



Report to: General Committee

Meeting Date: November 5, 2024

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**SUBJECT:** Award of Proposal 220-R-23 - Consulting Services, Supply, Implementation and Ongoing Support of an Automatic Vehicle Location (AVL) System

**PREPARED BY:** June Fry, Ext 2539  
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**RECOMMENDATION:**

1. THAT the report entitled “Award of Proposal 220-R-23 - Consulting Services, Supply, Implementation and Ongoing Support of an Automatic Vehicle Location (AVL) System” be received; and
2. THAT the contract 220-R-23 - Consulting Services, Supply, Implementation and Ongoing Support of an Automatic Vehicle Location (AVL) System (One time - hardware, implementation and training costs) (Recurring - software licenses, ongoing support and maintenance) be awarded to the highest ranked/lowest priced bidder, Air Automotive Tracking Inc. (AAT) in the amount of \$326,580.40 inclusive of HST; and,
3. THAT a contingency in the amount of \$32,658.04 inclusive of HST be established to cover any additional project costs be approved, and that authorization be granted to approve expenditures of this contingency amount up to the specified limit in accordance with the Expenditure Control Policy; and,
4. THAT the capital costs be funded from capital project GL account 049-6150-23133-005, with available budget of \$458,700.00; and,
5. THAT the remaining budget in the amount of \$99,461.56 (\$458,700 - \$326,580.40-\$32,658.04) be returned to the original funding source; and,
6. THAT the contract for software licenses, ongoing support and maintenance costs for 9 years be awarded to Air Automotive Tracking Inc. (AAT) in the amount of \$980,315.14, inclusive of HST (\$510,428.16 fee for 5 years + \$469,886.98 fee for the 4 renewal options) to be funded from 400-400-5361, and subject to adoption of the annual operating budget from 2025 to 2033, in the amounts of:
  - a. Year 2 (2025) - \$ 102,085.63
  - b. Year 3 (2026) - \$ 102,085.63
  - c. Year 4 (2027) - \$ 102,085.63
  - d. Year 5 (2028) - \$ 102,085.63
  - e. Year 6 (2029) - \$ 102,085.63
  - f. Year 7 (2030) - \$ 117,471.74 \*
  - g. Year 8 (2031) - \$ 117,471.74 \*

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- h. Year 9 (2032) - \$ 117,471.74 \*
  - i. Year 10 (2033) - \$ 117,471.74 \*
- Total - \$ 980,315.14

\* Optional Year Renewal

7. THAT the Chief Administrative Officer and Commissioner, Corporate Services be authorized to approve the additional renewal years (Years 7 to 10) on behalf of the City (in its sole discretion), and execute any required documentation in a form satisfactory to the City Solicitor; and,
8. THAT Air Automotive Tracking Inc. (AAT) be designated as the preferred vendor for the City's Automatic Vehicle Location (AVL) System service needs at the sole discretion of the City and for Air Automotive Tracking Inc. (AAT) software products for the term of this contract; and,
9. THAT the Chief Administrative Officer and Commissioner, Corporate Services be authorized to approve any new purchases related to this contract needed due to growth and/or future Automatic Vehicle Location (AVL) System upgrades due to change in technology or system integration with other applications related to the project during the term of this contract, subject to the Expenditure Control Policy and budget approval, in a form satisfactory to the City Solicitor and at the sole discretion of the City; and further,
10. THAT Staff be authorized and directed to do all things necessary to give effect to this resolution.

**PURPOSE:**

The purpose of this report is to obtain approval to award the contract 220-R-23 - Consulting Services, Supply, Implementation and Ongoing Support of an Automatic Vehicle Location (AVL) System

**BACKGROUND:**

In 2013, the City implemented a corporate wide AVL system which is a Software as Service (SaaS) solution, comprising of the following components:

- Internal view: Authenticated City users with rights/privileges can locate all vehicles using the internal view. Users can also run various reports.
- Admin view: The system admin can create additional users and assign rights to those users in the admin view
- Winter Maintenance Application: The City portal ([www.markham.ca](http://www.markham.ca)) has a link to this application. Using this public facing application, citizens of Markham can learn about weather conditions, road classification, snow plowing status for roads and sidewalks, service level agreement etc. during winter season.
- Mobile Application: The winter maintenance application also has a mobile version. "Access Markham" is the City's mobile application and the mobile version of the winter maintenance application is embedded in the "Access Markham" application.

