



## **Contract Amendment – Design and Supply of Low-Floor Light Rail Vehicles**

**Date:** July 17, 2024

**To:** TTC Board

**From:** Executive Director, Innovation and Sustainability

### **Summary**

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The purpose of this report is to seek Board approval to amend Contract C32PD08863, Design and Supply of Low-Floor Light Rail Vehicles by increasing the total contract amount by \$47,043,759.01 to cover expenditures associated with contractual price adjustments.

These “escalation adjustments” are based on formulas in the contract that are tied to various labour, material, energy, and equipment indices. This increase will permit the continued on-time delivery of the final 60 accessible streetcars under the contract.

### **Recommendations**

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It is recommended that the TTC Board:

1. Authorize a contract amendment to Alstom Transportation Canada Inc. for contract C32PD08863, Design and Supply of Low-Floor Light Rail Vehicles to increase the total contract amount by \$47,043,759.01, inclusive of HST, to a revised total of \$1,703,764,902.69, inclusive of HST, to cover estimated escalation adjustment costs for 60 accessible streetcars.

### **Financial Summary**

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The initial contract for the procurement of streetcars of \$1,159,586,803.49 (inclusive of HST) provided for the base procurement of 204 streetcars. The contract for the design and supply of the 204 vehicles 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.

The TTC Board delegated authority to the TTC’s Chief Executive Officer to exercise the option to purchase an initial 13, and a subsequent 47, for a total of 60 new streetcars. Amendments to the contract of \$159,800,537.72 (inclusive of HST) and \$337,333,802.48 (inclusive of HST) were issued to purchase the 13 and 47 additional streetcars respectively, bringing the total contract value, prior to the recommended amendment, to \$1,656,721,143.68 (inclusive of HST), as shown in Table 1.

**Table 1: Contract Status Prior to Amendment**

|   | <b>204 Streetcars</b>     | <b>13 Streetcars</b>    | <b>47 Streetcars</b>    | <b>Total Contract Value</b> |
|---|---------------------------|-------------------------|-------------------------|-----------------------------|
| Base Contract Cost (with no HST)                  | \$1,026,584,935.66        | \$141,416,405.04        | \$298,525,488.90        | <b>\$1,466,526,829.60</b>   |
| Non-Rebatable HST 1.76%                           | \$18,067,894.87           | \$2,488,928.73          | \$5,254,048.60          | <b>\$25,810,872.20</b>      |
| Total Base Contract Cost (with Non-Rebatable HST) | \$1,044,652,830.53        | \$143,905,333.77        | \$303,779,537.50        | <b>\$1,492,337,701.80</b>   |
| Rebatable HST                                     | \$114,933,972.96          | \$15,895,203.95         | \$33,554,264.97         | <b>\$164,383,441.87</b>     |
| Total Base Contract Cost (with HST)               | <b>\$1,159,586,803.49</b> | <b>\$159,800,537.72</b> | <b>\$337,333,802.48</b> | <b>\$1,656,721,143.68</b>   |

At the time of exercising the option for the 60 option streetcars, the estimated escalation amount was \$22,443,426.07 (inclusive of HST), calculated based on the TTC's standard rate of 2.04%, which was a reasonable and sufficient estimate pre-COVID-19. However, since exercising the option for the 60 additional streetcars, there have been significant changes in the global economy, including the impact of COVID-19, which has led to almost a triple increase in market indices; the initial escalation estimate is insufficient.

Table 2 below summarizes the annual expenditure forecast of the additional \$47,043,759.01 (inclusive of HST) that is required for the increase in escalation costs, and the revised total contract cost with the recommended amendment, inclusive of HST.

