

Date: 2022-03-15

Subject: **Replacement of Brampton Transit's CAD/AVL System**

Secondary Title: Request to Begin Procurement – Replacement of Brampton Transit's CAD/AVL System

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Report Number: Brampton Transit-2022-413

Recommendations:

1. That the report titled; **Request to Begin Procurement - Replacement of Brampton Transit's CAD/AVL System**, to the Committee of Council meeting of April 27, 2022, be received; and
2. That the Purchasing Agent be authorized to begin procurement for the **Replacement of Brampton Transit's CAD/AVL System**.

Overview:

- **Brampton Transit's Computer Aided Dispatch / Automatic Vehicle Location (CAD/AVL) System is reaching end of life.**
- **A new CAD/AVL system will include more functions and features that will improve data reliability and streamline operational activities.**
- **This project is funded through the Investing in Canada Infrastructure Program (ICIP).**
- **Staff are requesting authorization to engage a qualified vendor to provide a turnkey solution to replace the existing CAD/AVL system.**
- **A competitive procurement process will be conducted to ensure that the supplier offering the best value for money solution will be contracted by the City.**

Background:

The existing CAD/AVL system, which includes software, on-board equipment, garage infrastructure and electronic signs at Züm stations, was installed over 12 years ago by Conduent.

CAD/AVL systems are a subset of Intelligent Transportation Systems (ITS), which are the backbone of the future integration of roads and vehicles. These systems provide the technology used to track bus location; which among many other applications, delivers the source data for next bus arrival information, schedule adherence, and emergency distress calls, to name a few.

Transit's CAD/AVL system is a critical piece of infrastructure that supports efficient transit operations, is the source of real time information expected by transit riders and collects data required to plan the future growth of Brampton's transit network.

Current Situation:

The existing CAD/AVL system is reaching at end-of-life. Prolonged use of end-of-life software and equipment carries many risks such as:

- Decreased equipment and software reliability.
- Increased maintenance costs.
- Scarce availability/obsolescence of new, spare and repair parts.
- Increased technical support costs.
- Heightened risk of cyber-attacks as older equipment and software are more vulnerable due to end-of-support, software patches and fixes.

The project includes the design, build, and installation of all supporting devices, operating systems, networking gear, and software for the Computer Aided Dispatch and Automatic Vehicle Location systems.

Staff recommend a maintenance period for the initial term of Six (6) Years with Two (2) consecutive optional renewal periods of Two (2) Years each.

Corporate Implications:

The new CAD/AVL system will incorporate next generation functionality that favours integration with complementary technologies, like traffic systems, and makes it easier to mine and use the data generated by the system.

A new system will result in more efficient use of staff time, provide valuable feedback to Transit's planning and scheduling efforts, and feed customer interactive applications, like on-demand transit and trip planners.

Overall the benefits for the City are to improve operational efficiencies and riders experience. Brampton Transit is one of the fastest-growing transit networks in Canada, and the updated dispatch and vehicle location technologies will greatly enhance the real-time information, connectivity, quality, and safety of public transit in Brampton.

Purchasing Comments:

A public Procurement Process will be conducted and the Proposal submissions will be evaluated in accordance with the published evaluation process within the Bid Document. Purchase approval will be obtained in accordance with the Purchasing By-law.

All communication with Bidders involved in the procurement must occur formally, through the contact person identified in the Bid Document.

Financial Implications:

Funding for the replacement of Transits CAD/AVL System is available from capital project #214610-001, which has an approved budget of \$10,000,000. This project is funded 40% federally and 33.33% provincially through the Investing in Canada Infrastructure Program (ICIP). The remaining 26.67% is being funded by the City of Brampton.

Maintenance support of this system will be covered under Transit's preventative maintenance capital budget. Transit will ensure sufficient funding available for these annual maintenance costs, subject to Council approval.

Term of Council Priorities:

This report achieves the Strategic Plan of Move and Connect by keeping people moving efficiently by maintaining Transit's bus fleet in a state of good repair, ensuring seamless delivery of Transit services to the community.

Living the Mosaic – 2040 Vision

This report directly aligns with the vision that Brampton will be a mosaic of safe, integrated transportation.

Conclusion:

The evolution of CAD/AVL systems provide transit agencies with an efficient way to improve transit operations and customer experience.

A new system will position Brampton Transit to be ready to take advantage of new technologies to support on-demand transit and improved real time information for customers.

Staff recommend that Council authorize the Purchasing Agent to commence procurement, as outlined in this report.

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