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With the current AVL system being over 10 years old, the City of Markham issued RFP 220-R-23 - Consulting Services, Supply, Implementation and Ongoing Support of an Automatic Vehicle Location (AVL) System, for software and services to deliver and implement an AVL system for winter and summer vehicles with the following variety of functions including (at a minimum), but not limited to the provision of:

- The corporate vehicles that will be tracked on the proposed AVL System shall include:
  - Heavy-Duty Vehicles such as trucks and heavy-duty equipment;
  - Medium-Duty Vehicles such as cargo vans, and pickup trucks;
  - Light-Duty Vehicles such as passenger vehicles, SUV's and pick-up trucks; and,
  - Other assets- off-road equipment (including but not limited to sidewalk machines, tractors and loaders), trailers and trailer equipment.
- The proposed AVL System shall support the maintenance of the corporate fleet by:
  - Providing information to staff;
  - Increasing the situational awareness of the status of vehicles within the fleet;
  - Reducing the time and overhead in managing the fleet vehicles by providing information that would have otherwise been done manually;
  - Providing a key fob system for the purpose of associating and linking the vehicle data to a key fob for driver/operator tracking; and,
  - Providing a modern user interface that is well-designed, intuitive, and easy to use.
- The proposed AVL System shall be able to process data provided by 3<sup>rd</sup> party AVL systems and display vehicles on the public facing and internal map:

The scope of this initiative also includes:

- Installation, configuration, customization and implementation of the Automatic Vehicle Location (AVL) System based on industry best practices for 126 winter maintenance vehicles and equipment for existing City contracts with Crupi, VTA and De Ferrari; and, 355 City owned vehicles: total of 481 vehicles and equipment (126 + 355).
- Implementation of infrastructure components that provide: inter-application communication (integration); high availability / fail-over capabilities; security, auditing and notification services; and, disaster recovery;
- Data conversion, data migration and/or data archival as agreed to with the business and in accordance with defined data retention policies;
- Ensure that business process controls and security assignments continue to comply with appropriate control standards.
- Work with City Staff to understand existing business processes and identify process changes required to support project objectives;
- Recommend other necessary hardware/peripheral requirements to support a complete end-to-end;
- Training and knowledge transfer services; and,
- Warranty, maintenance and on-going support services

**BID INFORMATION:**

Bid closing date	November 30, 2023
Number picking up documents	16
Number responding to bid	4

**PROPOSAL EVALUATION**

The bid evaluation team was comprised of staff from the ITS Department, and the Operations Department (Fleet Management), with staff from Procurement acting as the facilitator. Staff evaluated four proposal submissions.

The Stage 1 technical proposals were evaluated against the pre-established evaluation criteria as outlined in the RFP: 10 points for Experience and Qualification of the Bidder and Project Team; 25 points for Project Understanding, Methodology and Delivery Management; 35 points for Technical Requirements; and 30 points for Price, totaling 100 points. Based on the results from Stage 1, two of the four bidders received the required minimum percentage or points and proceeded to Stage 2. As part of the evaluation process, the top 2-ranked proposals were invited for demo/interview sessions.

<b>Bidder</b>	<b>Total Score Technical and Financial (out of 100)</b>	<b>Score for Demo (Out of 10)</b>	<b>Final Score (Out of 110)</b>
Air Automotive Tracking Inc. (AAT)	87.05	8.40	95.45

Air Automotive Tracking Inc. (AAT) was the highest ranked, lowest priced bidder. Scoring second highest on its technical submission, AAT demonstrated an understanding of the project and its requirements via the demo session. The City is receiving a complete solution including installation and support to ensure a successful deployment. AAT proposed solution includes: full implementation and training services, full support model of the entire solution for 10 years; local and dedicated sales and support teams.

The AAT solution is web-based and provides information in real time via communication with installed hardware on the vehicles and equipment. The vendor will provide a full warranty and support model with a local and dedicated customer service assigned to our account with phone and email access; all parts and labour; software customization, setup and programming; remote software updates, and an articulated service level agreement (SLA) relating to customer service timing solutions for ten (10) years; and special discounting being presented as part of this award.

**OPTIONS/ DISCUSSION:**

AAT Inc. (incumbent), incorporated in 2005 to specialize in Telematic GPS Solutions, is a division of WH Electronics Inc. (established in 1990). AAT’s main customer base is made up of local municipalities that chose AAT because of its specialization in reporting custom data and creating custom solutions by integrating with other third-party hardware such as Rexroth, Dickey-John, Force-America and more. Other municipalities that utilize the AAT system include the Government of Newfoundland, Town of Grimsby, & City of Thunder Bay.

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AAT Inc. has proposed a technology platform (AXON) fully developed in-house to communicate with vehicles through a vehicle on-board computer, which has been further integrated to communicate with in-vehicle devices such as salt-spreaders, proximity switches, pressure, Radio Frequency Identification (RFID) Readers, Power Take-Offs (PTOs), Proactive Driving Assist (PDA), and more. Their solution also includes a back-end service with specialized report to meet customer requirements. AAT develops every aspect of their solutions themselves, making them a uniquely flexible partner.

