5pm – 3am local time
 - Weekend installations may be permitted, if required.
- Up to 6 (six) vehicles per night will be available for installation on any given day at any given location. Vehicles should be made available for revenue service by the next day. If vehicles are not available, they will be held for installation on the following day, thus reducing the availability of additional vehicles the next day.

The vendor shall submit, for CapMetro review and approval, detailed procedures for removing existing equipment and installing new equipment at each site. These procedures shall be detailed and clear to enable vendor staff to efficiently remove existing and subsequently install the new equipment. A listing of all employees needing site access as well as identification of the site needing access shall be provided.

The vendor shall plan to package all removed equipment into palettes for sale/disposal by CapMetro. The vendor shall finalize the method of packaging in discussions with CapMetro, and with the aim of allowing ease of transport and disposal. A list of equipment packaged into each palette will be provided to CapMetro upon handover, and subject to CapMetro audit and inspection, if deemed necessary.

5.8.4. Materials and Workmanship

All Vendor provided equipment shall be installed by the Vendor. Installation at all sites shall be in complete compliance with all applicable building, seismic, fire codes, and conform to local standards. System installation shall also conform to the following standards:

- (a) Workmanship and appearance of work throughout shall be of the best commercial quality and adhere to the latest edition of all applicable standards and codes.
- (b) Work shall be performed only by qualified personnel, and shall be supervised by technically competent, trained, experienced supervisory personnel at all times.
- (c) All equipment and components shall be easily accessible for adjustment and ongoing service.
- (d) Cabling and equipment exposed to the weather shall be adequately protected from wind, rain, and dust. Seals, gaskets, packing, sheathing, finishes, mountings, and all other exposed items shall be designed for maintenance-free performance under long-term exposure to weather, including ultra-violet radiation.

- (e) Equipment requiring adjustments shall be securely installed using tamper-proof containers, fasteners, etc.
- (f) All mounting hardware exposed to the elements and used for equipment, conduit, hangers, brackets, clamps, etc., shall be hot-dip galvanized.
- (g) All cabling shall be labeled.
- (h) Serial IDs shall be included on all devices installed.
- (i) Vendor shall supply a master list of all installed equipment and shall include:
 - i. Model/component number.
 - ii. Serial number.
 - iii. Location and/or vehicle of component installed.
 - iv. Date of install.

Wiring and cabling shall be installed to local standards as well as the following standards:

- (a) Conductors shall be continuous between terminals, without splices.
- (b) Conductor gauge, insulation, and shielding shall be adequate for the intended purpose.
- (c) Cable and wire shall be run neatly, with adequate lacing or clamping.
- (d) Consistent cable and wire color coding shall be used.
- (e) All applications requiring physical movement and flexing shall use stranded conductors.
- (f) Ring-type, crimped lugs shall be used with stranded wires terminated on screw-type terminals. Connections shall be made only with crimping tools that meet the connector manufacturer's specifications.
- (g) Shielded wiring, or other means of signal isolation, shall be used wherever necessary to avoid cross-talk, hum, pops, clicks, whine, and other forms of interference. The Vendor shall provide an interference-free system.
- (h) Unless installed in conduit, wiring within consoles, beneath raised floors, and from outlet boxes to free-standing or desk-mounted equipment shall be neatly installed, bundled with appropriate tie-wrap devices, and tied to supports if practicable.
- (i) Signal and control wiring, and connection of devices referenced in this specification, shall be installed in conduits or concealed, and shall be included as part of the work to be performed by the Vendor. Wiring shall be accessible for maintenance. At remote sites and in equipment rooms, open cabling is permitted on cable racks provided they are neatly tied.
- (j) Interconnect cabling used within consoles, equipment cabinets, or in areas where the wiring will not be installed in metallic conduit, shall be insulated with heat-resistant material to minimize pyrolysis and fire hazard.
- (k) Cable and wiring penetrations through metal cabinets shall be insulated with dielectric grommets.
- (l) Extra wiring necessary for equipment movement shall be neatly coiled, tied, and concealed.
- (m) Cables, wiring forms, and terminals shall be identified by permanent labels, tags, or other appropriate means. Marking shall clearly indicate the function or source. Cables shall be

identified at both ends with indications of the source and destination of that cable run. The cable identification shall agree with the wiring and interconnect diagrams.

5.8.5. Fleetwide Defect Tracking and Troubleshooting

Throughout the entirety of the project, the vendor shall maintain a database of all vehicles being installed with CAD/AVL components. This database shall be used to track and monitor all fleet defects, hardware issues, and software issues. If fleetwide defects are discovered, it shall be the responsibility of the Vendor to develop and execute a remediation plan acceptable to CapMetro that satisfies all system requirements at no cost or complication to CapMetro.

5.9. Inspection Testing Plan

As part of the system delivery, the Vendor shall submit an Inspection and Testing Plan for CapMetro's review and approval, to be used as a controlling document for all inspections and tests. All hardware and software installed shall be inspected and tested for conformance to requirements, system configuration design, and proper working order. The plan shall include a detailed schedule indicating the sequence of each test and where and when each test will take place, and a description of the vendor's system for control of the test equipment throughout installations, including parts lists, drawings, inspection and test records, and maintenance records. Information provided for each inspection and test shall include, but not be limited to, the following:

- (b) Inspection/test title.
- (c) Reference to CapMetro system requirements section requiring the inspection/test.
- (d) Listing of test technical environment(s) and equipment required to perform test.
- (e) Organization performing and responsible for the inspection/test.
- (f) Inspection/test location.
- (g) Inspection/test purpose and objectives.
- (h) Inspection/test entry and exit (pass/fail) criteria. This shall include a risk assessment for test pass/fail.
- (i) Inspection/test schedule providing the following information at a minimum:
 - i. Inspection/test procedure submittal date.
 - ii. Inspection/test start date.
 - iii. Inspection/test duration.
 - iv. Inspection/test report/certification submittal date.
- (j) Outline and format of test data sheets, defining the responsibilities of the vendor and CapMetro, and the methodology for correcting variances.
- (k) Test scripts/procedures, inspection check-off sheets, relevant test data and forms.

The Inspection and Testing Plan shall cover all Vendor inspections and tests to be performed. No inspections or tests shall be performed before the Vendor has received CapMetro approval of the Inspection and Testing Plan.

5.10. Inspection and Test Reports

The Vendor shall submit a written report for each inspection and test, including copies of all inspection/test data for CapMetro approval. Inspection/test reports shall include all historical data, such as inspections and tests performed, failures, modifications, firmware and application versions, and repairs, pertaining to the item or system tested. Inspection/test reports shall be subject to CapMetro approval.

A master copy of each inspection and test report shall be maintained and observations and results marked by hand with signatures by formal Vendor and CapMetro test participants. Results will not be considered valid unless signed by CapMetro or their representative.

These reports shall include, at a minimum, the following:

- (a) Reference to the appropriate section of the Inspection and Testing Plan and to the corresponding Detailed Inspection Sheets or Detailed Test Procedures.
- (b) Description of test performed.
- (c) Date and time of the test.
- (d) Description of all problems and variances from expected test results.
- (e) Observations made during the testing, if any.
- (f) Test results.
- (g) Identification of the Vendor's test engineer and CapMetro's representatives.
- (h) Re-test schedule and procedures, if required.

Inspection/test reports shall be provided within 30 days of the completion of each inspection/test milestone. The Vendor shall maintain the master file for all inspection and test reports which shall be accessible to CapMetro at all times.

5.11. Training

The Vendor shall provide a program to educate, train, and teach personnel in all details of the installed system, to the subsystem and component level, as required to enable personnel to operate, service, diagnose and troubleshoot, and maintain the equipment and systems satisfactorily. Classroom sizes shall allow all trainees to have one-on-one training with equipment and software. All training content shall be developed based on the specific configuration and operations characteristics of CapMetro and shall not be generic in nature or not reflect the specific use cases and system configurations of CapMetro.

The Vendor's training program shall include classroom training given by the Vendor's staff. Interactive, hands-on training will be required for various areas and the program. The training shall be designed to be delivered by an instructor in the classroom and, when appropriate, in the field or shop when actual equipment is used. Classroom presentations shall be recorded for use as a training tool in subsequent training sessions. Additionally, for classroom training programs which do not require interactions with vehicle hardware or hands-on operations, the vendor shall provide the necessary tools, platforms, and materials to facilitate remote training sessions.

Training sessions shall be conducted per the needs and schedule of CapMetro personnel and shall accommodate all shifts, including both weekdays and weekends.

The Vendor's program shall include formal and informal instruction, models, manuals, diagrams, and component catalogs. Additionally, the Vendor shall work with CapMetro to train employees on how to

develop, set-up, and run reports. All materials used in trainings, such as models, manuals, mock-ups, and drawings, shall be of durable construction and shall become the property of CapMetro. Training materials shall be updated as required during the course of instruction. All training materials shall also be supplied in electronic format.

The Vendor shall provide a series of end-user training courses designed to train, but not be limited to, operators, dispatchers, operations supervisors, customer service representatives, system administrators, maintenance, trainers, and IT personnel on CAD/AVL system operations and simple maintenance. Training shall be delivered at on-site locations, or remotely, of CapMetro's choosing. Training locations may differ based on training content or personnel attending.

The vendor shall provide CapMetro a course description of each course as part of the training program deliverable. All provided training courses shall be accompanied by training manuals, guides, training aids, student and instructor workbooks, and operator and maintenance manuals. CapMetro desires that the content and structure of the manuals be used as direct input into the training course materials where applicable. All training classes will be scheduled by CapMetro and will not take place before the CAD/AVL systems are delivered on site.

5.12. System Documentation

The vendor shall provide the system documentation detailed in the below subsections.

5.12.1. Hardware Documentation

The Vendor shall provide documentation detailing the functionality, configuration, and maintenance of all CAD/AVL hardware delivered as part of this project. The documentation shall be unique to the system procured by CapMetro and not contain any references to other versions of software supplied to other customers. These documents can be delivered as part of work conducted under the Vehicle Systems Engineering task. All documents shall be updated throughout the life of the project to include any hardware or configuration changes. All changes to existing documentation shall require review and approval by CapMetro. The following elements shall be included in hardware documentation delivered to CapMetro:

- (a) Inventory, Floor Plans, Wiring, and Block Diagrams
- (b) Hardware Design Documents (as part of Vehicle Systems Engineering and PDR/FDR)
- (c) Reference Manuals and Instructions Books
- (d) Hardware Maintenance Manuals

5.12.2. Software System Documentation and User Manuals

The Vendor shall provide a Software System Documentation and User Manuals containing detailed operating instructions and procedures to be used by maintenance, IT, scheduling, operations, and other CapMetro personnel. Information in the manuals shall be presented in terms that are meaningful to users. The manuals shall include a system operation description (hardware and software) as it relates to the user's tasks.

The Software System and User Manuals shall be unique to the system configuration of CapMetro and not contain any references to other versions of software supplied to other customers.

The manuals shall include a functional explanation and description of each application program, screen flows, and its use. This manual shall not be written as a programmers' document. Procedures shall be explained step by step with an explanation of how each step is performed, what parameters can be

adjusted, and the effects obtained by varying each parameter. All user guidance and error messages shall be described, along with the steps necessary for recovery from error.

Operating instructions shall describe procedures to be followed as a result of system restarts or failures. The manual shall have sufficient information to enable the user to restart or re-configure the system and download diagnostic data.

In addition to detailed user manuals, the vendor shall also provide Software System documentation that covers the following elements:

- (a) Software inventory – a full listing of all software products being delivered as part of the CAD/AVL system. This listing should include all relevant information required to identify and catalogue the system, including release date, version, etc.
- (b) Interface Control Documents – these documents shall visually and narratively describe all software interfaces being designed and delivered as part of the CAD/AVL system. The documents shall provide CapMetro with a complete overview of all system interfaces and integration points, as well as provide on how the interfaces have been established and programmed.
- (c) Database documentation – the Vendor shall provide CapMetro with database documentation that describes how all data within the system is stored and organized. This document shall be prepared and catalogued using a database documentation tool that cleanly organizes and formats all data into a data dictionary and provides detail of table schema and data relationships within the system.

5.13. System Acceptance Testing (SAT)

Following the successful completion of phase-over to revenue operations (e.g., the entire CapMetro vehicle fleet has completed the CAD/AVL system upgrade), System Acceptance Testing (SAT) shall be conducted. Prior to the start of SAT, all training shall be completed, variances shall be corrected to CapMetro's satisfaction, and all hardware, software, and user documentation shall be received and approved by CapMetro.

SAT procedures shall be developed by the vendor and reviewed by CapMetro prior to the beginning of SAT. SAT shall consist of detailed procedures and testing criteria that the vendor performs with CapMetro observation. The SAT procedures shall cover all major system functions for each system module deployed and showcase system functionality, performance, and interfaces/integration with other systems. SAT shall not pass until all testing procedures for the system have been observed and approved/passed by CapMetro.

At the conclusion of SAT, the system will begin a one-hundred-twenty day burn in period, including a schedule shakeup, where the system is monitored for performance and for compliance with system requirements and availability standards.

The Vendor shall be responsible for supplying an online trouble tracking tool with access for CapMetro personnel to enter issues as encountered or discovered. Issues shall be fully tracked and resolved to CapMetro's satisfaction prior to Final System Acceptance.

As a condition for SAT, and prior to system go-live, the vendor shall be responsible for installing and upgrading Metro to the newest version of software for each implemented system module, even if that version is different than what the system design was based on (e.g., V21 to V23). This shall be done at no cost to CapMetro. If any new or upgraded hardware is required to accommodate the latest software version, all necessary components shall be provided to CapMetro and Vendor installed at no cost.

5.14. Final System Acceptance

Final System Acceptance shall be performed when all elements of the CAD/AVL system have been developed as designed and specified and have passed initial SAT processes and procedures. This includes design work, configuration, testing, training, deployment, documentation delivery, installation, and systems acceptance testing for all procured systems, which may include:

- (a) Computer-Aided Dispatch/Automatic Vehicle Location (CAD/AVL) central system, including on-board vehicle hardware and software, for bus and rail.
- (b) Any other systems, modules, hardware, or services, such as optional elements, scoped as part of the contract.

6. Support and Maintenance

Post system implementation and final acceptance, Onsite technical support shall be provided by the vendor on an as-needed basis. Support personnel qualified to maintain the vendor's equipment shall test and resolve operation and maintenance problems when qualified CapMetro personnel have been unable to resolve those problems during the applicable warranty period. The vendor personnel shall be thoroughly familiar with the operation of all equipment being procured. During the warranty period, the personnel shall isolate failures, provide replacement parts, and respond to any warranty claims, including initiation and follow up of remedial actions. The vendor shall notify CapMetro of any published technical service bulletins and provide remediation actions to the affected equipment. Support personnel shall include field service engineers, technicians, and repair personnel as required. Support personnel shall be on CapMetro property until the equipment has completed the acceptance testing.

The vendor will provide periodic routine updates, bug fixes, and system patches at no cost to CapMetro.

Proposals shall include a description of the Proposed Maintenance and Customer Support Agreement, including details related to on-site service, 24/7 access, minimum response times, etc. For each level of service, a detailed description of what is included shall be provided.

7. System Warranty and Maintenance Spares, and Consumables

7.1. Warranty and Maintenance

The warranty and maintenance period for the system shall run concurrently for all system components, through two years from the date of Final System Acceptance, with additional three (3) years available as optional extensions. The vendor shall ensure that all systems and subsystems shall be supported for up to 15 years from the date of Final Systems Acceptance.

The Vendor warrants to CapMetro that all materials and equipment furnished under this contract will be of the highest quality and new, free from faults and defects, and in conformance with contract documents and the specifications outlined in this RFP. All work not conforming to these standards shall be considered defective. If required by CapMetro, the Vendor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

During the warranty period the vendor shall be responsible for maintaining the entire system, including, but not limited to, software, hardware, labor, hosted environments, help/support ticket resolution systems, and ancillary materials and systems required to maintain the system in accordance with the outlined specifications and as accepted during Final System Acceptance.

During the warranty period the Vendor shall be responsible for the replacement and installation of all defective components. If mass defects, 25% or higher, of a specific component are discovered, the Vendor

is responsible for replacing all such components within the system. If a sub-vendor, or sub-supplier, of a system component is no longer manufacturing the needed parts, it shall be the responsibility of the primary vendor to provide any equivalent parts and/or spares.

CapMetro shall reserve the right to purchase any additional warranty years at the pricing provided in the Pricing Schedule. CapMetro will not need to make the determination on the additional years of warranty until their current warranty has expired.

7.2. Spares

The Vendor shall prepare and submit to CapMetro a recommended list of spare modules and parts to support the installed CAD/AVL system. This list shall be grouped by equipment, module, and part. The list shall provide complete ordering and procurement information for each item, or reference a catalog, for this information. Each item listed shall contain the following information at a minimum: item-name, description, current price, original manufacturer's name, part number, revision number, software/firmware version, drawing reference number, and country of origin. Items that are common to more than one piece of equipment, module, or subassembly shall be suitably cross-referenced. Recommended quantities shall be provided based on expected usage. Alternatively, a recommendation based on a percentage not-to-exceed 10% of the installed base may be provided. All other requirements outlined in this section shall remain in effect.

At the end of the warranty period, CapMetro may elect to purchase spare parts volumes based on the vendor's recommendation and price. Should actual usage in operational service exceed the vendor's recommendations by greater than 50%, the Vendor shall provide justification for the difference and allow CapMetro to purchase additional spare parts based on the unit prices agreed to for up to three years after expiration of the initial five-year warranty period.

Spares shall be stored on-site at CapMetro and be delivered in a secure, organized and labeled manner, allowing them to be identified, inspected, and safely stored without the risk of damage or degradation.

For fifteen (15) years after delivery and final acceptance of the CAD/AVL system, the vendor shall maintain an adequate inventory of spare parts for all the equipment furnished under this contract.

7.3. Consumables

The Vendor shall provide a list of recommended consumable spares to support the CAD/AVL systems for one year. Consumables are items that have a limited life cycle due to constant use and are expected to be replaced on a frequent basis. This list shall include the recommended quantities, their price, part number, supply source, and country of origin.

The vendor shall list separately those consumable items that the vendor plans to utilize for warranty and maintenance support of the CAD/AVL system.

8. Deliverables and Milestones

The following is a list of proposed payment milestones and project deliverables. The actual project schedule with deliverables and milestone payment percentages will be agreed upon by CapMetro and the successful Vendor during contract negotiations.

Proposed Milestones	Proposed Deliverables
Notice to Proceed (NTP)	Issued by CapMetro
Project Planning and Discovery	Major Project Plans (PMP, Schedule, QA Plan, Kickoff Meeting). Requirements Validation. Vehicle and system installation plan(s).
Preliminary Design Review	PDR document completion, including reviews and approvals. Inclusive of all vehicle engineering designs, system/module configuration designs, and integrations mapping and controls documentation.
Final Design Review	FDR updates and document completion, including reviews and approvals. Inclusive of all vehicle engineering designs, system/module configuration designs, and integrations mapping and controls documentation.
Factory Acceptance Testing	All FAT testing conducted with passing agreement by CapMetro. Bill of Materials for all CAD/AVL components being procured.
System Integration Testing	All SIT testing conducted with passing agreement by CapMetro.
Mini-Fleet Testing	All Mini-Fleet testing conducted with passing agreement by CapMetro. Shipment and receipt of Mini-Fleet vehicle installation kits. IPOP plan review and approval by CapMetro.
Full Fleet Deployment 25%	Shipping and receipt, installation, and testing of 25% remaining revenue vehicle installation kits.
Full Fleet Deployment 50%	Shipping and receipt, installation, and testing of 50% remaining revenue vehicle installation kits.
Full Fleet Deployment 75%	Shipping and receipt, installation, and testing of 75% remaining revenue vehicle installation kits.

CAPITAL METROPOLITAN TRANSPORTATION AUTHORITY

Proposed Milestones	Proposed Deliverables
Full Fleet Deployment 100%	Shipping and receipt, installation, and testing of remaining revenue vehicle installation kits.
Training	Training Plan. Vendor provided training on all hardware, systems, modules. All user manuals and supporting system documentation.
System Acceptance Testing	Completion of error free system “burn-in” phase. Correction, and approval, of any lingering hardware or system defects.
Final Documentation Submittal	Delivery and approval of all as-builts, manuals, training and final configuration documentation.
Final Systems Acceptance and Burn-In Period	Final CapMetro approval of system.

Exhibit 10 - Proposed Payment Milestones and Deliverables

VOICE COMMUNICATIONS

- 1 Overview**
- 2 Dispatcher Voice Call Functionality**
- 2.1 General
- 3 Operator Voice Call Functionality**
- 3.1 General
- Supervisor Voice Communications**
- 4 Functionality**
- 4.1 General
- 5 Mobile Voice Communications Integration**
- 5.1 General
- 5.2 Communications Infrastructure Integration
- 5.3 Onboard Device Integration

ONBOARD SYSTEMS MANAGEMENT

- 1 Overview**
- 2 Dispatcher Functionality**
- 2.1 General
- 2.2 Remote announcements
- 2.3 Remote diagnostics
- 3 Vehicle Operator Functionality**
- 3.1 General
- Touchscreen Display and Guided User
- Interface (GUI)
- 3.2
- 3.3 Logon and logoff functionality
- 3.4 Schedule and Headway Adherence Display
- 3.5 Route Adherence Display
- 3.6 Navigation Assistance
- 3.7 Voice Call Management
- 3.8 Data Messaging
- 3.9 Announcement Control
- 3.10 External Sign Control
- 3.11 Overt Alarm and Alarm Status Display
- 3.12 Other Onboard Equipment Control
- Onboard Firmware Management,
- 3.13 Diagnostics, and Troubleshooting
- 4 Automated Onboard Functionality**
- 4.1 General
- 4.2 Interior announcements and signage
- 4.3 Exterior Announcements Functionality
- 4.4 Exterior Signage Functionality
- 4.5 Stop Requested Functionality
- 5 Onboard Systems Integration**
- 5.1 General
- 5.2 IO Controller
- Router Integration and Data
- 5.3 Communications
- Voice Communications Controller
- 5.4 Integration
- 5.5 Interior signage
- 5.6 Exterior signage
- 5.7 Speaker system
- 5.8 Alarm Integration
- 5.9 Badge Reader Integration
- 5.10 Farebox Integration
- 5.11 Discrete Signal Integration
- 5.12 J1708/1939 and CANbus Integration
- 6 Onboard Control Programming Software**
- 6.1 General
- 6.2 Vehicle Announcement Software
- 6.3 Firmware management
- 6.4 Data Communications Management
- Onboard device alerts, diagnostics, and
- 6.5 troubleshooting

DISPATCH MANAGEMENT

- 1 Overview**
- 2 Dispatch Management Functionality**
- 2.1 General
- 2.2 Vehicle Logon Verification
- 2.3 Vehicle Location Tracking
- 2.4 Route and Schedule Adherence Tracking
- 2.5 Service Management Adjustments
- 2.6 Detour Management
- 2.7 Headway Management
- 2.8 Data Messaging
- 2.9 Announcement Management
- 2.10 Alarm Management
- 2.11 Playback
- 2.12 Incident Management
- 2.13 Maintenance Reporting
- 2.14 Wireless Data Exchange Management
- 3 User Interfaces**
- 3.1 General
- 3.2 Dispatch Workstation UI
- 3.3 Mobile Access
- 3.4 Remote Access
- Scheduling and Workforce Management**
- 4 Data Exchange**
- 4.1 General
- 4.2 Scheduling Data Import Functionality
- Workforce Management Data Exchange
- 4.3 Functionality
- Vehicle Tracking Interface for External
- 4.4 Systems
- Basemapping and GIS Data Import**
- 5 Functionality**
- 5.1 General
- Data Feeds and Application Programming**
- 6 Interfaces**
- 6.1 General
- 6.2 Schedule Information Data Feed
- 6.3 Real-time Information Data Feed
- 6.4 Dispatch Management API
- 6.5 Maintenance Data API
- 6.6 Transit Signal Priority Data API
- 6.7 Swiftly integration
- Business Intelligence, Reporting and**
- 7 Dashboards**
- 7.1 General
- 7.2 Operations Datastore
- 7.3 Business Intelligence and Data Reporting
- 8 System Administration**
- 8.1 General
- 8.2 User Administration
- 8.3 System Monitoring and Alerts
- 8.4 Firmware and Updates

EXHIBIT F-1 - CAD/AVL SYSTEM REPLACEMENT
COMPLIANCE MATRIX

S. No.	General Requirements	Vendor Response	Vendor Notes	CapMetro Notes
1	System Overview			
1.1	The Contractor shall provide a full-featured CAD/AVL system that provides the following functionality across both the rail and fixed route bus fleets: •Voice Communications •Onboard Systems Management •Central Systems Management			
1.2	The Contractor shall integrate the CAD/AVL system with at least the following systems (see Central Systems Section 2 for more details): •Scheduling system to receive schedule, runcutting, blocking and rostering data •Workforce management system to receive roster assignment data			
1.3	The CAD/AVL system shall provide access to data through documented Application Programming Interfaces to enable the following functionality: •Real-time information data to disseminate real-time information to customers through multiple channels. •Incident management data for downstream risk reporting and analysis •Maintenance management data from all maintenance related functions (see Central Systems Section 6 for more details)			
1.4	The CAD/AVL system shall provide direct access to data stored in the system to enable the following functionality: •Cross-cutting data integration and reporting through the Enterprise Data Architecture platform.			
1.5	The Contractor shall consider and propose whether they are able to integrate with and use any existing system components, or shall provide their own system components to deliver a fully integrated solution. Any infrastructure, hardware, and support costs for utilizing anything other than existing CapMetro systems or integrations mentioned in the requirements shall be considered by the Contractor to be part of their bid. The infrastructure and support costs for the following systems will be provided by CapMetro.			

S. No.	Voice Communications Requirements	Vendor Response	Vendor Notes	CapMetro Notes
1	System Overview			
1.1	The Contractor shall provide a Voice Communications functionality that enables CapMetro dispatchers, vehicle operators, and supervisors to communicate with each other.			
1.2	The Voice Communications functionality shall be comprised of the following that enables CapMetro dispatchers, vehicle operators, and supervisors to communicate with each other.			
1.3	The Voice Communications functionality shall provide the following: • Radio Infrastructure Integration (or alternative voice infrastructure capability such as Radio over Internet Protocol); • Dispatcher Voice Call Management Functionality; • Onboard Voice Call Management Functionality; • Supervisor Voice Call Management Functionality; and • System Administration Functionality.			
1.4	The Contractor shall define whether to use CapMetro's existing radio system or other alternative means (such as RoIP, or other CapMetro approved solution) to provide the functionality defined.			
1.5	Any infrastructure, hardware, and support costs for utilizing anything other than CapMetro's existing radio system shall be considered by the Contractor to be part of their bid. The infrastructure and support costs for CapMetro's existing radio system will be provided by CapMetro.			
2	Mobile Voice Communications Integration			
2.1	The Contractor's system shall integrate with CapMetro's future LCRA-provided radio system equipment. LCRA is in the process of finalizing their upgrade to a 3GPP-standard-based Mission Critical X (MCX) platform for Mission Critical Push-to-Talk (MCPTT) voice communications. This MCX platform will utilize multicast using a 3GPP-standard-based evolved Multimedia Broadcast Multicast Service (eMBMS) and be compatible with an Ericsson or Nokia's 4G LTE network solution. Note: VoLTE solutions will not be supported on LCRA's PLTE network.			
2.2	Bus AVL/Telematics will connect over LCRA's PLTE network using 900MHz Band 106 routers to be provided and installed by CapMetro. LCRA will recommend devices which are compatible with their network, but is likely to include Harris XL-185M and other radios.			
2.3	The Contractor may choose to provide the functionality in this section through either central integration with the MCX central software using LCRA-provided API(s), Harris Symphony console-level integration using Harris-provided API(s) or through vehicle-level radio integration.			
2.4	The central software of the voice radio system shall be provided by others. Proposers shall identify if central software integration is required for call management and describe their proposed approach to meeting requirements in Sections 3, 4, and 5.			

2.5	Contractor shall be responsible for the following: • Reviewing the technical requirements, features and functions of the CapMetro designated radios and ensuring that their proposed system is compatible with this radio for the purpose of voice integration; • Designing voice radio integration with their system; • Planning the integration of designated radios; • Installing necessary interconnecting cables and power conditioning equipment for voice radio integration on fixed route vehicles, • Designing, testing, and installing all interfaces between the onboard system and the mobile voice radios and, between the consoles and the central system (if deemed necessary) to provide the complete functionality required; • Integrating mobile voice radios with the system to enable onboard interface by drivers; • Documenting as-built installations and voice radio integration; • Developing the testing plan for review and approval by CapMetro and its agents; • Conducting all required systems testing; • Developing and providing training; and • Maintaining system interfaces during warranty period.			
2.6	Contractor shall supply, install and test all Audio Input and Output devices to/from the existing mobile radios and onboard interface for fixed-route vehicles that: • Have a hook switch, PTT handset and speaker; • Use speaker output when handset is on hook; • Use handset audio output when handset is off hook; and • Speaker shall provide sufficient audio for driver only.			
2.7	Contractor shall supply radio manufacturer-specific cables where necessary. However, Contractor shall be responsible for completing the physical and electrical interface between the mobile radio and their system. CapMetro will be responsible for applying any firmware updates needed to the voice radio and any subcontracting for support services needed from the voice radio vendor.			
2.8	All onboard functionality of the radios shall be controlled electronically by the Vehicle Operator Interface Device, via the mobile radio's auxiliary connector, or through a software based interface, whether onboard or through the central software.			
2.9	The integration shall allow for the voice communications onboard equipment to be "hot-swappable", that is, in the event of a failure, the radios (or alternative onboard voice communications equipment) can be replaced without having to shut down any other integrated components. Likewise, operators shall also not be required to log-off.			
2.10	CapMetro will provide one (1) backup control station radio and one (1) desktop remote controls to provide backup voice communications for each console and the backhaul link. Contractor shall test the antenna system and backup control station for proper operation.			
2.11	The System shall notify the vehicle operator visually and by tone when a call has connected and the dispatcher may speak, or in the case that a call is dropped. The visual and audio notification shall be provided through the Vehicle Operator Interface Device or alternative Contractor-proposed method. CapMetro shall assess and provide approval for any alternative Contractor proposed method.			

2.12	The description of the proposed communication solution shall include the following information: •Description of the communications protocol to be used •Description of any data compression and encryption techniques being used for data packets exchanged between CapMetro vehicles and the central system. •Information on the bandwidth needed to support the data exchange between vehicles and the central system.			
2.13	Radio user-interface devices such as speakers, handsets, etc. shall have volume levels appropriate for typical public transit environments.			
2.14	Microphone design shall reduce ambient noise levels to improve transmitted voice quality.			
3	Dispatcher Voice Call Management			
3.1	The system shall allow the Dispatcher to view RTT and PRTT messages received from Vehicle Operator Interface Devices on a tabular communications display together with the time received.			
3.2	The voice call functionality shall allow the Dispatcher to set up a quick voice call response to the initiating vehicle operator by selecting RTT or PRTT from the communications display.			
3.3	Only one (1) RTT and PRTT shall be active in the communication display queue for each vehicle attempting to make a call. A PRTT will replace a RTT should the vehicle change from RTT to PRTT, whereas repeated presses of RTT or PRTT will simply update the existing message in the communications display queue.			
3.4	Dispatchers shall be able to initiate voice communications by double-clicking RTT or PRTT messages.			
3.5	Once connected, PRTT and RTT messages will display as being handled by the connecting Dispatcher on all workstations displaying that message.			
3.6	RTT and PRTT shall not disappear off the communications display queue until such time as they are dealt with by a Dispatcher or deleted by a Dispatcher.			
3.7	Covert alarms shall take top priority in the communications display queue, followed by PRTT and RTT respectively.			
3.8	The system shall allow set up of a one-way broadcast voice call to a single vehicle or a group of vehicles.			
3.9	The system shall provide the capability to set up a two-way voice call with various combinations of vehicle onboard communication systems and street supervisor portable devices. The minimum required combinations include: •An individual vehicle; •All vehicles in a fleet group; •All vehicles on a route or set of routes; •All vehicles in a selected pre-defined group •All vehicles within a selected geographic area on the map. •All portables by ID •All portables by ID within a selected pre-defined set			
3.10	The system shall require the Dispatcher to establish a timeout interval for any voice call.			
3.11	The voice call timeout setting shall offer a default interval and alternative intervals determined by CapMetro.			

