



**THE CITY OF WINNIPEG**

# **REQUEST FOR PROPOSAL**

**RFP NO. 945-2012 - ADDENDUM 1**

**REQUEST FOR PROPOSALS FOR THE PROVISION OF AUTOMATIC VEHICLE  
LOCATION SYSTEMS**

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## **PART B - BIDDING PROCEDURES**

### **B1. CONTRACT TITLE**

B1.1 REQUEST FOR PROPOSALS FOR THE PROVISION OF AUTOMATIC VEHICLE LOCATION SYSTEMS

### **B2. SUBMISSION DEADLINE**

B2.1 The Submission Deadline is 4:00 p.m. Winnipeg time, **April 22, 2013**.

B2.2 Proposals determined by the Manager of Materials to have been received later than the Submission Deadline will not be accepted and will be returned upon request.

B2.3 The Contract Administrator or the Manager of Materials may extend the Submission Deadline by issuing an addendum at any time prior to the time and date specified in B2.1.

### **B3. ENQUIRIES**

B3.1 All enquiries shall be directed to the Contract Administrator identified in D5.1.

B3.2 If the Bidder finds errors, discrepancies or omissions in the Request for Proposal, or is unsure of the meaning or intent of any provision therein, the Bidder shall promptly notify the Contract Administrator of the error, discrepancy or omission at least five (5) Business Days prior to the Submission Deadline.

B3.3 If the Bidder is unsure of the meaning or intent of any provision therein, the Bidder should request clarification as to the meaning or intent prior to the Submission Deadline.

B3.4 Responses to enquiries which, in the sole judgment of the Contract Administrator, require a correction to or a clarification of the Request for Proposal will be provided by the Contract Administrator to all Bidders by issuing an addendum.

B3.5 Responses to enquiries which, in the sole judgment of the Contract Administrator, do not require a correction to or a clarification of the Request for Proposal will be provided by the Contract Administrator only to the Bidder who made the enquiry.

B3.6 The Bidder shall not be entitled to rely on any response or interpretation received pursuant to B3 unless that response or interpretation is provided by the Contract Administrator in writing.

### **B4. CONFIDENTIALITY**

B4.1 Information provided to a Bidder by the City or acquired by a Bidder by way of further enquiries or through investigation is confidential. Such information shall not be used or disclosed in any way without the prior written authorization of the Contract Administrator.

B4.2 The Bidder shall not make any statement of fact or opinion regarding any aspect of the Request for Proposals to the media or any member of the public without the prior written authorization of the Contract Administrator.

### **B5. ADDENDA**

B5.1 The Contract Administrator may, at any time prior to the Submission deadline, issue addenda correcting errors, discrepancies or omissions in the Request for Proposal, or clarifying the meaning or intent of any provision therein.

B5.2 The Contract Administrator will issue each addendum at least two (2) Business Days prior to the Submission Deadline, or provide at least two (2) Business Days by extending the Submission Deadline.

- B5.2.1 Addenda will be available on the Bid Opportunities page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/bidopp.asp>
- B5.2.2 The Bidder is responsible for ensuring that he/she has received all addenda and is advised to check the Materials Management Division website for addenda regularly and shortly before the Submission Deadline, as may be amended by addendum.
- B5.3 The Bidder shall acknowledge receipt of each addendum in Paragraph 9 of Form A: Proposal. Failure to acknowledge receipt of an addendum may render a Proposal non-responsive.

## **B6. SUBSTITUTES**

- B6.1 The Work is based on the materials, equipment, methods and products specified in the Request for Proposal.
- B6.2 Substitutions shall not be allowed unless application has been made to and prior approval has been granted by the Contract Administrator in writing.
- B6.3 Requests for approval of a substitute will not be considered unless received in writing by the Contract Administrator at least seven (7) Business Days prior to the Submission Deadline.
- B6.4 The Bidder shall ensure that any and all requests for approval of a substitute:
- (a) provide sufficient information and details to enable the Contract Administrator to determine the acceptability of the material, equipment, method or product as either an approved equal or alternative;
  - (b) identify any and all changes required in the applicable Work, and all changes to any other Work, which would become necessary to accommodate the substitute;
  - (c) identify any anticipated cost or time savings that may be associated with the substitute;
  - (d) certify that, in the case of a request for approval as an approved equal, the substitute will fully perform the functions called for by the general design, be of equal or superior substance to that specified, is suited to the same use and capable of performing the same function as that specified and can be incorporated into the Work, strictly in accordance with the Contract;
  - (e) certify that, in the case of a request for approval as an approved alternative, the substitute will adequately perform the functions called for by the general design, be similar in substance to that specified, is suited to the same use and capable of performing the same function as that specified and can be incorporated into the Work, strictly in accordance with the Contract.
- B6.5 The Contract Administrator, after assessing the request for approval of a substitute, may in his/her sole discretion grant approval for the use of a substitute as an "approved equal" or as an "approved alternative", or may refuse to grant approval of the substitute.
- B6.6 The Contract Administrator will provide a response in writing, at least two (2) Business Days prior to the Submission Deadline, only to the Bidder who requested approval of the substitute.
- B6.6.1 The Bidder requesting and obtaining the approval of a substitute shall be entirely responsible for disseminating information regarding the approval to any person or persons he/she wishes to inform.
- B6.7 If the Contract Administrator approves a substitute as an "approved equal", any Bidder may use the approved equal in place of the specified item.
- B6.8 If the Contract Administrator approves a substitute as an "approved alternative", any Bidder bidding that approved alternative may base his/her Total Bid Price upon the specified item but may also indicate an alternative price based upon the approved alternative. Such alternatives will be evaluated in accordance with B20.

- B6.9 No later claim by the Contractor for an addition to the price(s) because of any other changes in the Work necessitated by the use of an approved equal or an approved alternative will be considered.
- B6.10 Notwithstanding B6.2 to B6.9 and in accordance with B7.7, deviations inconsistent with the Request for Proposal document shall be evaluated in accordance with B20.1(a).

## **B7. PROPOSAL SUBMISSION**

- B7.1 The Proposal shall consist of the following components:
- (a) Form A: Proposal;
  - (b) Form B: Prices.
- B7.2 The Proposal should consist of the following components:
- (a) Experience of Bidder;
  - (b) Value Add;
  - (c) Response to Specifications.
- B7.3 Further to B7.1, the Bidder should include the written correspondence from the Contract Administrator approving a substitute in accordance with B6.
- B7.4 All components of the Proposal shall be fully completed or provided, and submitted by the Bidder no later than the Submission Deadline, with all required entries made clearly and completely, to constitute a responsive Proposal.
- B7.4.1 Bidders should submit one (1) unbound original (marked "original") and six (6) copies.
- B7.5 The Proposal Submission shall be submitted enclosed and sealed in an envelope clearly marked with the RFP number and the Bidder's name and address.
- B7.5.1 Samples or other components of the Proposal Submission which cannot reasonably be enclosed in the envelope may be packaged separately, but shall be clearly marked with the RFP number, the Bidder's name and address, and an indication that the contents are part of the Bidder's Proposal Submission.
- B7.6 Bidders are advised not to include any information/literature except as requested in accordance with B7.1.
- B7.7 Bidders are advised that inclusion of terms and conditions inconsistent with the Request for Proposal document, including the General Conditions, will be evaluated in accordance with B20.1(a).
- B7.8 Proposals submitted by facsimile transmission (fax) or internet electronic mail (e-mail) will not be accepted.
- B7.9 Proposals shall be submitted to:
- The City of Winnipeg  
Corporate Finance Department  
Materials Management Division  
185 King Street, Main Floor  
Winnipeg MB R3B 1J1

