



STAFF REPORT ACTION REQUIRED with Confidential Attachment

New Streetcar Delivery Recovery Plan and Schedule

Date:	June 22, 2015
To:	TTC Board
From:	Chief Executive Officer
Reason for Confidential Information:	This report contains advice that is subject to solicitor-client privilege including communications necessary for that purpose.

Summary

The report is submitted to provide a status update on the TTC's Contract with Bombardier Transportation Canada Inc. (Bombardier) for the design and supply of 204 new low floor streetcars. The report includes progress of the project since Contract Award on June 29, 2009, stages of design reviews, success of the Technology Verification (prototype) program and challenges encountered and resultant delays, culminating to a revised Proposed Delivery Schedule from Bombardier dated June 1, 2015.

Recommendations

It is recommended that the Board:

1. Receive the information as set out in the confidential attachment;
2. Authorize that the information provided in the confidential attachment is to remain confidential in its entirety as it contains information that is subject to solicitor-client privilege.

Financial Summary

This report has no financial impact as the purpose is to provide a status update on the revised delivery schedule for the 204 Streetcar order based on TTC's Contract with Bombardier. However, as a result of the adjusted vehicle delivery schedule noted in this report, the cashflows have been adjusted to reflect the schedule changes as summarized below (all numbers in \$'000). The Estimated Final Cost (EFC) of the Project remains unchanged at \$1,186,503,000 as included in TTC's 2015-2024 Capital Budget and as approved by Council on March 10/11, 2015.

Years	Prior to 2015	2015	2016	2017	2018	2019	2020	Estimated Final Cost(EFC)
Approved Budget (2015-2024)	514,816	134,546	116,901	126,439	125,547	125,450	42,804	1,186,503
Forecast Based on Bombardier's Schedule of June 1/15	467,617	117,325	158,128	160,287	162,868	120,278	-	1,186,503
Changes Increase/(Decrease)	(47,199)	(17,221)	41,227	33,848	37,321	(5,172)	(42,804)	-

The Chief Financial & Administration Officer has reviewed this report and agrees with the financial impact information.

Accessibility/Equity Matters

As raison d'être for the new streetcar project, accessibility is the guiding principle in the vehicle and system interface design to ensure that the system meets not only the applicable standards and exceeds the prevalent industrial practices, but also to the extent possible meets the expectation of the stakeholders.

From the beginning of specification development, extensive consultation with the public and the Design Review Subcommittee of the Advisory Committee on Accessibility Transit (ACAT) has taken place. In summary, four public consultation open house sessions took place between June 14 and July 31, 2007. An interactive website was created – 300,000 visits and over 10,000 people filled out survey forms. Two fully furnished low floor LRV mock-ups (Bombardier and Siemens) were on display at the Canadian National Exhibition between August 17 and September 3, 2007.

ACAT Design Review Subcommittee members participated in the Preliminary Design Review (PDR) of the soft vehicle mock-up that was true to scale in all aspects and interior furniture made of wood and foam board in Thunder Bay in June 2010. Current design of the on-board two-stage accessibility ramp was a culmination of collaboration between ACAT and the TTC, from “walking through” a hard vehicle mock-up to demonstrating ramp operations and iteratively functionality improvements. Other accessibility features on the vehicle such as optical sensing of door obstruction, audible and visible warnings of door closing, flip-down seats, passenger assistance intercom/alarms, audio and visual station stop announcements, and interior and exterior ramp/stop request buttons, additional exterior lighting etc. reflect the collaborative effort between ACAT and the TTC.

The easier access ramp has accumulated 8,177 cycles on the first 6 cars in service as of May 27, 2015. It averages 9 deployments per car per day, with no known problems. The 6 accessible low floor streetcars entered into service on different dates with service launch on August 31, 2014 and the most recent car – No. 4407 - entered service on May 13, 2015.

Decision History

April 2006 - A Board decision was made to procure accessible streetcars to replace the streetcar fleet (ALRV and CLRV) that was approaching the end of its design life.

January 2008 - A Request for Proposal was posted on the TTC's Web site. Nineteen companies were issued copies of the proposal document out of which two submissions were received. Based on the review of each submission, it was determined that neither proponent had provided a proposal that complied with the TTC requirements as set out in the Request for Proposal documents. This decision was supported by an independent fairness monitor retained to oversee the procurement process. As a result the TTC cancelled the Request for Proposal.