3.12	The system shall automatically notify Dispatchers after a configurable amount of time has passed, that a call or event has not been resolved/closed.			
3.13	The system shall allow Dispatchers to seamlessly switch the handset between the voice communications and telephone headset.			
3.14	Voice communications requests shall be separately highlighted and displayed in the communications display queue.			
3.15	The system shall notify the Dispatcher when the call cannot be setup and present the Dispatcher with a choice to cancel the call or to continue trying for a configurable number of retry actions to set up the call and notify the Dispatcher when it was successful.			
3.16	The system shall notify the Dispatcher visually and by tone when a call has connected and the Dispatcher may begin speaking.			
3.17	The system shall locate and center a vehicle within a map-based display when a Dispatcher takes a call.			
3.18	The remote access for supervisors to the CAD/AVL system via the vehicle mobile workstation shall allow supervisors the ability to set up a voice call with one or more vehicle operators. Further, the system shall allow supervisors to listen in to an ongoing call.			
3.19	Calls initiated from portable radios to dispatch shall provide a unique radio ID, which will be correlated with a name assigned to the radio and displayed to the Dispatcher.			
3.20	The system shall record all voice communications and will restrict access to voice recordings to users authorized by CapMetro. Recordings will include metadata that allow ease of searching the voice recording database (e.g. call time, user, location, call type, etc.).			
3.21	The system shall provide the ability to record audio related to a voice communication session to assist maintenance staff in troubleshooting any hardware-related issues related to that voice communication.			
4	Operator Voice Call Management			
4.1	The Contractor shall interface with the existing voice radios to provide closed-mic communication between vehicle operators and dispatchers, or provide an alternative mechanism to enable such communications.			
4.2	The System shall provide Request to Talk (RTT) and Priority Request to Talk (PRTT) buttons to allow the vehicle operator to ask a Dispatcher to set up a voice call.			
4.3	When dispatch enables a one-way voice call to one or more vehicles, the System shall provide a distinct audible tone and visual alert. The audio shall be routed through the vehicle operator speaker; if the operator picks up the handset, the audio shall instead be routed through the handset.			

4.4	When dispatch enables a two-way voice call to the vehicle, the System shall provide a distinct and visual alert tone. The audio will be routed through the handset once the vehicle operator picks up the handset audio, until the end of the timed voice call after which the Vehicle Operator Interface Device shall automatically end the voice call.			
4.5	When the vehicle operator hangs up the handset during a two-way voice call, the System shall detect it and the voice call shall end. The System shall send a data message to notify dispatch that the voice call has ended.			
4.6	A Dispatcher shall have the ability to end a timed voice call at any time while the call is in progress.			
4.7	The System shall allow the user to adjust the voice communications system speaker volume at any time.			
4.8	The System shall be integrated with a covert microphone having adjustable orientation and sensitivity.			
4.9	The covert alarm switch shall be mounted at a location that can be easily pressed by the operator in a discreet manner but unlikely to be accidentally activated.			
4.10	Vehicle vibration shall not activate the covert alarm switch.			
4.11	The System shall detect if the covert alarm switch circuit is closed for at least one second and automatically send an alarm message to the dispatch and place the System into covert alarm mode for that vehicle.			
4.12	The System shall allow dispatch to activate audio transmission from the covert microphone but only after the vehicle operator has activated the covert alarm.			
4.13	The System shall disable the receipt of voice calls or the sending/receiving of text messages while in the covert alarm state but shall leave the RTT and PRTT buttons activated.			
4.14	Only dispatch shall be allowed to terminate the covert alarm state once the covert alarm state has been activated.			
4.15	The System shall periodically attempt to send the covert alarm message until it receives an acknowledgement message from the central system.			
4.16	The System shall send a message via API to increase the frequency of vehicle location information polling to a configurable time (e.g. 2 seconds) when the covert alarm is activated.			
4.17	When the System is in the covert alarm mode, there shall be no indication on the display other than subtle symbols or icons CapMetro approves, signifying that a Dispatcher has accepted the covert alarm and CapMetro is monitoring the covert microphone.			
5	Supervisor Voice Communications Functionality			
5.1	The Contractor shall either utilize existing supervisor portable radios or provide an alternative portable solution for street supervisors to provide closed-mic communication between them and other System users.			
5.2	If an alternative solution is chosen, the Contractor shall provide hardware, software, and integration capabilities to enable street supervisor communications.			
5.3	Contractor shall provide a list of approved hardware and operating systems that can be used for the Supervisor Voice Communications Functionality.			
5.4	The Supervisor Voice Communications functionality shall include the ability to receive or listen in to calls set up by others.			
5.5	The Supervisor Voice Communications functionality shall include the ability to set up direct or group calls to one or more of the types of users below: •@Dispatchers •@Vehicle Operators •@Other Street Supervisors •@Combinations of the above three user types			

5.6	The Supervisor Voice Communications functionality shall be available only through a password protected user authentication process.			
6	System Administration Functionality			
6.1	The System shall provide various system administration functionalities, including: • User Administration • Device Administration • Device Diagnostics • Call Statistics and Reporting • System Monitoring and Troubleshooting • Firmware and Updates			
6.2	The User Administration functionality shall enable the system to create and manage various user profiles and permissions, including at least: • System Administrator (with all permissions) • Vehicle Operator • Dispatcher • Street Supervisor • Reporting (reporting and analytics only access)			
6.3	The Device Administration functionality shall enable the system to add and remove devices from the System and provide both serial and customizable naming to physical devices			
6.4	The Device Diagnostics functionality shall allow the System to remotely monitor all vital hardware signs including power state, transmit/receive, firmware version, error status			
6.5	The Call Statistics and Reporting functionality shall provide detailed information about each call and summary statistics about all calls over various timeframes and by device. Summary Statistics include signal strength, call time, call duration, and devices involved			
6.6	The Firmware and Updates functionality shall provide detailed information about device firmware and provide basic testing and diagnostics functionality to facilitate firmware updates. Optionally, demonstrating over the air updates of firmware with appropriate user permissions			

S. No.	Onboard Systems Requirements	Vendor Response	Vendor Notes	CapMetro Notes
1	System Overview			
1.1	The Contractor shall provide an Onboard Technology Systems solution that enables CapMetro to manage various onboard devices across both the rail and fixed route bus fleets.			
1.2	The Onboard Technology Systems solution shall provide the following: •Vehicle Operator functionality inside fixed route buses (Section 2) •Visual and audio announcements inside rail DMUs or fixed route buses ("Interior announcements and signage" - Section 3). •Audio announcements exterior to fixed route buses ("Exterior announcements"- Section 4). •Route, destination, and other visual status indicators on signage mounted to the exterior of fixed route buses. ("Exterior signage" - Section 5) •Integration with and management of associated systems including LED or LCD signage, public announcement amplifiers, public announcement speakers, discrete signals, J1708/1939 messages etc. ("Onboard Systems Integration" - Section 6) •Central software functionality to program, configure, and maintain the onboard systems ("Onboard Control Programming Software" - Section 7)			
1.3	The Onboard Technology Systems shall be used by the following types of users: •Dispatchers or street supervisors interested in communicating with CapMetro users inside or outside a vehicle; •Vehicle Operators interested in communicating with CapMetro users inside or outside a vehicle; •Maintenance Users interested in maintaining the various onboard systems; and •System Administrators interested in programming, update, and troubleshooting the various onboard systems. In addition to the CapMetro users, various aspects of functionality shall be preprogrammed and enabled automatically based on data received from integrated systems.			
1.4	The Onboard Technology Systems solution shall be integrated with the CapMetro-provided Sierra Wireless routers using wired Ethernet based data communications to provide both cellular data communications and Wifi data communications when in range of CapMetro configured wifi networks.			
1.5	The Contractor shall consider and propose whether they are able to integrate with and use any existing system components, or shall provide their own system components to deliver a fully integrated solution. Any infrastructure, hardware, and support costs for utilizing anything other than existing CapMetro systems or integrations mentioned in the requirements shall be considered by the Contractor to be part of their bid. The infrastructure and support costs for the CapMetro-provided systems will be provided by CapMetro.			

2	Dispatcher Functionality			
2.1	General			
	The Contractor shall provide an Onboard system that integrates with the Central Software system over wireless data communications to enable the following functionality remotely: • Remotely sending real-time interior announcements • Remotely logging on any onboard equipment that provides such functionality • Remote onboard firmware management, diagnostics, and troubleshooting			
2.1.1				
2.2	Remote announcements			
	The Vehicle Announcement system shall include the ability to broadcast live text-to-speech audio transmitted from Dispatch over interior signs and speakers.			
2.2.1				
2.2.2	Dispatchers shall be able to activate or deactivate announcements simultaneously on a single bus or group of buses.			
2.3	Remote diagnostics			
	Dispatchers shall be able to remotely perform the following firmware, diagnostics and troubleshooting functions for all integrated onboard equipment: • Update the firmware or apply patches • Make or roll back configuration changes • Access and download data logs.			
2.3.1				
3	Vehicle Operator Functionality			
3.1	General			
	The Contractor shall provide and equip all fixed route with a Vehicle Operator Interface Device ('Operator Interface') that provides the following functionality: • Touchscreen Display and Guided User Interface (GUI) • Logon and logoff functionality • Schedule Adherence Display • Headway Adherence Display • Route Adherence Display • Navigation Assistance • Voice Call Management • Data Messaging • Announcement Control • Headsign Control • Overt Alarm and Alarm Status Display • Other Onboard Equipment Control • Onboard Firmware Management, Diagnostics, and Troubleshooting The Operator Interface shall be integrated with the Onboard Control Input Output Device ('IO Controller') either onboard or via software and communications to enable all functionality.			
3.1.1				
3.2	Display and GUI			
	The GUI shall include context-sensitive menus for data input, selection, and display. The menus shall be customizable by CapMetro.			
3.2.1				
	Passwords shall be required for all logons. Passwords must be capable of being easily changed via configuration download. The system shall provide a secure method for creating password including the ability to handle lost passwords and frequent password change requests. Multi-factor authentication shall be supported for cloud-based applications.			
3.2.2				

3.2.3	The Operator Interface shall use a color backlit display that the vehicle operator can read from the seated position under the full range of ambient illumination conditions. This includes capabilities such as vehicle operator-controlled brightness/contrast control, anti-glare coating, and adjustable orientation mounting.			
3.2.4	The Operator Interface shall be equipped with a color, liquid crystal display (LCD) touch-screen that meets the following requirements: • Able to be used by operators wearing gloves; • Readable by operators wearing polarized lenses; • Sufficient brightness to be readable in direct sunlight; • Dimmed or night mode operation; • A minimum size of 7 inches as measured diagonally; and • A minimum resolution of 800x600 pixels			
3.2.5	The color combination to be used on the GUI shall provide legibility for people who are color blind.			
3.2.6	The Operator Interface display shall include functionality to display both text and icon-based messages and key labels.			
3.2.7	The Operator Interface display shall include functionality to display different font sizes, icons, colors, and styles on the screen.			
3.2.8	The Operator Interface shall be operated using touch screen programmable buttons with visual and audible feedback.			
3.2.9	The Operator Interface speaker shall provide audible feedback when an on-screen key is pressed.			
3.2.10	The Operator Interface shall notify the operator about data communication connectivity status through a distinct symbol on the operator screen.			
3.2.11	The Operator Interface shall notify the operator about GPS connectivity status through a distinct symbol on the operator screen.			
3.2.12	The Operator shall not be able to manually shut off or disconnect the operator terminal power or manually shut down the Operator Interface application software.			
3.2.13	If tactile buttons are present on the Operator Interface, then they shall be reconfigurable to various uses with appropriate labels without limitation.			
3.2.14	The Operator Interface shall allow messages from Dispatch to appear on the primary display such as detour or service adjustment messages (if so configured) and be cleared through vehicle operator acknowledgement or configured time			
3.2.15	The Operator Interface will allow the operator to reach any messaging function (e.g. read message, view message, confirm message, etc.) within two buttons presses.			
3.3	Logon and Logoff			
3.3.1	The Operator Interface shall allow vehicle operator logon using operator ID and block/run ID entry. The Operator Interface shall check with the central system to validate that the operator ID and block/run ID are valid and not already in use. In the event of a conflict, the system shall notify the vehicle operator of an "invalid" logon.			
3.3.2	Once it validates the operator and block/run IDs, the Operator Interface shall select the schedule data stored in the Operator Interface corresponding with that block/run to complete the logon.			
3.3.3	After logon, the operator terminal shall display the current block/run, route, trip, next time point, and vehicle operator ID for fixed-route operations. Also, the display shall provide vehicle operator paddle based on logon information.			

3.3.4	The Operator Interfaces shall use the logon data once the Operator Interface logon is completed to provide run and block data to the Vehicle Announcement Software system and begin the process of automatically sending display commands to the headsigns and sidesigns based on vehicle location for fixed-route operations.			
3.3.5	The Operator Interface shall provide for automatic notification of the central system if a vehicle is in service but not logged on, and shall provide for remote logon by Dispatch if the vehicle operator has not logged on.			
3.3.6	The Operator Interface shall track whether the wheelchair lift was cycled before the vehicle moved an agency configurable distance after logon and report it in real time to central software if it was not cycled.			
3.3.7	The Operator Interface shall include a log-over feature to allow a new operator to login directly as the replacement operator for the current block.			
3.3.8	The Operator Interface shall allow the vehicle operator to logoff by selecting the logoff key.			
3.3.9	The Operator Interface shall send a message to the Controller as a confirmation of the vehicle operator logoff.			
3.3.10	The Operator Interface shall automatically log the vehicle off after a CapMetro-configurable time has passed once the vehicle has been detected as having returned to the garage, if the operator has not already completed a manual logoff.			
3.3.11	The Operator Interface shall periodically attempt to send a logon or logoff message until it receives an acknowledgement message from the central system. If no response was received from the central system within an agency configurable time, the Operator Interface shall provide the operator with a "no logon response" message.			
3.3.12	Through the optional interface between OPS and the proposed CAD/AVL system, Operator Interface shall validate vehicle operator logon to verify if the vehicle operator logging on to the Operator Interface is valid according to vehicle operator/vehicle assignment in OPS. In the event of a violation, the system shall display "invalid logon" error but shall allow the vehicle operator to logon and report the violation to the Controller as an exception.			
3.3.13	As an option, the proposer shall provide necessary hardware and software interface for enabling logon through operator badge readers.			
3.3.14	The Contractor shall integrate with the fare collection system to ensure that the operator only signs onto the Operator Interface once and the fare collection system automatically receives operator logon information from the Operator Interface and logs the operator onto the fare collection system as well.			
3.3.15	When the operator logs off on the Operator Interface, the Operator Interface shall log off the operator from the fare collection system as well.			
3.4	Schedule Adherence and Headway Management			
3.4.1	When a vehicle operator is logged on to a fixed-route run, the Operator Interface shall provide continuous feedback on current schedule adherence status, updated every second based on the estimated on-schedule time for the current location (not just the schedule adherence as of the previous time point), and displayed to the vehicle operator with an accuracy of one second. The estimated on-schedule time between timepoints shall be based on the typical link running times.			
3.4.2	The IO Controller shall send the most recent schedule adherence data as part of each location report.			

3.4.3	The IO Controller shall calculate schedule adherence updated every second based on the estimated on-schedule time for the current location (not just the schedule adherence as of the previous time point).			
3.4.4	The IO Controller shall support free running mode (where scheduled timepoints are not included in the on-time performance) but continue to report stops in free running mode with arrival, departure, and dwell times.			
3.4.5	The Operator Interface shall indicate to operators the current schedule adherence in the form of a text-based display (e.g. + or - X minutes) and a stylistic display (e.g. ahead of schedule is red, behind schedule yellow, on time is green).			
3.4.6	The Operator Interface shall indicate, both audibly and visually, when a vehicle is required to hold to address a headway maintenance issue. CapMetro shall be able to configure the headway threshold at which such an alert is generated.			
3.4.7	The Operator Interface shall indicate, both audibly and visually when a vehicle is required to proceed after holding.			
3.4.8	The Operator Interface shall provide configurable distinct audio alerts to operators when they are a configurable time ahead of or behind schedule.			
3.4.9	The Operator Interface shall provide a configurable visual alert to operators when they are a configurable time ahead of or behind schedule.			
3.4.10	For headway-based service, the schedule adherence status shall be based on headway adherence. For schedule-based service, the schedule adherence status shall be based on the trip schedule.			
3.4.11	For headway-based service, the IO Controller will report departure from each stop to the central system for comparisons purposes.			
3.4.12	For headway-based service, the IO Controller shall not utilize an underlying schedule.			
3.4.13	The Operator Interface shall display "depart now" messages for headway operations at transit centers.			
3.5	Route Adherence			
3.5.1	Based on configurable thresholds, the on-board system shall compute whether a fixed-route vehicle is running on-route or off-route. IO Controller shall automatically notify Dispatch whenever a vehicle is operating on an alternate route segment to the assigned run.			
3.5.2	The IO Controller on fixed-route vehicles shall send a message to the central software when a vehicle is determined to have gone off-route or have come back on-route.			
3.5.3	The IO Controller shall periodically attempt to send an off-route message until it receives an acknowledgement message from the central system.			
3.5.4	The Operator Interface shall display whether the vehicle is on-route or off-route.			
3.5.5	For detour situations, the Operator Interface shall provide turn by turn detour instructions or graphical displays that update as the vehicle moves through the detour.			
3.6	Navigation Assistance			
3.6.1	The Operator Interface shall be equipped with a navigation assistance module to provide visual and audible turn-by-turn instruction for operators of fixed-route vehicles. Whether or not this feature is enabled shall be configurable by CapMetro.			

3.6.2	Once the vehicle operator logs on, the Operator Interface shall provide an option to activate turn-by-turn navigation showing the current location of the vehicle, the location of bus stops and timepoints, and the routing between them, at the closest zoom level where this route fits on the display. As the vehicle travels, the map view will automatically pan and zoom to continue to show this entire routing at the closest possible zoom level.			
3.6.3	The Operator Interface shall allow operators to override the map zoom level or pan the map display, and to select for the display to return to the default mode that automatically follows the routing.			
3.6.4	The driving instructions shall include both the turn directions and the name of the street, and this information shall be provided at an agency configurable distance in advance of the turn.			
3.6.5	The navigation module shall allow vehicle operators to toggle between map and text based turn-by-turn direction.			
3.6.6	The navigation module shall allow the operator to activate and deactivate the navigation map display and/or the audible instructions as desired. The Operator Interface shall provide a way to increase or decrease audio volume for navigation instructions. The audio volume should be interrupted for any audio alert generated for an incoming message from the Dispatch.			
3.6.7	The navigation map shall be updateable over the bulk data transfer using the WLAN.			
3.7	Voice Call Management			
3.7.1	The Operator Interface shall provide voice call management functionality as per the requirements in Voice Communications Section 4.			
3.8	Data Messaging			
3.8.1	The Operator Interface shall not allow vehicle operators to send or view a canned data message when the safe driving mode is enabled on their vehicles.			
3.8.2	The Operator Interface shall allow the vehicle operator to select a set of pre-defined messages to send a canned data message to the central system. All canned messages to Dispatch shall include the date, time, location (latitude and longitude) vehicle ID and vehicle operator ID.			
3.8.3	The Operator Interface's pre-defined messages to Dispatch shall include at a minimum: • Logon/Logoff/system test/maintenance; • Critical messages • Vehicle status report (on time, early, late, on route, off route); • Out of service; • Call for a field supervisor; • Vehicle mechanical problem; and • A minimum of forty (40) other routine or "canned" messages from vehicle to Controller.			
3.8.4	The Operator Interface canned messages shall allow up to three different message sets based on vehicle types (e.g. supervisor, maintenance, fixed route bus, etc.).			
3.8.5	Canned messages shall be able to be grouped into a minimum of two levels allowing some message categories to contain specific sub-options for canned messages.			
3.8.6	CapMetro shall be able to configure the structure, language, number, and type of canned messages without contractor assistance or intervention using contractor provided tools/software.			
3.8.7	The Operator Interface shall be able to display free form text messages from Dispatch up to at least 254 ASCII characters in length.			

3.8.8	The Operator Interface shall store up to a configurable number of canned data messages received from Dispatch, indicate to the vehicle operator when there are unread text messages, and allow stored messages to be viewed or deleted. The Operator Interface shall allow the vehicle operator to view received messages that are longer than can fit on one line of the display.			
3.8.9	The Operator Interface shall allow the vehicle operator to send an acknowledgement or Yes/No response to certain messages received from the central system.			
3.8.10	The Operator Interface shall periodically attempt to send a canned data message or response until it receives an acknowledgement message from the central system.			
3.8.11	The Operator Interface shall issue a distinct audible tone and visual alert to confirm that messages have been sent.			
3.8.12	The Operator Interface shall issue a distinct audible tone and visual alert to indicate when a canned data message is received from Dispatch.			
3.8.13	Messages received by the Operator Interface shall be displayed to the user in a large typeface readable by a user with 20/20 eyesight from a distance up to three (3) feet.			
3.8.14	The Operator Interface shall indicate when there are unviewed messages in the incoming message queue and how many messages are in that queue. The Operator Interface shall allow the operator to view a message in the queue, delete a message from the queue only after it has been viewed, or send an acknowledgement if required upon viewing the message.			
3.9	Announcement Control			
3.9.1	The vehicle operator shall have the ability to trigger the activation of any pre-recorded announcements manually.			
3.9.2	Vehicle operator-initiated announcement and/displays (e.g., safety-related announcements) shall be programmed to be made at the vehicle operator's discretion.			
3.9.3	Vehicle operators shall be allowed to override automated announcements for manual PA announcements.			
3.9.4	The Vehicle Announcement Software system shall include an automatic gain control (AGC) circuit to automatically and independently adjust internal and external volumes depending on vehicle speed or ambient noise level. Each audio announcement played using AGC shall be played at a consistent volume determined by sampling the AGC immediately prior to playing the announcement.			
3.9.5	The Vehicle Announcement Software shall provide maintenance technicians with a means of testing and setting both the internal and external audio default volumes and ambient noise through the AGC circuits.			
3.9.6	The Vehicle Announcement Software shall provide the capability to adjust the external speaker volume levels based on time of day and location settings, as CapMetro pre-configures (e.g., maximum volume at the downtown transfer center between 6 a.m. and 9 a.m. and minimum volume at specific neighborhood stops).			
3.9.7	The Vehicle Announcement Software shall provide the capability to adjust the minimum and maximum volume levels separately for interior and exterior announcements. The vehicle operator will not be able to manually adjust the volume below or above these levels.			
3.9.8	The Vehicle Announcement Software announcements and PA volume level controls shall allow the vehicle operator to separately adjust the volumes for the vehicle operator and handset speakers separately.			

3.9.9	The Contractor shall provide all equipment to enable exterior announcements and signage functionality described in this section, including: • Public announcement amplifiers to control all exterior speakers within the vehicle. • Integration with existing exterior speakers in the vehicles. The systems shall integrate using Ethernet or other CapMetro-approved methods.			
3.9.10	The Onboard Technology Systems shall enable the following types of functionality: • Dispatcher-initiated functionality through integration with the Dispatch Management System; • Vehicle Operator initiated functionality through integration with the Dispatch Management system; • Automated functionality based on pre-programmed configuration and automated data inputs; • Maintenance Functionality; and • System Administration Functionality.			
3.10	Exterior Sign Control			
3.10.1	The Contractor shall provide all equipment to enable interior announcements and signage functionality described in this section, including: • Sign controller hardware and software to control all exterior signage for the vehicle. • Integration with existing exterior signage in the vehicles. The systems shall integrate using Ethernet or other CapMetro-approved methods.			
3.10.2	The Onboard Technology Systems shall enable the following types of functionality: • Dispatcher-initiated functionality through integration with the Dispatch Management System; • Vehicle Operator initiated functionality through integration with the Dispatch Management system; • Automated functionality based on pre-programmed configuration and automated data inputs; • Maintenance Functionality; and • System Administration Functionality.			
3.11	Overt Alarm and Status Display			
3.11.1	The Operator Interface shall provide an Overt Alarm button that can be used to alert Dispatch to any alarm condition by the vehicle operator. The Overt Alarm shall be a lower priority than Covert Alarm, but higher than PRTT or RTT.			
3.11.2	The Contractor shall install and integrate a covert alarm switch mounted at a location that can be easily pressed by the operator in a discreet manner but unlikely to be accidentally activated.			
3.11.3	Vehicle vibration shall not activate the covert alarm switch.			
3.11.4	The Onboard System shall be equipped with a covert microphone having adjustable orientation and sensitivity.			
3.11.5	The Operator Interface shall detect if the covert alarm switch circuit is closed for at least one second and automatically send an alarm message to the Dispatch and place the Operator Interface into covert alarm mode.			
3.11.6	The Operator Interface shall allow Dispatch to activate audio transmission from the covert microphone but only after the vehicle operator has activated the covert alarm.			

3.11.7	The Operator Interface shall disable the receipt of voice calls or the sending/receiving of text messages while in the covert alarm state, but shall leave the RTT and PRTT buttons activated.			
3.11.8	Only Dispatch shall be allowed to terminate the covert alarm state once the covert alarm state has been activated.			
3.11.9	The Operator Interface shall periodically attempt to send the covert alarm message until it receives an acknowledgement message from the central system.			
3.11.10	The Operator Interface shall increase the frequency of vehicle location information polling to a configurable time when the covert alarm is activated.			
3.11.11	When the Operator Interface is in the covert alarm mode, there shall be no indication on the display other than subtle symbols or icons CapMetro approves, signifying that a Controller has accepted the covert alarm and CapMetro is monitoring the covert microphone.			
3.12	Other Onboard Equipment Control			
3.12.1	The system shall allow other onboard equipment to be managed through the Operator Interface, including: • Badge Reader • Farebox			
3.12.2	The system shall allow the following other additional functions: • Manual entry of load data by the operator • Sending a fareset code to the farebox			
3.13	Onboard Firmware Management, Diagnostics, and Troubleshooting			
3.13.1	The Onboard System shall monitor all integrated onboard equipment and alert the vehicle operator when any equipment is disabled or malfunctioning. The system shall log any faults as part of maintenance reporting.			
3.13.2	The system shall include functionality for the vehicle operator, through the Operator Interface, to identify the firmware version and see any available fault information in the event there are technical or other issues with any integrated onboard equipment. This information shall be automatically sent to Dispatch.			
4	Automated Onboard Functionality			
4.1	General			
4.1.1	The Vehicle Announcement system shall provide automated onboard announcement and messaging functionality based on various configurable pre-programmed			
4.2	Interior announcements and signage functionality			
4.2.1	The Vehicle Announcement system shall be integrated with the other Onboard Systems for real-time vehicle location, system time, vehicle operator ID and trip ID in order to allow for onboard announcements.			
4.2.2	The Vehicle Announcement system shall use the vehicle location information 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 before each stop location. For example, the trigger zone may begin 800 feet (243 meters) before a stop as well as at selected other announcement locations.			
4.2.3	The Vehicle Announcement Software shall pre-define trigger zones and download them to the controller over WLAN.			
4.2.4	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.			

4.2.5	As each fixed-route vehicle approaches a stop or other designated location, a digitally-recorded announcement shall be made automatically in English and Spanish languages over the existing on-board speakers and interior signs to inform passengers about upcoming stops, major intersections, and landmarks.			
4.2.6	The Vehicle Announcement system shall include functionality to generate the following messages and provide CapMetro the ability to prioritize the type of Vehicle Announcement messages being announced/displayed at any given time: • Internal audible and visible location-based announcements • Internal time-based (e.g., reoccurring scheduled message at a time interval) audible and visible customer service announcements; • Internal operator initiated audible and visible customer service announcements; and • Location-based customer service announcements.			
4.2.7	The location information announced/displayed shall provide the stop name and transfer opportunities.			
4.2.8	Time-based announcements and 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.			
4.2.9	Location-based announcements and displays shall be programmed to be made on-board the vehicle when that vehicle passes any designated location(s).			
4.2.10	Both audible and visible messages shall begin playing within one (1) second of being triggered.			
4.2.11	Automated announcements shall continue to operate normally when the vehicle is in silent alarm mode.			
4.2.12	The automated announcements/displays shall not be made if a vehicle is operating off-route. Once the route is reacquired, the system shall automatically determine and announce the next valid bus stop or other designated location.			
4.2.13	Off-route and on-route detection and recovery shall be automatic and not require vehicle operator intervention or action.			
4.2.14	Text Display			
4.2.15	The Vehicle Announcement system shall provide text announcements for configurable durations.			
4.2.16	As any fixed-route vehicle approaches a stop or other designated location, the Vehicle Announcement system shall provide a stored text announcement that triggers at the same time as the corresponding interior audio next stop announcements. Vehicle Announcement and text announcements can also be configured to operate independently.			
4.2.17	The Vehicle Announcement system shall provide stored text for location triggered, periodic or vehicle operator-activated announcements.			
4.2.18	The DMS shall be configurable by CapMetro to display the current date and time or the next stop when not displaying a triggered announcement.			
4.2.19	The Controller shall have the ability to send a free form announcement message to the Vehicle Announcement interior signage on one bus or a group of buses.			
4.3	Exterior Announcements Functionality			
4.3.1	The system shall include functionality to make exterior announcements when commanded by a vehicle operator, or in an automated manner when triggered by an internal discrete message, such as a door opening or closing.			

4.3.2	The external arrival announcements may be configured by CapMetro to repeat in a loop while the door is open. If on a repeating loop, the repeat interval shall be configurable by CapMetro.			
4.4	Exterior Signage Functionality			
4.4.1	The Onboard System shall use the logon data once the logon is completed to provide run and block data to the Vehicle Announcement system and begin the process of automatically sending display commands to the exterior signs based on schedule and vehicle location for fixed-route operations.			
4.4.2	The vehicle operator shall continue to be able to use all features of the existing headsign controller, regardless of whether the vehicle operator has logged into a run using the Operator Interface or whether the Operator Interface is operational.			
4.4.3	The system shall automatically display the appropriate overhead destination sign message(s) based upon the route/block of service the vehicle is logged on to perform.			
4.4.4	The onboard system shall allow operator or Controller override of destination sign code, and log such overrides.			
4.4.5	At an agency configurable distance before each trip starts, the system Operator Interface shall change the headsign message to display a message that CapMetro can configure.			
4.4.6	The Onboard System shall enable the command of exterior sign messages to be sent upon various conditions, including: • operating on deadhead from the garage to the first trip of the run. • operating on deadhead to the garage from the final trip of the run • operating on deadhead for interlining between trips in the course of a run • When the vehicle is logged into a "special" run • When the vehicle is logged into any run • When the vehicle is in overt or covert alarm mode			
4.5	"Stop Requested" Functionality			
4.5.1	The system shall include functionality to display a "stop requested" message on the DMS and make an audible "stop requested" announcement when a customer activates a stop request or wheelchair area stop request.			
4.5.2	If the stop request signal is received while another message is being displayed/announced, the Vehicle Announcement system shall show and announce the stop requested message after the current message is completed.			
4.5.3	Stop announcements and text will always have precedence over stop request announcements and text. If a stop announcement is triggered while a stop requested message is being displayed/announced, the stop requested message shall be interrupted by the stop announcement.			
5	Onboard Systems Integration			
5.1	General			
5.1.2	The Contractor shall provide and install all onboard systems to enable the functionality required for the Operator Interface, internal and external sign and announcement control, and to enable single logon to the farebox for common login, operating control, status indication and other integrated functionalities.			

