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YORK REGION TRANSIT VIVA AUTOMATED FARE COLLECTION SYSTEM PERFORMANCE

The Transit Committee recommends the adoption of the recommendation contained in the following report, December 17, 2007, from the General Manager, Transit:

1. RECOMMENDATION

It is recommended that this report be received for information.

2. PURPOSE

This report provides an overview of the performance of Viva off-board automated fare collection system.

3. BACKGROUND

The Viva off-board automated fare collection system is based on Proof-of-Payment (POP). The system requires customers to retain proof that the correct fare has been properly paid. Customers can accomplish this by either purchasing a single journey validated ticket at a ticket vending machine (oneRide) installed at each Viva stop, or by validating a ticket at a ticket validator (vivaNow) that was previously purchased at a terminal ticket vending machine (multiRide) or ticket agent before boarding.

These fare collection devices are complex electro-mechanical machines that require specialized regular preventive maintenance and periodic emergency maintenance. York Region Transit's ability to collect fares from Viva passengers depends on this equipment working properly. The maintenance services are provided by Cubic Transportation Systems and by York Region Transit (YRT) staff when available.

There have been some news articles in the local media suggesting that the Viva off-board automated fare collection system does not perform at a satisfactory level, thereby allowing customers to ride free.

4. ANALYSIS AND OPTIONS

The Viva off-board automated fare collection system currently has the following machines installed at Viva stops and terminals:

- Terminal ticket vending machines (multiRide) – 18.
- Ticket vending machines (oneRide) – 105.
- Ticket validators (vivaNow) – 121.

The following provides a brief summary of how YRT monitors and maintains the Viva off-board automated fare collection system.

4.1 YRT Staff Monitor Equipment Through A Central System

All Viva off-board automated fare collection machines are connected through a communications link to the central system software which allows the YRT dispatch office to monitor their status on a real-time basis and receive alarms when the machines fail. The dispatch office is open between 6:00 a.m. and 1:30 a.m. On receipt of an alarm, and based on the alarm type, the dispatch office contacts the appropriate YRT maintenance staff or maintenance contractor to attend the machine and resolve the issue. An approved written process is in place outlining how the dispatch office staff are to dispatch the maintenance staff/contractor.

4.2 Maintenance Services Are Provided Under the Maintenance Contract

YRT has entered into a contract with Cubic Transportation Systems, the original equipment manufacturer, for providing preventive and emergency maintenance, consumables, spare parts and repairs for the Viva off-board automated fare collection system.

The maintenance contract with Cubic Transportation Systems requires that the malfunctioning equipment be restored to proper operation within two hours during normal working hours (8a.m. – 5p.m., Monday to Friday, excluding holidays) and within four hours outside normal working hours. They either meet or exceed the contractual requirements in the vast majority of cases.

4.3 YRT Staff Trained in Regular Non-trivial Maintenance Services

York Region Transit staff are also trained in providing maintenance services. Before calling Cubic Transportation Systems, the maintenance contractor, the dispatch office verifies if YRT staff are available to attend the malfunctioning machine and dispatches them first. This is done to minimize the cost of getting the machine repaired through the maintenance contract.

4.4 Alarms History and Performance Level

Attachment 1, Chart 1 provides a summary of the alarms received during the previous 12 months. It can be seen that, on average, 14-18 alarms are received on a daily basis from a

total of 244 machines installed on Viva system. This daily average includes the alarms which lead to equipment failure and thus making the equipment unavailable for fare payment. The central system does provide other alarms, such as low paper, low coins, etc., which alerts the maintenance contractor/YRT staff to attend the machines within a reasonable time, and are not included in this daily average as the machines are still allowing fare payment.

Attachment 1, Chart 2 provides a summary of the availability of off-board automated fare collection machines during the periods of Viva operations. It can be seen that the Viva off-board automated fare collection system has been performing at a very high level and is available to the customers in excess of 99.3% of the time during Viva operations.

YRT is still dealing with a few defects to be rectified by the equipment manufacturer under the original warranty. It is expected that the performance of the Viva off-board automated fare collection system will improve further when those defects are rectified.

4.5 Challenges – Customer-Induced Errors and Vandalism

It should be noted that a portion of the machine failures result from incorrect use by customers and through vandalism. A few examples are described below:

- Touch screens smashed by vandals.
- Ticket validator throat intentionally jammed by transfers or other paper.
- Coins inserted in credit card slot.
- Tickets pulled while it is still being printed.
- Coffee spilled in credit card slot, etc.

5. FINANCIAL IMPLICATIONS

There are no direct financial implications associated with this report.

6. LOCAL MUNICIPAL IMPACT

There is no municipal impact associated with this report.

7. CONCLUSION

Based on the information provided above, YRT staff are of the opinion that Viva off-board automated fare collection machines are performing at a satisfactory level of greater than 99%.

For more information on this report, contact Rajeev Roy, Manager, TMS (ext. 5682) of the Transit Branch of the Transportation Services Department.

The Senior Management Group has reviewed this report.

(The attachment referred to in this clause is attached to this report.)