## **B8. PROPOSAL**

- B8.1 The Bidder shall complete Form A: Proposal, making all required entries.
- B8.2 Paragraph 2 of Form A: Proposal shall be completed in accordance with the following requirements:

- (a) if the Bidder is a sole proprietor carrying on business in his/her own name, his/her name shall be inserted;
  - (b) if the Bidder is a partnership, the full name of the partnership shall be inserted;
  - (c) if the Bidder is a corporation, the full name of the corporation shall be inserted;
  - (d) if the Bidder is carrying on business under a name other than his/her own, the business name and the name of every partner or corporation who is the owner of such business name shall be inserted.
- B8.2.1 If a Proposal is submitted jointly by two or more persons, each and all such persons shall identify themselves in accordance with B8.2.
- B8.3 In Paragraph 3 of Form A: Proposal, the Bidder shall identify a contact person who is authorized to represent the Bidder for purposes of the Proposal.
- B8.4 Paragraph 11 of Form A: Proposal shall be signed in accordance with the following requirements:
- (a) if the Bidder is a sole proprietor carrying on business in his/her own name, it shall be signed by the Bidder;
  - (b) if the Bidder is a partnership, it shall be signed by the partner or partners who have authority to sign for the partnership;
  - (c) if the Bidder is a corporation, it shall be signed by its duly authorized officer or officers and the corporate seal, if the corporation has one, should be affixed;
  - (d) if the Bidder is carrying on business under a name other than his/her own, it shall be signed by the registered owner of the business name, or by the registered owner's authorized officials if the owner is a partnership or a corporation.
- B8.4.1 The name and official capacity of all individuals signing Form A: Proposal should be printed below such signatures.
- B8.5 If a Proposal is submitted jointly by two or more persons, the word "Bidder" shall mean each and all such persons, and the undertakings, covenants and obligations of such joint Bidders in the Proposal and the Contract, when awarded, shall be both joint and several.
- B9. PRICES**
- B9.1 The Bidder shall state a price in Canadian funds for each item of the Work identified on Form B: Prices.
- B9.1.1 Item 1 and 2 - If GPS Receiver (E2.8) and Data Transmission (E2.9) subsystems are integrated into one unit, state this fact and submit price for Item 1 only and indicate "N/A" for Item 2. Price for Item 1 shall also include the cost of any wires, harness and any other hardware required to install GPS devices (E2.8 and E2.9) in a vehicle in accordance with E2.13.
- B9.1.2 Item 3 and 4 - For Contractor hosted server (reference sections: B10.1 and E2.10).
- (a) Item 3 – Data Server: includes all setup costs including initial setup costs for each new AVL unit to be monitored and tracked. For capacity planning, see section E2.10.3(g).
  - (b) Item 4 – AVL Monitoring Software: includes monthly "monitoring" fees per unit. This shall **not** include cellular data service charges.
- B9.1.3 Item 3 and 4 - For City hosted server (reference sections: B10.1 and E2.10):
- (a) Item 3 – Data Server: includes total cost of the proprietary server side hardware/software required for the implementation of the tracking server. Only add the cost of server hardware, OS, and database if different from City's Server Infrastructure as described in sections D3.3, D3.4, D3.5, and D3.6. Note: Successful Bidders short listed for Phase One shall supply evaluation copies of software, and any proprietary server side hardware not available in the City's Server infrastructure,

required to setup the Data Server during the trial and testing period (see B20.8.1 and D3.1.1(a)). For capacity planning, see section E2.11.1(g).

- (b) Item 4 – AVL Monitoring Software: includes per user licensing cost, if any. Note: Successful Bidders short listed for Phase One shall supply evaluation copies of the AVL Monitoring Software (both client and server components) during the trial and testing period (see B20.8.1 and D3.1(a)).

- B9.1.4 Item 5 - For Training and Documentation, indicate cost of one set of documentation and reference material and training for one group of City employees as detailed in E2.12.
- B9.1.5 Item 6 - Annual Operating Costs shall be any incremental costs such as maintenance fees required to support hardware and software as detailed in B9.1.2(a).
- B9.1.6 Item 7 – For Hardware Installation Cost, indicate the full cost (labour and any additional associated costs) of installing one set of GPS hardware (E2.8 and E2.9) in a vehicle in accordance with E2.13. The installation cost shall **not** include connections detailed in the section Vehicle Telematics (E2.14).
- B9.1.7 Items 8 and 9, Indicate the incremental cost of adding these options together with required connectors and 5 feet of wiring. If either of these options are already built into the base units (E2.8 and E2.9) and their standard price (B9.1.1) includes required wires/connectors as well, indicate \$0 as the incremental cost for that option.
- B9.1.8 Prices on Form B: Prices shall include:
- (a) duty;
  - (b) freight and cartage;
  - (c) Provincial and Federal taxes [except the Goods and Services Tax (GST) and Manitoba Retail Sales Tax (MRST, also known as PST), which shall be extra where applicable] and all charges governmental or otherwise paid;
  - (d) profit and all compensation which shall be due to the Contractor for the Work and all risks and contingencies connected therewith.
- B9.2 The quantities listed on Form B: Prices are to be considered approximate only. The City will use said quantities for the purpose of comparing Proposals.
- B9.3 The quantities for which payment will be made to the Contractor are to be determined by the Work actually performed and completed by the Contractor, to be measured as specified in the applicable Specifications.
- B9.4 Where applicable to the Request for Proposal, payments for services to Non-Resident Bidders are subject to a Non-Resident Withholding Tax pursuant to the Income Tax Act (Canada).

## **B10. UNIQUE SOLUTIONS**

- B10.1 In addition to the traditional contractor maintained hosted solutions, submissions are also encouraged from Bidders who would allow the City to run its own store and forward host server (“tracking server”) to receive data directly from AVL devices without having to go through any third-party or contractor offered monitoring/tracking/hosting service. For solutions allowing the City to run its own tracking server, the City’s incremental cost of all new hardware and software required to implement that server, and monthly data transmission costs (for example: charges by the cellular service provider) will then be added to the price during the evaluation process.
- B10.2 Bidder shall provide any additional costs to integrate into the City environment not included in Form B prices or outlined in PART D or PART E of this document.