5.1.3	The Contractor shall utilize communications cabling and connections compliant with Ethernet protocols wherever possible. Contractor may also use Society of Automobile Engineers (SAE) J-1939 or SAE 1708/1587 network standard interfaces when Ethernet based interfaces are not Vehicle Announcement Software reliable. The Contractor shall document the plan to migrate away from using non-Ethernet based interfaces wherever possible.			
5.2	Input Output Controller			
5.2.1	The IO Controller shall be a device physically separate from the Operator Interface for fixed route vehicles.			
5.2.2	The IO Controller shall act as the central processor, data storage, and device manager for all onboard devices.			
5.2.3	The IO Controller shall initialize and control all devices supplied under this contract, along with the destination sign, APCs and voice communications system.			
5.2.4	The IO Controller shall be a ruggedized device designed for use in a mobile environment, and shall utilize operating system software designed for that environment.			
5.2.5	The IO Controller shall be a commercially available ruggedized device running a commercially available OS.			
5.2.6	The IO Controller and Operator Interface will operate using the latest version of the OS, and the contractor shall demonstrate that the OS supplied will have a minimum of five years support remaining according to supplier information.			
5.2.7	The IO Controller shall allow for operator to reset the system without opening the equipment cabinet.			
5.2.8	The IO Controller and Operator Interface shall allow for remote reset and configuration without being on the bus or within Wi-Fi range.			
5.2.9	The IO Controller shall include physical ports, sufficient processing capacity, and storage capacity for all functions of the proposed onboard components.			
5.2.10	All storage for on-board devices shall be solid-state. No disks or hard drives shall be permitted, though removable memory cards will be permitted.			
5.2.11	The IO Controller shall include a standard port to connect an external portable computing device for manual data configuration using provided utility software.			
5.2.12	The IO Controller and Operator Interface shall turn on automatically when the vehicle power is turned on and shall shut down at an agency configurable time after the vehicle power is turned off.			
5.2.13	The IO Controller and Operator Interface shall automatically reboot after a fatal error. All such actions shall be automatically recorded in Operator Interface logs and shall not be overwritten until downloaded.			
5.2.14	Onboard equipment shall include hardware circuitry and software functionality to automatically reboot or restart an onboard device in the event of a software or hardware freeze, crash or process failure.			
5.2.15	The IO Controller shall use non-volatile memory so that regardless of the amount of time that power is lost onboard a vehicle, data stored in the IO Controller shall not be affected.			

5.2.16	The IO Controller shall include at minimum the following ports and interfaces: • One (1) opto-isolated SAE J1708 network interface; • One (1) opto-isolated SAE J1939 drivetrain interface; • One (1) opto-isolated controller area network (CAN) bus interface; • One (1) Ethernet interface; • Two (2) Universal Serial Bus (USB) interfaces; • Two (2) EIA-RS-232 or EIA-RS-485 serial interfaces; • Discrete contact interfaces as defined in this section; • Removable storage card interfaces; and • Other ports and interfaces as required for equipment operation, diagnostics and maintenance.			
5.2.17	Onboard equipment shall include hardware circuitry and software functionality to automatically reboot or restart an onboard device in the event of a software or hardware freeze, crash or process failure.			
5.2.18	The Contractor shall integrate the IO Controller with the current APCs onboard CapMetro's fixed route bus fleet, to enable APC data collection, onboard storage, and downstream APC data correlation with GPS and historical data.			
5.2.19	The Contractor shall describe their mechanism to integrate with existing APCs to store and send APC data to an operational datastore for further sending to CapMetro's current APC reporting system provider, UTA.			
5.3	Router Integration and Data Communications			
5.3.1	The CapMetro fleet is currently equipped with a mix of Sierra Wireless MG90 routers and XR90 routers ("Existing MGR"). The Existing routers are equipped with single or dual SIM card slots, but only one will be usable by the onboard system vendor.			
5.3.2	Contractors shall describe their ability to integrate with other Sierra Wireless routers in the future.			
5.3.3	The Contractor shall integrate with the Existing MGR to the on-board components provided by or functionally integrated by the Contractor, such that the Existing MGR is the primary communication pathway for wireless transmission of operational data between the fixed route vehicles and the central system.			
5.3.4	Wherever private CapMetro wireless local area network (WLAN) access is available (e.g. at yards), all data exchanged between the vehicle and central system shall be completed over WLAN connection, in order to minimize metered data charges. Contractor shall utilize the Existing MGR's Institute of Electrical and Electronics Engineers (IEEE) 802.11x Wi-Fi connection for this purpose provided by access points in the yard.			
5.3.5	Contractor shall utilize the Existing MGR's LTE cellular connection to transfer Onboard Systems data in a duplex manner from the vehicle to the central system, whenever the vehicle is outside the range of an CapMetro Wi-Fi Access Point.			
5.3.6	Contractor shall work with CapMetro to utilize and configure quality of service (QoS) management features on the Existing MGR to ensure that a minimum protected bandwidth is available for operational Onboard Systems uplink data, while the Existing MGR continues to service internet traffic for other data (e.g., camera system, and Bytemark fare system) via a single LTE cellular uplink connection.			
5.3.7	Each existing MGR deployed in CapMetro's fleet shall have a unique public facing IP address to uniquely identify each bus in the system, and shall support routing of traffic to/from a specific bus, and to/from a specific IP-addressable device on that bus.			

5.3.8	The Contractor shall use CapMetro's networking and security infrastructure that connects the Existing MGR to CapMetro's central system, rather than the public Internet.			
5.3.9	The Onboard Systems shall interface with the Existing MGR's control platform (AMM software) to provide the ability to monitor communication traffic and to temporarily suspend the one-way or two-way wireless data communication path. All data communications should be end to end encrypted.			
5.3.10	The Onboard Systems shall log and allow report generation on relevant details about each data transmission on at least the following: • A message's sender and receiver; • Message type; and • Follow-up action to a message, if applicable (e.g., acknowledgement, voice call from Controller).			
5.3.11	The Contractor shall provide the following statistics in their response to help determine the amount of metered operational data transmitted over the cellular network in megabytes (MB) per month per unit, based on their experience with similar systems: • Typical data transfer in MB required per hour of operation between the central system and fixed-route vehicles by message type (e.g. -canned message, location report) • Typical data transfer in MB required per hour of operation between the central system and supervisor/maintenance vehicle by message type (e.g., location reports)			
5.4	Voice Communications Controller Integration			
5.4.1	The Contractor's system shall integrate with CapMetro's future LCRA-provided radio sytem equipment as per "CoreCAD-VoiceComms requirements Section 2".			
5.4.2	If the Contractor's system utilizes the vehicle-level integration, the Contractor shall be responsible for all licensing, configuration, and integration with the CapMetro provided onboard voice radio.			
5.4.3	As a backup solution, the Contractor's system shall be capable of integrating with existing Harris M5300 radios. The pricing for this integration shall not be included as part of the Contractor's initial solution.			
5.5	Interior signage			
5.5.1	The Contractor shall provide all equipment to enable interior announcements and signage functionality described in this section, including: • Interior LED or LCD signage visible from any location within the vehicle.☐ • Public announcement amplifiers to control all interior speakers within the vehicle. • Integration with existing interior speakers within the vehicles.☐ The systems shall integrate using Ethernet or other CapMetro-approved methods.			
5.5.2	The Contractor shall describe the ability for the solution to integrate with the existing announcement and message dissemination equipment, including internal speakers and existing LED signs.			
5.5.3	The Contractor shall determine and implement any upgrades needed to meet requirements, upon CapMetro review and approval.			
5.6	Exterior signage			

5.6.1	The Contractor shall provide all equipment to enable exterior signage functionality described in this section, including: • Exterior headsigns mounted on the front of CapMetro vehicles • Side or rear signage mounted on the exterior of the vehicles. The systems shall integrate using Ethernet or other CapMetro-approved methods.			
5.6.2	The Contractor shall describe the ability for the solution to integrate with the existing announcement and message dissemination equipment, including headsigns and other exterior signage.			
5.6.3	The Contractor shall determine and implement any upgrades needed to meet requirements, upon CapMetro review and approval.			
5.7	Speaker system			
5.7.1	The Contractor shall provide all equipment to enable exterior announcements and signage functionality described in this section, including: • Public announcement amplifiers to control all exterior speakers within the vehicle. • Integration with existing exterior speakers in the vehicles. The systems shall integrate using Ethernet or other CapMetro-approved methods.			
5.8	Alarm Integration			
5.8.1	The Contractor shall provide, install, and integrate a physical covert alarm button across the CapMetro fixed route bus fleet to the IO controller.			
5.8.2	The covert alarm switch shall be mounted at a location that can be easily pressed by the operator in a discreet manner but unlikely to be accidentally activated.			
5.9	Badge Reader Integration			
5.9.1	The Contractor shall provide necessary hardware and software interface for enabling logon through operator badge .			
5.9.2	The logon through operator badge shall support both current magnetic swipe cards and future contactless cards utilizing proximity card, MIFARE Classic, and MIFARE DESFire standards.			
5.10	Farebox Integration			
5.10.1	The Contractor is required to interface with the current or future farebox over a standard connection (Ethernet preferred, or J 1708/1587) to enable single point logon for the vehicle operator. The single point logon shall negate the need for operators to logon to the farebox.			
5.11	Discrete Signal Integration			
5.11.1	The IO Controller shall monitor and log the following existing discrete external circuits: • Odometer; • All door contacts; • Battery status; • Kneeling function; • Lift or ramp deploy, and return from deploy (stow); • Bicycle rack use; • Stop request activation; • Headlight activation and deactivation; • Turn signals, activation and deactivation; • Hazard lights, activation and deactivation; • Master-run switch status and change in status (off, day-run, night-run, park); • Ignition, activation and deactivation; and • Covert alarm use.			

5.12	J1708/1939 and CANbus Integration			
	The IO Controller shall include physical and software interfaces or multiplexer modules to connect to the vehicle CAN(s) where needed to receive required discrete inputs.			
5.12.1				

6	Onboard Control Programming Software			
6.1	General			
6.1.1	The Contractor shall provide an onboard control programming software that provides the following functionality: • Announcement configuration functionality for all interior and exterior audio and visual announcements across fixed route bus and rail vehicles • Firmware management functionality for all integrated onboard devices • Data communications management functionality for all onboard devices that store data • Onboard device alerts, diagnostics, and troubleshooting functionality for all integrated onboard devices.			
6.2	Vehicle Announcement Software			
6.2.1	The Vehicle Announcement Software shall be installed centrally and be capable of remotely managing the Vehicle Announcement onboard equipment for all required modes.			
6.2.2	The system shall provide an integrated software package for preparing all information to be downloaded to the fleet, including the interior/exterior announcements, CapMetro's on-board signs, announcement trigger locations, and headsign trigger locations.			
6.2.3	CapMetro shall be able to download updates or changes to announcements before their effective service date. These updates or changes shall be accessible the first time a vehicle operator logs on for service for that effective date.			
6.2.4	Once approved by the administrator, the scripts shall disseminate to the vehicles via WLAN when within range.			
6.2.5	All Onboard Vehicle Announcement Equipment logs shall automatically upload to the central system via WLAN when the vehicle is within range.			
6.2.6	All Onboard Vehicle Announcement Equipment logs stored within the central software shall be accessible through the central software and shall be capable of export into standard formats including at minimum .txt, .csv, .doc, and .xls.			
6.2.7	Announcement File Preparation			
6.2.8	The Vehicle Announcement Software shall include a function to generate voice recordings for the Audio Annunciators using a text-to-speech (TTS) engine.			
6.2.9	The TTS engine shall support multiple voice engines, and also multiple languages including at least English and Spanish.			
6.2.10	The TTS voice engines shall support the use of punctuation, phonetic spelling, and pronunciation marks to create a more natural sounding recording.			
6.2.11	The Vehicle Announcement Software shall support separate fields for display string and pronunciation string (e.g. "Mount Vernon" and "Mount Vehr-Nun Street").			
6.2.12	The Vehicle Announcement Software shall provide software to create recorded message files in-house.			
6.2.13	The Vehicle Announcement Software shall be able to use professionally-recorded messages that use a designated file format.			
6.2.14	The Vehicle Announcement Software shall provide the ability to create announcement messages that concatenate selected portions of recorded message files with timed pauses and TTS segments.			
6.2.15	The Vehicle Announcement Software shall provide the ability to create the DMS display text associated with each announcement message.			

6.2.16	Parameters shall allow the software user to configure the following for announcements: • Repeat cycle for announcements (i.e. time interval between announcements); • Number of announcement repeats; • Maximum announcement duration; • Activation and deactivation trigger geofence; and • Announcement priority (e.g. interrupt, play prior to, or play after standard stop announcements).			
6.2.17	The Vehicle Announcement Software shall allow users to associate internal announcements to specific routes, stops, days, and time-of-day. The Vehicle Announcement Software shall further allow users to specify global parameters (e.g. all announcements as activated by trigger).			
6.2.18	The Vehicle Announcement Software shall allow users to store internal announcements in the onboard Operator Interfaces for activation on demand. The Vehicle Announcement Software shall allow users to map such announcements to applicable Operator Interface controls.			
6.2.19	The Vehicle Announcement Software shall allow users to generate ad-hoc announcements (audio and visual text display). Ad-hoc announcements shall be capable of distribution through the cellular data network to a vehicle(s), route(s), and geofence(s), if so configured by the user.			
6.2.20	The Vehicle Announcement Software shall allow users to be able to associate external announcements to specific routes, stops, days, and time-of-day. These announcements shall trigger when the operator opens the front door.			
6.2.21	The Vehicle Announcement Software shall allow users to trigger both ad-hoc and canned announcements text info from Dispatch instantly.			
6.2.22	Announcement Trigger Locations Configurations			
6.2.23	The Vehicle Announcement Software shall allow the announcement message files and associated DMS display text files to be linked with individual announcement trigger locations.			
6.2.24	The Vehicle Announcement Software shall provide a utility that allows the user to configure announcement trigger locations. Both activation and deactivation triggers shall be configurable.			
6.2.25	The Vehicle Announcement Software shall allow trigger locations to be adjustable on a global basis.			
6.2.26	The Vehicle Announcement Software shall allow trigger locations to be adjustable individually and in groups by specifying geofence parameters from a selected point(s). Points shall include stops, and locations a user-configurable distance before or after a stop(s).			
6.2.27	The Vehicle Announcement Software shall begin playing announcements within one (1) second of being triggered.			
6.3	Firmware Management			
6.3.1	The onboard control programming software shall enable CapMetro to remotely manage the firmware and configuration of all integrated devices.			
6.4	Data Communications Management			
6.4.1	The Contractor shall provide end to end IP network communications within and between the various CapMetro locations. Contractor shall work with CapMetro's IT/Networking group to verify that isolated virtual local area networks (VLANs) for Onboard Systems data backhaul are defined and implemented. CapMetro will work with the vendor to identify VLAN requirements.			

6.4.2	The end to end network communications shall enable data communications between revenue, non-revenue vehicles, the central servers, workstations, and other remote dispatching equipment within the identified locations.			
6.4.3	The software shall manage WLAN data transfers between all vehicles installed with Onboard Systems and the onboard control programming software.			
6.5	Monitoring, alerts, diagnostics, and troubleshooting			
6.5.1	As part of the pre-trip inspection, functionality shall be provided to test the various integrated systems. The system shall alert the operator and Dispatch of any fatal error condition that occurs during pre-trip tests.			
6.5.2	The integrated systems supplied by the Contractor shall include self-diagnostic capabilities and shall log every error condition.			
6.5.3	The system shall record all integrated systems faults and errors and display error conditions on the Operator Interface. The system shall log any faults as part of maintenance reporting.			
6.5.4	The system shall allow Dispatch to disable integrated systems on a single bus or a group of buses in the instance of a specific malfunctions or errors.			

S. No.	Central Management Systems Requirements	Vendor Response	Vendor Notes	CapMetro Notes
1	Overview			
1.1	The Dispatch Management system shall provide: •Scheduling and Workforce Management Data Exchange Functionality (Section 2) •Basemapping and GIS Data Import Functionality (Section 3) •User Interfaces for stationary workstations, mobile laptops or tablets, and remote system access (Section 4) •Dispatch Management Functionality (Section 5) •Data Feeds and Application Programming Interfaces (Section 6) •Business Intelligence, Reporting, and Dashboards Functionality (Section 7)			
2	Dispatch Management Functionality			
2.1	The Dispatch Management functionality shall include: •Vehicle Logon Verification (Section 5.2) •Vehicle Location Tracking (Section 5.3) •Route and Schedule Adherence Tracking (Section 5.4) •Service Management Adjustments (Section 5.5) •Detour Management (Section 5.6) •Headway Management (Section 5.7) •Data Messaging (Section 5.8) •Announcement Management (Section 5.9) •Alarm Management (Section 5.10) •Vehicle Playback (Section 5.11) •Incident Management (Section 5.12) •Maintenance Reporting (Section 5.13) •Wireless Data Exchange Management (Section 5.14)			
2.2	Vehicle Logon Verification			
2.2.1	The system shall receive and validate a logon request from an Vehicle Operator Interface Device, if the vehicle operator ID and run/block ID are valid and not already logged in on another Vehicle Operator Interface Device.			
2.2.2	The system shall update the list of valid operator credentials through importing a standard CapMetro "List of Operators" file in .csv format. CapMetro will provide the Contractor with a sample "List of Operators" file for the purposes of integration with the Dispatch Management software.			
2.2.3	The system shall allow Dispatchers to manually logon/logoff operators onto vehicles and runs.			
2.2.4	The system shall allow vehicle operators to log on to a vehicle to operate service that was assigned to another vehicle operator, or to supplement service if more vehicles are needed on a particular day or event.			
2.2.5	The system shall receive and immediately process a logoff message from an Vehicle Operator Interface Device.			
2.2.6	The system shall provide a pull-in/pull-out summary display for Dispatchers that can be sorted by status of lateness, depot, vehicle ID, operator number, and first and last name.			
2.2.7	The system shall notify Dispatch of the following types of vehicle status exceptions: • Vehicle movement when not logged on • Logon request that is not unique or authentic • Late vehicle pull-out			
2.2.8	Operator and vehicle assignments shall update as operators logon/logoff their vehicle's Vehicle Operator Interface Devices either directly or by Dispatcher action (manual logon/logoff).			

2.3	Vehicle Location Tracking			
	The system shall be able to process and provide real-time location and mapping of revenue and non-revenue vehicles (e.g. supervisor vehicles). The system shall receive location reports from revenue and non-revenue vehicles after a time period CapMetro configures has passed after receiving the last location report. The location reporting interval shall be configurable to at least every 5 seconds.			
2.3.1				
2.3.2	The system shall provide access to all vehicle location tracking functions through the map-based and schematic interface.			
2.3.3	The system shall indicate any vehicle that is not reporting its status and location within a configurable time period.			
2.3.4	The system shall receive and store latitude and longitude information stamped with date, time, vehicle, vehicle operator, run, route, and trip information from Vehicle Operator Interface Devices.			
2.3.5	The Dispatcher shall be able to center a map view on a vehicle, or track a vehicle by: • Selecting the vehicle on the map display; • Entering the block, vehicle, operator ID, or route; • Selecting the vehicle from a list of vehicles; • Selecting a communication event/message; • Selecting the operator from a list of operators; and • Selecting the block from a list of blocks.			
2.3.6	The Dispatcher shall be able to choose what label(s) vehicle points on the map view will display including vehicle number, block number, route number, and/or vehicle operator number.			
2.3.7	The display shall provide an indication if the last reported location being displayed is older than the reporting interval. If a vehicle's location on the AVL map is shown to be older than a minute, the system shall let the Dispatcher manually poll/locate a vehicle.			
2.3.8	The system shall receive and store information related to event types and event data with event-triggered automatic location reports. Event types that trigger location reports shall include, at a minimum: • Location and schedule/route adherence reports; • Text and pre-defined messaging; • Data upload and download; • Software updates; • Device parameter changes; • Onboard device status, changes, and error reports; • System ignition/shutdown; • Operator log-on/off/over; • Arrival/departure at stop and time-point; • Start and stop motion; • Door open and close; • Destination sign changes; and • Onboard logs and alerts from the Vehicle Operator Interface Device.			
2.3.9	The system shall reconcile all data received from vehicles through location and schedule adherence reports with the detailed information downloaded from the Vehicle Operator Interface Device after the vehicle returns to its storage depot to ensure data integrity in the event that some reports are not received at central.			
2.3.10	The system shall store the vehicle's last known location as received from that vehicle, even after an Vehicle Operator Interface Device has been shut down.			
2.3.11	The system shall alert the Dispatcher via the display map and popup with crowding information based on a user or system adjustable threshold			
2.4	Route and Schedule Adherence Tracking			
2.4.1	The system shall provide access to all route and schedule adherence tracking functions through the GUI.			

2.4.2	The system shall utilize trip-based timepoint arrivals and scheduled headway as imported from Trapeze FX for the purposes of determining schedule adherence.			
2.4.3	The system shall receive automatic route and schedule adherence reports from vehicles at identified time points and at a rate of at least once every 5 seconds as configured by CapMetro. Reports shall be stamped with date, time, stop, vehicle, block, operator, run, route, trip, latitude, and longitude from Vehicle Operator Interface Devices.			
2.4.4	The system shall have the ability to account for temporary mid-board changes in route and schedule adherence tracking (e.g. in the case of a detour or service curtailment) for any given route or portions of a route and for groups of vehicles as defined by the Dispatcher.			
2.4.5	Based on thresholds that CapMetro staff configures, the system shall use the reported schedule adherence data to designate when vehicles are "early," "late," or "on time." The system shall provide a separate CapMetro configurable "late" parameter specifically to support TSP and other needs (e.g. no late thresholds for free running time points by direction for Express Services).			
2.4.6	The system shall provide an alert to Dispatch for vehicles that are "early" or "late".			
2.4.7	The system shall provide an alert to Dispatch for bunching vehicles; the threshold parameters shall be configurable by the system administrator.			
2.4.8	Based on thresholds that CapMetro staff configures, the system shall designate when vehicles are deemed off-route.			
2.4.9	The system shall generate off-route message for vehicles deviating from routes by a configurable distance. There shall also be a tool that allows the system to receive detour and alternate route information that prevents the off-route notification when a bus is on the detour or alternate route.			
2.4.10	The system shall display schedule and route adherence, gapping/bunching, headways, and status by route and allow "drill-down" selection by Dispatcher to view associated vehicles.			
2.4.11	The system shall highlight the vehicle IDs of those vehicles that are operating early, late, or off-route, using tabular and map displays to indicate their current schedule and route adherence status to the Dispatcher. The tabular display entries and the map display symbols for these vehicles shall use distinct and configurable color codes for early, late, and off-route status.			
2.4.12	The system shall provide a real-time output of the current location and the schedule adherence for all fleet vehicles for the next stop prediction software's use. The Contractor shall document and provide CapMetro with the communications protocols, command sets, and message formats used in this interface.			
2.4.13	The system shall allow for a global change to an alternate set of behind/ahead of schedule threshold parameters and headway threshold parameters (e.g. in the case of inclement weather). The alternate set of threshold parameters shall be configurable by the system administrator.			
2.4.14	The system shall provide the ability to disable route and/or schedule adherence tracking temporarily for a route or route segment.			
2.4.15	The system shall flag buses when "out-of-service" to avoid triggering schedule adherence alerts.			

2.5	Service Management Adjustments			
	The system shall include management for a series of standard service restoration/correction functions including: • Detour: Activate predefined detours for service routes; • Ad-hoc Detour: Create short term detours for accidents/incidents and events; • Delete/Add a Trip: Delete or add trip to a block to adjust service levels; • Replace a Vehicle/Operator: Assign a replacement vehicle and/or operator to take over service from a scheduled block that cannot continue for any reason; • Skip Stop: Notify an operator to bypass a series of stops to restore headways, with the ability to identify and log the starting and stopping point for the skip stop measure; • Drop-off Only: Notify or approve an operator to serve alighting passengers only; and • Initiate headway management instead of schedules: The headway mode will automatically evenly distribute the vehicles on the route. This function shall communicate the revised "schedule adherence" to all affected vehicles.			
2.5.1				
2.6	Detour Management			
2.6.1	The Contractor shall describe the capabilities in their systems to manage detours in real-time. CapMetro prefers a map-based interface for creating and modifying detours.			
2.6.2	The Contractor shall describe the capabilities in the system that allow route and schedule adherence in the event of a detour.			
2.6.3	The system shall allow Dispatchers to create a detour by designating road segments and stops to define the Trip Pattern, and indicating at which existing stops the detour connects with a scheduled Trip Pattern.			
2.6.4	The system shall automatically create a detour shape file connecting the start and end existing stops following the designated road segments and stops.			
2.6.5	The system shall allow Dispatchers to specify a start date and time and an end date and time for a detour. By default, the Central system shall indicate the detour to start at the current date and time, and end at the end of the current operating day.			
2.6.6	The system shall allow Dispatchers to specify which blocks shall use the detour. Detoured blocks shall be recorded in the Central system as an appropriate status, with the start and end time of the detour recorded as an event.			
2.6.7	The system shall allow Dispatchers to modify blocks by designating stops as inactive or by reassigning or removing vehicles from certain blocks.			
2.6.8	The system shall allow Dispatchers to configure automatic notifications to blocks affected by a detour, including the routing and active stops and to a configurable email list.			
2.6.9	The system shall save the routing and active stops of all created detours for future use.			
2.6.10	The system shall provide Dispatchers with a list of previously created detours for use as a template by scheduling the start and end.			
2.6.11	The system shall allow Dispatchers to designate where vehicles are to short turn.			
2.6.12	The system shall allow users to modify the routing and active stops of a selected detour template and save this as a new detour template.			
2.6.13	The system shall allow Dispatcher to indicate that a bus stop is not in service, and have that information propagate to all routes and lines serving that stop.			
2.6.14	Dispatch initiated service adjustments shall be able to prompt the Vehicle Announcement Software system to disable stop announcements, or may trigger modified announcements to support out of service stops.			
2.6.15	All Dispatch service adjustments shall be logged and disseminated to the CapMetro's Customer Information Center, predefined e-mail groups, and other staff. Information dissemination triggers, timing, and staff to be contacted will be configurable by CapMetro.			

2.6.16	For all Dispatcher service adjustments, lost service miles and hours shall be calculated and stored for later reporting. Lost service and miles shall be displayed to Dispatch.			
2.7	Headway Management			
2.7.1	The Contractor shall provide a display to visualize routes and vehicles that are operating based on headway.			
2.7.2	The display shall visually show geographic location of each vehicle on a route along with timepoints and shall allow Dispatchers to take necessary actions to avoid bunching and spacing.			
2.7.3	The visual interface shall allow Dispatchers to communicate necessary actions to vehicle operators to hold, depart, slow down or speed up for managing headways.			
2.8	Data Messaging			
2.8.1	The system shall support data (text) messaging functionality to communicate with vehicle operators.			
2.8.2	The system shall transmit and receive data messages as large as at least 254 ASCII characters.			
2.8.3	The system shall transfer messages between a Dispatcher workstation and the cellular data gateway within one second.			
2.8.4	The system shall allow the Dispatcher to view received data messages in a tabular display that also indicates the vehicle ID and the time of the message.			
2.8.5	The system shall allow the Dispatcher to send a message to a single Vehicle Operator Interface Device, a predefined group of Vehicle Operator Interface Devices, all Vehicle Operator Interface Devices within an area selected on the map display or all Vehicle Operator Interface Devices operating on the same route, and all Vehicle Operator Interface Devices.			
2.8.6	The system shall allow the Dispatcher to select one of a set of predefined messages (canned data messages) or enter a free text message.			
2.8.7	The system shall store of at least 50 canned data messages for Dispatcher use. Canned text messages shall be configurable by the system administrator.			
2.8.8	The system shall allow CapMetro's staff to add, edit, delete, or reorder the listing of canned data messages to be stored on Vehicle Operator Interface Device.			
2.8.9	The system shall store recently sent messages (canned or free text) available for the user to easily select from.			
2.8.10	The system shall indicate when a data message has been viewed by the operator (i.e. a read-receipt).			
2.8.11	The system shall allow for any message sent by Dispatch to be flagged as requiring vehicle operator acknowledgement, a Y/N response and shall allow the Dispatcher to view a list of such messages that have not yet been acknowledged. The system shall automatically resend messages that have not been acknowledged.			
2.8.12	The system shall allow for triggered, automatic messages. Automatic message triggers shall be defined by: • Time of day; • Trigger location; and • Trigger boundary (i.e. enclosed area).			
2.8.13	Triggered automatic messages shall be further configurable by identifying that they be sent when a vehicle starts specified; • Route(s); • Trip(s); and • Block(s).			
2.8.14	Triggered automatic messages shall be used to notify operators of route changes, detours, or special announcements. Regardless of whether or not the message requires a response from the operator, there shall be a notification to the Dispatcher if the message was not delivered to the vehicle or not viewed by the operator for some configurable time period after login.			
2.8.15	The system shall indicate the status (i.e. successful, failed, or pending) of sent messages in the message queue.			

2.8.16	The system shall indicate when a data message has been received by the Vehicle Operator Interface Device.			
2.8.17	The system shall be configurable to allow for audible and visual alerts for incoming messages.			
2.8.18	The system shall receive data messages from operators. Unviewed messages shall be clearly distinguished in the GUI.			
2.8.19	The system shall allow the Dispatcher to reply to a message in the queue.			
2.8.20	When a Dispatcher receives a message, the system shall display the route, block, vehicle, vehicle ID, operator's name, employee number, location, schedule adherence, status, and time.			
2.8.21	Messages shall be displayed in a priority order. Messages shall have a minimum of five levels of priority based on the following definitions: • Non-critical messages – Priority 5 (lowest); • Routine messages representing typical day-to-day operational messages that may be transmitted back and forth – Priority 4; • Critical messages that may include requests for service or transfer connection protection – Priority 3; • Emergency alarms or messages such as requests for medical assistance or notification of an incident – Priority 2; and • Covert alarm – Priority 1 (highest).			
2.9	Announcement Management			
2.9.1	The Dispatch Management system shall provide Dispatch with the ability to remotely send interior announcements in real-time to selected vehicles. The list of selected vehicles shall be generated by allowing the selection of specific routes, directions, geospatial region through which vehicles traverse.			
2.9.2	The AVA system shall have the ability to play both human-recorded and text-to-speech audio files.			
2.9.3	The Contractor shall supply all text-to-speech software and any other software/hardware required to record or generate audio messages for the AVA.			
2.10	Covert Alarm Management			
2.10.1	When a covert alarm signal is received from a vehicle, the central Dispatch Management system shall display the event in the performance queue to all Dispatchers, using CapMetro approved visual and audio alerting methods, and the system shall monitor that vehicle continuously until otherwise specified by Dispatch.			
2.10.2	The Dispatch Management system shall notify the Dispatcher in the performance queue that a silent alarm message has been received using a CapMetro approved visual interface. There shall also be a CapMetro approved audio notification method, which CapMetro shall be able to configure as on or off.			
2.10.3	When acknowledging a covert alarm, the system shall zoom and center the map display on the alarming vehicle and locate the nearest Road Supervisor vehicle when selected by Dispatch. The scale for the zoom shall be configurable by CapMetro.			
2.10.4	Activation of a covert alarm shall place the vehicle in a priority status for frequency of location and message updates which will result in vehicle location and status updates at a more frequent rate. The frequency of the location report interval shall be configurable by CapMetro.			
2.10.5	Once one of the Dispatchers selects the covert alarm event, this shall be indicated to that Dispatcher and other authorized staff.			
2.10.6	Once a Dispatcher has selected the covert alarm event, the Dispatcher shall be able to opt whether to monitor the covert microphone audio.			
2.10.7	The Dispatcher can opt at any time to end the covert microphone monitoring or the overall covert alarm event.			
2.10.8	The system shall send signals back to the Vehicle Operator Interface Device that generated the alarm when a Dispatcher has selected the event, when covert microphone monitoring has started or ended, and when the event has been ended.			

