

2

YORK REGION TRANSIT SCHEDULING SOFTWARE STANDARD

The Transit Committee recommends the adoption of the recommendations contained in the following report, January 12, 2005, from the Commissioner of Transportation and Works:

1. RECOMMENDATIONS

It is recommended that:

1. Regional Council approve the transit scheduling software known as ‘Trapeze’ as the standard system of scheduling conventional transit services in York Region.
2. Council authorize the upgrade to the Trapeze system for York Region Transit’s conventional fleet, including Trapeze FX and INFO, at an estimated cost of \$223,800 (plus taxes) which includes all license fees and cost of implementation, prior to approval of the Region’s 2005 Capital budget.
3. Council authorize the pre-budget approval for this upgrade (in Recommendation 2) to meet the Viva implementation schedule of September 2005.
4. Council delegate the authority for approval and award of ongoing maintenance costs of the Trapeze system to the Commissioner of Transportation and Works (estimated that the total maintenance fees for the upgrades for both the Viva and YRT services will be approximately \$112,000 annually) which will be in effect in 2006.

2. PURPOSE

The purpose of this report is to provide Transit Committee and Council with information regarding the current software application used for the scheduling, runcutting and driver assignment for the conventional transit system. In addition, the report seeks Council authority to immediately upgrade the current Trapeze system to accommodate the expanded requirement of YRT and the Viva implementation in September 2005. Lastly, the report looks to delegate the ongoing award of maintenance costs to the Commissioner of Transportation and Works.

3. BACKGROUND

Upon amalgamation of the municipal transit systems in 2001, the licence for Trapeze scheduling software was assigned to the Region (from the Town of Markham). Trapeze is a widely recognized industry standard software used to develop transit schedules. The Region currently holds the Trapeze software licence for 200 vehicles, has an ongoing maintenance agreement for software support and has four fully-trained staff who use the software to schedule all conventional transit services.

York Region Transit (YRT) is now at a stage where major software upgrades are required to increase the vehicle base (from 200 to 300), to install web and telephone based trip planning options, integrate a bus stop inventory and maintenance system and position the software for future automated vehicle location equipment.

In addition, with the introduction of the Quick Start bus rapid transit service, Trapeze has been identified as the system of choice by the York Consortium. This will result in a totally integrated scheduling system for both local YRT buses and buses operating in the Quick Start corridors.

4. ANALYSIS AND OPTIONS

Trapeze Software Inc. is an industry leader in providing computer programs for the generation of transit schedules, work assignments for buses, and work schedules for bus drivers as well as modules for 'intelligent transportation systems'. Originally installed for use in the former Markham Transit system, the software was incorporated into York Region Transit with the amalgamation of public transit services in 2001. The Trapeze FX system is currently the core repository for transit schedule information at YRT that is provided to the general public via phone, print, or internet/web media. In total, the Trapeze FX Scheduling/Runcutting system has been in use for approximately 15 years in York Region.

4.1 Use of Trapeze as the Region's Standard for Transit Scheduling

In 2002, YRT upgraded the stand alone DOS version of the FX system to a Client-Server, multi-user, Windows-based system to enable transit routes in York Region to be centrally located and computerized in a standard format. The system uses software installed locally on staff computers which access a central database that is stored on the Corporate Oracle database servers. The upgraded solution enables multiple staff to access and modify information for a rapidly changing transit system. The upgrade also provides the base functionality required to allow the use of additional modules, at a future date, in order to enhance services to our customers.

In conjunction with the York Region IT Services it was concluded that, based on the existing investment in software and staff training, upgrading the existing application as a sole source initiative was the most prudent and cost effective course of action rather than tendering for a new transit scheduling and runcutting system. Substantial costs for the procurement of new software, the re-tooling of hardware, and re-training of staff were avoided as no other vendor could provide an update to the Trapeze proprietary system.

4.1.1 Quick Start and Trapeze

Trapeze software will be deployed as part of the Quick Start Intelligent Transportation System (ITS). Through separate modules, Trapeze software will provide the following functionality;

- Scheduling and Runcutting (Trapeze FX)
- Passenger Information Systems (Trapeze INFO)
- Daily Bus Dispatch and Bus Driver Management system (Trapeze OPS)

The Trapeze FX software module provides scheduling and runcutting functionality to enable the generation of bus schedules, which is the foundation for the Quick Start ITS. The Trapeze INFO software module will provide trip planning and schedule lookup functionality through both a Web and Telephone Interactive Voice Response interface, allowing for intelligent, real-time customer information. The Trapeze OPS software will allow the Quick Start Operations and Maintenance (O&M) contractor to view and manage the daily dispatch of Quick Start vehicles and driver work assignment. Combined, the Trapeze software modules are an integral part of the Quick Start ITS.

Trapeze was selected to provide software for the Quick Start project through a competitive process performed by INIT USA, who are contracted to provide YRTP with a complete ITS. Trapeze was found to be the only company to provide a comprehensive solution meeting all of YRTP's needs while providing the best value.

4.1.2 Trapeze Use in the Transit Industry

The Trapeze Software Group has installed transit scheduling/runcutting systems across North America, including at the following transit properties:

- Toronto Transit Commission – Toronto, Ontario
- GO Transit – Toronto, Ontario
- Hamilton Street Railway – Hamilton, Ontario (in progress)
- TransLink – Vancouver, British Columbia
- Southeastern Pennsylvania Transportation Authority (SEPTA) – Pennsylvania, USA
- Central Ohio Transit Authority (COTA) – Ohio, USA

5. FINANCIAL IMPLICATIONS

The upgrades, included in the proposed 2005 capital budget, to the Trapeze system for YRT's conventional fleet, including Trapeze FX and INFO, have an estimated cost of \$223,800 (plus taxes) which includes all license fees and cost of implementation. Ongoing annual maintenance/support fees are based on an industry standard percentage of the original licence fees. It is estimated that the total maintenance fees for the upgrades for both the Quick Start and YRT services will total approximately \$112,000 annually and will be in effect in 2006.

6. LOCAL MUNICIPAL IMPACT

There is no municipal impact associated with this project.

7. CONCLUSION

In conclusion, it is recommended that Trapeze software be endorsed as the software standard for the scheduling of the conventional transit in York Region. In addition, it is recommended that the upgrades be implemented immediately and Council authority be delegated to the Commissioner of Transportation and Works for ongoing maintenance costs beginning in 2006.

The Senior Management Group has reviewed this report.