

Clause 7 in Report No. 4 of Committee of the Whole was adopted, without amendment, by the Council of The Regional Municipality of York at its meeting held on March 23, 2017.

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Contract Award for the Expansion and Upgrade of York Region Transit (YRT/Viva) Off-Board Fare Collection System

Committee of the Whole recommends adoption of the following recommendations contained in the report dated February 17, 2017 from the Commissioner of Transportation Services:

1. Council approve the award of contract for the expansion and upgrade of York Region Transit (YRT/Viva) off-board fare collection system to Cubic Transportation Systems Inc., pursuant to the Direct Purchase provisions of the Purchasing Bylaw on the following terms:
 - a. The Region pay Cubic Transportation Systems Inc. \$6,900,792 USD (excluding taxes) for new equipment and software licenses.
 - b. The term of the contract be from April 1, 2017 to December 31, 2021.
2. Council authorize the Commissioner of Transportation Services to execute an amendment to the existing contract that allows expansion and upgrade as set out in this report.

Report dated February 17, 2017 from the Commissioner of Transportation Services now follows:

1. Recommendations

It is recommended that:

1. Council approve the award of contract for the expansion and upgrade of York Region Transit (YRT/Viva) off-board fare collection system to Cubic Transportation Systems Inc., pursuant to the Direct Purchase provisions of the Purchasing Bylaw on the following terms:

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- a) The Region pay Cubic Transportation Systems Inc. \$6,900,792 USD (excluding taxes) for new equipment and software licenses.
 - b) The term of the contract be from April 1, 2017 to December 31, 2021.
2. Council authorize the Commissioner of Transportation Services to execute an amendment to the existing contract that allows expansion and upgrade as set out in this report.

2. Purpose

This report seeks Council approval for the award of contract for the expansion and upgrade of York Region Transit (YRT/Viva) off-board fare collection system to Cubic Transportation Systems Inc. Additional equipment is needed for stations under the Viva Network Expansion Plan and the Toronto York Spadina Subway Expansion. The upgrade is needed to replace aging fare equipment installed as part of Viva QuickStart launch in 2005.

In seeking authority, this report requests approval of a Direct Purchase pursuant to the provisions of Section 9 of the Purchasing Bylaw, on the basis that the paramount consideration for system expansion and upgrade is compatible with existing equipment and service.

3. Background and Previous Council Direction

Viva fare payment is based on an off-board fare collection system

The Viva off-board fare collection system, consisting of ticket vending machines, terminal ticket vending machines and ticket validators installed at all Viva stations and YRT/Viva terminals. The system was supplied by Cubic Transportation Systems Inc. through competitive procurement process under the design-build contract with Kiewit EllisDon for the Viva QuickStart launch in 2005. The Region did not have a contract directly with Cubic Transportation Systems Inc. for initial equipment purchase. The Viva fare collection system is based on proof of payment. This requires customers to retain proof that the correct fare has been properly paid in advance of boarding Viva buses. Customers can accomplish this by either purchasing a single- journey validated ticket at a ticket vending machine installed at each Viva station or by validating a pre-purchased ticket using a ticket validator.

Viva buses operate in dedicated lanes along Highway 7 and Davis Drive, and will further expand on Yonge Street and other major corridors in the future. To

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maintain continuity and consistency in the customer experience, Cubic Transportation Systems Inc. has developed and installed new ticket vending machines that match the vivaNext station design requirements and provide many improvements and upgrades compared to existing equipment. The central software is compatible with existing and new off-board fare collection systems.

Council previously approved a contract extension with Cubic Transportation Inc. for hardware and software maintenance and support

In [September 2013](#), Council approved a contract extension for ongoing hardware maintenance and support for a five-year term, ending on November 30, 2018. In [November 2014](#), Council approved the extension of the contract for ongoing software maintenance and support for a three-year term, ending on December 31, 2018, to coincide with hardware maintenance and support contract. In [June 2015](#), Council approved an additional extension of the hardware and software maintenance and support contract for five years until December 31, 2023, when the current contract end on December 31, 2018. These contract extensions were approved pursuant to Direct Purchase provisions of Section 9 of the Purchasing Bylaw. As of the end of December 2016, the remaining value of the existing contract with Cubic is \$4,360,000 CAD.