2.10.9	During a covert alarm event, the system shall not allow Dispatchers to initiate voice calls with the vehicle or send a text message, but all other location/performance monitoring and the ability to receive an RTT/PRTT signal shall remain operational.			
2.11	Playback			
2.11.1	Authorized CapMetro staff shall be able to review the chronological sequence of reported locations for a specified vehicle(s) or route(s) over a specified time period.			
2.11.2	All users accessing the Dispatch Management system including workstation users, remote access users and mobile access users shall be able to access the vehicle playback function.			
2.11.3	The system shall provide a visual appearance while using the vehicle playback function similar to that of the live system. CAD software shall be able to provide playback function without interrupting live CAD functions.			
2.11.4	The playback data shall include location reports, schedule and route adherence status and all messaging (time point crossings, RTT, canned messages, APC, etc.).			
2.11.5	The system shall allow replay for a single vehicle, selected set of vehicles or all vehicles on the selected map view for selected time period.			
2.11.6	The system shall allow replay for a single route, selected set of route or all routes on the selected map view for selected time period.			
2.11.7	The system shall allow selection of any time period for the historical data stored in the database.			
2.11.8	The system shall provide controls to view the entire sequence of reported locations from the beginning of the time period.			
2.11.9	The system shall provide controls to step incrementally forwards or backwards through the entire sequence of reported locations over the selected time period.			
2.11.10	The system shall, when designated, store vehicle playback in a video file format that can be exported for viewing on a different computer equipped to view such files using a standard video file format such as .avi or .mpg.			
2.11.11	The system shall be able to export a still image of the vehicle playback view as a .pdf, .jpg, or .png.			
2.11.12	Any exported video or still image vehicle playback export shall indicate for each vehicle icon the vehicle and operator number as well as the date and time.			
2.12	Incident Management			
2.12.1	The Dispatch Management system shall include an Incident Management module that enables CapMetro staff to create and manage incidents.			
2.12.2	The Incident Management module shall enable both manual incident creation and automated draft incident creation based on API data received from other subsystems, including the Dispatch Management System.			
2.12.3	The Incident Management system shall include both a workstation friendly and responsive UI that is accessible by CapMetro staff using smartphones, cellular-equipped tablets, or ruggedized laptops.			
2.12.4	The Dispatcher shall be able to initiate an incident/event by: • Selecting an incident/event generation function via hotkey, drop down menu, or button on a toolbar; • Selecting an incident/event generation function in relation to a particular vehicle from the AVL map or message queue, with the appropriate CAD available information populating the incident/event automatically; • Selecting an incident/event generation function from a vehicle list, block table, or stop list display with the appropriate CAD available information populating the incident/event automatically; and • Automatic incident/event generation when certain CapMetro-configurable CAD events (i.e. covert alarms) occur.			
2.12.5	The system user shall be able to select an event to form the basis for an incident report, with the incident report form auto-populated with all information already known in the system about the event.			

2.12.6	The system shall generate a unique, progressive identification for each incident/event regardless of re-booting the system. No incident/accident identification number shall be repeated.			
2.12.7	The Dispatcher shall be able to center and quickly locate a vehicle on a map once an incident is generated.			
2.12.8	There shall be one central incident/accident report accessible from a server so everyone sees the same current report information, but only one instance of the report can be open at a time for editing.			
2.12.9	The system shall allow authorized users to append to an existing open incident report, with other system users limited to read-only access.			
2.12.10	The open incident report shall display the vehicle status relating to the incident.			
2.12.11	The system shall provide a summary display for all active incidents for that operating day.			
2.12.12	The user shall be able to select from a list of currently open incident reports that can be sorted by date/time, incident type or initiating Dispatcher. The open incident report shall be repeatedly accessed and modified, until it is marked closed after which further modifications shall not be possible, unless by authorized personnel with specific authorization to do so.			
2.12.13	The users shall have the ability to attach files, such as an image file, to the incident report.			
2.12.14	The system shall be able to set limits on which users can open, modify or close incident reports.			
2.12.15	The system shall ensure that all incidents are assigned to a Dispatcher for response.			
2.12.16	The system shall track the user and date/time when the incident report is opened, modified or closed.			
2.12.17	The system shall allow authorized users to close an existing open incident report. The user shall be able to select from a list of currently open incident reports, which can be sorted by date/time, incident type or initiating Dispatcher. The user shall be asked to confirm the selected incident report before the incident is closed.			
2.12.18	Immediately upon closing an incident report, it shall be available for review by other users.			
2.12.19	The incident report database shall indicate, for each incident report, the date/time of opening the report, the incident type, the initial incident text, the initiating Dispatcher, the date/time of each subsequent modification, each modified version of the text, the modifying Dispatcher, the date/time the incident was closed, and the closing Dispatcher.			
2.12.20	The system shall allow the Dispatcher to forward specific incident types to distribution groups via e-mail and text to cell phone numbers. Types of incidents and distribution groups shall be configurable by CapMetro.			
2.13	Maintenance Reporting			
2.13.1	The system shall obtain pre-trip and post-trip inspection reports from the on-board Vehicle Health system in real-time over CapMetro's wireless network.			
2.13.2	Based on the pre-trip and post-trip inspection reports, the system shall generate alerts for the authorized staff based on defined thresholds.			
2.13.3	The software shall provide standard reports based on the Vehicle Health system data. The Contractor shall provide details in their proposal related to reports that are offered and degree to which they can be configured			
2.13.4	The software shall have the capability to generate reports based on exceptions as per Vehicle Component Monitoring thresholds set by CapMetro staff.			
2.13.5	The Vehicle Health system shall have a reporting feature, capable of generating the following reports, at a minimum: • Vehicle maintenance alerts for selected vehicle(s); and • Selected vehicle maintenance alerts for all vehicles.			
2.13.6	In addition to the standard reports, the Contractor shall provide 10 custom reports.			

2.13.7	The Vehicle Health system shall allow for CapMetro to specify the automation of reports and the distribution of said reports to various subgroups.			
2.13.8	All report shall have the capability to export information into a common analysis and text editing software such as Microsoft Excel and Word.			
2.14	Wireless Data Exchange Management			
2.14.1	The system shall be interfaced with the wireless data exchange Software, to allow the system to exchange data over the WLAN with vehicles			
2.14.2	The system shall allow files to be set up so that they will be automatically downloaded to vehicles when they connect with the WLAN, including a mechanism to avoid repeating a download to a vehicle that has already previously received it as well as to determine once all vehicles have received the download.			
2.14.3	The system shall automatically receive from vehicles once they connect to the WLAN any files they have ready for upload, including a mechanism to avoid repeating an upload from a vehicle that has already previously provided it.			
3	User Interfaces			
3.1	The Dispatch Management System shall include context-specific User Interfaces for at least the following: • Stationary workstation usage by dispatchers • Mobile laptops and/or tablet based usage by street supervisors or mobile dispatchers, and • Remote system access			
3.2	Station Workstation UI			
3.2.1	The system shall use typical MS Windows-style graphical user interface (GUI) conventions including but not limited to resizable windows, point and click, right click context menus, drop-down menus, toolbars, color displays, icons, drag and drop, scroll bars, scroll wheel mouse and status bars.			
3.2.2	The GUI shall support all windows functions such as concurrent display of multiple windows, including map display windows or tabular windows, paging, scrolling.			
3.2.3	The GUI shall support repositioning and resizing each window as desired to present the maximum amount of useable information.			
3.2.4	The system shall support mouse and keyboard inputs with all key features supported by keyboard shortcuts.			
3.2.5	The system shall provide easy-to-read displays when the user is situated a standard distance from the display (i.e. 20/20 vision at a distance of three (3) feet).			
3.2.6	The system shall save all user preferences by user logon so that users may access their saved preferences from any CAD workstation.			
3.2.7	All windows with non-paging data shall open and populate within three (3) seconds.			
3.2.8	All windows with paging data shall open and initially populate within three (3) seconds and thereafter, any updates shall result in page population within one (1) second.			
3.2.9	Movement (e.g. panning, zooming, scrolling) through GUI displays shall update within one (1) second.			
3.2.10	Dragging of the cursor bar for a scrollable list shall cause instantaneous redisplay of the list in time with the movement of the cursor bar.			
3.3	Mobile Access			
3.3.1	The Contractor shall provide technical requirements for ruggedized laptops or equivalent mobile hardware such as tablet to allow remote mobile access for supervisor vehicles to the Dispatch Management system over a cellular data connection. CapMetro shall procure the hardware. The Contractor will provide system, installation, and integration assistance for the supervisor vehicles including necessary equipment for docking stations and connectivity for laptops/mobile devices.			
3.3.2	The Contractor shall provide an unlimited number of licenses for this mobile access. Software licenses shall be transferable between laptops and shall not be specific to a user.			

3.3.3	The Contractor shall provide a copy of the software, and sufficient documentation and instructions for installing the software such that CapMetro staff can perform the installation in the event of a laptop replacement. The Contractor shall provide the minimum system requirements necessary for the laptop to operate the software. If a tablet-based remote dispatching application is proposed, the Contractor shall coordinate with CapMetro on configuring tablet devices for specific mobile device management requirements.			
3.3.4	The Dispatcher shall be able to view the location of portable vehicles equipped with mobile laptops on Dispatch Management map views; in addition to fixed-route vehicle locations.			
3.3.5	When in operation, the mobile laptop shall update its position every thirty (30) seconds.			
3.3.6	Software functions and views to be displayed on the mobile laptop shall be configurable by CapMetro's staff and shall provide Dispatch Management functionality similar to the central site CAD.			
3.4	Remote Access			
3.4.1	The Contractor shall provide remote access to the Dispatch Management system to customer service, maintenance, supervisors for off-site dispatching, staff at transit centers, and other authorized CapMetro staff.			
3.4.2	For site installation approach, the Contractor shall describe their approach for remote connectivity (e.g., Citrix ICA protocol, and Microsoft RDP)			
4	Scheduling and Workforce Management Data Exchange			
4.1	The system shall provide: • Scheduling Data Import Functionality (Section 2.2) • Workforce Management Data Exchange Functionality (Section 2.3) • Vehicle Tracking Interface for External Systems (Section 2.4)			
4.2	Scheduling Data Import Functionality			
4.2.1	The system shall have the ability to independently import scheduling data as part of an automated procedure with the central system checking for files or views in a predetermined directory, or database table, or as a real-time service (service oriented architecture). CapMetro's current scheduling data system is Trapeze FX, and data can be provided in a Trapeze Schedule Data Export (TSDE) format as well as other formats such as enhanced GTFS data format and potentially ODS data (which is in development) in the future.			
4.2.2	The imported data will include stops, timepoints, combined stop/timepoints, routes, route traces, route variants, patterns, blocks, trips, timetables, service calendars, day types, service types, exceptions, and other relevant schedule data for purposes of supporting Dispatch Management and functions.			
4.2.3	The system shall be able to force a manual import of scheduling data which can be activated based on permissions.			
4.2.4	The system shall perform a series of internal consistency checks on imported data and shall generate logs and alarms should errors be found or scheduled import is missing with automated warnings to CapMetro System Administrators. Internal consistency checks will be performed on imported data prior to using the data in active or production modes for the system.			
4.2.5	Any faults or errors that occur during the automatic conversion or transfer of data either within internal subcomponents of the central system, or from external data sources to internal subcomponents, shall be logged and an error message/alert will be generated by the system.			

4.3	Workforce Management Data Exchange Functionality			
	The system shall be interfaced with CapMetro's Workforce Management System to provide the following functions: • Real-time updates on operator schedule as available in the Workforce Management System • Real-time updates on vehicle assignments as available in the Workforce Management System • Real-time updates on work performed by operators as recorded by the Dispatch Management system to generate in the Workforce Management System for reporting on payroll hours CapMetro's current Workforce Management System is Trapeze OPS.			
4.3.1				
4.3.2	Data exchange between CapMetro's Workforce Management System and Dispatch Management system shall be automated and shall not require any manual intervention from CapMetro staff.			
4.4	Vehicle Tracking Interface for External Systems			
	The system shall have the capability to receive, store, and display vehicle location data received from multiple external systems (e.g., ridehail services). Contractor shall provide documentation regarding the standardized data interface formats (GTFS-realtime, SIRI, or other standards) and retrieval mechanisms supported by the Dispatch Management system for the external vehicle tracking data.			
4.4.1				
	The system shall support multiple methods for receiving the external vehicle tracking data interface feeds, including: • Direct integration through a client-server mechanism (such as through APIs) • Data retrieval mechanism where a standard format file is located at an identified URL			
4.4.2				
5	Basemapping and GIS Data Import Functionality			
	The Contractor shall use base geographic data necessary for the on-board and central system base maps. If route/variation and stop data provided by CapMetro is being used, the Contractor shall verify the data by physically driving those routes.			
5.1				
	The system shall include mechanisms to allow for periodic independent updates by CapMetro to built-in maps in the central and on-board systems. These updates shall be provide using CapMetro's ESRI system as standard mapping data exports.			
5.2				
	CapMetro shall be able to edit and update map layers used in vendor provided GIS modules using the CapMetro ESRI GIS system. As an alternative, the Contractor shall provide the cost and details of the geographic information system (GIS) editing software as needed as part of the proposed solution for maintenance of built-in GIS maps.			
5.3				
	The proposed software shall incorporate maps to support the functionality, comprised of a selection of individually selectable theme layers (e.g., streets, street names, water features, parks, major buildings).			
5.4				
	The GIS editing software shall allow CapMetro 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, stop locations), with the color, shape and thickness being selectable.			
5.5				
	The built-in GIS module in the proposed software shall allow users to view the map at various user-selected zoom levels.			
5.6				
	The built-in GIS module in the proposed software 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).			
5.7				
	The built-in GIS module shall allow CapMetro system users to save and reload a map view in the AVL window.			
5.8				
	The system shall include mechanisms to accept real-time traffic or event based roadway conditions			
5.9				

6	Data Feeds and Application Programming Interfaces			
6.1	The system shall provide, at a minimum, the following data feeds and application programming interfaces (APIs): • Schedule Information Data Files (GTFS) (Section 6.2) • Real-time Information Data Feed (Section 6.3) • Dispatch Management Data API (Section 6.4) • Maintenance Data API (Section 6.5)			
6.2	Schedule Information Data Feed (GTFS)			
6.2.1	The Dispatch Management system shall export schedule data in General Transit Feed Specification (GTFS) format. The GTFS documentation is available here: https://github.com/google/transit/tree/master/gtfs/spec/			
6.2.2	The GTFS dataset shall be designed in accordance with GTFS Best Practices per the following URL: https://gtfs.org/best-practices/			
6.2.3	Proposers shall describe their approach to maintaining compliance with GTFS Best Practices.			
6.2.4	The exported data (hereinafter referred to as the <i>'GTFS dataset'</i>) shall include all the required GTFS files as well as optional files designated by the agency as part of the design review process.			
6.2.5	For each GTFS file, the GTFS dataset shall include all the required fields as well as optional fields designated by the agency as part of the design review process.			
6.2.6	Proposers shall describe their approach to updating their GTFS data in order to incorporate experimental (i.e. not part of current version of formal GTFS specification) or agency-specified files and fields.			
6.2.7	The Contractor shall verify that the exported GTFS datasheet shall result in zero (0) critical warnings when tested using the Google-provided schedule validator.			
6.2.8	All data generated by the GTFS Schedule Module including the GTFS dataset shall be the property of the agency. The agency shall have the right to store and use this data, and provide it to third-parties. CapMetro shall be provided a perpetual and royalty free license for access to the GTFS dataset including the right for CapMetro to provide the data to third-party contractors of other software for integration purposes.			
6.3	Real-time Information Data Feed			
6.3.1	The Dispatch Management system shall be capable of generating and outputting the real-time vehicle location information through GTFS-real-time feeds. The GTFS-real-time documentation is available here: https://github.com/google/transit/tree/master/gtfs-real-time The Dispatch Management system shall generate and output the following GTFS-real-time feeds: • Vehicle positions; • Trip updates; and • Service alerts			
6.3.2	The Vehicle Positions feed shall include: • Locations for all vehicles in service; and • Status of a vehicle with respect to which stop it is stopped at, incoming at, or in transit to (i.e. current status field).			
6.3.3	The Trip Updates feed shall include: • Information about trip additions and cancellations (i.e., schedule relationship field at the trip-level); and • Information about skipped stops (i.e., schedule relationship field at the stop-level).			
6.3.4	The Service Alerts feed shall include, for all current and future service alerts, the following: • Header and description; • Cause and effect; • Active period(s); • Affected entities including agency, route, mode, trip and stop; and • A uniform resource locator (URL), where entered.			

6.3.5	The Service Alerts feed shall include all of the latest service alerts entered by Dispatchers through the Dispatch Management system.			
6.3.6	The Service Alerts feed shall incorporate alerts that are categorized by at least the following entity types: • route; • trip; and • stop. Recipients of the Service Alerts feed shall be able to identify if certain Service Alerts are associated with only specific routes (in the case of route entity identification), only specific trips (in the case of trip entity identification), only specific stops (in the case of stop entity identification), or some combination of these.			
6.3.7	The Dispatch Management system shall update the GTFS-real-time data feeds 1) immediately after new content is available, OR 2) every 10 seconds, whichever is more frequent.			
6.3.8	The GTFS-real-time data feed shall be designed to be consistent with the Dispatch Management System's GTFS data.			
6.3.9	The Contractor shall validate GTFS-real-time feed for accuracy.			
6.3.10	The Contractor shall provide the option to host GTFS feeds for access by third parties.			
6.3.11	The Occupancy feed shall provide categorical descriptions of occupancy, percentage occupied, and absolute counts of boardings via API and GTFS-RT fields. Occupancy Status within Vehicle Position			
6.4	Dispatch Management API			
6.4.1	The Contractor shall provide an API for obtaining key data fields from the Dispatch Management system.			
6.4.2	When requested , the API shall provide the following data: • Current vehicle location data • Current route and schedule adherence data • Active incidents			
6.4.3	Details of the API shall be finalized at the time of design.			
6.5	Maintenance Data API			
6.5.1	The Dispatch Management system shall be capable of outputting the real-time vehicle maintenance and diagnostics data through an API.			
6.5.2	The Dispatch Management system shall provide the following information through API calls: • Monitored component status (by vehicle); • Critical faults or equipment failures (by vehicle or by monitored component), including: - o Dispatch Management - o Vehicle Announcement Software - o APC - o Cameras and DVR - o Wheelchair - o Covert alarm • Pre-trip and post-trip inspection results			
6.5.3	Details of the API shall be finalized at the time of design.			
6.6	TSP Data API			
6.6.1	The Dispatch Management system shall be capable of outputting the real-time transit signal priority data through an API.			

6.6.2	The Dispatch Management system shall provide the following information through API calls: • Monitored component status (by vehicle); • Critical faults or equipment failures (by vehicle or by monitored component), including: - o Dispatch Management - o Vehicle Announcement Software - o APC - o Cameras and DVR - o Wheelchair - o Covert alarm • Pre-trip and post-trip inspection results			
6.6.3	Details of the API shall be finalized at the time of design.			
6.7	Swiftly Data Integration			
6.7.1	The Dispatch Management system shall be integrated with Swiftly to enable real-time exchange of operational data. CapMetro prefers having a bi-directional interface to enable all detours, service adjustments, and other service changes in Swiftly to be correctly reflected in the CAD/AVL system data as well, but is open to a uni-directional interface where the service changes are made in the CAD/AVL system and sent to Swiftly.			
6.7.2	If a bi-directional interface is provided, the Swiftly integration shall enable CapMetro to utilize Swiftly for, at a minimum, the following through API calls: • Real-time vehicle location display for all revenue and non-revenue vehicles; • Generation of real-time prediction information for all in-service revenue vehicles. • Management of detours and service adjustments (cancellations, additions, skipped stops, turn-backs) • Generation of real-time status alerts • Generation of historical performance reporting			
6.7.3	If only a uni-directional interface is provided, the Swiftly integration shall enable CapMetro to utilize Swiftly for, at a minimum, the following through API calls: • Real-time vehicle location display for all revenue and non-revenue vehicles; • Generation of real-time prediction information for all in-service revenue vehicles. • Generation of real-time status alerts • Generation of historical performance reporting			
6.7.4	Details of the API shall be finalized at the time of design.			
7	Business Intelligence, Reporting and Dashboards			
7.1	The BI, Reporting, and Dashboards functionality shall include: • Operations Datastore Development (Section 7.2) • Business Intelligence and Data Reporting (Section 7.3)			
7.2	Operations Datastore Development			
7.2.1	The Contractor shall develop a centralized reporting database to support an integrated reporting interface for all business function users at CapMetro.			
7.2.2	The centralized reporting database provided shall be sufficient to store ten (10) years of data generated by systems provided under this contract, plus an additional fifty (50) percent for additional data and fleet expansion.			
7.2.3	An ICD and data dictionary shall be provided by the Contractor, as well as a user's manual to allow CapMetro to manage the centralized reporting database after delivery			
7.2.4	CapMetro shall always have ownership and control of the data stored in the centralized reporting database. No confidential data (network, financial, employee, etc.) shall be hosted on any third-party or vendor system without the expressed written permission of CapMetro.			

7.2.5	The Contractor shall make available the following to allow a CapMetro to (CapMetro to pull, not Contractor to push) extract, transform, and load (ETL) procedures to import data from databases of the following systems into the centralized reporting database to generate the required reports listed in this section: • Dispatch Management and Vehicle Announcement Software System • VHM • Farebox For third party systems, the Contractor shall work with system provider directly to determine the best approach to obtain data from those systems on an ongoing basis through ETL programs.			
7.2.6	The Contractor shall work with CapMetro to integrate APC data with: • CapMetro's current APC reporting system provider, UTA; and • a future APC reporting system provider.			
7.2.7	The Contractor shall develop extract, transform, and load (ETL) procedures to collect APC data from across all vehicles and send the data to CapMetro's current APC reporting system provider, UTA.			
7.2.8	The Contractor shall work with CapMetro and UTA to support the ongoing downstream reporting functions that might impact the 2025 APC benchmarking and certification and subsequent ongoing reporting, including resolution of any data issues or errors such as AVL-APC data mismatch and missing data records.			
7.2.9	The Contractor shall provide APIs and associated API documentation for the sending of data to any future APC reporting system provider.			
7.2.10	The Contractor will automate the ETL process and will not require CapMetro staff's day-to-day involvement.			
7.2.11	The ETL process will generate a daily log of data upload activities and will alert staff in the event of a centralized reporting database upload failure.			
7.2.12	The ETL logic shall have exception handling built-in to avoid uploading any unwarranted data.			
7.2.13	The ETL program shall provide a web-based system administration dashboard to monitor the centralized reporting database's current attributes. The system administration tool shall also allow management of user roles and privileges for accessing reports.			
7.2.14	The centralized reporting database backup and restore program must be foolproof so that the entire centralized reporting database can be restored if the centralized reporting database crashes.			
7.3	Business Intelligence and Data Reporting			
7.3.1	The Contractor shall provide a business intelligence (BI) tool and any required interfaces that shall be able to retrieve data from existing database and from new database provided as part of this procurement.			
7.3.2	The business intelligence tool GUI shall provide analysis and problem solving tools in addition to reporting tools. In particular, differences between scheduled performance (service hours, deadhead hours, revenue miles, revenue hours, etc.) and actual performance shall be calculated.			
7.3.3	The Contractor shall provide a detailed description of all reports, dashboards, and analytics available in the proposed system prior to contract award.			
7.3.4	All dashboards, worksheets, and reports shall support custom CapMetro branding, including colors, fonts, and logos.			
7.3.5	The BI tool shall provide a set of agency-configurable graphics used to represent key performance indicators (KPIs) as defined by CapMetro.			
7.3.6	The BI tool shall report all KPIs in real-time, where data is available to support real-time reporting. The delivered system shall provide real-time displays for schedule performance and service adjustment data by default.			
7.3.7	The BI tool shall incorporate levels of data to allow the user to filter by date, time, route, block, operator, facility, garage, municipality, and geographical area.			

7.3.8	The BI tool shall have an easy-to-use GUI that allows the standard user to create reports, KPIs, and dashboards as desired without requiring intervention from the system administrator.			
7.3.9	Each user shall be able to save a configuration and set of KPIs for future use. This configuration shall be automatically loaded the next time the user opens the tool.			
7.3.10	Each created dashboard, KPI, and report shall be shareable with other users through an email link. The system shall identify if the recipient does not have sufficient permissions to access the form and alert the sender prior to sending.			
7.3.11	The BI tool shall be intuitive and require no training for basic use. The Contractor shall provide a training course on advanced features of the tool.			
7.3.12	All reports and dashboards provided by the business intelligence tool shall be filterable, and shall provide information in real-time, hourly, daily, weekly, monthly, and annually.			
7.3.13	The BI tool shall allow CapMetro system administrators to define particular user groups and the permissions and views available to each user group.			
7.3.14	An ICD and data dictionary shall be provided by the Contractor to allow third-party applications to pull read-only data from the BI tool.			
7.3.15	The reports shall be accessible over the CapMetro intranet through a web browser.			
7.3.16	The Contractor shall provide reporting functions via a user interface supplied by the Contractor and shall not require prior knowledge of databases and query methods.			
7.3.17	The Contractor shall develop graphs and map-based illustrations, as applicable (e.g., ridership reports), along with tabular reports.			
7.3.18	The reports shall allow the export of data to a common export format (e.g., text file, CSV, Microsoft Excel, and portable document format [PDF]).			
7.3.19	The reports shall provide the ability to drill-down and drill-through reported information.			
7.3.20	The reporting interface shall allow CapMetro to customize existing reports and generate ad-hoc reports.			
7.3.21	The reports shall include the date generated and the system user ID of the report generator.			
7.3.22	The Contractor shall work with CapMetro as part of the design review to determine the requirements for each of the following reports:			
7.3.23	<i>Planning and Scheduling:</i>			
7.3.23.1	• Passenger load profiles: shall report on peak-load variation by date, day of week, time of day, route, and stop. The system shall flag “overcrowding” situations.			
7.3.23.2	• Boardings/alightings: shall report on boardings and alightings patterns by date, day of week, time of day, route, and stop.			
7.3.23.3	• Ridership distribution by weather: shall use weather information from third party service providers and correlate that with ridership patterns to provide information on the impact of weather patterns on ridership			
7.3.24	Fixed route Operations			
7.3.24.1	• On-time performance: shall report on schedule adherence pattern by date, day of week, time of day, route, and timepoint.			
7.3.24.2	• Logon/logoff summary: shall report on vehicle operator logon and logoff statistics comparing scheduled and actual times for logon and logoffs.			
7.3.24.3	• Vehicle operator workpiece summary: shall report on the actual piece of work vehicle operators performed in the field in comparison with the scheduled piece of work for each run by comparing the following data: logon/logoff times, timepoint crossings, and logon/logoff operators.			
7.3.24.4	• Operator performance summary: shall report on vehicle operator performance with respect to schedule adherence at timepoints. The reports shall be run by date, day of week, time of day, route, and stop.			

7.3.24.5	Running times: shall report on running time by timepoints and timepoint segments and run the reports by date, day of week, time of day, route, and stop.			
7.3.24.6	Added trips (to meet rush hour demand): shall report on additional runs or trips that were not prescheduled and were introduced to meet passenger demand in real-time.			
7.3.24.7	Dwell time summary: shall report on dwell times at stops by date, day of week, time of day, route, and stop.			
7.3.24.8	Space-time diagram: shall provide a visualization of scheduled and actual trips by creating a scatterplot of timepoint locations and arrival/departure times.			
7.3.24.9	Missed trips summary: shall report on trips that could not be performed.			
7.3.24.10	Deadhead summary: shall report on deadhead miles and distinguish pullout and pull-in events from other deadheads (e.g., when start or end point of a deadhead is not the garage).			
7.3.24.11	Headway reliability summary: shall provide a comparative summary of actual and scheduled headways for each timepoint.			
7.3.24.12	Voice and data communication (or event log) summary including response times: shall report on a chain of activities tied to inbound and outbound communications. For example, when a vehicle operator initiates a RTT and upgrades that to a PRTT. As a result, the Dispatcher could place a 45 second outbound call. The report should be able to link these activities to create a record of activities tied to the original RTT request.			
7.3.24.13	Off route summary: shall report on start and end point and start and end times of an off route event by date, day of week, time of day, and route.			
7.3.24.14	System health summary: shall report on current health of each equipment and computer hardware that is part of the ITS system.			
7.3.24.15	Automated announcement summary: shall report on a comparative assessment of scheduled and actual on-board Vehicle Announcement events.			
7.3.24.16	Road call summary: shall report on the road calls vehicle operators/Dispatchers make.			
7.3.24.17	Incidents and accidents summary: shall report on any incidents and accidents and relevant information (Section 5.2.3.11)			
7.3.25	<u>Maintenance:</u>			
7.3.25.1	Real-time vehicle availability: shall be able to provide the current availability of a vehicle based on the current health of maintenance components and on-board ITS equipment on that vehicle.			
7.3.25.2	Maintenance work summary: shall report on identified problem, resolution, and cause for ITS and non-ITS maintenance works.			
7.3.25.3	Repeat failures summary: shall report on recurring maintenance issues.			
7.3.26	<u>System administration and alarm/failure monitoring:</u>			
7.3.26.1	On-board equipment status: shall report on the functional status of hardware and software versions (e.g., Vehicle Operator Interface Device software version, route version, farebox software version, headsign software version).			
7.3.26.2	Vehicle uploads and download summary: shall report on the status of the WLAN data exchange by indicating successful, in progress, or failed downloads.			
7.3.26.3	Real-time information accuracy: shall report on the accuracy of disseminated real-time information on predicted arrival/departure.			
7.3.26.4	Real-time information usage on web and other personal media devices: shall report on the use of dissemination media.			
7.3.27	<u>Dispatching Performance Summary:</u>			
7.3.27.1	Response Time: Individual and average time from RTT or PRTT to Dispatcher initiated communications.			
7.3.27.2	Detour Management: Service measures implemented by type of measure.			
7.3.27.3	Incident Management: Incidents created, duration the incident was open, and number of incidents closed.			
7.3.27.4	Dispatch Work: Number of average vehicles and routes active.			