At the August 27, 2008 Board Meeting staff were directed to proceed with a Structured Multi-Phase Bid Process (SMPBP) with three car builders that had demonstrated experience in producing 100% low floor light rail vehicles. These companies were Alstom Transportation Inc. (Alstom), Bombardier Transportation Canada Inc. (Bombardier) and Siemens Canada Limited (Siemens). Refer to Board meeting highlight item 1 in the following link:

http://www.ttc.ca/About_the_TTC/Commission_reports_and_information/Commission_meetings/2008/Aug_27_2008/Highlights/index.jsp

At its April 27, 2009 meeting, the TTC Board approved a staff recommendation to award to Bombardier the contract for the supply of streetcars to replace the aging fleet and accommodate marginal future growth. Toronto City Council's approval of the Contract was, amongst other conditions, subject to a commitment of funding from the Province of Ontario. Refer to the Board meeting highlights item 1 in the following link:

http://www.ttc.ca/About_the_TTC/Commission_reports_and_information/Commission_meetings/2009/Apr_27_2009/Highlights/index.jsp

On June 19, 2009, the Province of Ontario announced funding of up to \$416,300,000.00 towards 1/3 of the Eligible Costs for the TTC's procurement of the new low floor streetcar fleet. Subsequently, in a special meeting on June 26, 2009, Toronto City Council approved the funds required to complete the purchase of 204 low floor streetcars. The TTC and Bombardier executed the Contract on June 30, 2009 for a total Contract price of \$993 million inclusive of taxes but before foreign exchange. Subsequent Contract Amendment costs have not been included. The procurement documents were structured to reflect a minimum award of 204 vehicles. The procurement documents included an option to purchase up to 400 additional vehicles for use by the TTC for future growth requirements and in any approved Transit City projects (subsequently 300 option vehicles were assigned to Metrolinx based on a Board authority at the May 6, 2010 Board meeting.)

Refer to the Deferred from Last Meeting to Permit Debate/Public Presentation Item 8 in the following link:

http://www.ttc.ca/About_the_TTC/Commission_reports_and_information/Commission_meetings/2010/June_2_2010/Minutes/index.jsp

On January 21, 2013 an agreement was established between the Province of Ontario, City of Toronto and the Toronto Transit Commission regarding Ontario's and Toronto's contribution toward the TTC's low floor streetcar fleet replacement project. City funding will be sourced through a combination of debt and the application of gas tax funding.

Issue Background

On August 31, 2014, the new accessible air-conditioned low floor streetcars were launched into Service on 510 Spadina. In attendance were officials from the three levels of government, TTC Board, staff and union members.

On October 12, 2014, construction of Route 509 (Harbourfront) by Waterfront Toronto was substantially complete. The Spadina low floor vehicles and the complement of CLRVs (Canadian Light Rail Vehicles) continued into Union Station; as was Route 509 Harbourfront between CNE and Union Station.

The new streetcars have attained a very high level of reliability and availability, and enjoyed a high level of acceptance and satisfaction from customers.

Vehicle delivery schedule for the new streetcar project has slipped from the Contractual commitment for a number of reasons. Aside from considerable challenges of adopting an European 100% low floor vehicle for a mature Toronto network, the TTC's exacting requirements for a vehicle with best possible accessibility features, a ramp system for both on-platform and at-street service stops, adherence to a high quality, and the carbuilder's inability to improve on design, change management, production methods, quality parts from its multi-site plants and its international suppliers in a timely manner, have contributed to considerable schedule delay, despite a performance-based specification with prescriptive requirements where necessary.

The following section of the report explains the key issues causing the delay, Bombardier's schedule recovery plan, and commercial considerations.

Materials & Procurement and Legal departments are involved in the preparation of this report.

Procurement

Process and Contract Award:

The vehicles were procured through a SMPBP (Structured Multi-phase Bid Process) process which was overseen by two Fairness Monitors (commercial/legal by a retired Associate Chief Justice of Ontario and former Integrity Commissioner for Ontario and technical by the retired Chief Rail Equipment Engineer of Chicago Transit Authority).

The process allowed several carbuilders an opportunity to work interactively with the TTC to ensure that any proposal submission would be compliant with the TTC requirements. The TTC would adjust document wording through individual negotiations to attempt to retain as many bidders as possible, while not giving advantage or disadvantage to any potential carbuilder and while protecting the interests of the TTC and its customers. The document, including accessibility clauses, was agreed upon before the documents were finalized and issued to the carbuilders for pricing.

The Contract for the Design and Supply of 204 Low Floor Light Rail Vehicles (New Streetcars) was awarded to Bombardier in June, 2009.

The delivery plan in the Contract called for 204 streetcars to be delivered commencing in May 2013 and completion in May 2019.

Canadian Content:

The Contract document specifies that a minimum of no less than twenty-five percent (25%) of the total net contract price (averaged over the life of the Contract), exclusive of any Canadian Taxes is expensed for domestic materials, components, direct labour and services. This was in accordance with the Provincial policy that later went into effect on September 1, 2008.