## **B11. QUALIFICATION**

- B11.1 The Bidder shall:
- (a) undertake to be in good standing under The Corporations Act (Manitoba), or properly registered under The Business Names Registration Act (Manitoba), or otherwise properly



registered, licensed or permitted by law to carry on business in Manitoba, or if the Bidder does not carry on business in Manitoba, in the jurisdiction where the Bidder does carry on business; and

- (b) be financially capable of carrying out the terms of the Contract; and
- (c) have all the necessary experience, capital, organization, and equipment to perform the Work in strict accordance with the terms and provisions of the Contract.

B11.2 The Bidder and any proposed Subcontractor (for the portion of the Work proposed to be subcontracted to them) shall:

- (a) be responsible and not be suspended, debarred or in default of any obligations to the City. A list of suspended or debarred individuals and companies is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/debar.stm>

B11.3 The Bidder and/or any proposed Subcontractor (for the portion of the Work proposed to be subcontracted to them) shall:

- (a) have successfully carried out work similar in nature, scope and value to the Work; and
- (b) be fully capable of performing the Work required to be in strict accordance with the terms and provisions of the Contract; and
- (c) have a written workplace safety and health program, if required, pursuant to The Workplace Safety and Health Act (Manitoba).

B11.4 The Bidder shall submit, within three (3) Business Days of a request by the Contract Administrator, proof satisfactory to the Contract Administrator of the qualifications of the Bidder and of any proposed Subcontractor.

B11.5 The Bidder shall provide, on the request of the Contract Administrator, full access to any of the Bidder's equipment and facilities to confirm, to the Contract Administrator's satisfaction, that the Bidder's equipment and facilities are adequate to perform the Work.

## **B12. EXPERIENCE OF BIDDER**

B12.1 The Bidder should provide information detailing the following:

- (a) relevant experience;
- (b) existing experiences with Bidder's implementation and support.

B12.2 The City may require Bidders to provide a demonstration and oral presentation of their solution based on functional and architectural requirements as set out in this RFP.

## **B13. VALUE ADD**

B13.1 Value Add - Items 10, 11, 12, and 13: Indicate the incremental cost of adding these options together with required connectors and 5 feet of wiring. If any of these options are already built into the base units (E2.8 and E2.9) and their standard price (B9.1.1) includes required wires/connectors as well, indicate \$0 as the incremental cost for that option here. If the system does not offer any of these options as add-ons, indicate N/A for that option.

## **B14. RESPONSE TO SPECIFICATIONS**

B14.1 The Bidder should provide a response to each point in Part E Specifications indicating compliance or non-compliance. Bidders shall state "yes" for compliance or state deviation. Deviations shall be clearly stated and fully detailed.

## **B15. OPENING OF PROPOSALS AND RELEASE OF INFORMATION**

B15.1 Proposals will not be opened publicly.

B15.2 After award of Contract, the name(s) of the Contractor(s) and the Contract amount(s) will be available on the Closed Bid Opportunities (or Public/Posted Opening & Award Results) page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/>

B15.3 To the extent permitted, the City shall treat all Proposal as confidential, however the Bidder is advised that any information contained in any Proposal Submission may be released if required by City policy or procedures, by The Freedom of Information and Protection of Privacy Act (Manitoba), by other authorities having jurisdiction, or by law.

#### **B16. IRREVOCABLE OFFER**

B16.1 The Proposal(s) submitted by the Bidder shall be irrevocable for the time period specified in Paragraph 10 of Form A: Proposal.

B16.2 The acceptance by the City of any Proposal shall not release the Proposals of the other responsive Bidders and these Bidders shall be bound by their offers on such Work for the time period specified in Paragraph 10 of Form A: Proposal.

#### **B17. WITHDRAWAL OF OFFERS**

B17.1 A Bidder may withdraw his/her Proposal without penalty by giving written notice to the Manager of Materials at any time prior to the Submission Deadline.

B17.1.1 Notwithstanding C21, the time and date of receipt of any notice withdrawing a Proposal shall be the time and date of receipt as determined by the Manager of Materials.

B17.1.2 The City will assume that any one of the contact persons named in Paragraph 3 of Form A: Proposal or the Bidder's authorized representatives named in Paragraph 11 of Form A: Proposal, and only such person, has authority to give notice of withdrawal.

B17.1.3 If a Bidder gives notice of withdrawal prior to the Submission Deadline, the Manager of Materials will:

- (a) retain the Proposal until after the Submission Deadline has elapsed;
- (b) open the Proposal to identify the contact person named in Paragraph 3 of Form A: Proposal and the Bidder's authorized representatives named in Paragraph 11 of Form A: Proposal; and
- (c) if the notice has been given by any one of the persons specified in B17.1.3(b), declare the Proposal withdrawn.

B17.2 A Bidder who withdraws his/her Proposal after the Submission Deadline but before his/her offer has been released or has lapsed as provided for in B16.2 shall be liable for such damages as are imposed upon the Bidder by law and subject to such sanctions as the Chief Administrative Officer considers appropriate in the circumstances. The City, in such event, shall be entitled to all rights and remedies available to it at law.

#### **B18. INTERVIEWS**

B18.1 The Contract Administrator may, in his/her sole discretion, interview Bidders during the evaluation process.

#### **B19. NEGOTIATIONS**

B19.1 The City reserves the right to negotiate details of the Contract with any Bidder. Bidders are advised to present their best offer, not a starting point for negotiations in their Proposal Submission.

B19.2 The City may negotiate with the Bidders submitting, in the City's opinion, the most advantageous Proposals. The City may enter into negotiations with one or more Bidders without being obligated to offer the same opportunity to any other Bidders. Negotiations may be

concurrent and will involve each Bidder individually. The City shall incur no liability to any Bidder as a result of such negotiations.

B19.3 If, in the course of negotiations pursuant to B19.2 or otherwise, the Bidder amends or modifies a Proposal after the Submission Deadline, the City may consider the amended Proposal as an alternative to the Proposal already submitted without releasing the Bidder from the Proposal as originally submitted.

## **B20. EVALUATION OF PROPOSALS**

B20.1 Award of the Contract shall be based on the following evaluation criteria:

- |   |              |
|---|--------------|
| (a) compliance by the Bidder with the requirements of the Request for Proposal or acceptable deviation therefrom: | (pass/fail); |
| (b) qualifications of the Bidder and the Subcontractors, if any, pursuant to B11                                  | (pass/fail); |
| (c) Evaluated Bid Price   | 40%          |
| (d) Experience of Bidder  | 10%          |
| (e) Value Add   | 5%           |
| (f) Response to Specifications  | 45%          |
| (g) economic analysis of any approved alternative pursuant to B6.   |              |

B20.2 Further to B20.1(a), the Award Authority may reject a Proposal as being non-responsive if the Proposal Submission is incomplete, obscure or conditional, or contains additions, deletions, alterations or other irregularities. The Award Authority may reject all or any part of any Proposal, or waive technical requirements or minor informalities or irregularities if the interests of the City so require.

B20.3 Further to B20.1(b), the Award Authority shall reject any Proposal submitted by a Bidder who does not demonstrate, in his/her Proposal, in other information required to be submitted, during interviews or in the course of reference checks, that he/she is responsible and qualified.