7.3.27.5	• Session Time: Duration of log-on.			
7.3.28	Dispatch statistics shall be automatically reported by the system and made available to the Dispatch supervisor as summary reports by day of week, week of month, and month of year.			
7.3.29	In addition to above specific reports, the Contractor shall provide all reports needed by the National Transit Database for operations, revenue, and safety data reporting.			
7.3.30	The reporting interface shall provide spatial or temporal segmentation of summary data 'on the fly' (if applicable) by the following parameters: • Route and direction; • Variation/Pattern; • Stop and timepoint; • Communication type (applicable only to communication reports, for example, RTT, PRTT, and covert microphone events); • Jurisdiction/Agency (Greater Austin Area, CapMetro); • Trip; • Run; • Block; • Vehicle; and • Time of day, day of week, month, rating, fiscal year, and calendar year.			
8	System Administration Functionality			
8.1	General			
8.1	The System shall provide various system administration functionalities, including: • User Administration • System Monitoring and Alerts • Firmware and Updates			
8.2	User Administration			
8.2.1	The User Administration functionality shall enable the system to create and manage various user profiles and permissions, including at least: • System Administrator (with all permissions) • Vehicle Operator • Dispatcher • Street Supervisor • Reporting (reporting and analytics only access)			
8.2.2	All Central systems shall be accessible only to authorized users as managed by the Systems Administrator. The approach for use authorization and management should be documented and signed off by CapMetro.			
8.2.3	The Central System shall have full capability to add, delete, or modify users, groups, or roles in any systems and shall have full administrative rights to do so.			
8.3	System Monitoring and Alerts			
8.3.1	The System shall provide system monitoring and alerts for all hosting infrastructure, software, and connected devices.			
8.3.2	All proposed software shall be hosted and supported under a Service Level Agreement (SLA). Proposers shall provide a draft SLA as part of the proposal.			
8.3.3	The SLA shall meet the requirements outlined in this section and shall describe the following: • Description and scope of service provided (software that is covered by hosting agreement, scope of coverage and services, restrictions) • Service performance metrics (e.g. system availability, average service request response times, data security metrics) • System monitoring services provided by vendor (e.g. monitored parameters, automatic or manual monitoring, system security services) • Service standards, including service request categories (by priority), associated response times, and response protocols • Vendor communications and timelines • Expected CapMetro responsibilities			

8.3.4	The SLA shall meet the following minimum requirements: • Minimum system availability: 99.99%			
8.4	Device Diagnostics, Administration and Firmware Updates			
8.4.1	The Device Diagnostics functionality shall allow the System to remotely monitor all vital hardware signs including power state, transmit/receive, firmware version, error status			
8.4.2	The Device Administration functionality shall enable the system to manage remote System devices connected over wireless or cellular data and provide data logging, troubleshooting, and remote management functions.			
8.4.3	The Firmware and Updates functionality shall provide detailed information about device firmware and provide basic testing and diagnostics functionality to facilitate firmware updates. Optionally, demonstrating over the air updates of firmware with appropriate user permissions			

EXHIBIT H – AUTHORIZATION OF WORK PRODUCT

DESCRIPTION: CAD/AVL SYSTEM REPLACEMENT
CONTRACT NO.: To be determined following contract award

Authority's Contracting Officer (CO)

- A. The CO for administration of this Contract is Sean Wighaman
B. Phone: 512-369-6243
C. Email: sean.wighaman@capmetro.org

The Contracting Officer is responsible for the general administration of the Contract, negotiation of any changes, and issuance of written modifications, task order revisions, or Change Orders (as it pertains to Construction Contracts Only and results in a Contract modification – see below) to the Contract. If the parties desire to modify the Contract, or revise the Task Order of the Contract, in any way, only the Contracting Officer is authorized to issue a written modification for authorized signatures.

Authority's Project Manager (PM)

- A. The PM for this Contract is Gabriel Hasser
B. Phone: 512-369-6519
C. Email: Gabriel.hasser@capmetro.org

The Authority's PM for this Contract is responsible for the overall management and coordination of this Contract and will act as the central point of contact for the Authority. The PM has full authority to act for the Authority in the performance of any project connected to the Contract. However, the PM cannot authorize, in writing or orally, to commence any work. The PM shall meet with Contractor's PM to discuss problems as they occur. Any changes, including changes pursuant to the Changes clause in the Contract, will be handled solely by the CO. As needed, the Authority's PM may assist with development of Change Orders and Contract modifications with the Authority's CO.

Field Change Orders (Construction Contracts Only) – The Authority's PM is permitted to authorize work when an event occurs in the field during construction which requires immediate action. Immediately, but no later than three (3) business days following such action, the Authority's PM must provide a signed Change Order to the CO along with any other required procurement documentation in order to memorialize the Change Order in a task order revision or Contract modification.

The Contractor understands that should Contractor perform any work prior to written authorization by the Authority's CO, Contractor is not allowed to invoice for any additional cost or fee for services or goods under the Contract, nor is the Authority liable for any payment for any unauthorized work.

SIGNED and DATED


Contractor – *must sign and return with Offer*

E-SIGNED by Jonathan Tanzer
on 2025-05-14 19:27:37 GMT

9/12/2024
Date

to be signed by the Authority following contract award
Authority's Project Manager (PM)

E-SIGNED by Sean Wighaman
on 2025-05-14 19:25:56 GMT

May 14, 2025

Date

to be signed by the Authority following contract award
Authority's Contracting Officer (CO)

May 14, 2025

Date

EXHIBIT I

IT PROPRIETARY RIGHTS AND DATA SECURITY ADDENDUM

Capital Metro Transportation Authority (“the Authority”) has invested extensive time, money and specialized resources into developing, collecting and establishing its tangible and intangible proprietary assets. This Proprietary Rights and Data Security Addendum (this “Addendum”) identifies and acknowledges the Authority’s proprietary rights, establishes baseline commitments regarding data security and represents a set of standard terms applicable to service providers and business partners when they enter into contracts with the Authority. Capitalized terms used in this Addendum have the meanings set forth in the Agreement, unless differently defined in this Addendum. The Contractor is responsible for ensuring compliance with the terms of this Addendum by the Contractor’s employees, agents and contractors and all of the restrictions and obligations in this Addendum that apply to the Contractor also apply to the Contractor’s employees, agents and contractors. The term “including” or “includes” means including without limiting the generality of any description to which such term relates.

1. DEFINITIONS

The following terms will have the meanings described below in this Addendum.

(a) “Authority Data” means all data, content or information, in any form or format, including interim, Processed, compiled, summarized, or derivative versions of such data, content or information, and any insights that may be learned from such data, content or information, that may exist in any system, database, or record that is either

- (i) provided by or on behalf of the Authority or its customers to the Contractor, or
- (ii) is obtained, developed, produced or Processed by the Contractor or its systems, in each of (i) and (ii) in connection with the relationship or arrangements established by the Contract, but excluding any data or information that is expressly defined as owned by the Contractor in the Contract.

(b) “Authority Electronic Property” means:

- (i) any websites controlled by the Authority,
- (ii) any Authority mobile device apps,
- (iii) any application programming interfaces (API) to the Authority’s information technology systems,
- (iv) any other kiosks, devices or properties for consumer interaction that are created, owned, or controlled by the Authority, and
- (v) versions and successors of the foregoing, any form or format now known or later developed, that may be used by customers obtaining products or services from the Authority.

(c) “Contract” means that certain contract for products and services entered into between the Contractor and Authority to which this Addendum is attached or incorporated by reference.

(d) “Data Law” means, as in effect from time to time, any law, rule, regulation, declaration, decree, directive, statute or other enactment, order, mandate or resolution, which is applicable to either the Contractor or the Authority, issued or enacted by any national, state, county, municipal, local, or other government or bureau, court, commission, board, authority, or agency, relating to data security, data protection and/or privacy. Data Laws also include ISO 27001 and ISO 27002, the most current Payment Card Industry Data Security Standard (the “PCI DSS”, and other industry standard practices) and any

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financial standards or business requirements applicable to the Authority's business or the Authority Data and/or the Authority Electronic Property.

(e) "Personal Identifying Information" means any data that identifies or could be used to identify a natural person, including name, mailing address, phone number, fax number, email address, Social Security number, credit card or other payment data, date of birth, driver's license number, account number or user ID, PIN, or password.

(f) "Process" or "Processing" means, with respect to Authority Data, to collect, access, use, process, modify, copy, analyze, disclose, transmit, transfer, sell, rent, store, or retain or destroy such data in any form. For the avoidance of doubt, "Process" includes the compilation or correlation of Authority Data with information from other sources and the application of algorithmic analysis to create new or derivative data sets from Authority Data.

(g) "Remediation Efforts" means, with respect to any Security Incident, activities designed to remedy a Security Incident which may be required by a Data Law or by the Authority's or the Contractor's policies or procedures, or which may otherwise be necessary, reasonable or appropriate under the circumstances, commensurate with the nature of such Security Incident. Remediation Efforts may include:

- (i) development and delivery of legal notices to affected individuals or other third parties;
- (ii) establishment and operation of toll-free telephone numbers for affected individuals to receive specific information and assistance;
- (iii) procurement of credit monitoring, credit or identity repair services and identity theft insurance from third parties that provide such services for affected individuals;
- (iv) provision of identity theft insurance for affected individuals;
- (v) cooperation with and response to regulatory, government and/or law enforcement inquiries and other similar actions;
- (vi) undertaking of investigations (internal or in cooperation with a governmental body) of such Security Incident, including forensics;
- (vii) public relations and other crisis management services; and
- (viii) cooperation with and response to litigation with respect to such Security Incident (including, but not limited to, class action suits or similar proceedings); and in each case of examples (i) through (viii), payment of legal costs, disbursements, fines, settlements and damages.

(h) "Security Incident" means:

- (i) the loss or misuse of Authority Data and/or the Authority Electronic Property;
- (ii) the inadvertent, unauthorized, or unlawful processing, alteration, corruption, sale, rental, or destruction of the Authority Data and/or the Authority Electronic Property;
- (iii) unauthorized access to internal resources;
- (iv) programmatic manipulation of a system or network to attack a third party;
- (v) elevation of system privileges without authorization;
- (vi) unauthorized use of system resources;
- (vii) denial of service to a system or network; or
- (viii) any potential or confirmed exposure (which may stem from an act or omission to act) that would result in any of the events described in (i) through (viii).

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- (i) "Security Policies" means statements of direction for Security Requirements and mandating compliance with applicable Data Laws. Typically, Security Policies are high level instructions to management on how an organization is to be run with respect to Security Requirements.
- (j) "Security Procedures" means statements of the step-by-step actions taken to achieve and maintain compliance with Security Requirements.
- (k) "Security Requirements" means the security requirements set forth below in Section 7 of this Addendum and any security requirements requested by the Authority from time to time.
- (l) "Security Technical Controls" means any specific hardware, software or administrative mechanisms necessary to implement, maintain, comply with and enforce the Security Requirements. Security Technical Controls specify technologies, methodologies, implementation procedures, and other detailed factors or other processes to be used to implement and maintain Security Policies and Procedures relevant to specific groups, individuals, or technologies.

2. FISMA COMPLIANCE

Both parties will comply with all federal and state regulations, statutes, and laws that govern this Agreement which includes, without limitation, the Federal Information Security Management Act, 2006 (FISMA) to the extent applicable to the Authority's business or the products and services provided by the Contractor. The Contractor accepts ultimate responsibility and liability for the protection and preservation of all Authority Data and the Authority Electronic Property through a security operational plan (the "Security Plan"). The Contractor will make available a current copy of the Security Plan for review upon the Authority's request. FISMA requires organizations to meet minimum security requirements by selecting the appropriate security controls as described by NIST Special Publication (SP) 800-53 revision 4, "*Security and Privacy Controls for Federal Information Systems and Organizations*." Note that organizations must always reference the most current version of NIST SP 800-53 for the security control selection process. The Contractor should meet the minimum-security requirements detailed in FIPS Publication 200.

3. AUTHORITY DATA

As between the Contractor and the Authority (*i.e.*, without addressing rights of third parties), the Authority is the sole owner of all rights, title and interest in and to Authority Data and the Authority Electronic Property. Except as expressly authorized in the Agreement, the Contractor may not use, edit, modify, create derivatives, combinations, or compilations of, combine, associate, synthesize, re-identify, reverse engineer, reproduce, display, distribute, disclose, sell or Process any Authority Data or Authority Electronic Property. The Contractor will not use Authority Data or Authority Electronic Property in a manner that is harmful to the Authority.

4. PERSONAL IDENTIFYING INFORMATION

The Contractor will comply with any Data Laws relating to the use, safeguarding, or Processing of any Personal Identifying Information, including any requirement to give notice to or obtain consent of the individual. In Processing any Personal Identifying Information, the Contractor will at all times comply with any posted privacy policy or other representations made to the person to whom the information is identifiable, and to communicate any limitations required thereby to any authorized receiving party (including any modifications thereto) in compliance with all Data Laws. The Contractor will ensure that any such receiving party abides by any such limitations, in addition to the requirements of the Agreement. Notwithstanding the foregoing, the Contractor represents and warrants that Personal Identifying Information will not be Processed, transmitted, or stored outside of the United States. The Contractor shall take reasonable steps to maintain the confidentiality of and will not reveal or divulge to any person or entity any Personal Identifying Information that becomes known to it during the term of this Contract. The Contractor must maintain policies and programs that prohibit unauthorized disclosure of Personal Identifying Information by its employees and subcontractors and promote training and awareness of information security policies and practices. The Contractor must comply, and must cause its employees,

representatives, agents, and subcontractors to comply, with such commercially and operationally reasonable directions as the Authority may make to promote the safeguarding or confidentiality of Personal Identifying Information. The Contractor must conduct background checks for employees or sub-Contractors that have access to Personal Identifying Information or systems Processing Personal Identifying Information. The Contractor must limit access to computers and networks that host Personal Identifying Information, including without limitation through user credentials and strong passwords, data encryption both during transmission and at rest, firewall rules, and network-based intrusion detection systems. In addition to the foregoing, to the extent that any Personal Identifying Information qualifies as Protected Health Information that is subject to protection under the Health Insurance Portability and Accountability Act of 1996 ("HIPAA," found at Public Law 104-191), and certain privacy and security regulations promulgated by the U.S. Department of Health and Human Services to implement certain provisions of HIPAA and the Health Information Technology for Economic and Clinical Health Act (the "HITECH Act"), and its implementing regulations found in the Omnibus Final Rule (collectively the "HIPAA Regulations") found at 45 C.F.R. Parts 160, 162 and 164, the Contractor will execute and abide by the rights and obligations set forth in the Business Associate Agreement of the Authority.

5. NO IMPLIED RIGHTS

No right, license, permission, or ownership or other interest of any kind in or to any Authority Data or other intellectual property rights owned or licensed by the Authority is or is intended to be given or transferred to or acquired by the Contractor except as expressly stated in writing in the Agreement.

6. PROHIBITED INTERNET PRACTICES

The Contractor will not, and will not authorize or encourage any third party to, directly or indirectly:

- (a) use any automated, deceptive or fraudulent means to generate impressions, click-throughs, or any other actions in relation to advertisements or Internet promotions on Authority Electronic Property or in relation to advertisements or Internet promotions of the Authority (or its products or services) on third party websites; or
- (b) collect or Process data from an Authority Electronic Property other than as has been expressly authorized by the Authority in the Agreement or another written agreement with the Authority. Except as expressly allowed in the Agreement, the Contractor will not "screen-scrape" Authority Electronic Property or conduct any automated extraction of data from Authority Electronic Property or tracking of activity on Authority Electronic Property.

7. SECURITY REQUIREMENTS

The Contractor will apply reasonable physical, technical and administrative safeguards for Authority Data that is in the Contractor's possession or control in order to protect the same from unauthorized Processing, destruction, modification, or use that would violate the Agreement or any Data Law. The Contractor represents and warrants that the Security Policies, Security Procedures and Security Technical Controls as they pertain to the services being rendered to the Authority by the Contractor or its subcontractors and any Processing of Authority Data by the Contractor or its subcontractors will at all times be in material compliance with all Data Laws. In addition, the Contractor will require any of its employees, agents or contractors with access to Authority Data to adhere to any applicable Data Laws, and the Contractor represents and warrants that such employees, agents and contractors have not been involved in any violation of applicable Data Laws in the twenty-four months before the Effective Date. The Contractor will take into account the sensitivity of any Authority Data in the Contractor's possession in determining reasonable controls used to safeguard such Authority Data.

8. DATA SEGREGATION AND ACCESS

The Contractor will physically or logically segregate stored Authority Data from other data and will ensure that access to Authority Data is restricted to only authorized personnel through security measures. The

Contractor will establish and maintain appropriate internal policies, procedures and systems that are reasonably designed to prevent the inappropriate use or disclosure of Authority Data.

9. PCI COMPLIANCE

If the Contractor Processes payment card data, cardholder data, or sensitive authentication data on behalf of the Authority or if the Contractor otherwise can impact the security of said data belonging to the Authority, the Contractor is responsible for the security of said data. The Contractor represents and warrants that it has performed an assessment to confirm that the material aspects of the Contractor's Security Policies, Security Procedures and Security Technical Controls (as they pertain to the services being rendered to the Authority by the Contractor or its subcontractors and any Processing of Authority Data by the Contractor or its subcontractors) comply with the PCI DSS and the Contractor will repeat this assessment each year during the Term. The Contractor will provide certification of compliance with this requirement upon request from the Authority.

10. SECURITY REVIEWS AND AUDITS

The Contractor will, upon request, provide the Authority with reports of any audits performed on the Contractor's Security Policies, Security Procedures or Security Technical Controls. At a minimum, such reports will include any certifications of the Contractor's agents and contractors. Additionally, the Contractor will respond within a reasonable time period to any inquiries from the Authority relating to the Contractor's and its agents' and contractors' Security Policies, Security Procedures and Security Technical Controls. The Contractor will, upon the Authority's request, provide the Authority or its representatives access to the Contractor's and its agents' and contractors' systems, records, processes and practices that involve Processing of Authority Data so that an audit may be conducted. the Authority will not exercise such audit right more frequently than once per twelve (12) month period and the Authority will bear the full cost and expense of any such audit, unless such audit discloses a Security Incident or a breach of this Addendum or the Agreement, in which case the Contractor will bear the full cost and expense of such audit and a further audit may be conducted by the Authority or its representatives within the current twelve (12) month period.

11. SECURITY INCIDENTS

The Contractor will timely and promptly notify the Authority upon discovering or otherwise learning of a Security Incident involving the Authority Data or the Authority Electronic Property, to the extent within the Contractor's access, possession or control. Following any Security Incident, the Contractor will consult in good faith with the Authority regarding Remediation Efforts that may be necessary and reasonable. The Contractor will:

- (a) at the Authority's direction undertake Remediation Efforts at the Contractor's sole expense and reimburse the Authority for its reasonable costs and expenses in connection with any Remediation Efforts it elects to undertake,
- (b) ensure that such Remediation Efforts provide for, without limitation, prevention of the recurrence of the same type of Security Incident, and
- (c) reasonably cooperate with any Remediation Efforts undertaken by the Authority.
- (d) Without limiting the foregoing, the Contractor will:
 - (i) immediately undertake investigations (internal or in cooperation with a governmental body) of such Security Incident, including forensics,
 - (ii) timely share with the Authority any Security Incident-related information, reports, forensic evidence and due diligence obtained from the investigation into the Security Incident and cooperate with the Authority in response to regulatory, government and/or law enforcement inquiries and other

similar actions, (iii) cooperate with the Authority with respect to any public relations and other crisis management services, and litigation with respect to such Security Incident (including, but not limited to, class action suits or similar proceedings); and in each instance of Security Incident, be liable and responsible for payment of legal costs, disbursements, fines, settlements and damages. To the extent that the Authority is bound to comply with any interlocal agreements pertaining to shared information (including the Authority Data), the Contractor agrees that it will comply with, and cooperate with the Authority in its compliance, with all rights and obligations pertaining to the Authority Data and/or the Authority Electronic Property under such interlocal agreements.

12. NOTICE TO THE AUTHORITY CUSTOMERS AND EMPLOYEES

Any notifications to any of the Authority's customers or employees regarding Security Incidents will be handled exclusively by the Authority and the Contractor may not under any circumstances contact the Authority's customers or employees relating to such Security Incident unless the Contractor is under a legal obligation to do so, in which event:

- (a) the Contractor must notify the Authority in writing promptly after concluding that the Contractor has the legal obligation to notify such customers or employees and explain in such notice to the Authority the basis for the legal obligation and
- (b) the Contractor will limit the notices to any of the Authority's customers and employees to those required by the legal obligation or as pre-approved by the Authority.
- (c) The Contractor will reasonably cooperate in connection with notices to the Authority's customers and employees regarding a Security Incident and the Contractor will assist with sending such notices if so requested by the Authority.

13. EQUITABLE RELIEF

The Contractor acknowledges that the Authority may have no adequate remedy at law if there is a breach or threatened breach of any of the obligations set forth in this Addendum and, accordingly, that the Authority may, in addition to any legal or other remedies available to the Authority, seek injunctive or other equitable relief to prevent or remedy such breach without requirement of a bond or notice. The Contractor will not object or defend against such action on the basis that monetary damages would provide an adequate remedy.

EXHIBIT J
IT ACCESS AND USE AGREEMENT

This Access and Use Agreement (this "Agreement") is entered into as of the effective date set forth on the signatory page between the undersigned person identified as the "Contractor" and Capital Metro Transportation Authority ("the Authority") concerning the terms and conditions under which the Authority will provide the Contractor with limited access and use of the Authority Data and/or the Authority Electronic Property in conjunction with the Contractor's performance of the Contract. The parties acknowledge and agree to the following terms and conditions:

1. DEFINITIONS

For purposes of this Agreement, capitalized terms shall have the meaning set forth below:

- (a) "Applicable Laws" means any and all applicable statutes, laws, treaties, rules, codes, ordinances, regulations, permits, interpretations, or orders of any Federal, state, or local governmental authority having jurisdiction over the Authority's or the Contractor's business the Contract, and the parties all as in effect as of the date of the Contract and as amended during the term of the Contract.
- (b) "Authority Data" means all data, content or information, in any form or format, including interim, Processed, compiled, summarized, or derivative versions of such data, content or information, and any insights that may be learned from such data, content or information, that may exist in any system, database, or record that is either (i) provided by or on behalf of the Authority or its customers to the Contractor, or (ii) is obtained, developed, produced or Processed by the Contractor or its systems, in each of (i) and (ii) in connection with the relationship or arrangements established by the Agreement, but excluding any data or information that is expressly defined as owned by the Contractor in the Contract.
- (c) "Authority Electronic Property" means (i) any websites controlled by the Authority, (ii) any Authority mobile device apps, (iii) any application programming interfaces (API) to the Authority's information technology systems, (iv) any other kiosks, devices or properties for consumer interaction that are created, owned, or controlled by the Authority, and (v) versions and successors of the foregoing, any form or format now known or later developed, that may be used by customers obtaining products or services from the Authority.
- (d) "Confidential Information" as used herein, shall mean and include, without limitation: (i) any information concerning the Authority, which is provided by or on behalf of the Authority to the Contractor, such as accounting and financial data, product, marketing, development, pricing and related business plans and budgets, and all of the information and plans related to the Authority's business, which are not published; (ii) all Authority Data; and (iii) the Authority Electronic Property.
- (e) "Contract" means that certain contract for products and services entered into between the Contractor and Authority to which this Agreement is attached or incorporated by reference. The applicable reference number for the Contract may be set forth in the signatory page to this Agreement.
- (f) "Remediation Efforts" means, with respect to any Security Incident, activities designed to remedy a Security Incident, which may be required by Applicable Law or by the Authority's or the Contractor's policies or procedures or under the Security Requirements, or which may otherwise be necessary, reasonable or appropriate under the circumstances, commensurate with the nature of such Security Incident.
- (g) "Security Incident" means: (i) the loss or misuse of the Authority Data and/or the Authority Electronic Property; (ii) the inadvertent, unauthorized, or unlawful processing, alteration, corruption, sale, rental, or destruction of Authority Data and/or the Authority Electronic Property; (iii) unauthorized access to internal resources; (iv) programmatic manipulation of a system or network to attack a third party; (v) elevation of system privileges without authorization; (vi) unauthorized use of system resources; (vii) denial of service to a system or network; or (viii) any potential or confirmed exposure (which may stem from an act or omission to act) that would result in any of the events described in (i) through (viii).
- (h) "Security Requirements" means security measures under Applicable Laws, industry best practices and other reasonable physical, technical and administrative safeguards, procedures, protocols, requirements and obligations related to facility and network security in order to protect the Authority Data and the Authority Electronic Property from unauthorized processing, destruction, modification, distribution and use, as approved in writing by the Authority, and all confidentiality and non-use or limited use obligations set forth in any license agreements or other third-party contracts (including interlocal agreement) applicable to the Authority Data and/or the Authority Electronic Property.

2. CONFIDENTIAL INFORMATION

The Contractor acknowledges and agrees that the Contract creates a relationship of confidence and trust on the part of the Contractor for the benefit of the Authority. During the term of the Contract, the Contractor may acquire certain Confidential Information from or regarding the Authority employees, agents and representatives or documents, or otherwise as a result of performing the services of the Contractor. The Contractor acknowledges and agrees that all such Confidential Information is and shall be deemed the sole, exclusive, confidential and proprietary property and trade secrets of the Authority at all times during the term of the Contract and following any expiration of termination thereof.

3. STANDARD OF CARE

The Contractor agrees to hold in confidence without disclosing or otherwise using any Confidential Information, except as such disclosure or use may be required in connection with and limited to the product and services of the Contractor. The Contractor acknowledges and agrees that the Authority would not have entered into the Contract unless the Authority were assured that all such Confidential Information would be held in confidence by the Contractor in trust for the sole benefit of the Authority.

4. EXCEPTIONS

The Contractor's obligation of confidentiality hereunder shall not apply to information that: (i) is already in the Contractor's possession without an obligation of confidentiality; (ii) is rightfully disclosed to the Contractor by a third party with no obligation of confidentiality; or (iii) is required to be disclosed by court or regulatory order, provided the Contractor gives the Authority prompt notice of any such order.

5. COMPLIANCE

The Contractor, as well as its agents, representatives, and employees, shall comply with all of the Authority's rules, regulations, and guidelines pertaining to the Authority Data and the Authority Electronic Property and all Applicable Laws.

6. SECURITY REQUIREMENTS

The Contractor will establish and manage all Security Requirements necessary to protect the Authority Data integrity and permit appropriate access to the Application and the Authority Electronic Property. The Contractor will cooperate with and assist the Authority and its contractors to implement security protocols (e.g., firewalls, SSI, etc.) and take appropriate actions with respect to all Authority Data and the Authority Electronic Property to the extent in the Contractor's access, possession or control, so as to enable the Contractor to prevent the loss, alteration or unauthorized access to the Authority Data or the Authority Electronic Property. The Contractor will, upon the Authority's request, for each year of the term of the Contract, provide to the Authority copies of monthly firewall logs and third party audit reports, summaries of test results and other equivalent evaluations with regard to security and confidentiality in connection with the Contractor's access and use thereof. The Contractor will use commercially reasonable efforts in accordance with the Security Requirements to secure all Authority Data and/or Authority Electronic Property stored on the Contractor's devices or network against access by parties external to the Authority or the Contractor and by unauthorized users, and against damage, disruption and other activity aimed at data availability or the services or other trespass or illegal actions. The Contractor will employ computer anti-malware protections and other reasonable commercial means to ensure a safe computing environment. The Contractor agrees that it will, and it will cause its personnel and contractors to timely comply with the Authority's privacy policies and safety and network security policies, as the same may be provided to the Contractor, at all times while on-site at the Authority's facilities or remotely accessing the Authority's systems or facilities (including Authority Data and/or Authority Electronic Property). The Contractor and/or its designated third party auditor(s) will perform all audits necessary to ensure the Authority Data integrity and adherence to the Security Requirements.

7. SECURITY INCIDENT

The Contractor will timely and promptly notify the Authority upon discovering or otherwise learning of any Security Incident involving Authority Data but in no event shall such notice exceed the time periods for notice required under Applicable Laws. Following any Security Incident, the Contractor will consult in diligent good faith with the Authority regarding Remediation Efforts that may be necessary and reasonable. Without limiting the foregoing, the Contractor will (i) immediately undertake investigations (internal or in cooperation with a governmental body) of such Security Incident, including forensics, (ii) timely share with the Authority any Security Incident-related information, reports, forensic evidence and due diligence obtained from the investigation into the Security Incident and cooperate with the Authority in response to regulatory, government and/or law enforcement inquiries and other similar actions, (iii) cooperate with the Authority with respect to any public relations and other crisis management services, and litigation with respect to such Security Incident (including, but not limited to, class action suits or similar proceedings); and in each instance of Security Incident, be liable and responsible for payment of legal costs, disbursements, fines, settlements and damages. To the extent that the Authority is bound to comply with any interlocal agreements pertaining to shared information (including the Authority Data), the Contractor agrees that it will comply with, and cooperate with the Authority in its compliance, with all rights and obligations pertaining to the Authority Data under such interlocal agreements. The Contractor will timely and promptly notify the Authority upon discovering or otherwise learning of any Security Incident involving Authority Data but in no event shall such notice exceed the time periods for notice required under Applicable Laws. Following any Security Incident, the Contractor will consult in diligent good faith with the Authority regarding Remediation Efforts that may be necessary and reasonable. Without limiting the foregoing, the Contractor will (i) immediately undertake investigations (internal or in cooperation with a governmental body) of such Security Incident, including forensics, (ii) timely share with the Authority any Security Incident-related information, reports, forensic evidence and due diligence obtained from the investigation into the Security Incident and cooperate with the Authority in response to regulatory, government and/or law enforcement inquiries and other similar actions, (iii) cooperate with the Authority with respect to any public relations and other crisis management services, and litigation with respect to such Security Incident (including, but not limited to, class action suits or similar proceedings); and in each instance of Security Incident, be liable and responsible for payment of legal costs, disbursements, fines, settlements and damages. To the extent that the Authority is bound to comply with any interlocal agreements pertaining to shared information (including the Authority Data), the Contractor agrees that it will comply with, and cooperate with the Authority in its compliance, with all rights and obligations pertaining to the Authority Data under such interlocal agreements.

8. LIMITED ACCESS AND USE

The Authority authorizes the Contractor to access and use and to the extent necessary to perform the Services to install and use the Authority Data and/or Authority Electronic Property provided or made available by the Authority in its sole discretion and solely for the purposes of providing products and services for the benefit of or on behalf of the Authority under and during the term of the Contract. As between the Contractor and the Authority (i.e., without addressing rights of third parties), the Authority is the sole owner of all rights, title and interest in and to any Authority Data and Authority Electronic Property, together with all improvements, derivative works or enhancements to any of the foregoing and all intellectual property rights related thereto. Except as expressly authorized in this Agreement in the performance of the services solely for the benefit of the Authority or its customers, the Contractor may not use, edit, modify, create derivatives, combinations or compilations of, combine, associate, synthesize, re-identify, reverse engineer, reproduce, display, distribute, disclose, sell or Process any Authority Data or Authority Electronic Property. The Contractor will not use any Authority Data or Authority Electronic Property in a manner that is harmful to the Authority. All access and use shall be subject to the Authority's platform and network security policies and procedures and other Security Requirements. Access and use shall be limited to the Contractor and the number of users or devices authorized in writing by the Authority.

9. NO OWNERSHIP

Nothing set forth in this Agreement shall give the Contractor any ownership or other license, conveyance or right, title or interest in and to any and all Confidential Information (or any intellectual property, derivatives, improvements, enhancements, feedback or suggestions related to any of the foregoing, whether conceived, reduced to practice or

developed alone or jointly with others by the Authority or the Contractor), which rights shall be owned exclusively by the Authority, and the Contractor will not knowingly take any action to challenge, contest or other action inconsistent with the Authority's rights.

10. **RESERVED RIGHTS**

The Authority reserves the right to suspend or terminate the Contractor's access and use of the Authority Data and/or the Authority Electronic Property at any time without liability or prior notice to the Contractor. Within five (5) business days of the Authority's written request, the Contractor will return or destroy all written or recorded materials comprising any Confidential Information of the Authority, together with all copies, summaries, compilations or analyses incorporating such information (whether held in computer, electronic or similar format), and certify the same in writing to the Authority; provided that all confidentiality obligations and ownership rights shall survive the return of such materials and the termination of this Agreement indefinitely or for as long as such information qualifies as a trade secret or confidential information under applicable law.

11. **SPECIFIC PERFORMANCE**

The Contractor recognizes that the restrictions and covenants contained in this Agreement are reasonable and necessary for the protection of the Authority's legitimate business interests, goodwill and trade secrets and confidential information. The Contractor acknowledges that the breach or threatened breach of this Agreement can cause irreparable damages to the Authority, and that in addition to and not in lieu of all other rights available at law or in equity, the Authority will have the right to temporary and permanent injunctive relief to prevent the breach of this Agreement by the Contractor, without posting of bond and proving actual damages. the Authority will be entitled to recover its costs and expenses, including reasonable attorneys' fees, in enforcing its rights under this Agreement.

12. **MISCELLANEOUS**

This Agreement is made under and shall be construed in accordance with the laws of the State of Texas, and any dispute arising under this Agreement shall be settled in a court of competent jurisdiction lying in Travis County, Texas. If any of the provision of this Agreement are found to be unenforceable, the remainder shall be enforced as fully as possible and the unenforceable provision shall be deemed modified to the limited extent required to permit enforcement of the Agreement as a whole. This Agreement may be signed in multiple counterparts by hard or electronic signature (each of which shall have the same force and effect and deemed an original but all of which will together constitute but one and the same instrument).