4. Analysis and Implications

New ticket vending machines designed for rapidways include additional improvements to the existing equipment design

While designing the new ticket vending machines for rapidways, some additional features and improvements to existing equipment were included. These ticket vending machines have been performing better than the existing ones installed during QuickStart launch in 2005. Some of the improvements include:

- Acceptance of debit cards
- Vandal-resistant LCD screens
- Improved Payment Card Industry data security standards through real-time credit card transaction processing
- Alignment with latest Accessibility for Ontarians with Disabilities Act (AODA) requirements

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Staff are proposing expansion of Viva services along other routes and the new stations will require approximately 95 new ticket vending machines

In 2016, Council endorsed the Regional Transportation Master Plan including the expansion of Viva network outside the rapidway network and the interface with Toronto-York Spadina Subway Extension to meet the demands of growing population and employment.

It is estimated that 95 ticket vending machines will be required for the Viva network expansion and Toronto-York Spadina Subway Extension projects.

Existing and aging ticket vending machines need to be upgraded

The existing fare collection system has served its useful life, typically 10-12 years, and it is becoming challenging to provide customers with reliable equipment operation for fare purchase. Spare parts are not readily available and some of the components, such as LCD screens, will no longer be supported in the near future.

The upgrade of ticket vending machines will ensure reliable equipment operation and prevention of fare revenue loss.

It is estimated that 65 ticket vending machines will be required for the upgrade of existing equipment.

Award of contract for direct purchase of ticket vending machines is recommended due to compatibility with existing equipment, central management software and associated services

The advantage of awarding the contract to Cubic Transportation Systems Inc. for the supply of ticket vending machines is compatibility with existing equipment and central management software. It also avoids unnecessary risk, reliability uncertainty and additional costs related to training, implementation and integration of the new unproven system. Following are the additional benefits and savings by having the ticket vending machines supplied by Cubic Transportation Systems Inc.:

- Consistent customer experience due to uniformity in equipment design and functionality
- Monitoring and management of one central system software
- Managing one set of spare parts only

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- Uniformity and consistency in associated services needed to manage an efficient fare collection system, such as cash collection, paper stock for printing tickets, equipment maintenance and training of staff

Off-board fare collection system consisting of ticket vending machines at Viva stations and terminals is needed in addition to PRESTO system to allow non-PRESTO customers to purchase single ride tickets using cash or credit card.

5. Financial Considerations

Table 1 provides a summary of the estimated costs for the supply and installation of new ticket vending machines for the expansion and upgrade of Viva off-board fare collection system.

Table 1
Cubic Transportation Systems Inc. Equipment Costs

Description	Cost (USD)
Ticket vending machines (160 units and associated installation kits)	\$ 6,470,518
Software licenses	Included
Installation	430,274
Total	\$ 6,900,792

The approximate total cost in Canadian currency is \$9,040,037 based on [Bank of Canada current exchange rate](#) of 1 USD = 1.31 CAD.

Considering the United States dollar exchange rate and Consumer Price Index, the quoted prices are comparable to the quoted costs for vivaNext rapidway ticket vending machines in 2013. Also, due to current economic environment, it is beneficial that the Region covers the risk of fluctuation in exchange rate. During negotiations, Cubic Transportation Systems Inc. indicated that, if requested, the quoted costs in Canadian currency will assume a much higher exchange rate to protect them against any fluctuation.

Sufficient funds for the project are included in the 2017-2018 approved capital budget and outlook. For years beyond 2018, costs will be included in the proposed budget and addressed as part of the annual budget process.

6. Local Municipal Impact

There is no municipal impact associated with this report. Expansion of the off-board fare collection system along the Viva Network Expansion Plan corridor will provide an additional fare payment option to customers. High quality transit services will be maintained as a result of providing reliable, automated fare collection equipment to customers and protecting revenue collected through transit fares.

7. Conclusion

Cubic Transportation Systems Inc. has been providing reliable and consistent maintenance service to YRT/Viva since initial implementation in 2005.

It is recommended that the award of contract for expansion and upgrade of the existing off-board fare collection system be approved, at a total cost of \$6,900,792 USD, excluding taxes, for a period from April 1, 2017 to December 31, 2021.

For more information on this report, please contact Rajeev Roy, Director, Business Planning and Technology at ext. 75682.

The Senior Management Group has reviewed this report.

February 17, 2017

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Accessible formats or communication supports are available upon request