During the bid evaluation process, the Canadian Content Plan submitted by each Bidder was assessed for achievability and must be determined to be compliant with the commercial requirements and the minimum Canadian content requirement of 25% of the value of the Contract.

Liquidated damages shall be applicable in the event the Contractor fails to meet the twenty five percent (25.00%) based on the actual audited percentage as determined in the TTC's final audit.

Bombardier includes in its Monthly Progress Report its Canadian Content assessment. There has been no expressed concern in meeting the minimum requirement.

New Streetcar Delivery Schedule

The Contract stipulates a delivery schedule that outlines a Technology Verification Program phase (for 3 prototype cars); a detailed delivery schedule and penalties for non-performance.

Since Contract award, three "extensions of time" have been granted:

1. Six (6) months to incorporate changes required to improve on accessibility, wheel chair positions, PRESTO machine placement and fare enforcement modifications as a result of consultation with the stakeholders including ACAT during the mock-up phase;
2. Fifteen (15) weeks of "equitable adjustment" to allow for workflow changes to a paint system known and proven at the TTC, as opposed to a paint system that was

argued to have met spec on the bogie frame (truck frame). This assures proven long life in the Toronto environment of high road salt content in the winter.

- Force Majeure due to a Bombardier labour strike July 14 – September 12, 2014 - 47 days of disruption.

Except for the above extension of time provisions, the Contractual baseline delivery schedule has not been changed from when the Contract was executed. The TTC worked with Bombardier during 2013 and 2014 to design and build a spec-compliant accessibility ramp and ramp-door threshold interface, to appreciate the challenges in transferring technology and manufacturing from Europe, and to improve on production quality.

Despite continual CEO-President level conversations on delivery between the two organizations, the challenge to produce quality vehicles has unfortunately proven to be too formidable. This resulted in promised vehicles for the service launch for Route 510 Spadina on August 31st sliding from a forecast of 14 cars in March, to 8 cars in May, to ending up with only 2 cars on launch day. The reduced quantity at the end of August was partly due to the labour strike that started on July 14, 2014.

Bombardier has continued to restructure and retool to recover the delivery schedule. It submitted a revised schedule on June 1, 2015 that takes into account the above extensions of time, delays related to production and quality difficulties, and various claims.

In the June 1, 2015 schedule, Bombardier has committed to completing the delivery of 27 cars for acceptance by year end 2015, and completion of the 204 vehicles of the base LFLRV contract order in 2019. This revised schedule is the latest of a series of proposals submitted in January, February 19th, March 15th and on April 30th. Changes to the schedule from version to version were made partly due to scrutinization by the TTC for substantiation to the recovery schedule. The following table compares the Contractual (adjusted) schedule to Bombardier’s June 1, 2015 proposal.

In summary, the revised schedule reduces the number of streetcars accepted as of December 31, 2015 by 46 cars, from 73 cars to 27 cars. The number of streetcars accepted by 2019 remains at 204 cars.

LFLRV Schedule Update - June 1, 2015

Deliveries By Year

		2013	2014	2015	2016	2017	2018	2019
Contractual, adjusted	Year Total	7	30	36	36	36	39	20
	Accumulated Total	7	37	73	109	145	184	204
June 1, 2015 Proposal	Year Total		3	24	49	48	49	31
	Accumulated Total		3	27	76	124	173	204