13. **SIGNATURE BLOCK**

	CONTRACTOR - Trapeze Software Group, Inc., dba Vontas		Capital Metro Transportation Authority
By:	Authorized signatory's signature is subject to the exceptions listed in Exhibit C-1 	By:	
Print Name:	Peter Aczel	Print Name:	
Title:	General Manager	Title:	
Date:	9/18/24	Date:	
Address:	5265 Rockwell Drive NE Cedar Rapids, IA	Address:	
Notice:		Notice:	
Effective Date		Contract No.	

EXHIBIT K-REVISED-1

IT ON-PREMISES SOLUTIONS

**ADDITIONAL TERMS AND CONDITIONS FOR THE PERFORMANCE OF INFORMATION
TECHNOLOGY (IT) PRODUCTS AND SERVICES**

1. DEFINITIONS

Unless otherwise specified in Exhibit E to the Contract, the following definitions shall apply, if applicable:

- (a) "Acceptance" shall have the meaning set forth in Section 4(d) of this Exhibit.
- (b) "Applicable Laws" means any and all applicable statutes, laws, treaties, rules, codes, ordinances, regulations, permits, interpretations, or orders of any Federal, state, or local governmental authority having jurisdiction over the Project, the Contract, and the parties all as in effect as of the date of the Contract and as amended during the Service Term of the Contract.
- (c) "Authority Data" means all data, content and information:
 - (i) submitted by or on behalf of the Authority or Customers to the Contractor or loaded into the **On-Premises System, and the Application, or**
 - (ii) obtained, developed, produced or processed by ~~the Contractor or by~~ the Application or **the On-Premises System** in connection with the Contract, **or but excluding any data or information that is expressly defined as owned by the Contractor in the Contract.**
 - ~~(iii) to which the Contractor has access in connection with the Contract, and all derivative versions of such data, content and information, and any derivative versions thereof, in any form or format.~~
- (d) "Authority Electronic Property" means:
 - (i) **any websites, servers, hardware, equipment, routers and other system components, software or networks owned or controlled by the Authority, any websites controlled and owned by the Authority,**
 - (ii) any Authority **owned** mobile device apps,
 - ~~(iii) any interfaces to the Authority's information technology systems, any application programming interfaces (API) created by the Authority for connection to the Authority's information technology systems,~~
 - (iv) any other kiosks, devices or properties for consumer interaction that are created, **and** owned, **or controlled** by the Authority, and
 - (v) versions and successors of the foregoing, any form or format now known or later developed, that may be used by Customers.
- (e) "Confidential Information" shall have the meaning set forth in Section 9(b) of this Exhibit.
- (f) "Contractor's Certification" shall have the meaning set forth in Section 4(c) of this Exhibit.
- (g) "Contractor Technology" means the Software, Hardware, and On-Premises System, as applicable, and any technology, information, content and data, together with intellectual property rights related thereto, owned or used by the Contractor in the performance of the Services.
- (h) "Customers" means any purchaser of products or services from the Authority.

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- (i) “Deliverable(s)” means all information, data, materials, devices (including equipment and Hardware), software (including the Software), systems (including the On-Premises System), interfaces to any software and hardware, system or operating environment (including Authority Electronic Property) and other items to be delivered by the Contractor to the Authority, as specified in the Project Plan.
- (j) “Documentation” means the documentation provided to the Authority including, but not limited to, user manuals, system administration manuals, maintenance manuals, diagrams and operator instructions related to the On-Premises System, Software, or Hardware furnished by the Contractor to the Authority in any format, including paper and electronic.
- (k) “Hardware” means all equipment, hardware, routers and other system components to be delivered by the Contractor to the Authority, as specified in the Project Plan.
- (l) “License Term” means the specific term or period (annually or perpetual) for each license to the On-Premises System and/or Software set forth in Exhibit A of the Contract. If no term is specified in Exhibit A, then the applicable term shall be perpetual.
- (m) “Maintenance Support Services” means the maintenance support services for the On-Premises System, Software and/or Hardware to be performed by Contractor as defined and described in Section 5 of this Exhibit.
- (n) “Malware” means any malicious data, code, script, active content, program, or other malicious software that could damage, destroy, alter or disrupt any computer program, data, firmware or hardware.
- (o) “On-Premises System” means the turn-key system comprised of Hardware and Software to be installed in the premises, facilities, networks or transportation vehicles controlled or managed by the Authority.
- (p) “Project” means the project from pre-production launch to pre-final notice related to the Software, Hardware and On-Premises System and any Deliverables and Services as described in more detail in this Exhibit.
- (q) “Project Plan” means the project plan for the delivery, implementation, customization, configuration and/or installation of the Software, Hardware and/or On-Premises System and any Deliverables and Services required for the Project, as provided or approved by the Authority.
- (r) “Remediation Efforts” means, with respect to any Security Incident, activities designed to remedy a Security Incident, which may be required by Applicable Law or by the Authority’s or the Contractor’s policies or procedures or under the Security Requirements, or which may otherwise be necessary, reasonable or appropriate under the circumstances, commensurate with the nature of such Security Incident.
- (s) “Security Incident(s)” means:
- (i) the loss or misuse of the Authority Data or the Authority Electronic Property;
 - (ii) the inadvertent, unauthorized, or unlawful processing, alteration, corruption, sale, rental, or destruction of Authority Data or the Authority Electronic Property;
 - (iii) unauthorized access to internal resources;
 - (iv) programmatic manipulation of a system or network to attack a third party;
 - (v) elevation of system privileges without authorization;
 - (vi) unauthorized use of system resources;

- (vii) denial of service to a system or network; or
- (viii) any potential or confirmed exposure (which may stem from an act or omission to act) that would result in any of the events described in (i) through (viii).
- (t) "Security Requirements" means security measures under Applicable Laws, industry best practices and other reasonable physical, technical and administrative safeguards, procedures, protocols, requirements and obligations related to facility and network security in order to protect the Authority Data and/or the Authority Electronic Property from unauthorized access, processing, destruction, modification, distribution and use, as approved in writing by the Authority.
- (u) "Service Term" means:
 - (i) the term of the contract as set forth in Exhibits A or E to the Contract, or
 - (ii) with respect to any Maintenance Support Services related to the On-Premises System, Software and/or Hardware, the specific term or period (monthly, quarterly or annual) set forth in Exhibits A or E of the Contract.
- (v) "Services" means collectively all services to be performed by the Contractor for or on behalf of the Authority or Customers, as described in the Project Plan and this Exhibit.
- (w) "Software" means the software to be provided by the Contractor, as may be further described in the Technical Specifications.
- (x) "Technical Specifications" means the technical specifications, functional specifications, descriptions, designs, standards, instructions, and business requirements of the Authority related to the On-Premises System, Software and/or Hardware, as may be further described in the Contract.
- (y) "Updates" means all bug fixes, error corrections, patches, updates, upgrades or new releases or version of the On-Premises System and/or Software created or acquired by the Contractor during the Service Term.

2. CONTRACTOR REQUIREMENTS

- (a) Unless specified in the applicable Project Plan, the Contractor will shall furnish, at its own expense, all resources, personnel, equipment, tools, and supplies necessary for the timely performance of the Services and the Deliverables. The Contractor may use any means necessary and appropriate to perform the Services and the Deliverables under the Contract; provided, however, that in no event shall the Contractor take any action that may subject either it or the Authority to civil or criminal liability.
- (b) The parties agree that the Contractor will not be tasked or responsible for establishing and managing Security Requirements necessary to protect the Authority Data integrity in performance of the Services. The Authority agrees that it will be solely responsible for and ensure that all desired Security Requirements necessary to protect the Authority Data integrity are established, implemented and managed internally. If requested, however, by the Authority, the Contractor will reasonably cooperate with and assist the Authority and the Authority's other Product contractors to implement security protocols (e.g., firewalls, SSI, McAfee anti-virus, configuring the system for Cisco ICE, configuring the system for the Netscaler application firewall, monthly Microsoft security patches, etc.) and take appropriate actions with respect to the On-Premises System, Software and/or Hardware and all Authority Data and Authority Electronic Property disclosed or provided to the Contractor so as to enable the Contractor to satisfy its obligations under the Contract and to help prevent the loss, alteration or unauthorized use of the Authority Data and the Authority Electronic Property, to the extent within the Contractor's access, possession or control. The Contractor agrees that it will, and it will cause its personnel and contractors to timely comply with the Authority's privacy policies and safety and network security policies, as the same may be provided to the Contractor's, at all times while on-site at the Authority's facilities or remotely accessing the Authority's systems or facilities. In event that

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the Contractor utilizes computers, laptops or other devices comprising development software, applications or tools in its performance of the Services, Contractor is required to consult in advance of use thereof with Authority and review security measures installed on such computers or devices and sign-off that it will ensure its computers and devices are consistently maintained during the term of this Agreement per Authority with all patches and upgrades at all times to minimize potential induced security issues from such Contractor devices.

(c) The Contractor will perform formal classroom training and provide necessary related documentation required or requested for the operation and use of the On-Premises System, Software and/or Hardware, upon initial deployment, as various entities come on to the Project, and during the Service Term, as reasonably requested by the Authority. Such training will be performed on the operating environment at the Authority's facilities or via the Internet as an on-line class (unless otherwise agreed upon by the parties in the Project Plan).

(d) The Contractor and/or its designated third-party auditor(s) will perform all audits requested by the Authority or otherwise necessary or required under the Security Requirements to ensure data integrity and adherence to the requirements of the Project. As part of its routine audits, the Contractor will, on a regular basis, test the integrity of Authority Data and the Authority Electronic Property backed up by the Authority's or its Project contractors.

(e) The Contractor shall adopt and implement all facility and network security, disaster recovery plans and back-up plans as to protect against theft and unauthorized access, disclosure and use of the Authority Data, the Authority Electronic Property and the Authority's Confidential Information, to the extent within the Contractor's access, possession or control, and to ensure the integrity and continuity of the performance of Services and the Project under the Contract. The Contractor will use commercially reasonable efforts to reasonably assist the Authority, if requested, to adopt and implement all facility and network security, disaster recovery plans and back-up plans as to protect against theft and unauthorized access, disclosure and use of the Authority Data, the Authority Electronic Property and the Authority's Confidential Information, to the extent within the Contractor's access, possession or control, and to ensure the integrity and continuity of the performance of Services and the Project under the Contract and consult and cooperate with the Authority and any contractors it designates, in its performance of these obligations.

(f) The Contractor, as well as its agents, representatives, and employees, shall comply with all of the Authority rules, regulations, and guidelines pertaining to the Authority Data and the Authority Electronic Property and the Authority's information technology system and facilities then in effect when remotely accessing or on-site at the Authority's premises or systems and all Applicable Laws.

(g) The Contractor will timely promptly notify the Authority upon discovering or otherwise learning of any Security Incident involving the Authority Data or the Authority Electronic Property, to the extent within the Contractor's access, possession or control. Following any Security Incident the Contractor will consult in diligent good faith with the Authority regarding Remediation Efforts that may be necessary and reasonable. Without limiting the foregoing, the Contractor will:

- (i) immediately undertake investigations (internal or in cooperation with a governmental body) of such Security Incident, including forensics,
- (ii) timely share with the Authority any Security Incident-related information, reports, forensic evidence and due diligence obtained from the investigation into the Security Incident and cooperate with the Authority in response to regulatory, government and/or law enforcement inquiries and other similar actions,
- (iii) cooperate with the Authority with respect to any public relations and other crisis management services, and litigation with respect to such Security Incident (including, but not limited to, class action suits or similar proceedings); and in each instance of Security Incident, be liable and responsible for payment of legal costs, disbursements, fines, settlements and damages. To the extent that the Authority is bound to comply with any interlocal agreements pertaining to shared information

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(including the Authority Data), the Contractor agrees that it will comply with, and cooperate with the Authority in its compliance, with all rights and obligations pertaining to the Authority Data and/or the Authority Electronic Property under such interlocal agreements.

(a) Any notifications to Customers or any employees of the Authority regarding Security Incidents will be handled exclusively by the Authority and the Contractor may not under any circumstances contact Customers or employees of the Authority relating to such Security Incident unless the Contractor is under a legal obligation to do so, in which event:

(i) the Contractor must notify the Authority in writing promptly after concluding that the Contractor has the legal obligation to notify such Customers or employees and explain in such notice to the Authority the basis for the legal obligation and

(ii) the Contractor will limit the notices to such Customers and employees to those required by the legal obligation or as pre-approved by the Authority.

The Contractor will reasonably cooperate in connection with notices to Customers and any employees of the Authority regarding a Security Incident and the Contractor will assist with sending such notices if so requested by the Authority.

3. PROJECT PLAN AND MILESTONE DEADLINES

(a) The Contractor shall provide Services necessary to assess and evaluate the Authority's business requirements and information technology systems in order to create, deploy, configure, customize, migrate, deliver and/or implement the On-Premises System, Software, the Hardware and, if required by the Authority, any Authority Data to be migrated, interfaced to or used in conjunction with the On-Premises System, Software and/or Hardware. Unless otherwise provided or specified by the Authority, the Contractor will prepare for the Authority's review and approval a Project Plan setting forth in detail:

(i) the scope of the Project and the Services required to complete the Project,

(ii) the milestones and schedule for completing all tasks and requirements for the Project (including the creation, deployment, configuration, customization, migration, delivery and/or implementation of the Software, the Hardware and any Authority Data),

(iii) all Authority Electronic Property required for the Contractor to perform the Services, if any,

(iv) all Deliverables, and

(v) all acceptance criteria, testing and post-implementation tasks.

No Project Plan will be effective until approved in writing by the Authority's designated project manager.

(b) This is a fast-track Project with completion deadlines that cannot reasonably be extended. For this reason, it is the desire of the Authority to recognize any likely budget overruns as soon as possible, and by the Contract it is employing the Contractor to perform design monitoring, estimating, value analysis and other functions to help the Authority meet the Project budget. At any time that the Contractor develops concerns about the integrity of the budget for the Project, the Contractor shall promptly advise the Authority of the concerns through a variance report, which shall, at a minimum, state:

(i) the Contractor's concern;

(ii) the apparent cause of the concern, delay, or budgetary issue;

- (iii) in the event of a concern about a delay, specifically demonstrate the negative impact of the delay to the critical path for the Project Plan;
- (iv) define any cost impacts to the Project; and
- (v) provide the Contractor's proposed resolution to the concern.

If any estimate submitted to the Authority exceeds previously approved estimates or the Authority's budget, the Contractor shall make appropriate recommendations to the Authority.

(c) If, using reasonable project monitoring techniques, the Contractor determines that it is unlikely or fails to meet a completion date or a cost estimate due under the Project Plan for any reason regardless of which party is at fault, in addition to any other rights and remedies that may be available to the Authority, at no additional cost to the Authority and at the Authority's option, the Contractor shall provide all necessary additional personnel at its own cost to accelerate performance as may be required or necessary to complete the activities required under the Project Plan within a re-adjusted time frame agreed to by both parties in a Change Order. The completion date shall be considered met if completed in accordance with the terms of the Contract within ten (10) working days of the originally estimated completion date. The Contractor will provide the Authority with prior written notice for any delays impacting delivery or other Services completion under the Project Plan in the form of a proposed Change Order.

(d) The Contractor shall use its best efforts, after obtaining explicit consent from the Authority, to re-sequence the Services to overcome and/or mitigate, to the greatest practicable extent, the effect of any delays regardless of the cause of such delays. Without limiting the foregoing, the Contractor shall diligently prosecute its Services in order to meet the proposed start date for the Software despite a dispute with the Authority relating in any way to the Contract including, without limitation, any and all the Contractor's claims for modifications to the payments due to the Contractor. The Contractor and the Authority shall cooperate to resolve all disputes and to adjust the Project Plan accordingly by Contract modification in a timely manner (not to exceed two (2) weeks from the date of notice).

(e) Should the Contractor not progress in its performance of Services at a rate commensurate with the Service Term of the Contract, or fail to meet any scheduled date under the Project Plan, the Authority may, in its sole discretion, direct the Contractor to accelerate the Services by employing additional personnel and equipment or providing overtime to existing personnel as is necessary to complete the Software by the start date, or any portion of the Software by the milestone date specified in the Project Plan. Notwithstanding any dispute, controversy, or question that might arise in the interpretation of any provision of the Contract, the performance of any Services, the delivery of any material, the payment of any monies to the Contractor, or otherwise, the Contractor agrees that it will not directly or indirectly stop or delay any Services or part thereof on its part required to be performed, nor will it stop or delay the delivery of any materials on its part required to be furnished for the Software or Deliverables, pending the determination of such dispute or controversy so long as the Authority pays the Contractor for undisputed amounts in accordance with the Contract.

4. ACCEPTANCE

(a) Unless otherwise defined or specified in an Exhibit to the Contract, the provisions set forth in this Section shall apply to determine the Authority's Acceptance of the On-Premises System, Software and/or Hardware.

(b) Implementation of the On-Premises System, Software and/or Hardware shall be completed in a timely manner and appropriate tests conducted by the Authority to facilitate Acceptance of the On-Premises System, Software, and/or Hardware and each Deliverable as more fully set forth in this Exhibit and the Project Plan; provided, however, that the Authority may upon written request require that the Contractor perform testing with cooperation of the Authority.

(c) Unless otherwise specified in the Project Plan, within thirty (30) days after installation and testing are completed, the Contractor shall certify in writing that the On-Premises System, Software and/or Hardware (as configured) conforms to the Technical Specifications and is capable of being put into full commercial productive use in accordance with the Technical Specifications and otherwise meets the functional and

business requirements set forth in the Contract (the "Contractor's Certification"). The Contractor Certification shall not be issued by the Contractor unless the Contractor has completed all tasks required for the delivery, installation, configuration, deployment (including Authority Data migration) and operational testing of the On-Premises System, Software and/or Hardware and such items are ready for final testing and launch for production use by the Authority and Customers.

(d) The On-Premises System, Software and/or Hardware shall be finally accepted by the Authority when all action items opened from the beginning of the Project through the Warranty Period are closed and each component is fully installed and operational on the Authority's facilities, network, transportation vehicles or operating environment properly configured by the Contractor, and in conformity with the requirements outlined in the Contract ("Acceptance"). The final invoice will not be issued by the Contractor until final Acceptance by the Authority. The Authority reserves the right to modify the Acceptance plan during the implementation process if it is evident that anything related to Acceptance has been missed or are not appropriate for the successful provisioning of any solution.

(e) If there is any objection to Acceptance, the Authority will provide the Contractor with a written notice (the "Defect Notice") reasonably identifying any claimed discrepancies between the actual performance and the requirements set forth in the Contract within reasonable time after the issuance of the Contractor's Certification.

(f) Upon receiving a Defect Notice from the Authority, the Contractor shall confer with the Authority and jointly review each asserted discrepancy to determine if the claimed discrepancy is valid. The Contractor shall promptly correct the discrepancy and resubmit the On-Premises System, Software and/or Hardware for Acceptance by the Authority for review and testing on the same basis as initially submitted. If, in the reasonable professional judgment of the Contractor such discrepancy is not valid, the Contractor shall so notify the Authority in writing.

(g) In the event that the Authority, upon final review, does not accept the On-Premises System, Software and/or Hardware or only makes a partial acceptance thereof, the Authority may elect to:

(i) accept delivery of the On-Premises System, Software and/or Hardware "AS IS" at a negotiated equitable reduction in the price and payment schedule for both the On-Premises System, Software and/or Hardware and any Maintenance Support Services; or

(ii) terminate the Project and receive a refund of all fees paid in advance to the Contractor, which in such event.

The Contractor shall immediately repay all fee advances paid by the Authority under the Project Plan and the Authority may retain all holdbacks.

5. MAINTENANCE SUPPORT SERVICES

Unless otherwise defined or specified in an Exhibit to the Contract, this Section 1.5 shall be the default provision governing and shall define the Maintenance Support Services.

(a) The Contractor shall:

(i) promptly notify the Authority of any errors in the On-Premises System, and/or Software of which it learns from any source;

(ii) respond to user identified errors in no more than thirty (30) minutes after notification and use best efforts to provide the Authority with a practical solution or work-around to correct the problem within four (4) hours after notification, and implement corrected Updates (preferably in batch manner and in accordance with a pre-approved schedule coordinated in advance with the Authority) or other work-arounds or bypasses such that the On-Premises System and/or Software performs in all material respects in accordance with the Documentation, within 1 business day thereafter;

(iii) provide to all authorized users on a 24 hours per day, 7 days per week basis, all reasonably necessary telephone, email and/or web consultation requested by them in connection with their use and operation of the On-Premises System and/or Software; and

(iv) treat any Authority Data, Authority Electronic Property or any other information, code or documentation provided from users to resolve a reported problem as Confidential Information of the Authority. The Contractor will cooperate fully with the Authority's personnel in the diagnosis of any error or defect and provide status reports to the Authority regularly for as long as the problem remains unresolved.

(b) The Contractor will periodically release Updates with minimum impact and downtime to Authority and after business hours. At no additional cost to the Authority, the Contractor will provide the Authority true and correct copies of all Updates to the On-Premises System and/or Software that are provided by the Contractor to any of its other customers purchasing Maintenance Support Services. In each case, the Contractor will provide the Authority with prior written notice (by as much time as practicable) but in no event less than fifteen (15) days of the release by the Contractor of any Updates, and if contractually obligated, will implement such Updates, but only upon receipt of written approval or request from the Authority, (including any configuration, data migration or integration thereto) for the delivery, installation and use by the Authority at no additional cost to the Authority; provided that the Contractor may proceed with Updates without prior notice to the extent necessary to prevent or correct the occurrence of a Security Incident. If the Authority requests the Contractor to test such updates, the Contractor will promptly test such update to the Authority at no additional cost. If any Update is installed, such Update will thereupon be deemed to be part of the relevant Software upon delivery subject to Acceptance by the Authority. The Authority shall have the right to not implement any Update in whole or in part (other than any Updates to correct Security Incidents). All such updates, where reasonably necessary, will be accompanied by detailed release notes, installation instructions and updated Documentation. The Contractor covenants that each Update will be backwards compatible with all parts of the On-Premises System and/or Software. The Contractor will continue to provide Maintenance Support Services during the Service Term for at least the current version and one prior major release of the Software and each version of the On-Premises System installed for the Authority.

(c) If and only after Contractor's execution of an agreement to abide by Authority's security policy and to the extent thereafter authorized or approved in writing by the Authority, the Contractor may remotely access the On-Premises System and/or Software using the Authority Electronic Property in order to perform Maintenance Support Services, in a manner least disruptive to the Authority's business. The Contractor shall notify the Authority in advance of any remote access.

(d) The Contractor shall provide the following Maintenance Support Services for the Hardware during and after the expiration of the applicable Warranty Period:

- (i) promptly issue Return Material Authorizations for Hardware;
- (ii) repair, test, configure and return the Hardware to the Authority in operational condition; and
- (iii) provide for the deployment and optionally installation of replacement Hardware.

The Authority is responsible for costs for the shipment of the Hardware to the Contractor or its designated repair facility using best commercial practices in the packaging and shipment of the Hardware, after the expiration of the Warranty Period. Defects in Hardware shall be reporting using the response procedures specified for the Software above, unless otherwise specified in writing by the parties.

6. ADDITIONAL REPRESENTATIONS AND WARRANTIES

In addition to all other representations, warranties, and covenants included in the Contract, Contractor represents, warrants, and covenants, for itself, its employees, subcontractors and agents that:

- (a) it is not contractually prohibited from engaging in the Services or providing the Deliverables, and that it is not a party to any contract or under any obligation which conflicts with the terms of the Contract or which prohibits Contractor from carrying out its responsibilities under the Contract;
- (b) it is fully able to furnish the Services as contemplated by the Contract;

- (c) there are no contracts to which it is a party which would prevent its timely and complete performance of the terms and conditions of the Contract, and the Contractor agrees not to enter into any such contract during the pendency of the Contract;
- (d) it is experienced in the type of engineering necessary for completion of the Project, and it understands the complexity involved in this type of project and the necessity of coordination of its Services Authority project stakeholders within which the Project will be performed;
- (e) the On-Premises System and/or Software will not contain any Malware, and any Updates likewise will not contain any Malware;
- (f) the On-Premises System, Software and/or Hardware will not contain any security mechanisms, including, but not limited to, copy protect mechanisms, encryptions, time-activated disabling devices or other codes, instructions or devices which may disable the features, components or other software or erase or corrupt data;
- (g) the On-Premises System, Software and/or Hardware will comply with all Applicable Laws at all times from the date of Acceptance to the expiration of the applicable License Term;
- (h) with respect to the On-Premises System, Software and/or Hardware:
 - (i) all modules and other materials (other than third party software and hardware sufficiently documented to the Authority with evidence of proper licensing thereof and preapproved by the Authority) will be original;
 - (ii) there is, and on the date of Acceptance will be, no claim, litigation or proceeding pending or threatened against the Contractor with respect to the On-Premises System, Software and/or Hardware, or any component thereof, alleging infringement or misappropriation of any patent, copyright, trade secret, trademark or any other personal or proprietary right of any third party in any country; and
 - (iii) the On-Premises System, Software and/or Hardware, and any use thereof, shall not infringe upon any patent, copyright, trade secret, trademark or any other personal or proprietary right of any third party in any country; and
- (i) the On-Premises System and/or Software will not contain or otherwise be developed using any Open-Source Software (as defined below) in a manner that subjects the Authority to any license obligations of such Open-Source Software. "Open-Source Software" means any software licensed under terms requiring that other software combined or use or distributed with such software:
 - (i) be disclosed or distributed in source code form, or
 - (ii) be licensed on terms inconsistent with the terms of the Contract.

7. ADDITIONAL WARRANTY REMEDIES

The Authority is entitled to all warranties implied by law or regulation. These warranties shall survive any inspection, testing, acceptance and payment by the Authority for the Services and are in addition to, and shall not be construed as restricting or limiting the warranties of the Contractor, express or implied, that are provided by law or exist by operation of law. For any breach of the warranties contained in this Section, the Authority's remedy, in addition to all remedies available at law or in equity, shall be:

- (a) For the On-Premises System. The correction of Software errors or Hardware malfunctions in the On-Premises System that cause breach of the warranty. If the Contractor is unable to provide such corrections or otherwise make the On-Premises System operate as warranted within the periods specified in the Contract, the Authority shall be entitled to terminate the Contract with respect to the affected component and recover a prorated amount paid to the Contractor based on each component, which prorated amount will be calculated based on a useful life of five years from the date of final Acceptance. If, however, the loss of functionality cause by such error impacts the overall turn-key system performance of the On-Premises System, then the Authority shall be entitled to terminate the Contract with respect to the On-Premises System and recover all amounts paid to the Contractor by the Authority. The Contractor shall not be

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responsible or liable for any errors that are determined to be attributable to the Authority's failure to comply with any user requirements under the applicable Technical Specifications, or any Force Majeure event.

(b) For the Software. The correction of errors in the Software that cause breach of the warranty. If the Contractor is unable to provide such error corrections or otherwise make the Software operate as warranted within the periods specified in the Contract, the Authority shall be entitled to terminate the Contract with respect to the affected feature and recover a prorated amount paid to the Contractor based on each feature, which prorated amount will be calculated based on a useful life of five years from the date of final Acceptance. If, however, the loss of functionality cause by such error impacts the overall performance of the Software, then the Authority shall be entitled to terminate the Contract with respect to all components of the Software and recover all amounts paid to the Contractor by the Authority. The Contractor shall not be responsible or liable for any errors that are determined to be attributable to the Authority's failure to comply with any user requirements under the applicable Technical Specifications, or any Force Majeure event.

(c) For Hardware. The repair or replacement of Hardware with any defects in material and workmanship for a period of ninety (90) days following the date of delivery and/or the completion of each repair. If any unit requires repair for the same failure as identified during the preceding repair during this period due to defective material and/or workmanship, Contractor shall, solely at its option, repair the defective unit free of charge or provide a replacement in exchange for the defective unit.

(d) For Maintenance Support Services. The satisfactory re-performance of the Maintenance Support Services within thirty (30) days following the Authority's notice to the Contractor that the Maintenance Support Services were not performed satisfactorily. If the Maintenance Support Services are repeatedly performed in an unsatisfactory manner or if the Contractor is unable to perform the Maintenance Support Services as warranted, the Authority shall be entitled to recover the fees paid to the Contractor's for the unsatisfactory Maintenance Support Services; however, if the failure of the Contractor to satisfactorily perform the Maintenance Support Services substantially impairs the utility of the On-Premises System, Software and/or Hardware to the Authority, the Authority shall be entitled to terminate the Contract and recover all Maintenance Support Services fees paid to the Contractor by the Authority.

(e) For Services (Other than Maintenance Support Services). The satisfactory re-performance of the Services within ten (10) days (or such other reasonable period of time approved by the parties in writing) following the Authority's notice to the Contractor that the Services were not performed satisfactorily in accordance with the Project Plan.

8. USE OF ON-PREMISES SYSTEM, THE SOFTWARE AND THE AUTHORITY DATA AND AUTHORITY ELECTRONIC PROPERTY

(a) Subject to payment of fees, the Contractor hereby grants to the Authority, Customers (but only in their capacity as Customers), and third-party service providers providing services to the Authority (but only in their capacity as the Authority's service providers) a personal non-exclusive, non-transferable worldwide, royalty-free license to copy, install, modify and (i) use the On-Premises System and/or Software (including all Updates) and (ii) use the on-board Software only in or with the Hardware or the third-party Hardware sold pursuant to this Contract during the License Term. Such license shall be enterprise wide for an unlimited number of users or transactions, unless otherwise limited in an Exhibit to the Contract. The Authority may allow its contractors and service providers to host and use the On-Premises System and/or Software in the course of performing services for the Authority, including application development services, hosting services, data processing and transportation vehicle and facilities management services, subject to the express prior written consent of Contractor.

(b) As between the Contractor and the Authority (i.e., without addressing rights of third parties), the Authority is the sole owner of all rights, title and interest in and to any Authority Data and Authority Electronic Property, together with all improvements, derivative works or enhancements to any of the foregoing and all intellectual property rights related thereto. Except as expressly authorized in this Exhibit in the performance of the Services solely for the benefit of the Authority or Customers, the Contractor may not use, edit, modify, create derivatives, combinations or compilations of, combine, associate, synthesize, re-identify, reverse

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~~engineer, reproduce, display, distribute, disclose, sell or Process any Authority Data or Authority Electronic Property. The Contractor will not use any Authority Data or Authority Electronic Property in a manner that is harmful to the Authority. Contractor hereby grants to Licensee a personal, non-transferable, non-exclusive license to use the documentation related to the Software, but only as required to exercise the Software license granted herein.~~

(b) Contractor hereby grants to Licensee a personal, non-transferable, non-exclusive license to use the documentation related to the Software, but only as required to exercise the Software license granted herein.

(c) The Authority may make one back-up copy of the Software. The Authority may use the production copy of the Software solely to process the Authority's own data, and the Software may not be used on a service bureau or similar basis to process data of others.

(d) The license to use the database underlying the Software (the "Database") is granted to the Authority solely for the development of internal reports by the Authority and for the integrated operation of the Software components. Unless expressly included herein, all other access rights to the Database are excluded from this Agreement, and the Authority shall not develop or use, or authorize the development or use of, any other interfaces to or from the Database. Notwithstanding the previous two sentences, the Authority may develop interfaces for the Database either (i) on its own based on the information and the documentation related to the Software provided by Contractor to extract data for its internal benefit, so long as such interfaces do not write to, edit, modify or materially degrade the performance of the Database or (ii) to a Contractor-published application programming interface, which may be licensed from Contractor. However, the Authority shall retain ownership of the raw data that is inputted into the Database and any data generated thereof.