B20.4 Further to B20.1(c), the Evaluated Bid Price shall be the sum of the quantities multiplied by the unit prices for each item shown on Form B: Prices plus any additional costs provided in response to the unique solution in accordance with B10.

B20.5 Further to B20.1(d), Experience of Bidder shall be evaluated considering the information submitted in response to B12.

B20.6 Further to B20.1(e), Value Add shall be the sum of the quantities for Items 10, 11, 12, and 13 multiplied by the unit prices for these items shown on Form B: Prices in response to B13.

B20.6.1 Notwithstanding B9.1, the Bidder may, but is not required to, bid on Value Add: Items 10, 11, 12, and 13.

B20.6.2 The City reserves the right not to award Items 10, 11, 12, and 13.

B20.7 Further to B20.1(f), Response to Specifications shall be evaluated considering the information submitted in response to B14.

B20.8 The Contract will be awarded in phases.

B20.8.1 Phase One evaluation shall be in accordance with B20.1 for a trial and testing period and shall be awarded to Bidders submitting the most advantageous offers to the City in accordance with D3.1(a).

B20.8.2 Phase Two evaluation shall be evaluated in accordance with D3.1.1 will be for the Supply and Delivery of AVL Systems in accordance with D3.1(b) and will be awarded to the Bidder determined to have provided the most advantageous offer based on the results of Phase One.

## **B21. AWARD OF CONTRACT**

- B21.1 The City will give notice of the award of the Contract or will give notice that no award will be made.
- B21.2 The City will have no obligation to award a Contract to a Bidder, even though one or all of the Bidders are determined to be responsible and qualified, and the Proposals are determined to be responsive.
- B21.2.1 Without limiting the generality of B21.2, the City will have no obligation to award a Contract where:
- (a) the prices exceed the available City funds for the Work;
  - (b) the prices are materially in excess of the prices received for similar work in the past;
  - (c) the prices are materially in excess of the City's cost to perform the Work, or a significant portion thereof, with its own forces;
  - (d) only one Proposal is received; or
  - (e) in the judgment of the Award Authority, the interests of the City would best be served by not awarding a Contract.
- B21.3 Where an award of Contract is made by the City, the award shall be made to the responsible and qualified Bidder submitting the most advantageous offer, in accordance with B20.
- B21.4 The City may, at its discretion, award the Contract in phases.
- B21.5 Notwithstanding C4 and Paragraph 6 of Form A: Proposal, the City will issue a purchase order to the Contractor in lieu of the execution of a Contract.
- B21.6 The Contract Documents, as defined in C1.1(n) (ii), in their entirety shall be deemed to be incorporated in and to form a part of the purchase order notwithstanding that they are not necessarily attached to or accompany said purchase order.

## **PART C - GENERAL CONDITIONS**

### **C0. GENERAL CONDITIONS**

C0.1 The *General Conditions for the Supply of Goods* (Revision 2008 05 26) are applicable to the Work of the Contract.

C0.1.1 The *General Conditions for the Supply of Goods* are available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at [http://www.winnipeg.ca/matmgt/gen\\_cond.stm](http://www.winnipeg.ca/matmgt/gen_cond.stm)

C0.2 A reference in the proposal to a section, clause or subclause with the prefix “**C**” designates a section, clause or subclause in the *General Conditions for Supply of Goods*.

## PART D - SUPPLEMENTAL CONDITIONS

### GENERAL

#### D1. GENERAL CONDITIONS

D1.1 In addition to the *General Conditions for the Supply of Goods*, these Supplemental Conditions are applicable to the Work of the Contract.

#### D2. BACKGROUND

D2.1 The City of Winnipeg (CoW) is located in the province of Manitoba, which is located in south central Canada, just north of North Dakota, USA. It has a population of approximately 700,000 and has one of the most balanced, diverse and stable urban economies in Canada.

D2.2 Winnipeg Fleet Management Agency (WFMA) is a Special Operating Agency responsible for delivering cost effective fleet management services to City of Winnipeg departments. It manages a fleet of approximately 1900 vehicles and other equipment.

D2.3 WFMA wishes to install an AVL system ("system") in its fleet of approximately 1900 vehicles and other equipment. The purpose of the system is to record the location of each vehicle at a user definable rate ranging from real-time to once per day or upon the occurrence of predefined events detailed later in the specifications. The system must also be able to interface with vehicle mounted controllers to derive information such as material being used, dry material application rate, wet material application rate, spinner mode, pause status, blast status, error event status, controller status, etc.

#### D3. SCOPE OF WORK

D3.1 The Work to be done under the Contract shall consist of two phases as follows:

- (a) **Phase One** shall be the trial and testing of automatic vehicle location systems for a three to six month period. The City intends to test up to twenty (20) AVL units from each short listed Bidder.
- (b) **Phase Two** shall consist of the supply and delivery of the AVL system that is determined to be the most advantageous based on the results of the trial and testing.

D3.1.1 The system from each short listed Bidder will be evaluated throughout Phase One (trial and testing period) using the following criteria:

- (a) Evaluated Bid Price 40%
- (b) Performance of the system 60%

D3.1.2 Further to D3.1.1(a), the Evaluated Bid Price shall be the sum of the quantities multiplied by the unit prices for each item shown on Form B: Prices plus any additional costs provided in response to the unique solution in accordance with B10.

D3.1.3 Further to D3.1.1(b), Performance of the system will be evaluated considering:

- (a) its suitability to meet the City's operational needs in accordance with all specifications laid out in Section E;
- (b) ease of use;
- (c) ease of GPS hardware installation;
- (d) hardware/software implementation & administration;
- (e) extensibility & customization options using SDK (Software Development Kit).

D3.2 The system must be compatible with the Information Technology environment in the City of Winnipeg as detailed below and in accordance with D3.3 to D3.7.

- (a) The system must operate in Windows XP and Windows 7, permit use of multiple windows making use of full screen size to ensure good visibility, without the need for Users to change the operating system's screen resolution;
- (b) The system must be compatible with Microsoft Internet Explorer and Microsoft Office versions 2003 and 2010.
- (c) The system must be able to import/export Geospatial data from/to the City's GIS system which is based on Intergraph GeoMedia and Oracle Spatial. The Geospatial data exchange with Intergraph GeoMedia must not require any data conversion tools or services other than what's natively built in the AVL system and Intergraph GeoMedia.