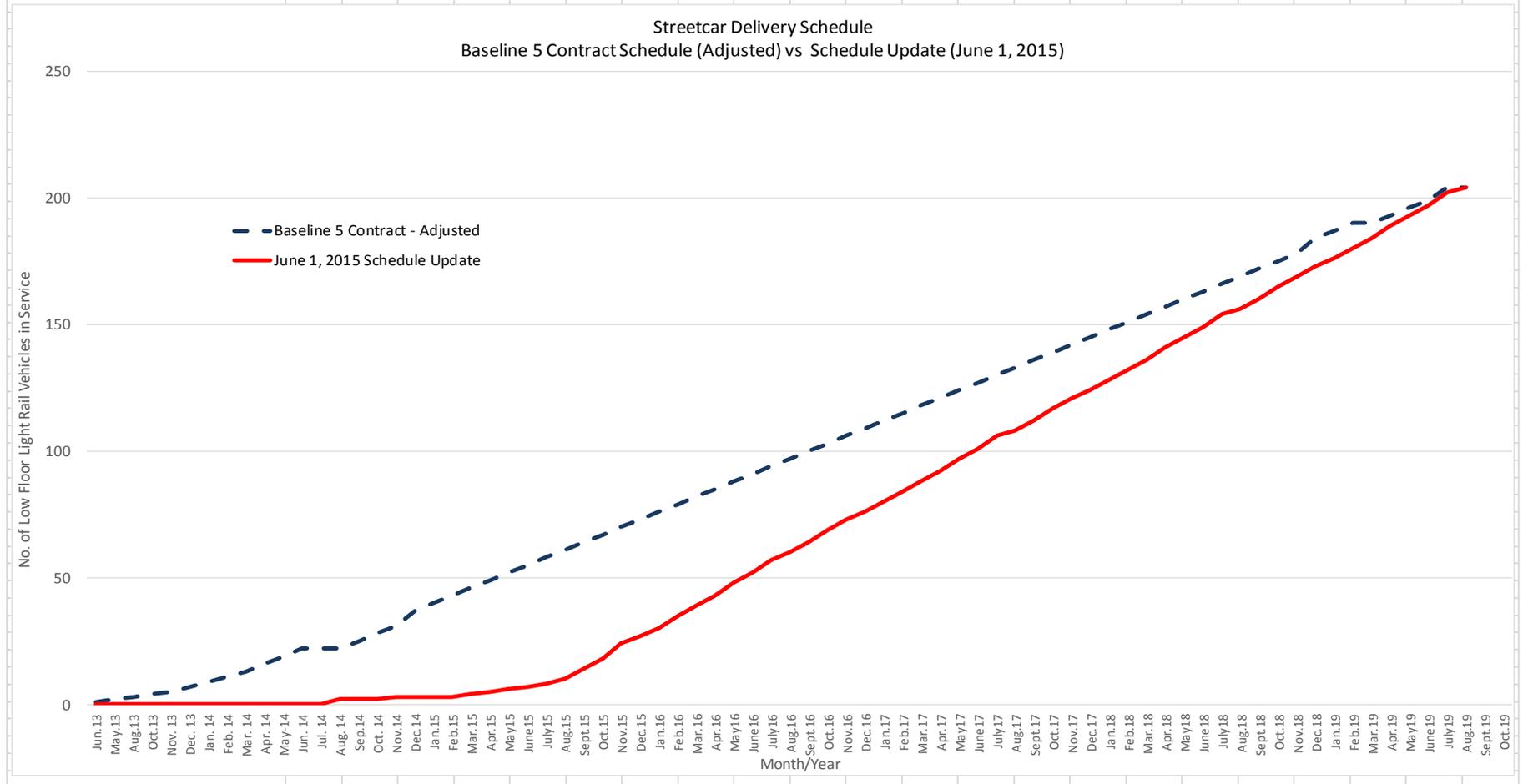
The following chart shows graphically vehicle acceptance rates based on the Contractual schedule, and Bombardier's June 1, 2015 revised schedule.

Streetcar Delivery Schedule: Baseline 5 Contract Schedule versus June 1, 2015 Schedule Update

	2013		2014				2015										2016	2017	2018	2019		
	Jun.13	Dec.13	Jan.14	Aug.14	Nov.14	Dec.14	Jan.15	Mar.15	May15	June15	July15	Aug.15	Sept.15	Oct.15	Nov.15	Dec.15	Jan.16	Jan.17	Jan.18	Jan.19	July19	Aug.19
Baseline 5 Contract - Adjusted	1	7	9	22	31	37	40	46	52	55	58	61	64	67	70	73	76	112	148	187	204	
June 1, 2015 Schedule Update	0	0	0	2	3	3	3	4	6	7	8	10	14	18	24	27	30	80	128	176	202	204

Notes:

- (1) Baseline 5 Contract schedule includes extensions of time approved as at February 2012 (6 months ACAT + 15 weeks "Equitable" Adjustments + 47 Days for Strike Force Majeure)
- (2) Schedule Update June 1, 2015 (5-day build rate starting September, 2015)



The proposed June 1, 2015 schedule is being reviewed for acceptability along with Bombardier's recovery plan. Bombardier's recovery plan outlines the carbuilder's effort to increase production capacity and improve on build quality in its plants in Thunder Bay, Ontario and Mexico, and product quality and support from its supply chain. A new Baseline Delivery Schedule will be considered upon completion of technical assessment and negotiation of pertinent commercial terms in accordance with the Contract.

Bombardier's claims of delays caused by the TTC's staff instructions for changes to meet specification, as well as TTC claims against Bombardier will be part of the scope of negotiation.

Based on supporting documentation received to-date, and staff's assessment of production readiness of Bombardier's Thunder Bay and Sahagun, Mexico plants, TTC staff believe that there is a high risk that Bombardier may not be able to meet its revised schedule submitted on June 1, 2015 for year end 2015; and a medium risk that Bombardier may not meet the revised schedule for contract completion of 204 new streetcars by 2019.

An update Board Report will be submitted for the September Board meeting on the status of the actual delivery, agreement on a moving-forward schedule and agreement on commercial terms.

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Attachments

Attachment 1– Confidential