REPORTS

Minute No. 19 Automatic Fare Collection System – Financial Status Report No. 9 for the Period Ending September 30, 2014

STANDING COMMITTEE DECISION:

The Standing Policy Committee on Finance concurred in the recommendation of the Winnipeg Public Service and received the report as information.

DECISION MAKING HISTORY:

Moved by Councillor Pagtakhan,

That the recommendation of the Winnipeg Public Service be concurred in.

Carried

David Sanders, submitted a presentation dated November 20, 2014, with respect to Automatic Fare Collection System – Financial Status Report No. 9 for the Period Ending September 30, 2014.

ADMINISTRATIVE REPORT

Title: AUTOMATIC FARE COLLECTION SYSTEM – FINANCIAL STATUS REPORT NO. 9 FOR THE PERIOD ENDING SEPTEMBER 30, 2014

Critical Path: STANDING POLICY COMMITTEE ON FINANCE

AUTHORIZATION

Author	Department Head	CFO	CAO
T. Dreolini	D. Wardrop	M. Ruta	D. Joshi A/CAO

RECOMMENDATIONS

That the financial status of the Automatic Fare Collection System Replacement Project as contained in the report be received as information.

REASON FOR THE REPORT

Administrative Standard No. FM-004 requires quarterly reporting to the Standing Policy Committee on Finance.

IMPLICATIONS OF THE RECOMMENDATIONS

The project is within budget.

HISTORY

On February 22, 2006, Council approved the report submitted by the Transit Department entitled Implementation Plan for Rapid Transit Task Force Recommendations. The implementation plan included a recommendation that the existing fareboxes be replaced with an automated fare collection system. The existing fareboxes date back to the early 20th Century and have been out of production for decades. The implementation of a new fare collection system will modernize and simplify the fare collection process, provide more convenience and options for passengers, and improve the security of fare collection.

The Automatic Fare Collection System has a total budget of $17.74 million; $15.24 million was approved in the 2011 and earlier Capital Budgets and Council approved the transfer of an additional $2.5 million from surpluses in the 2011 Transit Buses Capital Project and the Transit System Funds retained earnings at its meeting of July 20, 2011.

MAJOR PROJECT STEERING COMMITTEE

Administrative policy for projects with capital costs exceeding $10 million requires formation of a Major Project Steering Committee. The Committee has been formed and its members are:

Paul Olafson, Corporate Controller, Corporate Finance Department
Clive Wightman, Director of Community Services
Dave Wardrop, Director of Transit

The Committee has reviewed this report and recommends that the report be sent to the Standing Policy Committee on Finance.

PROJECT STATUS

The project is within budget.

DESCRIPTION OF PROJECT

Fare collection is a core element of Transit's business and has an impact on the operations of every division within the department. This is an extremely complex technology project involving the installation of electronic validating fareboxes on Transit's fleet and the implementation of a smart card based automatic fare payment system that is supported by the necessary financial and information technology hardware and software systems.

The electronic validating fareboxes have been configured to accept coins and valid tokens only and collect, secure, reliably count and report all fare payments. They have been configured to print and validate transfers. They have also been equipped to read and write to contactless electronic smart cards.

Pre-purchased fare products will be offered on electronic smart cards. These cards will contain a record of the payment, including the time of payment, and will constitute the "transfer" to permit the passenger to board another bus for free during the valid time period.

Retail outlets located throughout the city, telephone and on-line systems will be used by passengers to conveniently reload transit products or value on to the reloadable electronic smart cards.

As an enhancement to this project, Transit will introduce a single ride token that will be used exclusively for schools and social service agencies. The initial plan was to provide two ride disposable smart cards to these agencies; however, they required a means to provide single rides to their clientele and they could not absorb the approximate $1.00 cost of the disposable

card. The tokens will be produced by the Royal Canadian Mint and will have a unique electro-magnetic signature that will be verified by the new fareboxes to prevent counterfeiting. The tokens will cost approximately $388,000 and should last a minimum of 10 years. This presents a substantial cost saving as disposable smart cards for schools and social services agencies were expected to cost approximately $750,000 per year.

The primary contract for the supply of the automatic fare collection system was awarded to Garival Inc. of Laval, Quebec in the estimated amount of $12,934.470.00 before all taxes in January 2012.

