Minutes – Standing Policy Committee on Finance – April 27, 2020

REPORTS

Item No. 4   **Automatic Fare Collection System, Project ID: 4230001409,**
                      Quarterly Project Status Report No. 29
                      For the Period Ended November 30, 2019

STANDING COMMITTEE DECISION:

The Standing Policy Committee on Finance concurred in the recommendation of the Winnipeg Public Service and approved the following:

1.   That the financial status of the Automatic Fare Collection System, as contained in this report, be received as information.

2.   That the Automatic Fare Collection System Quarterly Status Report No. 29 be accepted as the final quarterly status report for the project.

DECISION MAKING HISTORY:

Moved by Councillor Gilroy,

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

      Carried

ADMINISTRATIVE REPORT

Title: **Automatic Fare Collection System,**
                  Project ID: 4230001409,
                  Quarterly Project Status Report No. 29
                  For the Period Ended November 30, 2019

Critical Path: **Standing Policy Committee on Finance**

AUTHORIZATION

Author	Department Head	CFO	CAO
K. Cumming	G. Ewankiw	P. Olafson, Interim CFO	M. Ruta, Interim CAO

EXECUTIVE SUMMARY

Project On Schedule: Yes ☐   No ☑   **Project On Adopted Budget: Yes ☐   No ☑**

Percent of Schedule Complete: 87%   **Percent of Adopted Budget Spent:** 100%

The project remains within the amended budget but is behind schedule. This is due to a delay between 2016 and 2018 of the contractor, Garival Inc., to deliver on several Phase 2 milestones.

During the period from August 31, 2019 to November 30, 2019, Winnipeg Transit completed installation of new tablet-based card-loading systems at merchant partner locations. Feedback on this system has been positive, due to reduced transaction times and an improved user interface. Winnipeg Transit also continued conducting a field test of farebox firmware that increases the speed of peggo card taps at the farebox. As of November 2019, the field test has been expanded to 40 buses, and results have been positive.

Transit staff also evaluated whether the criteria had been met to accept Milestone 2.6 the Operational Performance Test.

As per the Subsequent Events section, all project milestones have now been completed as of the time of submission of this report, therefore, the Public Service is recommending that this is the last Quarterly Status Report to the Standing Policy Committee on Finance.

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

RECOMMENDATIONS

1. That the financial status of the Automatic Fare Collection System, as contained in this report, be received as information.

2. That the Automatic Fare Collection System Quarterly Status Report No. 29 be accepted as the final quarterly status report for the project.

REASON FOR THE REPORT

The Asset Management Administrative Standard FM-004 requires all projects with a total estimated cost of $24 million (2020) or more report quarterly to the Standing Policy Committee on Finance. This threshold is adjusted annually for construction inflation as part of the annual Capital Budget approval. The Standing Policy Committee on Finance may also request reporting on any capital project.

IMPLICATIONS OF THE RECOMMENDATIONS

There will be no further quarterly status reports for this project.

HISTORY/DISCUSSION

See Appendix C – Key Project Events (History)

Construction (Update from last report)

No updates since last report.

Table 1 – Contracts

Contracts Table							
Bid Opportunity #	**Company Name**	**Description**	**Original Contract Award Value** (GST & MRST extra as applicable)	**Total Approved Over-Expenditures** (Over-Expenditure amount only)	**Date of Award**	**Date of Completion**	**Estimated % Complete**
550-2008	The Gooderham Group	Consultant Services for the Update of Transit Fare Collection Systems and Technology	$86,973	$ 147,344	Oct 2008	Dec 2011	100%
345-2011	Infodev Electronic Designers International	[1]Integration of On-Board Security Camera and Fare Collection Systems with Existing Advanced Transit Communication and Vehicle Location System	$919,175	-	May 2011	Nov 2012	100%
777-2011	McKim Cringan George	[1]Development and Implementation of a Multimedia Public Information Campaign	$159,400	-	Nov 2011	Dec 2016	100%
878-2011	The Gooderham Group	Implementation Project Manager	$285,526	175,663	Nov 2011	Dec 2015	100%
925-2010	Garival Inc.	Automatic Fare Collection System	$12,934,470	638,100	Jan 2012		87%
877-2011	Ernst and Young LLP	Professional Accounting/Audit Advisory Services	$22,750	-	Feb 2012	Dec 2014	100%
Sole source	KPMG LLP	Consulting Services	$85,000	-	May 2012	Dec 2014	100%
Sole source	The Gooderham Group	Implementation Project Manager	$36,000	-	Apr 2016		71%
319-2019	Compugen Inc.	Supply and Delivery of Hardware	$104,578		May 2019	August 2019	100%
Sole Source	Productive Solutions	Supply of RPASS 3 Peggo Card Loading Software Licenses	$328,300		October 2019	November 2019	100%
		Total	**$14,962,172**	**$ 961,107**			