## SERVER INFRASTRUCTURE

- D3.3 Server Hardware/Operating System: The City uses HP/Intel Windows 2008 Server platforms, and employs Microsoft Systems Center Operations Manager to monitor and manage the server environment.
- D3.4 Storage: The City has a SAN environment consisting of HDS Storage Subsystems (NSC55, AMS1000) and Brocade switches to support data storage requirements for the production and development database tiers. IBM's TSM Backup/Archive and Microsoft DPM products are used for backup and recovery services.
- D3.5 Database: The City uses Oracle 11g Standard Edition and Microsoft SQL Server 2005 Standard Edition. For larger scale applications Oracle is the preferred platform. The City has implemented a functional database environment that fulfills all application system functional requirements, provides full online back-up, recovery and reorganization facilities including database transaction logging and up-to-the-minute forward recovery, plus timely automated reporting of actual or potential errors or problems. The City conducts database performance measurement and tuning as necessary.
- D3.6 Network: The City of Winnipeg Backbone Network Infrastructure allows TCP/IP data communications between all City departments. This allows about 5,000 devices connected through the Backbone Network to be able to communicate with each other, the Internet and with central servers at two corporate data centers. Over 150 remote sites are connected to the City's Backbone Network at speeds ranging from 100/1000BaseT fiber optic connectivity for large LANs, 10 Mbps for medium sized LANs and 2 Mbps connections for small LANs. Cisco routers and switches are used in the WAN and LAN as well as for VPN remote access. Checkpoint Nokia firewall products provide network security.
- D3.7 Data Warehouse: The City utilizes Oracle's Enterprise Performance Management (Version 9.1) data warehouse and Cognos (Version 7.3 or higher) to provide in-depth analytical reporting. Extract, Transfer and Load (ETL) functionality is provided by Ascential (Version 7.5 or higher).
- D3.8 The Work to be done under the Contract for Phase Two shall consist of the supply and delivery of the AVL system for the period from award of Contract until December 31, 2014, with the option of two (2) mutually agreed upon one (1) year extensions.
  - D3.8.1 The City may negotiate the extension option with the Contractor within sixty (60) Calendar Days prior to the expiry date of the Contract. The City shall incur no liability to the Contractor as a result of such negotiations.
  - D3.8.2 Changes resulting from such negotiations shall become effective on January 1 of the respective year. Changes to the Contract shall not be implemented by the Contractor without written approval by the Contract Administrator.
- D3.9 The Work shall be done on an "as required" basis during the term of the Contract.
  - D3.9.1 The type and quantity of Work to be performed under this Contract shall be as authorized from time to time by the Contract Administrator and/or Users.
  - D3.9.2 Subject to C7, the City shall have no obligation under the Contract to purchase any quantity of any item in excess of its actual operational requirements.

D3.10 Notwithstanding D3, in the event that operational changes result in substantial changes to the requirements for Work, the City reserves the right to alter the type or quantity of work performed under this Contract, or to terminate the Contract, upon thirty (30) Calendar Days written notice by the Contract Administrator. In such an event, no claim may be made for damages on the ground of loss of anticipated profit on Work.

D3.11 **The most advantageous automatic vehicle location system chosen will become a City of Winnipeg Fleet Management Agency standard.**

#### **D4. DEFINITIONS**

D4.1 When used in this Request for Proposal:

- (a) **“Near Real-Time”** means time period not to exceed 30 seconds;
- (b) **“Real-Time”** means time period not to exceed 2 seconds;
- (c) **“SDK”** means Software Development Kit;
- (d) **“Tracking Server”** means a host computer (server) which is the first storage point for the data transmitted from AVL units. AVL units transmit their positional information and other data to this server without going through any other intermediary/third-party server/hosting service.

#### **D5. CONTRACT ADMINISTRATOR**

D5.1 The Contract Administrator is:

Nasir Noor  
Manager of Information Systems & Technology – Public Works Department

Telephone No.: 204 471-5905

Facsimile No.: 204 986-7358

E-mail: [nnoor@winnipeg.ca](mailto:nnoor@winnipeg.ca)

D5.2 Bids Submissions must be submitted to the address in B7.9.

#### **D6. NOTICES**

D6.1 Notwithstanding C21.3 all notices of appeal to the Chief Administrative Officer shall be sent to the attention of the Chief Financial Officer at the following facsimile number:

The City of Winnipeg  
Chief Financial Officer

Facsimile No.: 204 949-1174

#### **D7. OWNERSHIP OF INFORMATION, CONFIDENTIALITY AND NON DISCLOSURE**

D7.1 The Contract, all deliverables produced or developed, and information provided to or acquired by the Contractor are the property of the City and shall not be appropriated for the Contractors own use, or for the use of any third party.

D7.2 The Contractor shall not make any public announcements or press releases regarding the Contract, without the prior written authorization of the Contract Administrator.

D7.3 The following shall be confidential and shall not be disclosed by the Contractor to the media or any member of the public without the prior written authorization of the Contract Administrator;

- (a) information provided to the Contractor by the City or acquired by the Contractor during the course of the Work;
- (b) the Contract, all deliverables produced or developed; and
- (c) any statement of fact or opinion regarding any aspect of the Contract.



- D7.4 A Contractor who violates any provision of D7 may be determined to be in breach of Contract Notices.

## **SUBMISSIONS**

### **D8. AUTHORITY TO CARRY ON BUSINESS**

- D8.1 The Contractor shall be in good standing under The Corporations Act (Manitoba), or properly registered under The Business Names Registration Act (Manitoba), or otherwise properly registered, licensed or permitted by law to carry on business in Manitoba, or if the Contractor does not carry on business in Manitoba, in the jurisdiction where the Contractor does carry on business, throughout the term of the Contract, and shall provide the Contract Administrator with evidence thereof upon request.

### **D9. PERFORMANCE SECURITY (FOR PHASE TWO ONLY)**

- D9.1 The Contractor shall provide and maintain performance security until the expiration of the warranty period in the form of:
- (a) a performance bond of a company registered to conduct the business of a surety in Manitoba, in the form attached to these Supplemental Conditions (Form H1: Performance Bond), in the amount of fifty percent (50%) of the Contract Price; or
  - (b) an irrevocable standby letter of credit issued by a bank or other financial institution registered to conduct business in Manitoba and drawn on a branch located in Winnipeg, in the form attached to these Supplemental Conditions (Form H2: Irrevocable Standby Letter of Credit), in the amount of fifty percent (50%) of the Contract Price; or
  - (c) a certified cheque or draft payable to "The City of Winnipeg", drawn on a bank or other financial institution registered to conduct business in Manitoba, in the amount of fifty percent (50%) of the Contract Price.
- D9.1.1 Where the performance security is in the form of a certified cheque or draft, it will be deposited by the City. The City will not pay any interest on certified cheques or drafts furnished as performance security.
- D9.2 The Contractor shall provide the City Solicitor with the required performance security within seven (7) Calendar Days of notification of the award of the Contract by way of and prior to the commencement of any Work on the Site.

## **SCHEDULE OF WORK**

### **D10. COMMENCEMENT**

- D10.1 The Contractor shall not commence any Work until he/she is in receipt of a notice of award from the City authorizing the commencement of the Work.
- D10.2 The Contractor shall not commence any Work until:
- (a) the Contract Administrator has confirmed receipt and approval of:
    - (i) evidence of authority to carry on business specified in D8;
    - (ii) evidence of the workers compensation coverage specified in C6.16;
    - (iii) the performance security specified in D9.
  - (b) the Contractor has attended a meeting with the Contract Administrator, or the Contract Administrator has waived the requirement for a meeting.