**Table 2: Contract Escalation Expenditure**

|  | <b>2024 Forecast</b> | <b>2025 Forecast</b> | <b>Total Contract Amount</b> |
|--|----------------------|----------------------|------------------------------|
| Total Base Contract Cost (with HST)                  |                      |                      | <b>\$1,656,721,143.68</b>    |
| Contract Escalation Expenditure (without HST)        | \$21,262,951.16      | \$20,368,693.98      | <b>\$41,631,645.14</b>       |
| Non-Rebatable HST 1.76%                              | \$374,227.94         | \$358,489.01         | <b>\$732,716.95</b>          |
| Total Amendment Value (with Non Rebatable HST)       | \$21,637,179.10      | \$20,727,182.99      | <b>\$42,364,362.09</b>       |
| Rebatable HST  | \$2,389,955.71       | \$2,289,441.21       | <b>\$4,679,396.92</b>        |
| Total Amendment Value (With HST)                     | \$24,027,134.81      | \$23,016,624.20      | <b>\$47,043,759.01</b>       |
| <b>Total Contract Cost with Amendment (with HST)</b> |                      |                      | <b>\$1,703,764,902.69</b>    |

With respect to the total contract cost and funding requirements, the TTC Capital Budget and Plan accounts for the base contract cost, including the additional cost of escalation (inclusive of non-rebatable HST), but does not include the recoverable portion of HST, as this is reimbursed by the Province. As such, the total contract cost for the purchase of accessible streetcars reflected in the Capital Budget and Plan is \$1,534,702,063.89, comprising of costs to the end of 2023 of \$1,227,861,364.60 billion and funding of \$306,840,699.29, distributed between 2024 and 2026 as presented in Table 3 below:

**Table 3: Total Budgeted Contract Costs**

|  | LTD Actuals to 2023       | 2024 Budget             | 2025                   | 2026                  | 2027-2033 | 10-Year Total           | Total Project Budget      |
|--|---------------------------|-------------------------|------------------------|-----------------------|-----------|-------------------------|---------------------------|
| Base Contract Cost (without HST)                             | \$1,206,624,768.68        | \$189,369,074.19        | \$66,881,982.12        | \$3,651,004.61        | -         | \$259,902,060.93        | <b>\$1,466,526,829.60</b> |
| Base Contract Cost Non-Rebatable HST                         | \$21,236,595.92           | \$3,332,895.71          | \$1,177,122.89         | \$64,257.68           |           | \$4,574,276.27          | <b>\$25,810,872.20</b>    |
| Contract Escalation Expenditure (without HST)                | -                         | \$21,262,951.16         | \$20,368,693.98        | -                     | -         | \$41,631,645.14         | <b>\$41,631,645.14</b>    |
| Contract Escalation Non-Rebatable HST 1.76%                  | -                         | \$374,227.94            | \$358,489.01           | -                     | -         | \$732,716.95            | <b>\$732,716.95</b>       |
| <b>Total Budgeted Contract Cost (with Non-Rebatable HST)</b> | <b>\$1,227,861,364.60</b> | <b>\$214,339,149.00</b> | <b>\$88,786,288.00</b> | <b>\$3,715,262.29</b> | <b>-</b>  | <b>\$306,840,699.29</b> | <b>\$1,534,702,063.89</b> |

The required funding for this expenditure is included in the TTC's 2024-2033 Capital Budget and Plan under Program 4.18, Purchase of Streetcars, State of Good Repair, and Growth categories, which was approved by the TTC Board at its meeting on December 20, 2023 and by City Council on February 14, 2024. Table 4 below shows the breakdown of the Purchase of Streetcars Contract, as represented in the 2024-2033 Capital Budget and Plan:

**Table 4: 2024-2033 Capital Budget and Plan – Purchase of Streetcars**

|                                      | LTD Actuals to 2023       | 2024 Budget             | 2025                   | 2026                   | 2027 - 2033 | 10-Year                 | Total Capital and Budget Plan |
|--------------------------------------|---------------------------|-------------------------|------------------------|------------------------|-------------|-------------------------|-------------------------------|
| Purchase of 204 Streetcars           | \$1,105,306,379.00        | \$424,480.00            | -                      | -                      | -           | \$424,480.00            | \$1,105,730,859.00            |
| Streetcar - Purchase (up to 60 cars) | \$190,268,910.00          | \$218,592,865.00        | \$90,920,244.00        | \$16,345,206.00        | -           | \$325,858,315.00        | \$516,127,225.00              |
| <b>Purchase of Streetcars</b>        | <b>\$1,295,575,289.00</b> | <b>\$219,017,345.00</b> | <b>\$90,920,244.00</b> | <b>\$16,345,206.00</b> | <b>-</b>    | <b>\$326,282,795.00</b> | <b>\$1,621,858,084.00</b>     |

Funding for the purchase of the 60 option streetcars is included in the TTC's Streetcar Program, in which the Federal and Provincial governments have committed to a contribution of \$180 million each for the purchase of 60 accessible streetcars and modifications at the Hillcrest Facility to increase vehicle storage capacity.