PROJECT SCHEDULE

The Automatic Fare Collection System Project is being delivered in two phases. Phase 1 was completed on June 14, 2013 and consisted of the installation of the new fareboxes on the entire bus fleet. The fareboxes are equipped with a coin counter/validator, transfer printer, transfer reader and a ticket chute. Paper tickets and monthly and weekly flash passes will continue to be used during Phase 1 and early in Phase 2.

Smart cards are being implemented as part of Phase 2 of the project. The smart card system has been in development since 2013. Testing and refinements have been ongoing at the contractor's development site. Detailed System Integration Testing will commence in Transit's test environment this fall and comprehensive pilot testing using production systems and hardware will follow in early 2015. The pilot test will verify the operation of the various hardware and software elements of the system required to purchase fare products, manage the card inventory, use the smart cards on buses and create system reports. The pilot test will generate large volumes of test transactions using Transit employees and the entire bus fleet. On the successful completion of the pilot test, the smart cards will be rolled out to the public in stages by passenger class to minimize any potential problems with the distribution to hundreds of thousands of Transit customers.

The delivery of the project is being accomplished through seven separate contracts, that were awarded as shown in the table below.

Bid Opportunity Number	Description	Date of Contract Award	Estimated Completion Date	Award Amount
550-2008	The Gooderham Group - Consultant Services for the Update of Transit Fare Collection Systems and Technology	October 27, 2008	December 2011	$86,973.00
345-2011	Infodev Electronic Designers International - Integration of On-Board Security Camera and Fare Collection Systems with Existing Advanced Transit Communication and Vehicle Location System	May 13, 2011	November 2012	$919,175.00[1]
777-2011	McKim Cringan George - Development and Implementation of a Multimedia Public Information Campaign	November 23, 2011	September 2014	$159,400.00[1]
878-2011	The Gooderham Group - Implementation Project Manager	November 23, 2011	December 2014	$285,526.00
925-2010	Garival Inc. - Automatic Fare Collection System	January 1, 2012	July 2015	$12,934,470.00
877-2011	Ernst and Young LLP - Professional Accounting/Audit Advisory Services	February 10, 2012	December 2014	$22,750.00
Sole source	KPMG LLP – Consulting Services	May 7, 2012	December 2014	$85,000.00

Total Award Amount
$14,493,294.00

[1]A portion of these awards have been charged to separate projects as the contract work spanned multiple projects
($461,125.00)

Total Award Amount Applied to Fare Collection
$14,032,169.00

RISK AND MITIGATION STRATEGIES

There have been few large scale electronic smart card implementations in North America and elements of this project have been developed to meet Transit's specific requirements. This new technology must undergo extensive testing and verification before it can be introduced to the public. Presently, the major risk to the project is that the complexity of the implementation has required more system development and verification than was initially anticipated. Rushing the development and testing in the interests of rapid deployment creates a risk that the system provided to the public will contain defects that impact their ability to purchase or use fare products. Within the last two to three years, several smart card implementations throughout North America have had to be pulled back after introduction or have caused substantial passenger dissatisfaction when systems did not function properly.

The risk of a delay in the development of the smart card technology has been mitigated with the two phase implementation. With a phased implementation, the coin validating and automated transfer verification technology have already been placed into service.

The risk of technical or card distribution problems following the smart card implementation have been mitigated by planning for a pilot test and using a phased roll out strategy. Smart cards will be introduced by passenger classes beginning with Handi-Transit registrants, seniors, youth, full fare, eco pass and post-secondary customers. During the roll out, paper passes and tickets will not be phased out until the volume of smart cards sold is sufficient to avoid a surge in demand and excessive line ups at card distribution points. Cards will also be available to the public at 87 locations throughout the city to minimize line ups. Following the initial roll out, these same locations will be available to load fare products onto cards in addition to online and 311.