The Corporate AVL system recommended in this report provides a number of benefits. The system provides quick access to information that assists with mapping out streets where vehicles and equipment were unable to navigate due to obstruction. It also easily allows staff and resident to track the status of the winter maintenance operations progress.

It is important for an AVL system to be able to integrate with existing City systems to drive efficiency and allow easy access to information. For example, the Corporate AVL System can be integrated with the Fire vehicle dispatch system to map out fire vehicles. It can also be integrated with vehicle diagnostic system, various salt spreader control systems etc. The system can even help other systems achieve further efficiency. For example: as Waterworks expands & updates the Mobile Work Management System, the new AVL system can potentially integrate with this system and map out the locations of the mobile operators, providing the ability to dispatch the closest operators to the worksite. The City maintaining the ownership of the data provides opportunity for other uses in the future. Furthermore, the proposed AVL system will facilitate production of reports that will be beneficial to all business units where it is deployed and help in decision making.

Based on these factors, staff recommends that AAT be awarded the contract 220-R-23 - Consulting Services, Supply, Implementation and Ongoing Support of an Automatic Vehicle Location (AVL) System

## **CONCLUSION**

The Corporate AVL solution covering all City and winter maintenance contractors' vehicles and equipment (481) by the end of the project will:

- Provide a consistent approach to in-field analytics gathering;
- Assist Operations staff in efficiently managing their Winter Maintenance activities - the system will provide real-time location of every vehicle, the speed at which it traveled, how the salt is being applied to the road and whether the plow is up or down etc.
- Assist By-law Services staff to ensure effective and efficient coverage of the City;
- Provide vehicle diagnostic reports and monitor/record mechanical events;
- Provide information critical for claims management and liability protection;
- Enhance staff safety in the field;
- Operator behavior/speed/seat belt usage monitoring;
- Vehicle utilization records such as hours and mileage of operations;
- Provide an enterprise solution with optimized cost to the organization.

**FINANCIAL CONSIDERATIONS**

The cost of award includes 2 components:

- one-time costs for acquisition of hardware, software, licenses, training, implementation, project resources, and first year of support and maintenance
- recurring operating costs for licenses, software and ongoing support and maintenance for 5 years, with an option to renew the contract for additional 4 years

**Capital Costs**

The one-time cost for the acquisition, implementation and first year support is \$326,580.40, inclusive of HST impact. These costs will be funded from Capital Project 23133, GPS/AVL Replacement, with an available budget of \$458,700.00.

<b>Project</b>	<b>Amount</b>	
23133 - GPS/AVL Replacement	\$ <u>458,700.00</u>	(A)
Budget Available	458,700.00	(B)=(A)
One-Time Acquisition, Implementation and First Year Support Cost	326,580.40	(C)
Contingency (10%)	<u>32,658.04</u>	(D)*
Total Capital Costs	359,238.44	(E)=(C)+(D)
 <b>Surplus Budget to be Returned to Sources</b>	 <b>99,461.56</b>	 (F) = (B)-(E)

\*A 10% contingency in the amount of 32,658.04 inclusive of HST impact will be established to cover any additional project costs be approved and that authorization be granted to approve expenditures of this contingency amount up to the specified limit in accordance with the Expenditure Control Policy.

**Operating Costs**

The award includes software licenses, ongoing support and maintenance costs for 9 years, from 2025 to 2033, for a total amount of \$980,315.14 inclusive of HST impact, to be funded from GL account 400-400-5361, Computer Software Service Agreements, subject to adoption of the annual operating budget from 2025 to 2033.

<b>Year of Term</b>	<b>Year</b>	<b>Maintenance Costs</b>		
		<b>Annual</b>	<b>Total Over Term</b>	
Year 2 to 6	2025 – 2029	\$ 102,085.63	\$ 510,428.16	(G)
Year 7 to 10	2030 - 2033	117,471.74	<u>469,886.98</u>	(H)
<b>Maintenance Costs over the Term</b>			<b>980,315.14</b>	(I) = (G) + (H)

The year 2 (2025) annual maintenance cost is \$102,085.63. The current annual operating budget for AVL software maintenance is \$140,682. The unused funds will remain in the account for other software maintenance/license service agreements as required.

**HUMAN RESOURCES CONSIDERATIONS**

Not applicable

**ALIGNMENT WITH STRATEGIC PRIORITIES:**

Not applicable

**BUSINESS UNITS CONSULTED AND AFFECTED:**

Financial Services, Fire Services, Animal Services, Waterworks, Waste Management, Operations and By-law Services

**RECOMMENDED BY:**

Sumon Acharjee  
Chief Information Officer, ITS

Trinela Cane  
Commissioner, Corporate Services

Alice Lam  
Director, Operations

Morgan Jones  
Commissioner, Community Services

**ATTACHMENTS:**

None