

Report to Community and Protective Services Committee

To: Chair and Members,
Community and Protective Services Committee

From: Cheryl Smith, Deputy City Manager, Neighbourhood and
Community-Wide Services

Subject: London Fire Department Single Source Traffic Management
System Vehicle Monitoring Units

Date: June 13, 2023

Recommendation

That, on the recommendation of the Deputy City Manager, Neighbourhood and Community-Wide Services, the following actions be taken with respect to the single source procurement of vehicle monitoring units:

- a) in accordance with Section 14.4(d) of the Procurement of Goods and Services Policy, Fire Administration BE AUTHORIZED to enter into negotiations with Applied Information Inc. of 510-4411 Suwanee Dam Road, Suwanee, Georgia, 30024, USA for pricing for a single source contract for one (1) year with three (3) option years for the provision of vehicle monitoring units to the London Fire Department;
- b) the approval a) above, BE CONDITIONAL upon The Corporation of the City of London negotiating satisfactory prices, terms, conditions, and entering into a contract with Applied Information Inc. to provide vehicle monitoring units to the London Fire Department; and,
- c) that Civic Administration BE AUTHORIZED to undertake all the administrative acts that are necessary in connection with the authorization set out in parts a) and b) above.

Executive Summary

This report requests authorization from Council for the single source purchase of vehicle monitoring units to be compatible with the City's transition from a line-of-sight traffic signal pre-emption system to a GPS-based traffic signal pre-emption system.

Linkage to the Corporate Strategic Plan

The London Fire Department Single Source Vehicle Monitoring Unit procurement is aligned with the following strategic areas of focus and outcomes from the City of London Strategic Plan 2023-2027:

- Wellbeing and Safety: London has safe, vibrant, and healthy neighbourhoods and communities.
- Well-Run City: Londoners experience good stewardship, exceptional and valued service.

Analysis

1.0 Background Information

The London Fire Department (LFD), in coordination with the City's Traffic Engineering Division, uses a traffic signal pre-emption system. These systems are designed to give priority to certain vehicles by pre-empting or modifying the normal operation of traffic signals at intersections. The primary purpose of a traffic signal pre-emption system is to

facilitate the smooth and expedited movement of emergency vehicles through traffic, ensuring they can reach their destinations quickly and safely.

Historically, the City has been using a line-of-sight system but is now transitioning to a GPS-based system. The benefits of this new system include:

- **Accuracy:** A GPS-based system utilizes satellite signals to determine the exact location of the emergency vehicle, allowing for precise and reliable communication with traffic signals. It can accurately predict the arrival time of emergency vehicles at intersections, optimizing signal control accordingly.
- **Reduced Response Times:** By pre-empting traffic signals in advance based on GPS data, emergency vehicles can navigate intersections more efficiently, leading to reduced response times. This can potentially save lives and minimize property damage in emergency situations.
- **Integration with traffic management systems:** GPS-based systems can be integrated with existing traffic management systems, such as adaptive traffic signal control, to enhance overall traffic efficiency. This integration enables dynamic adjustments to signal timings based on real-time traffic conditions and the presence of emergency vehicles.

A traffic signal pre-emption system consists of a vehicle monitoring unit (VMU) installed on each applicable vehicle, in combination with a receiving unit installed at each intersection with a traffic signal. The Traffic Engineering Division has recently completed the installation of these Applied Information (AI) GPS-based receiving units on all intersections with traffic signals citywide. The London Transit Commission (LTC) also uses an AI system for transit priority and is transitioning to the new VMUs. The plan is to install compatible VMUs on all applicable LFD vehicles and then phase out the former line-of-sight system by the end of 2027.

2.0 Discussion and Considerations

2.1 Procurement Process

The City's Traffic Engineering Division used a formal Request for Proposal competitive bidding process, "RFP 21-08 Transit Signal Priority / Emergency Vehicle Pre-emption System", to complete their initial procurement of these units, for which Applied Information Inc. was the successful bidder.

To maintain compatibility with the AI GPS-based receivers installed on citywide traffic signals, the LFD seeks to enter a contract with Applied Information Inc. utilizing the single source procurement clause as outlined in section 14.4(d) of the Procurement of Goods and Services Policy (see below). To this end, the Deputy City Manager, Neighbourhood and Community-Wide Services, seeks authorization to have these VMUs procured from a single source.

Section 14.4(d) of the Procurement of Goods & Services Policy

14.4 Single Source

Single Source means that there is more than one source of supply in the open market, but only one source is recommended due to predetermined and approved specifications. The procurement may be conducted using a Single Source process if the goods and/or services are available from more than one source, but there are valid and sufficient reasons for selecting one supplier in particular, as follows:

- d. There is a need for compatibility with goods and/or services previously acquired or the required goods and/or services will be additional to similar goods and/or services being supplied under an existing contract (i.e., contract extension or renewal).

2.2 Details of Purchase

Applied Information VMUs are available for immediate purchase. The LFD intends to purchase approximately forty-five (45) units over the next few years, up to a maximum of fifty (50) units, for the transition of all front-line emergency vehicles.

The approximate price to equip each vehicle with a VMU, including the first five years of operating and communication expenses, is \$2,860 CAD (excluding HST). The total estimated cost to transition all LFD emergency vehicles is \$143,000 CAD (excluding HST).

In 2023, the LFD will purchase and install up to a maximum of twenty-five (25) units at an estimated cost of \$71,500 (excluding HST). Installation will be performed by the LFD's Mechanical Division at no added cost. Annual purchases of VMUs will not exceed twenty-five (25) units.

3.0 Next Steps

The LFD continues to work closely with the Traffic Engineering Division as well as other City partners to ensure efficiency of emergency responses, as well as compatibility across the City's infrastructure. The previous line-of-sight system will be completely phased out, with receivers removed from City intersections, by the end of 2027.

Pending Council authorization to single source VMUs from Applied Information Inc., all emergency vehicles will be transitioned to this system over the next few years and newly purchased lifecycle replacement vehicles will be delivered with these VMUs pre-installed as part of the LFD's standardized specifications.

4.0 Financial Impact/Considerations

Funding for these VMUs is available in the Fire operating budget for 2023. Ongoing operating costs and future VMU purchases for this transition will continue to be included in the LFD operating budget subject to Council approval in the 2024 - 2027 Multi-Year Budget.

Conclusion

Authorization for single source procurement of Applied Information vehicle monitoring units per Section 14.4(d) of the Procurement of Goods and Services Policy is requested to allow for compatibility with the City's transition to a GPS-based traffic signal pre-emption system.

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