### **D11. DELIVERY**

- D11.1 Goods shall be delivered within thirty (30) Calendar Day(s) of the placing of an order, f.o.b. destination, freight prepaid to:

770 Ross Ave.  
Winnipeg, MB. R3E 1C6

Telephone No.: 204 471-5905

Facsimile No.: 204 986-7358

E-mail: [nnoor@winnipeg.ca](mailto:nnoor@winnipeg.ca)

D11.2 The Contractor shall confirm each delivery with the Contract Administrator or his/her designate, at least two (2) Business Days before delivery.

D11.3 Goods shall be delivered between 8:30 a.m. and 4:30 p.m. on Business Days.

## **D12. LIQUIDATED DAMAGES (FOR PHASE TWO ONLY)**

D12.1 If the Contractor fails to achieve delivery of the goods within the time specified in D11.1, the Contractor shall pay the City two hundred dollars (\$200) per Calendar Day for each and every Calendar Day until the goods have been delivered.

D12.2 The amount specified for liquidated damages in D12.1 is based on a genuine pre-estimate of the City's damages in the event that the Contractor does not achieve Delivery by the day fixed herein for same.

D12.3 The City may reduce any payment to the Contractor by the amount of any liquidated damages assessed.

## **MEASUREMENT AND PAYMENT**

### **D13. INVOICES**

D13.1 Further to C10, the Contractor shall submit an invoice for each order delivered to:

The City of Winnipeg  
Corporate Finance - Accounts Payable  
4th Floor, Administration Building, 510 Main Street  
Winnipeg MB R3B 1B9

Facsimile No.: 204 949-0864

Email: [CityWpgAP@winnipeg.ca](mailto:CityWpgAP@winnipeg.ca)

D13.2 Invoices must clearly indicate, as a minimum:

- (a) the City's purchase order number;
- (b) date of delivery;
- (c) delivery address;
- (d) type and quantity of goods delivered;
- (e) the amount payable with GST and MRST shown as separate amounts; and
- (f) the Contractor's GST registration number.

D13.3 The City will bear no responsibility for delays in approval of invoices which are improperly submitted.

D13.4 Bids Submissions must be submitted to the address in B7.9.

### **D14. PAYMENT**

D14.1 Further to C10, the City may at its option pay the Contractor by direct deposit to the Contractor's banking institution.

**D15. PAYMENT SCHEDULE**

D15.1 Further to C10, payment shall be in Canadian funds net thirty (30) Calendar Days after receipt and approval of the Contractor's invoice.

**WARRANTY**

**D16. WARRANTY**

D16.1 Warranty is as stated in C11.

**FORM H1: PERFORMANCE BOND**  
(See D9)

KNOW ALL MEN BY THESE PRESENTS THAT

\_\_\_\_\_ ,  
(hereinafter called the "Principal"), and

\_\_\_\_\_ ,  
(hereinafter called the "Surety"), are held and firmly bound unto **THE CITY OF WINNIPEG** (hereinafter called the "Obligee"), in the sum of

\_\_\_\_\_ dollars (\$\_\_\_\_\_)

of lawful money of Canada to be paid to the Obligee, or its successors or assigns, for the payment of which sum the Principal and the Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS the Principal has entered into a written contract with the Obligee for

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REQUEST FOR PROPOSALS FOR THE PROVISION OF AUTOMATIC VEHICLE LOCATION SYSTEMS

which is by reference made part hereof and is hereinafter referred to as the "Contract".

NOW THEREFORE the condition of the above obligation is such that if the Principal shall:

- (a) carry out and perform the Contract and every part thereof in the manner and within the times set forth in the Contract and in accordance with the terms and conditions specified in the Contract;
- (b) perform the Work in a good, proper, workmanlike manner;
- (c) make all the payments whether to the Obligee or to others as therein provided;
- (d) in every other respect comply with the conditions and perform the covenants contained in the Contract; and
- (e) indemnify and save harmless the Obligee against and from all loss, costs, damages, claims, and demands of every description as set forth in the Contract, and from all penalties, assessments, claims, actions for loss, damages or compensation whether arising under "The Workers Compensation Act", or any other Act or otherwise arising out of or in any way connected with the performance or non-performance of the Contract or any part thereof during the term of the Contract and the warranty period provided for therein;

THEN THIS OBLIGATION SHALL BE VOID, but otherwise shall remain in full force and effect. The Surety shall not, however, be liable for a greater sum than the sum specified above.

AND IT IS HEREBY DECLARED AND AGREED that the Surety shall be liable as Principal, and that nothing of any kind or matter whatsoever that will not discharge the Principal shall operate as a discharge or release of liability of the Surety, any law or usage relating to the liability of Sureties to the contrary notwithstanding.

IN WITNESS WHEREOF the Principal and Surety have signed and sealed this bond the

\_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_ .

**SIGNED AND SEALED**  
in the presence of:

\_\_\_\_\_  
(Witness as to Principal if no seal)

\_\_\_\_\_  
(Name of Principal)

Per: \_\_\_\_\_ (Seal)

Per: \_\_\_\_\_

\_\_\_\_\_  
(Name of Surety)

By: \_\_\_\_\_ (Seal)  
(Attorney-in-Fact)

**FORM H2: IRREVOCABLE STANDBY LETTER OF CREDIT  
(PERFORMANCE SECURITY)  
(See D9)**

\_\_\_\_\_  
(Date)

The City of Winnipeg  
Corporate Services Department  
Legal Services Department  
185 King Street, 3rd Floor  
Winnipeg MB R3B 1J1

RE: PERFORMANCE SECURITY – RFP NO. 945-2012 - Addendum 1

REQUEST FOR PROPOSALS FOR THE PROVISION OF AUTOMATIC VEHICLE LOCATION SYSTEMS

Pursuant to the request of and for the account of our customer,

\_\_\_\_\_  
(Name of Contractor)

\_\_\_\_\_  
(Address of Contractor)

WE HEREBY ESTABLISH in your favour our irrevocable Standby Letter of Credit for a sum not exceeding in the aggregate

\_\_\_\_\_ Canadian dollars.

This Standby Letter of Credit may be drawn on by you at any time and from time to time upon written demand for payment made upon us by you. It is understood that we are obligated under this Standby Letter of Credit for the payment of monies only and we hereby agree that we shall honour your demand for payment without inquiring whether you have a right as between yourself and our customer to make such demand and without recognizing any claim of our customer or objection by the customer to payment by us.

The amount of this Standby Letter of Credit may be reduced from time to time only by amounts drawn upon it by you or by formal notice in writing given to us by you if you desire such reduction or are willing that it be made.

Partial drawings are permitted.

We engage with you that all demands for payment made within the terms and currency of this Standby Letter of Credit will be duly honoured if presented to us at:

\_\_\_\_\_  
(Address)

and we confirm and hereby undertake to ensure that all demands for payment will be duly honoured by us.

All demands for payment shall specifically state that they are drawn under this Standby Letter of Credit.