FINANCIAL ANALYSIS

Project Component	Budget	Value/Cost Estimate	Variance Budget to Contract Value/Cost Estimate	Change in Variance from Last Report
Professional Services	$1,200,000	$1,238,195	($38,195)	-
External Contracts	14,680,000	14,680,000	-	-
Other Equipment	860,000	860,000	-	-
Overhead and Others	1,000,000	961,805	38,195	-
	$17,740,000	$17,740,000	-	-

Summary

Contracts Issued to Date $
14,032,169

Total Change Orders (Garival)
$338,222

Other Project Costs
(Provincial Retail Sales Tax, Overheads, Salaries, Communication
and Other Contingencies): $
3,369,609

Total Approved Budget: $
17,740,000

To the end of the previous reporting period, sixteen change orders with Garival were implemented at a total net cost, before taxes, of $303,872.40.

Two change orders were approved between July 1 and September 30, 2014. RFC 021 is for additional programming for smart card readers that will be provided to large post-secondary institutions to scan in smart card numbers. A file is created that cross-references the smart card serial number with valid student numbers, and must be maintained to ensure only eligible students can purchase the post-secondary pass. These organizations will be distributing large numbers of smart cards to eligible students at the start of school terms; consequently, manually keying in this information would be costly, time consuming and cause long wait times for service. Keying errors would also cause valid cards to be rejected. The net change is an increase of $17,800.00 to the value of the contract.

RFC 028 is for an additional data probe at Transit's North Garage. Data probes are installed in the bus service lanes at all three garages and are used to transfer daily transaction information from the fareboxes to the back end data system and to open the fareboxes for revenue servicing of the cashbox. The data probes are installed in an industrial environment exposed to moisture, temperature extremes, dust and impact damage. A second data probe is required at North Garage to provide the redundancy necessary to ensure that revenue is collected daily. This addition will result in a net increase of $16,550.00 to the value of the contract. To date, eighteen change orders with Garival have been implemented and have increased the total value of the contract by $338,222.40.

Budget revisions will be accommodated in the External Contracts portion of the project.

Professional Services include the following:

1. Technical engineering consultation on the design and testing of the fare collection system;
2. External auditing of systems and procedures necessary to secure revenue; and
3. Marketing to effectively communicate the changes to the public.

Other equipment includes the following:

1. Infrastructure changes and equipment in Transit garage buildings and treasury to allow secure revenue servicing and coin handling;
2. The communications hardware required for the new fareboxes to exchange route and bus stop information with the bus radio system and use the wifi system within Transit buildings to communicate with data servers to upload revenue collection information from the bus and download fare structure and smart card update information to the farebox on a daily basis.

The project cash flow is included in Appendix 1.

FINANCIAL IMPACT

Financial Impact Statement **Date:** October 27, 2014

Project Name: **First Year of Program** **2012**

Automatic Fare Collection System

Comments:
There is no financial impact as this report is for information only.

original signed by:
Tanis Yanchishyn, CA
Manager of Finance and Administration

CONSULTATION

In preparing this report there was consultation with:

None

SUBMITTED BY

Department:	Transit
Division:	Plant and Equipment
Prepared by:	Tony Dreolini, Manager of Plant & Equipment
Date:	October 27, 2014
File No.	925-2010

Appendix I

AUTOMATIC FARE COLLECTION SYSTEM
TRANSIT DEPARTMENT
As of September 30, 2014

Project Component		Capital Budget			Capital Expenditure Forecast				Surplus (Deficit)	Variance Last Report	Change in Variance
			Council Approved Changes July 20,2011		Actual Costs			Total			
		Original	Note 2	Revised	To Sep 30 2014	2014	2015	Forecast	From Revised Budget		
A	PROFESSIONAL SERVICES Note 1	$ 1,200,000	$ -	$ 1,200,000	$ 771,597	137,731	$ 328,867	$ 1,238,195	(38,195)	(38,195)	-
B	EXTERNAL CONTRACTS	12,180,000	2,500,000	14,680,000	8,338,461	3,043,754	3,297,785	$ 14,680,000	-	-	-
C	OTHER EQUIPMENT	860,000	-	860,000	730,920	129,080	-	$ 860,000	-	-	-
D	OVERHEADS AND OTHER	1,000,000	-	1,000,000	589,763	70,000	302,042	$ 961,805	38,195	38,195	-
		$ 15,240,000	$ 2,500,000	$ 17,740,000	$ 10,430,741	$ 3,380,565	$3,928,694	$ 17,740,000	-	$ -	$ -

Explanatory Notes
1-Professional Services includes amounts for a communication/advertising campaign.
2-Prevailing market conditions increased expected costs.