(e) In the case of any third-party equipment, third party Software, related documentation, or third-party services provided under this Agreement, such third party shall retain all rights in patents, copyrights, trademarks, trade secrets, and any other intellectual property. The terms and restrictions of the license grants contained herein, in addition to any other terms required by any third-party licensor(s), will apply to the use of any third party Software and related documentation, and the licensors of such third party Software are third party beneficiaries of the rights granted under those terms. Where required, the Authority shall enter into a separate end-user-license agreement depending on the product(s) procured. The Authority may only transfer any Software or third party Software embedded with any equipment in accordance with the terms and conditions of this Agreement.

9. PROPRIETARY INFORMATION AND NON-DISCLOSURE

(a) The Contractor acknowledges and agrees that the Contract creates a relationship of confidence and trust on the part of the Contractor for the benefit of the Authority. During the Term of the Contract, the Contractor may acquire certain "Confidential Information" (as defined herein) from or regarding the Authority employees, agents and representatives or documents, or otherwise as a result of performing the Services of the Contractor hereunder.

(b) "Confidential Information" as used herein, shall mean and include, without limitation:

(i) Any information concerning the Authority or the Project, which is provided by the Authority or any Project team members to the Contractor, such as accounting and financial data, product, marketing, development, pricing and related business plans and budgets, and all of the information and plans related to the Project, which are not published; and

(ii) All Authority Data and Authority Electronic Property.

(c) The Contractor acknowledges and agrees that all such Confidential Information is and shall be deemed the sole, exclusive, confidential and proprietary property and trade secrets of the Authority at all times during the Service Term of the Contract and following any expiration or termination hereof. The Contractor agrees to hold in confidence without disclosing or otherwise using any Confidential Information,

except as such disclosure or use may be required in connection with and limited to the Services of the Contractor hereunder.

(d) The Contractor acknowledges and agrees that the Authority would not have entered into the Contract unless the Authority was assured that all such Confidential Information would be held in confidence by the Contractor in trust for the sole benefit of the Authority.

(e) The Contractor shall not improperly use or disclose any proprietary information or trade secrets of any third party and will not bring on to the premises of the Authority any unpublished documents or any property belonging to any third party unless consented to in writing by the third party.

(f) The Contractor's obligation of confidentiality hereunder shall not apply to information that:

- (i) is already in the Contractor's possession without an obligation of confidentiality;
- (ii) is rightfully disclosed to the Contractor's by a third party with no obligation of confidentiality; or
- (iii) is required to be disclosed by court or regulatory order, provided the Contractor's gives the Authority prompt notice of any such order.

(g) The Authority shall have the perpetual and unrestricted right to use, copy, and incorporate into other works all reports, materials, presentations and other work product prepared by the Contractor and delivered to the Authority.

(h) Upon any termination or expiration of the Contract, the Contractor agrees to deliver to the Authority any and all Confidential Information except that the Contractor may keep one file copy of any Confidential Information pertinent to its rights and obligations surviving the expiration or termination of the Contract, which copy shall be held in confidence in accordance with this Section.

10. USE OF AUTHORITY'S NAME

The Contractor agrees not to make any written use of or reference to the Authority's name for any marketing, public relation, advertising, display or other business purpose or make any use of the Authority Data or Authority Electronic Property for any activity unrelated to the express business purposes and interests of the Authority under the Contract, without the prior written consent of the Authority.

11. SPECIFIC PERFORMANCE

The Contractor acknowledges and agrees that the remedy at law for the breach of provisions of the Contract (particularly with respect to ownership of intellectual property and Confidential Information) may be inadequate and that the Authority may be entitled to injunctive relief without bond, in addition to any other rights or remedies which the Authority may have for such breach.

12. APPROVAL

Any approval given by the Authority shall not relieve the Contractor of its obligations and other duties under the Contract or be construed as an assumption or waiver by the Authority.

13. WAIVERS

No failure by the Authority to insist upon the performance by the Contractor of any provision of the Contract, and no failure of the Authority to exercise any right or remedy consequent upon a breach or other default, and no payment by the Authority or its use of the Software or the Project during the continuance of any breach or other default, shall constitute a waiver of the Contractor's breach or default or of any provision of the Contract.

14. UCITA

Neither the Uniform Computer Information Transactions Act nor any state laws incorporating such Act apply to the Contract or the transactions contemplated hereunder.

15. INDEMNIFICATION

In addition to general indemnification set forth elsewhere in the contract, the following indemnification obligations shall apply:

The Contractor shall indemnify, defend and hold harmless the Authority and its affiliates and their trustees, directors, officers, employees, Customers and agents from and against any and all Damages of any nature or kind to the extent arising out of, caused by, or resulting from:

- (a) any bodily injury or death of any person incurred by the Authority or any third party resulting from the negligence or willful misconduct of the Contractor or its employees, contractors or representatives;
- (b) any failure of the On-Premises System, Software and/or Hardware to conform with Applicable Laws or the Technical Specifications or other requirements set forth in the Contract;
- (c) any Security Incident; and
- (d) any actual or alleged violation, infringement or misappropriation of any copyright, patent, trademark, trade secret, product name, right of privacy or persona or other intellectual property right and proprietary right of a third party related to the Services and the On-Premises System, Software and/or Hardware regardless of whether or not such claim, damage, loss, or expense is caused in part by any indemnitee.

In particular, the Contractor acknowledges that the Contractor's obligation to indemnify the Authority extends to any liability arising out of any actual negligence by the Contractor in the delivery of any products or services under the Contract. Notwithstanding the foregoing, the Contractor shall not be liable to an indemnitee for any losses incurred by such indemnitee to the extent such claim is attributable solely to that indemnitee's sole negligence.

EXHIBIT L-REVISED-1

IT HOSTED SOLUTIONS

ADDITIONAL TERMS AND CONDITIONS FOR THE PERFORMANCE OF INFORMATION TECHNOLOGY (IT) PRODUCTS AND SERVICES

1. DEFINITIONS

Unless otherwise specified in Exhibit E of the Contract, the following definitions shall apply, if applicable:

- (a) "Acceptance" shall have the meaning set forth in Section 4(e) of this Exhibit.
- (b) "Applicable Laws" means any and all applicable statutes, laws, treaties, rules, codes, ordinances, regulations, permits, interpretations, or orders of any Federal, state, or local governmental authority having jurisdiction over the Project, the Contract, and the parties all as in effect as of the date of the Contract and as amended during the Service Term of the Contract.
- (c) "Application" means the technical system, platform, application and/or subscription services to be provided by the Contractor, as may be further described in the Technical Specifications.
- (d) "Authority Data" means all data, content and information:
 - (i) submitted by or on behalf of the Authority or Customers to the Contractor or loaded into the **On-Premises** System, **and the Application, or**
 - (ii) obtained, developed, produced or processed by **the Contractor or by the Application or the On-Premises** System in connection with the Contract, **or but excluding any data or information that is expressly defined as owned by the Contractor in the Contract.**
 - (iii) **to which the Contractor has access in connection with the Contract, and all derivative versions of such data, content and information, and any derivative versions thereof, in any form or format.**
- (e) "Authority Electronic Property" means:
 - (i) any websites controlled **and owned** by the Authority,
 - (ii) any Authority **owned** mobile device apps,
 - (iii) **any interfaces to the Authority's information technology systems any application programming interfaces (API) created by the Authority for connection to the Authority's information technology systems,**
 - (iv) any other kiosks, devices or properties for consumer interaction that are created, **and** owned, **or controlled** by the Authority, and
 - (v) versions and successors of the foregoing, any form or format now known or later developed, that may be used by Customers.
- (f) "Confidential Information" shall have the meaning set forth in Section 9(b) of this Exhibit.
- (g) "Contractor's Certification" shall have the meaning set forth in Section 4(d) of this Exhibit.
- (h) "Contractor Technology" means:
 - (i) the System,
 - (ii) the Application, and
 - (iii) any technology, information, content and data, together with intellectual property rights related thereto, owned or used by the Contractor in the performance of the Services.
- (i) "Customer" means any purchaser of products or services from the Authority.

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- (j) “Deliverables” means all information, data, materials, devices (including equipment and hardware), software (including the Application) and other items to be delivered by the Contractor to the Authority, as specified in the Project Plan.
- (k) “Documentation” means the documentation provided to the Authority, including user manuals and operator instructions related to the Application furnished by the Contractor to the Authority in any format, including paper and electronic.
- (l) “Malware” means any malicious data, code script, active content program, or other malicious software that could damage, destroy, alter or disrupt any computer program, data, firmware or hardware.
- (m) “Process” or “Processing” means, with respect to any Authority Data, to migrate, collect, access, use, process, modify, copy, analyze, disclose, transmit, transfer, sell, rent, store, or retain or destroy such data in any form. For the avoidance of doubt, “Process” includes the compilation or correlation of any Authority Data with information from other sources and the application of algorithmic analysis to create new or derivative data sets from any Authority Data.
- (n) “Project” means the project related to the Application and the Authority’s information technology systems as described in more detail in this Exhibit.
- (o) “Project Plan” means the project plan for the implementation, customization, configuration and/or installation or hosting of the Application and the Services and Deliverables required for the Project, as approved by the Authority in writing.
- (p) “Remediation Efforts” means, with respect to any Security Incident, activities designed to remedy a Security Incident, which may be required by Applicable Law or by the Authority’s or the Contractor’s policies or procedures or under the Security Requirements, or which may otherwise be necessary, reasonable or appropriate under the circumstances, commensurate with the nature of such Security Incident.
- (q) “Security Incident” means:
- (i) the loss or misuse of Authority Data and/or the Authority Electronic Property;
 - (ii) the inadvertent, unauthorized, or unlawful processing, alteration, corruption, sale, rental, or destruction of the Authority Data and/or the Authority Electronic Property;
 - (iii) unauthorized access to internal resources;
 - (iv) programmatic manipulation of a system or network to attack a third party;
 - (v) elevation of system privileges without authorization;
 - (vi) unauthorized use of system resources;
 - (vii) denial of service to a system or network; or
 - (viii) any potential or confirmed exposure (which may stem from an act or omission to act) that would result in any of the events described in (i) through (viii).
- (r) “Service Levels” shall have the meaning set forth in Section 11(a) of this Exhibit.
- (s) “Security Requirements” means security measures under Applicable Laws, industry best practices and other reasonable physical, technical and administrative safeguards, procedures, protocols, requirements and obligations related to facility and network security in order to protect Authority Data and the Authority Electronic Property from unauthorized processing, destruction, modification, distribution and use, as approved in writing by the Authority.
- (t) “Service Term” means:
- (i) the term of the contract as set forth in Exhibits A or E to the Contract, or
 - (ii) with respect to any hosted service related to the Application, the specific term or period for subscription services set forth in Exhibits A or E of the Contract.
- (u) “Services” means all services to be performed by the Contractor for or on behalf of the Authority or Customers, as described in the Project Plan and this Exhibit.

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- (v) "System" means an application, network, database or system provided or used to perform the Services by the Contractor.
- (w) "Technical Specifications" means the technical specifications, functional specifications, descriptions, designs, standards, instructions, and business requirements of the Authority related to the Application and the Authority's information technology systems, as may be further described in the Contract.
- (x) "Termination Assistance Services" means the Contractor's cooperation with the Authority in order to assist in the transfer of Authority Data to the Authority and to facilitate the transition to an alternative software or service for the Application at such time when the Authority may obtain authorization and/or funding for such replacement.
- (y) "Updates" means all bug fixes, error corrections, patches, updates, upgrades or new releases or version of the Application during the Service Term.

2. CONTRACTOR REQUIREMENTS

- (a) Unless specified in the applicable Project Plan, the Contractor shall furnish, at its own expense, all resources, personnel, equipment, tools, and supplies necessary for the full access and use of the Application and the timely performance of the Services and the Deliverables. The Contractor may use any means necessary and appropriate to perform the Services and the Deliverables under the Contract; provided, however, that in no event shall the Contractor take any action that may subject either it or the Authority to civil or criminal liability.
- (b) The Contractor will establish and manage all Security Requirements necessary to protect the integrity of the Authority Data and permit appropriate access to the Application and the Authority Electronic Property. The Contractor will enable and stop access as users enter and leave the Application. The Contractor will cooperate with and assist the Authority and its other Project contractors to implement security protocols (e.g., firewalls, SSI, etc.) and take appropriate actions with respect to the Application and all Authority Data stored therein and the Authority Electronic Property so as to enable the Contractor to satisfy its obligations under the Contract and to help prevent the loss, alteration or unauthorized access to the Application and all Authority Data stored therein, or the Authority Electronic Property, to the extent within the Contractor's control. The Contractor will, upon the Authority's request, for each year of the Term of the Contract under the Project Plan, provide to the Authority copies of monthly firewall logs and third-party audit reports, summaries of test results and other equivalent evaluations with regard to security and confidentiality in connection with the Services that the Contractor provides to the Authority. The Contractor will use commercially reasonable efforts in accordance with the Security Requirements to secure the Application and all Authority Data stored therein against access by parties external to the Project and by unauthorized users, and against damage, disruption and other activity aimed at data availability or the services or other trespass or illegal actions. The Contractor will employ computer anti- Malware protections and other reasonable commercial means to ensure a safe computing environment. The Contractor agrees that it will, and it will cause its personnel and contractors to timely comply with the Authority's privacy policies and safety and network security policies, as the same may be provided to the Contractor, at all times while on-site at the Authority's facilities or remotely accessing the Authority's systems or facilities (including Authority Electronic Property). The Contractor and/or its designated third-party auditor(s) will perform all audits necessary to ensure the Authority Data integrity and adherence to the Security Requirements of the Project. As part of its routine audits, the Contractor will, on a regular basis, test the integrity of Authority Data backed up by the Authority or its Project Contractors.
- (c) The Contractor shall adopt and implement all facility and network security, disaster recovery plans and back-up plans as to protect against data loss, theft and unauthorized access, disclosure and use of the Application, Authority Data, Authority Electronic Property and the Authority's Confidential Information and to ensure the integrity and continuity of the performance of Services and the Project under the Contract. The Contractor will use best efforts in accordance with industry best practices and standards for this requirement and consult and cooperate with the Authority and its other contractors who operate or access the Authority's data center and network systems (including the Authority Data and the Authority Electronic Property) in the performance of the Services.

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(d) The Contractor and/or its designated third-party auditor(s) will perform all audits requested by the Authority or otherwise necessary or required under the Security Requirements to ensure data integrity and adherence to the requirements of the Project. As part of its routine audits, the Contractor will, on a regular basis, test the integrity of Authority Data backed up by the Authority's or its Project contractors.

(e) The Contractor, as well as its agents, representatives, and employees, shall comply with all of the Authority's rules, regulations, and guidelines pertaining to the Authority Data and the Authority Electronic Property and the Authority's information technology system then in effect when on-site at the Authority's premises and all Applicable Laws.

(f) The Contractor will timely and promptly notify the Authority upon discovering or otherwise learning of any Security Incident involving Authority Data but in no event shall such notice exceed the time periods for notice required under Applicable Laws. Following any Security Incident, the Contractor will consult in diligent good faith with the Authority regarding Remediation Efforts that may be necessary and reasonable. Without limiting the foregoing, the Contractor will:

(i) immediately undertake investigations (internal or in cooperation with a governmental body) of such Security Incident, including forensics,

(ii) timely share with the Authority any Security Incident-related information, reports, forensic evidence and due diligence obtained from the investigation into the Security Incident and cooperate with the Authority in response to regulatory, government and/or law enforcement inquiries and other similar actions,

(iii) cooperate with the Authority with respect to any public relations and other crisis management services, and litigation with respect to such Security Incident (including, but not limited to, class action suits or similar proceedings); and in each instance of Security Incident, be liable and responsible for payment of legal costs, disbursements, fines, settlements and damages.

To the extent that the Authority is bound to comply with any interlocal agreements pertaining to shared information (including the Authority Data), the Contractor agrees that it will comply with, and cooperate with the Authority in its compliance, with all rights and obligations pertaining to the Authority Data under such interlocal agreements.

(g) Any notifications to Customers or any employees of the Authority regarding Security Incidents will be handled exclusively by the Authority and the Contractor may not under any circumstances contact Customers or employees of the Authority relating to such Security Incident unless the Contractor is under a legal obligation to do so, in which event:

(i) the Contractor must notify the Authority in writing promptly after concluding that the Contractor has the legal authority to notify such Customers or employees and explain in such notice to the Authority the basis for the legal obligation and

(ii) the Contractor will limit the notices to Customers and any employees of the Authority regarding a Security Incident and the Contractor will assist with sending such notices if so requested by the Authority.

3. PROJECT PLAN AND MILESTONE DEADLINES

(a) The Contractor shall provide Services necessary to assess and evaluate the Authority's business requirements and information technology systems in order to create, deploy, configure, customize, migrate, deliver and/or implement the Application and any Authority Data to be migrated, interfaced to or used in conjunction with the Application unless otherwise provided or specified by the Authority, the Contractor will prepare for the Authority's review and approval a Project Plan setting forth in detail:

(i) the scope of the Project and the Services required to complete the Project,

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- (ii) the milestones and schedule for completing all tasks and requirements for the Project (including the creation, deployment, configuration, customization, migration, and implementation of the Application and any Authority Data,
- (iii) all Authority Electronic Property required for access and use of the Authority and any Authority Data hosted by the Contractor,
- (iv) all Deliverables and
- (v) all acceptance criteria, testing and post-implementation tasks.

No Project Plan will be effective until approved in writing by the Authority's designated project manager.

(b) This is a fast-track Project with completion deadlines that cannot reasonably be extended. For this reason, it is the desire of the Authority to recognize any likely budget overruns as soon as possible, and by the Contract it is employing the Contractor to perform design monitoring, estimating, value analysis and other functions to help the Authority meet the Project budget. At any time that the Contractor develops concerns about the integrity of the budget for the Project, the Contractor shall promptly advise the Authority of the concerns through a variance report, which shall, at a minimum, state:

- (i) the Contractor's concern;
- (ii) the apparent cause of the concern, delay, or budgetary issue;
- (iii) in the event of a concern about a delay, specifically demonstrate the negative impact of the delay to the critical path for the Project Plan;
- (iv) define any cost impacts to the Project; and
- (v) provide the Contractor's proposed resolution to the concern. If any estimate submitted to the Authority exceeds previously approved estimates or the Authority's budget, the Contractor shall make appropriate recommendations to the Authority.

(c) If, using reasonable project monitoring techniques, the Authority determines, in its sole discretion, that it is unlikely or fails to meet a completion date or a cost estimate due under the Project Plan for any reason regardless of which party is at fault, in addition to any other rights and remedies that may be available to the Authority, at no additional cost to the Authority and at the Authority's option, the Contractor shall provide all necessary additional personnel at its own cost to accelerate performance as may be required or necessary to complete the activities required under the Project Plan within a re-adjusted time frame agreed to by both parties in a change order. The completion date shall be considered met if completed in accordance with the terms of the Contract within ten (10) working days of the originally estimated completion date. The Contractor will provide the Authority with prior written notice for any delays impacting the Application module/track delivery or other Services completion under the Project Plan in the form of a proposed change order.

(d) The Contractor shall use its best efforts after obtaining explicit consent from the Authority to re-sequence the Services to overcome and/or mitigate, to the greatest practicable extent, the effect of any delays regardless of the cause of such delays. Without limiting the foregoing, the Contractor shall diligently prosecute its Services in order to meet the proposed start date for the Application despite a dispute with the Authority relating in any way to the Contract, including without limitation any and all the Contractor's claims for modifications to the payments due to the Contractor. The Contractor and the Authority shall cooperate to resolve all disputes and to adjust the Project Plan accordingly by Contract modification in a timely manner (not to exceed two (2) weeks from the date of notice).

(e) Should the Contractor not progress in its performance of Services at a rate commensurate with the Service Term of the Contract, or fail to meet any scheduled date under the Project Plan, the Authority may, in its sole discretion, direct the Contractor to accelerate the Services by employing additional personnel and equipment or providing overtime to existing personnel as is necessary to complete the Application by the start date, or any portion of the Application by the milestone date specified in the Project Plan. Such the Authority-ordered acceleration shall be at the cost of the Contractor.

4. ACCEPTANCE

- (a) Unless otherwise defined or specified in an Exhibit to the Contract, the provisions set forth in this Section shall determine the Authority's Acceptance of the Application.
- (b) Implementation of the Application shall be completed in a timely manner and appropriate tests conducted by the Contractor with the cooperation of the Authority to facilitate Acceptance of the Application as more fully set forth in the Project Plan; provided, however, that the Authority may upon written request require that the Contractor perform testing with cooperation of the Authority.
- (c) When each component of the Application has been developed and tested by the Contractor as being ready for operational testing, the Contractor shall notify the Authority in writing. The Authority shall provide reasonable assistance to commence operational testing.
- (d) Unless otherwise specified in the Project Plan, within thirty (30) days after operational testing, the Contractor shall certify in writing that the Application component conforms to the Technical Specifications and is capable of being put into full commercial productive use in accordance with the Technical Specifications and otherwise meets the functional and business requirements set forth in the Contract ("the Contractor's Certification"). The Contractor Certification shall not be issued by the Contractor unless the Contractor has completed all tasks required for the installation, configuration, deployment (including data migration) and hosting or operational testing of the Application and such instance is ready for final testing and launch for production use by the Authority and Customers.
- (e) The Application shall be finally accepted by the Authority when:
- (i) each component of the Application is fully operational and properly configured by the Contractor, as applicable, and/or
 - (ii) when the instance of the Application is properly configured and made available to the Authority for production use on the Contractor's hosted environment, each in conformity with the Security Requirements and Technical Specifications outlined in the Contract ("Acceptance").
- (f) If there is any objection to Acceptance, the Authority will provide the Contractor with a written notice (the "Defect Notice") reasonably identifying any claimed discrepancies between the actual performance of the Application component and the requirements set forth in the Contract within thirty (30) days after the issuance of the Contractor's Certification.
- (g) Upon receiving a Defect Notice from the Authority, the Contractor shall confer with the Authority and jointly review each asserted discrepancy to determine if the claimed discrepancy is valid. The Contractor shall either promptly correct the discrepancy and resubmit the Application component for acceptance by the Authority on the same basis as initially submitted or terminate the Contract. If, in the reasonable professional judgment of the Contractor such discrepancy is not valid, the Contractor shall so notify the Authority in writing.
- (h) The written explanation of the Contractor set forth herein shall be deemed accepted by the Authority within thirty (30) days after the Authority's receipt of the written explanation and Acceptance shall be deemed to have occurred unless the Contractor receives from the Authority written notice rejecting such explanation and detailing exactly how the Application component does not conform with the Technical Specifications and/or Security Requirements. If the Application is not accepted by the Authority following two (2) attempts by the Contractor to provide an undisputed the Contractor's Certification, the Authority may terminate the Contract with respect to that particular component or the entire Application, at its sole discretion.
- (i) The foregoing Acceptance procedure shall apply with respect to the Authority's Acceptance of the overall turn-key system comprising all components of the Application (including migrated Authority Data, if applicable) in a condition ready for immediate use and operation by the Authority
- (i) in its facilities and/or the operating environment if a component of the Application is installed, or
 - (ii) via the Contractor's hosted servers for the instance of the Application is hosted, as applicable, on or before the start date set forth in the Project Plan.

(j) In the event that the Authority, upon final review, does not accept the Application or only makes a partial acceptance of the Application, the Authority may elect to:

- (i) accept delivery of the Application "AS IS" at a negotiated equitable reduction in the price and payment schedule for both the Application and any Services; or
- (ii) terminate the Project and receive a refund of all fees paid in advance to the Contractor, which in such event, the Contractor shall immediately repay all fee advances paid by the Authority under the Project Plan and the Authority may retain all holdbacks.

5. TRAINING

The Contractor will perform all training required for access and use of the Application upon initial deployment and during the Service Term, as reasonably requested by the Authority. The Contractor will at a minimum provide the Authority with sufficient training and instruction on the use and operation of the Application. Such training will be performed at the Authority's facilities (unless otherwise agreed upon by the parties in the Project Plan).

6. APPLICATION SUPPORT AND PERFORMANCE

(a) The Contractor shall:

- (i) promptly notify the Authority of any errors in the Application of which it learns from any source;
- (ii) respond to user identified Application errors in no more than 4 hours after notification, and implement corrected Application copies or corrections or bypasses such that the Application performs in all material respects in accordance with the Documentation, within one (1) business day thereafter;
- (iii) provide to all authorized users on a 24 hours per day, 7 days per week basis, all reasonably necessary telephone or web consultation requested by them in connection with their use and operation of the Application; and
- (iv) treat any Application dumps, Authority Data, tapes or any other documentation provided from users to resolve a reported problem as Confidential Information of the Authority.

(b) The Contractor will periodically release maintenance Updates with minimum impact and downtime to the Authority and after business hours. At no additional cost to the Authority, the Contractor will provide access to all maintenance Updates and all new features and functionalities of the Application that are provided by the Contractor to any of its other customers. In each case, the Contractor will provide the Authority with prior written notice (by as much time as practicable but in no event less than one (1) day(s) of the release by the Contractor of any Updates, and will implement such Updates (including any configuration or integration thereto) for access and use by the Authority at no additional cost to the Authority. If the Authority requests the Contractor to test such Updates, the Contractor will promptly test such update to the Authority at no additional cost. If any Update is installed, such Update will thereupon be deemed to be part of the relevant Application upon delivery subject to Acceptance by the Authority. All such Updates, where reasonably necessary, will be accompanied by updated Documentation. The Contractor covenants that each upgrade and will be backwards compatible with all parts of the Application.

(c) The Contractor will use commercially reasonable efforts to maintain the Application with a high level of quality and performance consistent with industry standards and the state-of-the-art technology.

(d) To the greatest extent possible, the Contractor will schedule maintenance during times least disruptive to the Authority's use of the Application. Scheduled maintenance is a period in which the Authority is notified in advance, during which the Contractor may suspend availability of all or part of the Application in order to carry out maintenance activities. Scheduled Maintenance will be scheduled after normal business hours ("Maintenance Window"). To the extent possible, the Contractor will perform maintenance without suspending the Application (i.e., hot) and will coordinate with the Authority by written notice to schedule maintenance requiring downtime at such hours and date least disruptive to its business.

(e) The Authority will be notified by e-mail not less than three (3) calendar days in advance of any period of Scheduled Maintenance that will require suspension of all or the majority of the Application for a period of one (1) hour or more. The Authority will be notified by email not less than seven (7) calendar days in advance of any period of Scheduled Maintenance that will require suspension of all or the majority of the Application for a period of more than one (1) hour. The Contractor will schedule any period of Scheduled Maintenance that requires suspension of all or a major part of the Application for more than three (3) hours during a Maintenance Window on a Friday night, or Saturday or Sunday morning.

7. ADDITIONAL REPRESENTATIONS AND WARRANTIES

In addition to all other representations, warranties, and covenants included in the Contract, Contractor represents, warrants, and covenants, for itself, its employees, subcontractors and agents that:

(a) it is not contractually prohibited from engaging in the Services or providing the Deliverables, and that it is not a party to any contract or under any obligation which conflicts with the terms of the Contract or which prohibits Contractor from carrying out its responsibilities under the Contract;

(b) it is fully able to furnish the Services as contemplated by the Contract;

(c) there are no contracts to which it is a party which would prevent its timely and complete performance of the terms and conditions of the contract, and the Contractor agrees not to enter into any such contract during the pendency of the Contract;

(d) it is experienced in the type of software engineering necessary for completion of the Project, and it understands the complexity involved in this type of project and the necessity of coordination of its Services with stakeholders within which the Project will be performed;

(e) there are no contracts to which it is a party which would prevent its timely and complete performance of the terms and conditions of the contract, and the Contractor agrees not to enter into any such contract during the pendency of the Contract;

(f) the Application will not contain any Malware at all times during which the Application is made available for access and use by the Authority's user or Customers, or any Authority Data is processed using the Application. Any patches, Updates, upgrades or error corrections to the Application provided by the Contractor likewise will not contain any Malware;

(g) the Application will not contain any security mechanisms, including, but not limited to, copy protect mechanisms, encryptions, time-activated disabling devices or other codes, instructions or devices which may disable the modules or other software or erase or corrupt data;

(h) the Application will comply with all Applicable Laws at all times from the date of Acceptance to the expiration of the applicable warranty period;

(i) With respect to the Application,

(i) all modules and other materials (other than third party software and hardware approved by the Authority) will be original;

(ii) there is, and on the date of Acceptance will be, no claim, litigation or proceeding pending or threatened against the Contractor with respect to the Application, or any component thereof, alleging infringement or misappropriation of any patent, copyright, trade secret, trademark or any other personal or proprietary right of any third party in any country; and

(iii) the Application, and any use thereof, shall not infringe upon any Intellectual Property Right of any third party in any country; and

(j) The System will not contain or otherwise be developed using any Open Source Software (as defined below) in a manner that subjects the Authority to any license obligations of such Open Source Software. "Open Source Software" means any software licensed under terms requiring that other software combined or used or distributed with such software:

- (i) be disclosed or distributed in source code form, or
- (ii) be licensed on terms inconsistent with the terms of the Contract.

8. ADDITIONAL WARRANTY REMEDIES

The Authority is entitled to all warranties implied by law or regulation. These warranties shall survive any Acceptance and payment by the Authority for the Services and are in addition to, and shall not be construed as restricting or limiting the warranties of the Contractor, express or implied, that are provided by law or exist by operation of law. For any breach of the warranties contained in this Section, the Authority's remedy, in addition to all remedies available at law or in equity, shall be:

- (a) For Application. The correction of errors that cause breach of the warranty. If the Contractor is unable to provide such error corrections or otherwise make the Application operate as warranted within the periods specified in the Contract, the Authority shall be entitled to terminate the Contract with respect to the affected module/track and recover a prorated amount paid to the Contractor based on each module, which prorated amount will be calculated based on a useful life of five years from the date of final Acceptance. If, however, the loss of functionality cause by such error impacts the overall turn-key system performance of the Application, then the Authority shall be entitled to terminate the Contract with respect to all modules/tracks and recover all amounts paid to the Contractor by the Authority. The Contractor shall not be responsible or liable for any errors that are determined to be attributable to the Authority's failure to comply with any user requirements under the applicable Technical Specifications, or any Force Majeure event.
- (b) For Deliverables. The correction of errors that cause breach of the warranty by re-performing the Services necessary to create the Deliverables and by providing Deliverables conforming with the Technical Requirements at no cost to the Authority.
- (c) For Services. The re-performance of any Services not conforming to the warranty at no cost to the Authority.

9. OWNERSHIP OF THE AUTHORITY MARKS, AUTHORITY DATA AND AUTHORITY ELECTRONIC PROPERTY

- (a) The Contractor will not:
 - (i) use or register any trademark, service mark or domain name that is identical to or confusingly similar to any trademark, service mark, logo or other name owned or used by the Authority, including domain names and trade dress; or
 - (ii) create, acquire, license or support any internet keyword or search term that contains any such marks or other Intellectual Property Rights owned or licensed by the Authority, except as expressly provided in the Project Plan and only in the performance of the Services for the benefit of the Authority. All use thereof inures solely to the benefit of the Authority and is subject to the Authority's quality control and standard guidelines.
- (b) As between the Contractor and the Authority (i.e., without addressing rights of third parties), the Authority is the sole owner of all rights, title and interest in and to any Authority Data and Authority Electronic Property, together with all improvements, derivative works or enhancements to any of the foregoing and all intellectual property rights related thereto. Except as expressly authorized in this Exhibit or the Contract in the performance of the Services solely for the benefit of the Authority or Customers, the Contractor may not use, edit, modify, create derivatives, combinations or compilations of, combine, associate, synthesize, re-identify, reverse engineer, reproduce, display, distribute, disclose, sell or process any Authority Data or Authority Electronic Property. The Contractor will not use any Authority Data or Authority Electronic Property in a manner that is harmful to the Authority.