Subject to the condition hereinafter set forth, this Standby Letter of Credit will expire on

\_\_\_\_\_  
(Date)

It is a condition of this Standby Letter of Credit that it shall be deemed to be automatically extended from year to year without amendment from the present or any future expiry date, unless at least 30 days prior to the present or any future expiry date, we notify you in writing that we elect not to consider this Standby Letter of Credit to be renewable for any additional period.

This Standby Letter of Credit may not be revoked or amended without your prior written approval.

This credit is subject to the Uniform Customs and Practice for Documentary Credit (1993 Revision), International Chamber of Commerce Publication Number 500.

\_\_\_\_\_  
(Name of bank or financial institution)

Per: \_\_\_\_\_  
(Authorized Signing Officer)

Per: \_\_\_\_\_  
(Authorized Signing Officer)

## **PART E - SPECIFICATIONS**

### **GENERAL**

#### **E1. APPLICABLE SPECIFICATIONS**

- E1.1 These Specifications shall apply to the Work.
- E1.2 Bidders are reminded that requests for approval of substitutes as an approved equal or an approved alternative shall be made in accordance with B6.

#### **E2. GOODS**

- E2.1 The Contractor shall supply the hardware and software necessary to provide an Automatic Vehicle Location (AVL) system ("system") in accordance with the requirements hereinafter specified.
- E2.2 The system shall be comprised of several subsystems, including but not limited to the GPS receiver, data transmission, monitoring software and a data server or host. It shall also offer the option to interface with on board sensors (see E2.14).
- E2.3 The AVL units must be capable of transmitting geographical coordinates of their current location along with date/time information to the host computer ("tracking server") in real time.
- E2.4 The data must be stored in a manner that would allow multiple clients to access the data simultaneously.
- E2.5 The system must have the ability to access the stored vehicle positional information and as a minimum, display the current location on a map that is run as a client application.
- E2.6 The system must be extensible through development of custom reports, and other analytical and business applications by offering full access to its data in a structured manner. Software Development Kit (SDK) and reference material required for implementation of custom reports/applications must be supplied.
- E2.7 The Bidder should provide information on key differentiators and unique aspects of the Bidder's proposal which should include but not be limited to the following:
- (a) why the key differentiators and unique aspects are most appropriate for the City;
  - (b) implementation plans and transition strategy, including data conversion and training;
  - (c) what tamper proof capabilities are available in their system.
  - (d) proposed system architecture.
  - (e) hardware and software functionality;
  - (f) ease of use.

#### **GPS Receiver**

- E2.8 The following are applicable for the GPS Receiver. The GPS Receiver subsystem:
- (a) shall include a satellite receiver capable of determining geographic locations to within 3m accuracy;
  - (b) shall include an antenna;
  - (c) shall be powered directly from the vehicle's 12 volt power system;
  - (d) must operate in field conditions experienced in the daily operation of a wide variety of equipment such as snowplows, material spreaders, sweepers, motor graders, mowers, front-end loaders, trucks, cars, and snow mobiles;



- (e) must be able to function in Winnipeg's weather (-40C to 45C and humidity up to 100%) and shall be enclosed in a suitable water resistant, salt resistant, and shock & vibration resistant housing;
- (f) should have device fault detection functionality;
- (g) positional accuracy shall be 3 meters minimum and velocity accuracy shall be no less than 1 meter per second, heading accuracy to be 5 degrees minimum.
- (h) maximum time to first fix shall be 150 seconds for cold start, 60 seconds for warm start, and 15 seconds for reacquisition after losing signal;
- (i) shall be able to track vehicle status data which includes:
  - (i) vehicle number,
  - (ii) vehicle speed,
  - (iii) direction and location,
  - (iv) engine on and off status,
- (j) shall include the firmware and user definable configuration points which must be remotely upgradeable via wireless interface from a central location;
- (k) Instead of transmitting data to the host server at regular timed intervals, the data update shall be triggered by events such as the following:
  - (i) upon vehicle start;
  - (ii) whenever the location has changed by 100m (or a distance deemed more appropriate);
  - (iii) whenever the vehicle turns greater than 30 degrees (or a value deemed more appropriate);
  - (iv) whenever a change in response/availability status is entered;
  - (v) on demand by the AVL monitoring software (not a mandatory requirement);
  - (vi) on receiving an alert/new data from on-board sensors (see E2.14);
  - (vii) every 5 minutes if powered on and stationary (or an interval deemed more appropriate);
  - (viii) vehicle shutdown;
- (l) with reference to E2.7(k): AVL devices should allow polling by a remote software (such as AVL Monitoring Software) for on-demand data transmission to the host server;
- (m) with reference to E2.7(k): AVL devices should be configurable to adjust parameters of any of the update triggering events;
- (n) shall include warranty and support.

### **Data Transmission System**

- E2.9 The purpose of Data Transmission System is to transmit the positional data from the vehicles to the tracking server using a modem connected to the GPS Receiver, and a supporting wireless network.
- E2.9.1 The wireless network could be a cellular carrier's data network; the City of Winnipeg's Taitnet MPT1327 voice radio trunking system; or another wireless data system provided by the vendor.
- E2.9.2 The data transmission network shall support a minimum of 1500 unique GPS Receiver Systems transmitting data in real-time.
- E2.9.3 The GPS receiver system should be flexible to use a data transmission modem already installed in the vehicle. This provision is to allow for connection pooling and save on multiple communication connections and charges originating from the same vehicle. If the system being proposed allows for the flexibility of connection pooling with modems already installed in the vehicle, the Bidder shall state the modem interface capabilities of their system, such as RS-232, Bluetooth, Wi-Fi, USB, etc.

E2.9.4 The data transmission subsystem shall be compatible with 3G and 4G cellular data networks. The proposal shall include the Bidder's suggested transmission standard (3G or 4G) to meet usage demands as laid out in E2.10.3.

E2.9.5 The Data Transmission System shall include warranty and support.

### **Data Server**

E2.10 The Data Server shall be a centrally managed tracking server administered by the City of Winnipeg or a comparable Contractor supported hosted service capable of wirelessly receiving GPS data from AVL units in real-time and making this data available to the AVL Monitoring Software.

E2.10.1 If data server is hosted by the Contractor, hosting server and all related components shall be located in Canada.

E2.10.2 If data server is to be hosted by the City of Winnipeg, hosting server and all related components must be compatible with the Information Technology environment in the City of Winnipeg as in accordance with D3.

E2.10.3 The following are applicable for the Data Server. The Data Server:

- (a) shall be able to receive and commit data transmitted from 300 unique GPS receivers concurrently;
- (b) shall be able to support 100 concurrent connections from users running AVL Monitoring Software;
- (c) shall support export of data in Oracle compatible format. Data export functionality shall support export of full database or only the data meeting specified criteria;
- (d) shall support export of geographic data in Intergraph GeoMedia compatible format;
- (e) shall support scheduled or on-demand data exports;
- (f) shall have a software development kit (SDK) and reference material required to make changes or enhancements to its functionality such as implementation of automated processes to support customized data feeds to other City systems;
- (g) for server capacity and transaction-processing load planning purposes, following usage pattern can be assumed: of all of WFMA's fleet, at most only 33% of vehicles will be in "active" (i.e. engine turned on and in a state to potentially trigger an update event—see E2.8(k)) state at any given time.
- (h) for City of Winnipeg hosted servers, must include recommended hardware and software specifications for the server components suitable to meet the load demands as laid out in this section (E2.10.3) and E2.11.5.