Upcoming Procurements:

Description	Anticipated Award Date

Total Award Amount	$14,962,172
Add: Amount of Over-Expenditures	$961,107
	$15,923,279
[1]A portion of these awards have been charged to separate projects as the contract work spans multiple projects	(461,125)
Total Award Amount Applied to Fare Collection	$15,462,154

Schedule (Update from last report)

During the period from August 31, 2019 to November 30, 2019, Winnipeg Transit completed installation of new tablet-based card-loading systems ("RPass 3") at merchant partner locations (as of November 8th, 2019). Feedback on this system has been positive, as transaction times have been reduced from an average of 57 seconds per transaction to an average of 8 seconds per transaction. System functions such as end-of-day reports are now also easier to navigate for merchant partner users.

Winnipeg Transit also continued conducting a field test of farebox firmware that increases the speed of peggo card taps at the farebox. The time required for a tap at the farebox has been reduced from an average of 1.4 seconds to an average of below 0.5 seconds. Increasing tap speeds allows for a faster boarding process for riders, thus improving Transit's on-time performance. As well, increased tap speeds will reduce the likelihood of card errors resulting from cards being removed from the card reader before data has finished transferring. As of November 2019, the field test has been expanded to 40 buses, and results have been positive.

Testing resumed on visitor card functionality (milestone 2.3b), with an emphasis on testing with updated farebox firmware.

Transit staff also evaluated whether the criteria have been met to accept Milestone 2.6, the Operational Performance Test.

Table 2 – Milestones

		Milestones			
	Deliverable	**Original Targeted Completion Date**	**Revised Targeted Completion Date**	**Actual Completion Date**	**Estimated % Complete**
1	2.2 - Successful test of the full system in production environment	2016 Q1	2016 Q1	2016 Q1	100%
2	2.3 - Installation of all devices and system updates in production environment	2016 Q2	2016 Q2	2016 Q2	100%
3	2.4a - Field test of full system in production environment and completion of training programmes	2016 Q2	2016 Q2	2016 Q2	100%
4	2.4b - Launch	2016 Q3	2016 Q3	2016 Q3	100%
5	2.2b - Phase 2B elements (visitor card) testing completed	2016 Q3	2017 Q4	2017 Q4	100%
6	2.5 - Successful completion of Revenue Acceptance Test	2016 Q3	2018 Q4	2018 Q4	100%
7	2.3b - Phase 2B elements (visitor card) equipment (functionality) installed	2016 Q3	2019 Q4	-	90%
8	2.6 - Successful completion of six month Operational Performance Test and completion of all escrow obligations	2017 Q1	2020 Q1	-	0%

Risk (Update from last report)

Updates reflected in Risk Table 3

Table 3 – Significant Risks and Mitigations Strategies

Risk Statement and Explanation	Risk Mitigation Management Plan
New:	
Ongoing:	
Potential passenger dissatisfaction should system not function as promised	Extensive testing and verification has been performed before being introduced to the public.
	Quick customer service response to customer and agent issues once smart cards are in circulation.
	Delayed removal of paper fare products until technical issues are addressed.
	Winnipeg Transit Information Systems staff work with the contractors to help diagnose any software issues quickly and direct them to appropriate solutions.
Mitigated:	
The Verifone technology for reading and loading cards at merchant partner locations is becoming increasingly difficult to source	Replaced City-managed Verifone units with desktop-based POS systems. Tested a new, tablet-based version of the merchant partner card loading system to replace the existing system, and will be deploying this system in a phased rollout to merchant partner locations.
Risk of card distribution problems if every passenger is allowed to acquire a smart card at the same time.	Smart cards have been introduced by passenger class, specifically Winnipeg Transit Plus (Handi-Transit) registrants, seniors, youth, full-fare, eco-pass and post-secondary customers.
	Also, paper products will not be phased out until the volume of smart cards sold is sufficient to prevent a surge in demand, and excessive line-ups at card distribution

Financial (Update from last report)

For further information, refer to Appendix B – Financial Forecast

Funding (Update from last report)

No updates from last report.