10. PROPRIETARY INFORMATION AND NON-DISCLOSURE

- (a) The Contractor acknowledges and agrees that the Contract creates a relationship of confidence and trust on the part of the Contractor for the benefit of the Authority. During the term of the Contract, the Contractor may acquire certain "Confidential Information" (as defined herein) from or regarding the Authority employees, agents and representatives or documents, or otherwise as a result of performing the Services of the Contractor hereunder.
- (b) "Confidential Information" as used herein, shall mean and include, without limitation:
- (i) Any information concerning the Authority or the Project, which is provided by the Authority or any Project team members to the Contractor, such as accounting and financial data, product, marketing, development, pricing and related business plans and budgets, and all of the information and plans related to the Project, which are not published;
 - (ii) All Authority Data; and
 - (iii) the Authority Electronic Property.
- (c) The Contractor acknowledges and agrees that all such Confidential Information is and shall be deemed the sole, exclusive, confidential and proprietary property and trade secrets of the Authority at all times during the Service Term and following any expiration of termination hereof. The Contractor agrees to hold in confidence without disclosing or otherwise using any Confidential Information, except as such disclosure or use may be required in connection with and limited to the Services of the Contractor hereunder.
- (d) The Contractor acknowledges and agrees that the Authority would not have entered into the Contract unless the Authority were assured that all such Confidential Information would be held in confidence by the Contractor in trust for the sole benefit of the Authority.
- (e) During the Service Term, the Contractor shall not improperly use or disclose any proprietary information or trade secrets of any third party and will not bring on to the premises of the Authority any unpublished documents or any property belonging to any third party unless consented to in writing by the third party.
- (f) The Contractor's obligation of confidentiality hereunder shall not apply to information that:
- (i) is already in the Contractor's possession without an obligation of confidentiality;
 - (ii) is rightfully disclosed to the Contractor by a third party with no obligation of confidentiality; or
 - (iii) is required to be disclosed by court or regulatory order, provided the Contractor gives the Authority prompt notice of any such order.
- (g) Upon any termination or expiration of the Contract, the Contractor agrees to deliver to the Authority any and all Confidential Information except that the Contractor may keep one file copy of any Confidential Information pertinent to its rights and obligations surviving the expiration or termination of the Contract, which copy shall be held in confidence in accordance with this Section.

11. HOSTED SERVICES

With respect to the Application and/or any Authority Data hosted or Processed by the Contractor, the following terms will apply:

- (a) Unless otherwise designated in the contract or agreed upon in writing by the Authority, the Contractor will use commercially reasonable efforts to make the Application available 24 hours per day 7 days a week. The Contractor represents that access to the Application for The Authority and its Customers will be maintained at an availability standard of 99.99% as measured over the course of a calendar month, excluding Standard Exceptions (the "Service Levels"). "Standard Exceptions" to the 99.99% service-availability standard shall mean scheduled maintenance, maintenance downtime to resolve extraordinary

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technical problems with the Application or the host operating environment, force majeure (including state or federally declared natural disasters in the Contractor's physical locations), or technical difficulties attributable to any non-Contractor computer hardware, or technical difficulties attributable to the Authority's interface with the Application unless such technical difficulties are the direct fault of the Contractor. The Contractor agrees to measure and provide a detailed report to the Authority, on a monthly basis, showing the Contractor's provision of the Application as compared to the Service Levels.

(b) Unless otherwise approved in writing by the Authority, the Contractor must host the Application in the United States of America ("U.S.A.") at the location(s) specified by the Contractor, must provide services under the Contract with resources (e.g., hardware and software) located in the U.S.A, and must not transfer or process any Authority Data outside of the U.S.A.

(c) In the event of the expiration or termination of the Service Term, upon the Authority's written request, the Contractor will provide Termination Assistance Services for a period of time commencing on the effective date of termination or expiration of the Contract and ending on a date designated in advance by the Authority.

(d) The Contractor will promptly notify the Authority upon discovering or otherwise learning of a Security Incident. Following any Security Incident, the Contractor will consult in good faith with the Authority regarding Remediation Efforts that may be necessary and reasonable. The Contractor will:

(i) at the Authority's direction undertake Remediation Efforts at the Contractor's sole expense and reimburse the Authority for its reasonable costs and expenses in connection with any Remediation Efforts that it elects to undertake,

(ii) ensure that such Remediation Efforts provide for, without limitation, prevention of the recurrence of the same type of Security Incident, and

(iii) reasonably cooperate with any Remediation Efforts undertaken by the Authority.

12. THE AUTHORITY'S RIGHTS TO ACCESS AND USE APPLICATION

~~The Contractor hereby grants to the Authority, Customers (but only in their capacity as Customers), and third-party service providers providing services to the Authority (but only in their capacity as the Authority's service providers) a non-exclusive, worldwide, royalty-free license to access and use the Application during the Service Term. Such license shall be enterprise-wide for an unlimited number of users or transactions, unless limitations on use are expressly agreed upon by the Authority in the Contract. The Authority may allow its contractors and service providers to access and use the Application in the course of performing services for the Authority, including application development services, data processing and facilities management services.~~

Contractor will make available to the Authority, on a non-exclusive basis, the Applications indicated in the Technical Specifications. Authority agrees that its purchase of a subscription to the subscription services included in an Application is neither contingent upon the delivery of any future functionality or features nor dependent upon any oral or written public comments made by Contractor regarding future functionality or features. Authority shall not obtain any ownership rights, title or interest in the Application or systems developed or employed by Contractor or its third party providers in providing any Application. Contractor shall not obtain any ownership rights, title or interest to Authority's data contained within the Application.

Unless specifically indicated otherwise, the Authority will use the Application only for its own, internal business purposes. Authority will not: (i) resell, license, rent, transfer, assign, copy, frame, or mirror any part or content of the Application; (ii) make the Application available for timesharing or service bureau purposes; or (iii) otherwise provide access to the Application to any third-party, except as such third-party access is expressly agreed to between the parties. Authority will not, subject to any non-waivable rights Authority may enjoy under applicable law, directly or indirectly: (i) reverse engineer, create derivative works, decompile, disassemble, or otherwise attempt to discover, the source code or underlying structure, ideas, know-how or algorithms relevant to the Application or any software, documentation or data related to the

Application; (ii) interfere with or disrupt the integrity or performance of the Application or third-party data contained therein; (iii) attempt to gain unauthorized access to the Application or its related systems or networks; (iv) modify, translate, or create derivative works based on the Application; or (v) remove, modify, or obscure, any proprietary notices, markings, or labels. Authority may not access or use the Application or Contractor's content or property (including but not limited to marketing and promotional materials), in order to build, support, or assist a third-party in building or supporting products or services that compete with Contractor or its offerings.

If Contractor provides software to Authority for use with the Application, such software is licensed pursuant to the software license terms and conditions of Exhibit K and solely to facilitate Authority's use of the Application. Authority may allow its users to use such Contractor software for this purpose, and Authority is responsible for their compliance with the license terms. Authority's right to use any Contractor software associated to the Application will terminate on the earlier of Contractor's notice (by web posting or otherwise) or the end of the services associated with the Application.

13. USE OF AUTHORITY'S NAME

The Contractor agrees not to make any written use of or reference to the Authority's name for any marketing, public relation, advertising, display or other business purpose or make any use of Authority Data for any activity unrelated to the express business purposes and interests of the Authority under the Contract, without the prior written consent of the Authority, which consent will not be unreasonably withheld.

14. SPECIFIC PERFORMANCE

The Contractor acknowledges and agrees that the remedy at law for the breach of provisions of the Contract (particularly with respect to ownership of intellectual property and Confidential Information) may be inadequate and that the Authority may be entitled to injunctive relief without bond, in addition to any other rights or remedies which the Authority may have for such breach.

15. INDEMNIFICATION

In addition to general indemnification set forth elsewhere in the contract, the following indemnification obligations shall apply:

The Contractor shall, to the proportionate extent that they are responsible, indemnify, defend and hold harmless the Authority and its trustees, directors, officers, employees, Customers and agents from and against any and all Claims and Losses of any nature or kind to the extent arising out of, caused by, or resulting from:

- (a) any failure of the Application or the Services to conform with Applicable Laws or the Technical Specifications or Security Requirements set forth in the Contract;
- (b) any Security Incident; and
- (c) any actual or alleged violation, infringement or misappropriation of any Intellectual Property Rights of a third party related to the Services and the Application, regardless of whether or not any such Claim or Loss is caused in part by any indemnitee. In particular, the Contractor acknowledges that the Contractor's obligation to indemnify the Authority extends to any liability arising out of any actual negligence by the Contractor in the delivery of any products or services under the Contract. Notwithstanding the foregoing, the Contractor shall not be liable to an indemnitee for any losses incurred by such indemnitee to the extent such claim is attributable solely to that indemnitee's sole negligence.

16. APPROVAL

Any approval given by the Authority shall not relieve the Contractor of its obligations and other duties under the Contract or be construed as an assumption or waiver by the Authority.

ATTACHMENT 1 – CAD/AVL SYSTEM REPLACEMENT VEHICLE AND EQUIPMENT LIST

Fleet	Manufacturer	Model	Year	Location	APC	APC MFC-Model	APC Sensor Count	Vehicle	Cellular	Cellular MFC-Model	Fare Collection	GFI Farebox Height	GFI Farebox Board Type	GFI Cardrequest QTY	Destination Sign MFG	Destination Sign Model	Vehicle	Conduent CADA/L	Harris M3300 Radio Use	Interior LED or Display	Interior Display Qty
1981 SERIES	Champion	DEFENDER	2017	2910 East 5th Street	Yes	IRMA-Iris 3D	1	1981	Yes	Sierra MG90	Yes	Short	Blue	0	Luminator	Horizon Gen4	1981	Yes	Voice Only	Sunshine LED	1
1981 SERIES	Champion	DEFENDER	2017	2910 East 5th Street	Yes	IRMA-Iris 3D	1	1982	Yes	Sierra MG90	Yes	Short	Blue	0	Luminator	Horizon Gen4	1982	Yes	Voice Only	Sunshine LED	1
1981 SERIES	Champion	DEFENDER	2017	2910 East 5th Street	Yes	IRMA-Iris 3D	1	1983	Yes	Sierra MG90	Yes	Short	Blue	0	Luminator	Horizon Gen4	1983	Yes	Voice Only	Sunshine LED	1
1981 SERIES	Champion	DEFENDER	2017	2910 East 5th Street	Yes	IRMA-Iris 3D	1	1984	Yes	Sierra MG90	Yes	Short	Blue	0	Luminator	Horizon Gen4	1984	Yes	Voice Only	Sunshine LED	1
2051 SERIES	New Flyer	D40LFR	2008	2910 East 5th Street	Yes	IRMA-Iris Gen4	2	2055	Yes	Sierra MG90	Yes	Tall	Green	0	Luminator	Horizon	2055	Yes	Voice Only	Sunshine LED	1
2051 SERIES	New Flyer	D40LFR	2008	2910 East 5th Street	Yes	IRMA-Iris 3D	2	2058	Yes	Sierra MG90	Yes	Tall	Green	0	Luminator	Horizon	2058	Yes	Voice Only	Sunshine LED	1
2051 SERIES	New Flyer	D40LFR	2008	2910 East 5th Street	Yes	IRMA-Iris Gen4	2	2059	Yes	Sierra MG90	Yes	Tall	Green	0	Luminator	Horizon	2059	Yes	Voice Only	Sunshine LED	1
2051 SERIES	New Flyer	D40LFR	2008	2910 East 5th Street	Yes	IRMA-Iris Gen4	2	2060	Yes	Sierra MG90	Yes	Tall	Green	0	Luminator	Horizon	2060	Yes	Voice Only	Sunshine LED	1
2051 SERIES	New Flyer	D40LFR	2008	2910 East 5th Street	Yes	IRMA-Iris 3D	2	2061	Yes	Sierra MG90	Yes	Tall	Green	0	Luminator	Horizon	2061	Yes	Voice Only	Sunshine LED	1
2051 SERIES	New Flyer	D40LFR	2008	2910 East 5th Street	Yes	IRMA-Iris Gen4	2	2062	Yes	Sierra MG90	Yes	Tall	Green	0	Luminator	Horizon	2062	Yes	Voice Only	Sunshine LED	1
2063 SERIES	New Flyer	D40LFR	2008	2910 East 5th Street	Yes	IRMA-Iris 3D	2	2063	Yes	Sierra MG90	Yes	Tall	Green	0	Luminator	Horizon	2063	Yes	Voice Only	Sunshine LED	1
2063 SERIES	New Flyer	D40LFR	2008	2910 East 5th Street	Yes	IRMA-Iris Gen4	2	2064	Yes	Sierra MG90	Yes	Tall	Green	0	Luminator	Horizon	2064	Yes	Voice Only	Sunshine LED	1
2063 SERIES	New Flyer	D40LFR	2008	2910 East 5th Street	Yes	IRMA-Iris 3D	2	2065	Yes	Sierra MG90	Yes	Tall	Green	0	Luminator	Horizon	2065	Yes	Voice Only	Sunshine LED	1
2063 SERIES	New Flyer	D40LFR	2008	2910 East 5th Street	Yes	IRMA-Iris Gen4	2	2066	Yes	Sierra MG90	Yes	Tall	Green	0	Luminator	Horizon	2066	Yes	Voice Only	Sunshine LED	1
2063 SERIES	New Flyer	D40LFR	2008	2910 East 5th Street	Yes	IRMA-Iris 3D	2	2067	Yes	Sierra MG90	Yes	Tall	Green	0	Luminator	Horizon	2067	Yes	Voice Only	Sunshine LED	1
2063 SERIES	New Flyer	D40LFR	2008	2910 East 5th Street	Yes	IRMA-Iris Gen4	2	2068	Yes	Sierra MG90	Yes	Tall	Green	0	Luminator	Horizon	2068	Yes	Voice Only	Sunshine LED	1
2063 SERIES	New Flyer	D40LFR	2008	2910 East 5th Street	Yes	IRMA-Iris 3D	2	2069	Yes	Sierra MG90	Yes	Tall	Green	0	Luminator	Horizon	2069	Yes	Voice Only	Sunshine LED	1
2063 SERIES	New Flyer	D40LFR	2008	2910 East 5th Street	Yes	IRMA-Iris Gen4	2	2070	Yes	Sierra MG90	Yes	Tall	Green	0	Luminator	Horizon	2070	Yes	Voice Only	Sunshine LED	1
2111 SERIES	Pro Terra	CATALYST E2	2020	9315 McNeil Road	Yes	IRMA-Iris 3D	3	2111	Yes	Sierra MG90	Yes	Tall	Green	0	Luminator	Horizon Gen4	2111	Yes	Voice Only	CleverVision	1
2111 SERIES	Pro Terra	CATALYST E2	2020	9315 McNeil Road	Yes	IRMA-Iris 3D	3	2112	Yes	Sierra MG90	Yes	Tall	Green	0	Luminator	Horizon Gen4	2112	Yes	Voice Only	CleverVision	1
2111 SERIES	Pro Terra	CATALYST E2	2020	9315 McNeil Road	Yes	IRMA-Iris Gen4	3	2113	Yes	Sierra MG90	Yes	Tall	Blue	0	Luminator	Horizon Gen4	2113	Yes	Voice Only	CleverVision	1
2111 SERIES	Pro Terra	CATALYST E2	2020	9315 McNeil Road	Yes	IRMA-Iris 3D	3	2114	Yes	Sierra MG90	Yes	Tall	Blue	0	Luminator	Horizon Gen4	2114	Yes	Voice Only	CleverVision	1
2111 SERIES	Pro Terra	CATALYST E2	2020	9315 McNeil Road	Yes	IRMA-Iris 3D	3	2115	Yes	Sierra MG90	Yes	Tall	Blue	0	Luminator	Horizon Gen4	2115	Yes	Voice Only	CleverVision	1
2111 SERIES	Pro Terra	CATALYST E2	2020	9315 McNeil Road	Yes	IRMA-Iris 3D	3	2116	Yes	Sierra MG90	Yes	Tall	Blue	0	Luminator	Horizon Gen4	2116	Yes	Voice Only	CleverVision	1
2111 SERIES	New Flyer	XE-40	2020	9315 McNeil Road	Yes	IRMA-Iris 3D	3	2121	Yes	Sierra MG90	Yes	Tall	Blue	0	Luminator	Horizon Gen4	2121	Yes	Voice Only	CleverVision	2
2111 SERIES	New Flyer	XE-40	2020	9315 McNeil Road	Yes	IRMA-Iris 3D	3	2122	Yes	Sierra MG90	Yes	Tall	Blue	0	Luminator	Horizon Gen4	2122	Yes	Voice Only	CleverVision	2
2111 SERIES	New Flyer	XE-40	2020	9315 McNeil Road	Yes	IRMA-Iris 3D	3	2123	Yes	Sierra MG90	Yes	Tall	Blue	0	Luminator	Horizon Gen4	2123	Yes	Voice Only	CleverVision	2
2111 SERIES	New Flyer	XE-40	2020	9315 McNeil Road	Yes	IRMA-Iris 3D	3	2124	Yes	Sierra MG90	Yes	Tall	Blue	0	Luminator	Horizon Gen4	2124	Yes	Voice Only	CleverVision	2
2111 SERIES	New Flyer	XE-60	2020	9315 McNeil Road	Yes	IRMA-Iris 3D	5	2131	Yes	Sierra MG90	Yes	Tall	Blue	0	Luminator	Horizon Gen4	2131	Yes	Voice Only	CleverVision	3
2111 SERIES	New Flyer	XE-60	2020	9315 McNeil Road	Yes	IRMA-Iris 3D	5	2132	Yes	Sierra MG90	Yes	Tall	Blue	0	Luminator	Horizon Gen4	2132	Yes	Voice Only	CleverVision	3
2201 SERIES	New Flyer	D40LFR	2009	2910 East 5th Street	Yes	IRMA-Iris Gen4	2	2201	Yes	Sierra MG90	Yes	Tall	Green	0	TwinVision	Smart Series	2201	Yes	Voice Only	Sunshine LED	1
2201 SERIES	New Flyer	D40LFR	2009	2910 East 5th Street	Yes	IRMA-Iris Gen4	2	2202	Yes	Sierra MG90	Yes	Tall	Green	0	TwinVision	Smart Series	2202	Yes	Voice Only	Sunshine LED	1
2201 SERIES	New Flyer	D40LFR	2009	2910 East 5th Street	Yes	IRMA-Iris Gen4	2	2203	Yes	Sierra MG90	Yes	Tall	Green	0	TwinVision	Smart Series	2203	Yes	Voice Only	Sunshine LED	1
2201 SERIES	New Flyer	D40LFR	2009	2910 East 5th Street	Yes	IRMA-Iris Gen4	2	2204	Yes	Sierra MG90	Yes	Tall	Green	0	TwinVision	Smart Series	2204	Yes	Voice Only	Sunshine LED	1
2201 SERIES	New Flyer	D40LFR	2009	2910 East 5th Street	Yes	IRMA-Iris Gen4	2	2205	Yes	Sierra MG90	Yes	Tall	Green	0	TwinVision	Smart Series	2205	Yes	Voice Only	Sunshine LED	1
2201 SERIES	New Flyer	D40LFR	2009	2910 East 5th Street	Yes	IRMA-Iris Gen4	2	2206	Yes	Sierra MG90	Yes	Tall	Green	0	TwinVision	Smart Series	2206	Yes	Voice Only	Sunshine LED	1
2201 SERIES	New Flyer	D40LFR	2009	2910 East 5th Street	Yes	IRMA-Iris Gen4	2	2207	Yes	Sierra MG90	Yes	Tall	Green	0	TwinVision	Smart Series	2207	Yes	Voice Only	Sunshine LED	1
2201 SERIES	New Flyer	D40LFR	2009	2910 East 5th Street	Yes	IRMA-Iris Gen4	2	2208	Yes	Sierra MG90	Yes	Tall	Green	0	TwinVision	Smart Series	2208	Yes	Voice Only	Sunshine LED	1
2201 SERIES	New Flyer	D40LFR	2009	2910 East 5th Street	Yes	IRMA-Iris Gen4	2	2209	Yes	Sierra MG90	Yes	Tall	Green	0	TwinVision	Smart Series	2209	Yes	Voice Only	Sunshine LED	1
2201 SERIES	New Flyer	D40LFR	2009	2910 East 5th Street	Yes	IRMA-Iris Gen4	2	2210	Yes	Sierra MG90	Yes	Tall	Green	0	TwinVision	Smart Series	2210	Yes	Voice Only	Sunshine LED	1
2201 SERIES	New Flyer	D40LFR	2009	2910 East 5th Street	Yes	IRMA-Iris Gen4	2	2211	Yes	Sierra MG90	Yes	Tall	Green	0	TwinVision	Smart Series	2211	Yes	Voice Only	Sunshine LED	1
2201 SERIES	New Flyer	D40LFR	2009	2910 East 5th Street	Yes	IRMA-Iris Gen4	2	2212	Yes	Sierra MG90	Yes	Tall	Green	0	TwinVision	Smart Series	2212	Yes	Voice Only	Sunshine LED	1
2201 SERIES	New Flyer	D40LFR	2009	2910 East 5th Street	Yes	IRMA-Iris Gen4	2	2213	Yes	Sierra MG90	Yes	Tall	Green	0	TwinVision	Smart Series	2213	Yes	Voice Only	Sunshine LED	1
2201 SERIES	New Flyer	D40LFR	2009	2910 East 5th Street	Yes	IRMA-Iris Gen4	2	2214	Yes	Sierra MG90	Yes	Tall	Green	0	TwinVision	Smart Series	2214	Yes	Voice Only	Sunshine LED	1
2201 SERIES	New Flyer	D40LFR	2009	2910 East 5th Street	Yes	IRMA-Iris Gen4	2	2215	Yes	Sierra MG90	Yes	Tall	Green	0	TwinVision	Smart Series	2215	Yes	Voice Only	Sunshine LED	1
2201 SERIES	New Flyer	D40LFR	2009	2910 East 5th Street	Yes	IRMA-Iris Gen4	2	2216	Yes	Sierra MG90	Yes	Tall	Green	0	TwinVision	Smart Series	2216	Yes	Voice Only	Sunshine LED	1

ATTACHMENT 1 – CAD/AVL SYSTEM REPLACEMENT VEHICLE AND EQUIPMENT LIST

[illegible]

VEHICLE AND EQUIPMENT LIST

[illegible]

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VEHICLE AND EQUIPMENT LIST

[illegible]

ATTACHMENT 1 - CAD/AVL SYSTEM REPLACEMENT VEHICLE AND EQUIPMENT LIST

[illegible]

ATTACHMENT 1 - CAD/AVL SYSTEM REPLACEMENT VEHICLE AND EQUIPMENT LIST

[illegible]

ATTACHMENT 1 - CAD/AVL SYSTEM REPLACEMENT VEHICLE AND EQUIPMENT LIST

[illegible]

ATTACHMENT 1 - CAD/VL SYSTEM REPLACEMENT
VEHICLE AND EQUIPMENT LIST

9401 SERIES	MCI		D4500	2019	2910 East 5th Street	Yes	IRMA-Iris 3D	1	9419	Yes	Sierra MG90	Yes	Short	Blue	0	Luminator	Horizon Gen4	9419	Yes	Voice Only	Sunshine LED	1
9401 SERIES	MCI		D4500	2019	2910 East 5th Street	Yes	IRMA-Iris 3D	1	9420	Yes	Sierra MG90	Yes	Short	Blue	0	Luminator	Horizon Gen4	9420	Yes	Voice Only	Sunshine LED	1
9401 SERIES	MCI		D4500	2019	2910 East 5th Street	Yes	IRMA-Iris 3D	1	9421	Yes	Sierra MG90	Yes	Short	Blue	0	Luminator	Horizon Gen4	9421	Yes	Voice Only	Sunshine LED	1
9401 SERIES	MCI		D4500	2019	2910 East 5th Street	Yes	IRMA-Iris 3D	1	9422	Yes	Sierra MG90	Yes	Short	Blue	0	Luminator	Horizon Gen4	9422	Yes	Voice Only	Sunshine LED	1
9401 SERIES	MCI		D4500	2019	2910 East 5th Street	Yes	IRMA-Iris 3D	1	9423	Yes	Sierra MG90	Yes	Short	Blue	0	Luminator	Horizon Gen4	9423	Yes	Voice Only	Sunshine LED	1
9401 SERIES	MCI		D4500	2019	2910 East 5th Street	Yes	IRMA-Iris 3D	1	9424	Yes	Sierra MG90	Yes	Short	Blue	0	Luminator	Horizon Gen4	9424	Yes	Voice Only	Sunshine LED	1
9401 SERIES	MCI		D4500	2019	2910 East 5th Street	Yes	IRMA-Iris 3D	1	9425	Yes	Sierra MG90	Yes	Short	Blue	0	Luminator	Horizon Gen4	9425	Yes	Voice Only	Sunshine LED	1
9401 SERIES	MCI		D4500	2019	2910 East 5th Street	Yes	IRMA-Iris 3D	1	9426	Yes	Sierra MG90	Yes	Short	Blue	0	Luminator	Horizon Gen4	9426	Yes	Voice Only	Sunshine LED	1
9401 SERIES	MCI		D4500	2019	2910 East 5th Street	Yes	IRMA-Iris 3D	1	9427	Yes	Sierra MG90	Yes	Short	Blue	0	Luminator	Horizon Gen4	9427	Yes	Voice Only	Sunshine LED	1
9401 SERIES	MCI		D4500	2019	2910 East 5th Street	Yes	IRMA-Iris 3D	1	9428	Yes	Sierra MG90	Yes	Short	Blue	0	Luminator	Horizon Gen4	9428	Yes	Voice Only	Sunshine LED	1
101 Series	Stadler		G1	2010	9315 McNeil Road_RAIL	Yes	IRMA-Iris 3D	4	DMU101A	Yes	Sierra MG90	No	No	No	No	Ruf	Flipdot	DMU101A	Yes	Both-Separate	Ruf LED	2 per car
101 Series	Stadler		G1	2010	9315 McNeil Road_RAIL	Yes	IRMA-Iris 3D	4	DMU101B	Yes	Sierra MG90	No	No	No	No	Ruf	Flipdot	DMU101B	Yes	Both-Separate	Ruf LED	2 per car
101 Series	Stadler		G1	2010	9315 McNeil Road_RAIL	Yes	IRMA-Iris 3D	4	DMU102A	Yes	Sierra MG90	No	No	No	No	Ruf	Flipdot	DMU102A	Yes	Both-Separate	Ruf LED	2 per car
101 Series	Stadler		G1	2010	9315 McNeil Road_RAIL	Yes	IRMA-Iris 3D	4	DMU102B	Yes	Sierra MG90	No	No	No	No	Ruf	Flipdot	DMU102B	Yes	Both-Separate	Ruf LED	2 per car
101 Series	Stadler		G1	2010	9315 McNeil Road_RAIL	Yes	IRMA-Iris 3D	4	DMU103A	Yes	Sierra MG90	No	No	No	No	Ruf	Flipdot	DMU103A	Yes	Both-Separate	Ruf LED	2 per car
101 Series	Stadler		G1	2010	9315 McNeil Road_RAIL	Yes	IRMA-Iris 3D	4	DMU103B	Yes	Sierra MG90	No	No	No	No	Ruf	Flipdot	DMU103B	Yes	Both-Separate	Ruf LED	2 per car
101 Series	Stadler		G1	2010	9315 McNeil Road_RAIL	Yes	IRMA-Iris 3D	4	DMU104A	Yes	Sierra MG90	No	No	No	No	Ruf	Flipdot	DMU104A	Yes	Both-Separate	Ruf LED	2 per car
101 Series	Stadler		G1	2010	9315 McNeil Road_RAIL	Yes	IRMA-Iris 3D	4	DMU104B	Yes	Sierra MG90	No	No	No	No	Ruf	Flipdot	DMU104B	Yes	Both-Separate	Ruf LED	2 per car
101 Series	Stadler		G1	2010	9315 McNeil Road_RAIL	Yes	IRMA-Iris 3D	4	DMU105A	Yes	Sierra MG90	No	No	No	No	Ruf	Flipdot	DMU105A	Yes	Both-Separate	Ruf LED	2 per car
101 Series	Stadler		G1	2010	9315 McNeil Road_RAIL	Yes	IRMA-Iris 3D	4	DMU105B	Yes	Sierra MG90	No	No	No	No	Ruf	Flipdot	DMU105B	Yes	Both-Separate	Ruf LED	2 per car
101 Series	Stadler		G1	2010	9315 McNeil Road_RAIL	Yes	IRMA-Iris 3D	4	DMU106A	Yes	Sierra MG90	No	No	No	No	Ruf	Flipdot	DMU106A	Yes	Both-Separate	Ruf LED	2 per car
101 Series	Stadler		G1	2010	9315 McNeil Road_RAIL	Yes	IRMA-Iris 3D	4	DMU106B	Yes	Sierra MG90	No	No	No	No	Ruf	Flipdot	DMU106B	Yes	Both-Separate	Ruf LED	2 per car
201 Series	Stadler		G4	2016	9315 McNeil Road_RAIL	Yes	IRMA-Iris 3D	4	DMU201A	Yes	Sierra MG90	No	No	No	No	Ruf	Led	DMU201A	Yes	Both-Separate	Ruf LED	2 per car
201 Series	Stadler		G4	2016	9315 McNeil Road_RAIL	Yes	IRMA-Iris 3D	4	DMU201B	Yes	Sierra MG90	No	No	No	No	Ruf	Led	DMU201B	Yes	Both-Separate	Ruf LED	2 per car
201 Series	Stadler		G4	2016	9315 McNeil Road_RAIL	Yes	IRMA-Iris 3D	4	DMU202A	Yes	Sierra MG90	No	No	No	No	Ruf	Led	DMU202A	Yes	Both-Separate	Ruf LED	2 per car
201 Series	Stadler		G4	2016	9315 McNeil Road_RAIL	Yes	IRMA-Iris 3D	4	DMU202B	Yes	Sierra MG90	No	No	No	No	Ruf	Led	DMU202B	Yes	Both-Separate	Ruf LED	2 per car
201 Series	Stadler		G4	2016	9315 McNeil Road_RAIL	Yes	IRMA-Iris 3D	4	DMU203A	Yes	Sierra MG90	No	No	No	No	Ruf	Led	DMU203A	Yes	Both-Separate	Ruf LED	2 per car
201 Series	Stadler		G4	2016	9315 McNeil Road_RAIL	Yes	IRMA-Iris 3D	4	DMU203B	Yes	Sierra MG90	No	No	No	No	Ruf	Led	DMU203B	Yes	Both-Separate	Ruf LED	2 per car
201 Series	Stadler		G4	2016	9315 McNeil Road_RAIL	Yes	IRMA-Iris 3D	4	DMU204A	Yes	Sierra MG90	No	No	No	No	Ruf	Led	DMU204A	Yes	Both-Separate	Ruf LED	2 per car
201 Series	Stadler		G4	2016	9315 McNeil Road_RAIL	Yes	IRMA-Iris 3D	4	DMU204B	Yes	Sierra MG90	No	No	No	No	Ruf	Led	DMU204B	Yes	Both-Separate	Ruf LED	2 per car

Signs	Destination Sign MFG	Destination Sign Model	Controller Model
1	TwinVision	Smart Series	TV
2	TwinVision	Smart Series2	TV
3	TwinVision	SS Chromatic	TV
4	Luminator	Horizon	ODK
5	Luminator	Horizon Gen4	MCU
6	Luminator	Spectrum Color	MCU

Displays	Interior Display	Interior Sign Model	Control	Details
1	Sunshine LED	Smart Series	1708/1587	7x96 single line, high efficiency RED LED matrix, 16 characters (approximately 1.9" high), 75 degree viewing angle, full J1708/1587 compatibility, ability to scroll messages left to right on display in block form, 90-foot viewing distance, and other signage
2	Clevertvision	29" Wide	Ethernet	29" Ultra-wide display(s) Primary holds the operating system, secondary display(s) duplicate the primary, Standalone using GTFS-RT for updates through the shared cellular router.