### **AVL Monitoring Software**

E2.11 The following are applicable for the AVL Monitoring Software. AVL Monitoring Software:

- (a) shall be a server-based application which can be used to track and report the location of at least 1500 unique devices in real and near-real time;
- (b) shall only be available to authorized Users;
- (c) shall have User login mechanism which should integrate with City's Active Directory services;
- (d) shall have access management features allowing users to only see authorized data;
- (e) shall be capable of connecting multiple instances to the same data server, allowing the monitoring software to be run from multiple networked locations;
- (f) shall extract data from the server and present it in tabular or graphical formats;
- (g) shall have the ability to use maps provided by the City of Winnipeg. Users shall be able to easily add, update, and replace these maps as often as needed;
- (h) data shall be easily exported for use in other applications;

- (i) shall have a software development kit (SDK) and required reference material that allows City of Winnipeg IT staff to make changes or enhancements to its functionality and implement custom management reports;
- (j) shall include warranty and support.

E2.11.1 The following features must be available from the AVL Monitoring Software:

- (a) map display of current locations of all vehicles a user is authorized to see, as well as for user defined length of history (sometimes referred to as “bread crumbs”);
- (b) ability to zoom in and out;
- (c) latitude/longitude displays;
- (d) replay feature to show past vehicle behaviour. Any activities shall be made available for replay of any vehicle or route. Replay time frame will be determined by the City of Winnipeg, playback shall have fast forward and rewind capabilities;
- (e) annotate mobile resources on screen with City of Winnipeg defined information such as vehicle number or operator name. The dispatch operator should be capable of changing the annotation and having it reflected on the display in less than three (3) minutes;
- (f) monitor the location and status of mobile resources, receive alerts/reports when a defined status changes or a predefined event occurs (example: exceeding speed limit, idling for extended periods, hard starts/stops, etc.);
- (g) shall have the ability to create multiple map areas with boundaries (“Geo zones”). Events that occur within or outside these user defined Geo zones (example: entering, exiting, time in zone, etc.) shall generate alarms or alerts and can be shown in a report;

E2.11.2 The following Management reports must be available (per unit, where appropriate) in special printable format and Excel spreadsheet format:

- (a) activity summary reports;
- (b) stop reports;
- (c) status reports;
- (d) district reports based on geographic boundaries supplied by the City of Winnipeg;
- (e) drill down capability for more detailed information;
- (f) start, finish and idle time;
- (g) total hours of operation per calendar day or user defined period;
- (h) total distance of operation per calendar day or user defined period;
- (i) exception reporting for speeds;
- (j) Geo zone exceptions or compliance reports;
- (k) Controller usage.

E2.11.3 The AVL Monitoring Software should have a mobile version suitable for smart phones (such as iPhone 4) and tablets (such as iPad). The mobile version need not have the full suite of functionality offered by the regular version of the software;

E2.11.4 The AVL Monitoring Software should have the option of using Google Maps as the mapping engine (i.e the standard mapping component to work with AVL data through operations like view, report, etc) in all versions of the software (i.e. mobile and regular). Google Maps support must allow usage of City of Winnipeg maps as outlined in E2.11(g).

E2.11.5 For City of Winnipeg hosted solutions, the Proposal must include recommended hardware and software specifications for the server components required to support the AVL Monitoring Software infrastructure. This requirement should be read in conjunction with E2.10.3(h).

- E2.11.6 The Proposal must include detailed design and architecture notes on the AVL Monitoring Software including, but not limited to, details such as following:
- (a) Is it a web based application (thin-client running in a browser) or a traditional desktop application;
  - (b) In case of web application, does it need plugins like ActiveX, Java, or Flash;
  - (c) In case of web application, what is developmental platform of server side components (e.g. JSP, .Net, etc);
  - (d) Who is the developer of the mapping component (e.g. ESRI, Intergraph, MapXtreme, Bing, Google Maps, Microsoft MapPoint, etc)
  - (e) Which platforms is the mobile version supported on (e.g. iOS, Android, Windows 8, etc);
  - (f) Procedures for updating maps and creating geo-zones;
  - (g) Where is the base GIS data sourced from;
  - (h) Base GIS data storage format: is it local file based such as MapInfo tab files and Access MDB, or relational database driven;
  - (i) If relational database driven, is mapping component natively compatible with Oracle Spatial;
  - (j) Any open source components used.

### **Training and Documentation**

- E2.12 The Contractor shall provide necessary training and reference material to City of Winnipeg's designated staff for each of the following categories:
- (a) install hardware and shall be at a City of Winnipeg location;
  - (b) install, configure, and administer all software comprising the AVL system;
  - (c) remotely configure AVL devices (GPS Receiver and Data Transmission subsystems) and perform other maintenance functions such as upgrading firmware
  - (d) demonstrate the functionality and operability of the GPS Receiver and AVL monitoring software;
  - (e) training for the IT staff to demonstrate functionality of the system, implementation of the tracking server (if applicable; see B10.1), software interfaces and SDK's, data import/export mechanisms, report writing, and other such topics required to ensure City's self-sufficiency in administration of the system, managing configurations, and extending its functionality through software development;
- E2.12.1 The Contractor shall provide following documentation relating to the hardware components of the AVL system:
- (a) operating manuals;
  - (b) interface drawings;
  - (c) installation schematics.

### **Hardware Installation**

- E2.13 Hardware installation shall include the GPS Receiver and Data Transmission subsystems (E2.8 and E2.9), integrating it into the vehicle's electrical system, and activating its link to the data tracking server and telecommunications network.

### **Vehicle Telematics**

- E2.14 The following are applicable for Vehicle Telematics:
- (a) Vehicle Telematics shall have the option to add interface with on-board sensors to carry out "Binary Monitoring" such as plow up/down, sweeper brooms on/off and up/down, etc;

- (b) Vehicle Telematics shall have the option to add interface with material spreader systems, which use Bosch Rexroth CS440 and Parker brand controllers, to read data such as material type, spread-rate, etc.;
- (c) Vehicle Telematics should offer the option of adding driver identification module. This module shall support reading of identification tags ("ID tag") using RFID, card swipe, or similar technology. Once installed, the system must not allow it to be bypassed—ID tags must be read by the system before the unit can be started. If RFID technology is supported, the Bidder shall state if it is compatible with "HID Corporate 1000" cards.
- (d) Vehicle Telematics should have the option to add interface with engine diagnostics port using following connector types (as applicable) to read and transmit engine diagnostics data:
  - (i) OBD-II for gasoline and light-duty diesel engines;
  - (ii) Deutsche 6-pin J-1708 for heavy duty diesel engines;
  - (iii) Deutsche 9-pin J-1939 for heavy duty diesel engines.