Table 4 – Project Funding Forecast

Funding Forecast			
Funding Source	Adopted Budget (in millions)	Amended Budget (in millions)	Committed (in millions)
Class of Estimate	Class 4	Class 3	
City of Winnipeg			
Cash to Capital	8.240	7.557	7.557
Retained Earnings	-	2.850	2.850
Public Transit Reserve	-	0.089	0.089
Subtotal City of Winnipeg	**8.240**	**10.496**	**10.496**
Federal Government			
Federal Gas Tax	-	0.244	0.244
Province of Manitoba			
Manitoba Winnipeg Infrastructure 2010 Provincial Grant for Roads	7.000	7.000	7.000
Total	**15.240**	**17.740**	**17.740**

Property Acquisition (Update from last report)

Not applicable.

Stakeholder Engagements/Communications (Update from last report)

No update.

Subsequent Events after Report Period End Date

Since November 30, 2019, all work has been completed on Milestone 2.3b – visitor card functionality. This functionality allows for non-reloadable, paper-based peggo cards with pre-loaded products. These cards will be geared toward tourists, business travelers, and other infrequent Transit riders. A distribution plan for these products will be developed in 2020.

Since November 30, 2019, testing was completed on the farebox firmware upgrade that increases the speed of peggo card taps at the farebox. The upgrade has been deployed to 99 buses in Winnipeg Transit's fleet and is planned to be deployed to the entire fleet within spring 2020.

On January 28, 2020, Milestone 2.6, the Operational Performance Test, was accepted by Winnipeg Transit, completing the project. All milestone payments under this contract have now been made.

Financial Impact Statement   Date: April 1, 2020

Project Name:
Automatic Fare Collection System,
Project ID: 4230001409,
Quarterly Project Status Report No. 29
For the Period Ended November 30, 2019

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

original signed by
Laurie Fisher, CPA, CA
Manager of Finance & Administration

CONSULTATION

This Report has been prepared in consultation with:

n/a

OURWINNIPEG POLICY ALIGNMENT

01-3 Prosperity Direction 1: Provide efficient and focused civic administration and governance. This report supports demonstration of accountability through service performance measurement and reporting.

WINNIPEG CLIMATE ACTION PLAN ALIGNMENT

n/a

SUBMITTED BY

Department: Transit

Division: Information Systems

Prepared by: Kirk Cumming, Manager of Information Systems

Date: April 1, 2020

Appendices
Appendix A – Key Project Facts
Appendix B – Financial Forecast
Appendix C – Key Project Events (History)

Appendix A – Key Project Facts

Appendix A – Key Project Facts	
Project Name	Automatic Fare Collection System
Business Owner (Department)	Winnipeg Transit
Project ID	4230001409
Project Sponsor	Greg Ewankiw
Department Responsible for Project Delivery	Winnipeg Transit
Consultant Engineer (Company Name)	N/A
Adopted Budget	$15,240,000
Class of Estimate (Adopted)	Class 4
Range of Estimate (Adopted)	-30% to + 60% $10.668 M - $24.384 M
Amended Budget	$17,740,000
Class of Estimate (Amended)	Class 3
Range of Estimate (Amended)	-20% to + 30% $14.192 M - $23.062 M

Project Scope
Phase 1
The design, supply, delivery, installation, commissioning, warranting and servicing of a turnkey automatic farebox fare collection system for conventional and BRT buses operated by Winnipeg Transit
Phase 2
Design, supply, delivery, installation, commissioning, warranting and servicing of a smart card system for payment of fares, a purchasing system for merchant partners to sell fare products, a point-of-sale system for Winnipeg Transit to sell fare products, and a web-based system for self-service online purchase of fare products

Major Capital Projects Advisory Committee Membership:

- Greg Ewankiw, Director of Transit

- Kirk Cumming, Manager of Information Systems

- Paul Olafson, Interim Chief Financial Officer

- Cindy Fernandes, Director of Community Services

- Rob Taylor, Manager, Major Capital Projects Oversight

- Laurie Fisher, Manager of Finance & Administration

Appendix B – Financial Forecast

Appendix B - Automatic Fare Collection System*

As at November 30, 2019

Project Component Deliverables	Budget (in 000's)			Expenditure Forecast (in 000's)								Variance Last Report	Change in Variance
	Adopted Budget	Council Approved Change	Amended Budget	Actual Costs To November 30, 2019	Projected Costs				Total Forecasted Costs	Surplus (Deficit) From Amended Budget			
					2019	2020	2021	2022					
Engineering, Design and Other [1 & 3]	$ 13,715	$ 2,500	$ 16,215	$ 14,499	$ 294	$ 1,422			$ 16,215	$ -		$ (38)	$ 38
Construction		$ -	$ -						$ -	$ -		$ -	$ -
Land Acquisition		$ -	$ -						$ -	$ -		$ -	$ -
Internal Financing/Overhead Costs	$ 999	$ -	$ 999	$ 665	$ -	$ 334			$ 999	$ -		$ 38	$ (38)
Contingency [2]	$ 526	$ -	$ 526		$ -	$ 526			$ 526	$ -		$ -	$ -
Total Project Budget	**$ 15,240**	**$ 2,500**	**$ 17,740**	**$ 15,164**	**$ 294**	**$ 2,282**	**$ -**	**$ -**	**$ 17,740**	**$ -**			

% of Project Budget Spent (Actual Costs to Date / Adopted & Amended Budget)	100%		85%

'* Amended budget and actual costs to date have been agreed to the City's general ledger and Capital Expenditures Monthly Report.

** Approved by Council July 20, 2011

'1 Engineering, Design and Other include amounts previously reported under Professional Services, External Contracts, and Other Equipment

'2 Original budget amount per category has been restated to separate the contingency into its own category. The overall project budget remains unchanged. The budgeted contingency disclosed represents the 'remaining amount as of the end of the reporting period.

3 Change Orders in the amount of $1,053 million have been approved with Garival Inc. as of November 30 2019,all of which have been processed and reflected above.

Appendix C – Key Project Events (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 fareboxes dated back to the early 20th Century and had been out of production for decades. Implementation of a new fare collection system was intended to 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.

The Automatic Fare Collection System Project was delivered in two phases. Phase 1 was completed in June 2013 and consisted of the installation of the new fareboxes on the entire bus fleet. Paper tickets and monthly and weekly flash passes are continuing to be used in Phase 2 of the project.

Phase 1 of the project consists of the installation of the great majority of the hardware necessary for the project including all fareboxes and cash vaults. The payment for this phase makes up 60% of the total value of the contract. The reliability of farebox transfer printers has improved, and the requirement to achieve a specified reliability level has been transferred to one of the remaining Phase 2 milestones. A written agreement regarding this specified reliability levels and the transfer of this requirement to a Phase 2 payment milestone has been accepted by Garival Inc.

Smart cards have been implemented as Phase 2 of the project. The smart card system has been in development since 2013. The complexity of the implementation has required more system development, verification and rework than was initially anticipated and this has caused the project to fall behind schedule.

As an enhancement to this project, Transit has introduced a single ride token that is used exclusively by schools and social service agencies. The tokens were produced by the Royal Canadian Mint and have a unique electro-magnetic signature that are verified by the new fareboxes to prevent counterfeiting. The tokens should last a minimum of 10 years. Tokens were introduced into service on August 4, 2016.

The smart card system was implemented for seniors on July 4th, 2016 with Full Fare and Youth passengers commencing August 8, 2016. The University of Winnipeg rolled out peggo for U-Pass in September 2016, and the University of Manitoba rolled out peggo for U-Pass in September 2017.

The Visitor Card functionality of the system was successfully tested in September of 2017.

In November of 2017, Garival indicated that they were beginning to have difficulty sourcing replacement parts for the Verifone technology used as card loading systems for merchant partners. Transit brought up the issue with subcontractor Productive Solutions, who indicated that they were beginning development on a tablet-based replacement for the Verifone technology. In April 2018, Transit was shown a prototype of this new system, and in October of 2018 Transit began testing the fully-developed product internally.

During the period from smart card launch in 2016 until 2018, system stability issues prevented the Revenue Acceptance Test milestone from being completed.