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

## **Equity/Accessibility Matters**

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The TTC has a strong commitment to making its transit system barrier-free and accessible to all. The TTC believes all customers should enjoy the freedom, independence, and flexibility to travel anywhere on the public transit system, regardless of ability. The TTC's commitment to providing accessible transit is at the forefront of its 2024-2028 Corporate Plan, 5-Year Accessibility Plan and 15-Year Capital Investment Plan.

All vehicles procured by the TTC are accessible and meet or preferably exceed requirements of the Accessibility for Ontarians with Disabilities Act, 2005 (AODA). The accessibility features of the initial order of 204 accessible streetcars were based on advice provided by the Advisory Committee on Accessible Transit (ACAT). Those features have been included as part of the additional 60-60-streetcar order, including a fully low-floor design, priority blue seating, and both audible and visual stop announcements that are internal and external to the vehicle.

The 60 option streetcars will make efficient use of resources to add critically needed capacity to the transit system to meet customer demand, and by applying ever-improving designs, will help maintain a modern and increasingly inclusive and accessible transit system for all. Procuring new vehicles provides an opportunity to review and improve designs by systematically identifying and removing barriers. During new vehicle specification, procurement, design and validation processes, the TTC will continue to ensure new vehicles meet all relevant standards under the AODA, leverage international best design practices, and work closely with ACAT.

## **Decision History**

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At its meeting on April 27, 2009, the TTC Board approved the recommendation to award 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, in addition to other conditions, subject to a commitment of funding from the Province of Ontario.

Refer to Item 1 in the following link: [Procurement Authorization – Design and Supply of Low-Floor Light Rail Vehicles](#)

On June 19, 2009, the Province of Ontario announced funding of up to \$416,300,000 toward one-third of the Eligible Costs for the TTC's new low-floor streetcar fleet procurement. 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, including taxes, excluding foreign exchange and escalation adjustments. The Contract for the design and supply of the 204 vehicles 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, as approved by the Board at its May 6, 2010 meeting.

Report: [Low Floor Light Rail Vehicles – Assignment of Option for Transit City Vehicles](#)  
Decision (refer to item 8): [Decision – Low Floor Light Rail Vehicles – Assignment of Option for Transit City Vehicles](#)

On May 8, 2018, the TTC Board adopted the recommendations to settle the outstanding dispute with Bombardier relating to liquidated damages for the late delivery of streetcars.

Report: [Negotiation with Bombardier Transportation Canada Ltd. on Liquidated Damages](#)  
Decision: [Negotiation with Bombardier Transportation Canada Ltd. on Liquidated Damages](#)

At its January 24, 2019 meeting, the Board approved the TTC's first 15-Year Capital Investment Plan (CIP). The CIP captured the TTC's estimate of long-term capital needs and formed a baseline against which future Capital Budgets and Plans would be based. As part of the CIP, approximately 100 streetcars to accommodate ridership growth was identified as a key investment.

Making Headway: Capital Investments to Keep Transit Moving: [Making Headway – Capital Investments to Keep Transit Moving](#)

At its December 12, 2019 meeting, the Board adopted the information contained in the 2020-2024 5-Year Service Plan & 10-Year Outlook, which identified the immediate need to procure the 60 option streetcars for reliability improvements and to accommodate projected service demands. The 2020-2029 CIP included the capital investments (unfunded) required to complement the service improvements contained in the Service Plan.

Report: [5-Year Service Plan & 10-Year Outlook](#)

Next Stop, Even Better 2020-2024 & Beyond – 5-Year Service Plan & 10-Year Outlook: [Next Stop, Even Better 2020-2024 & Beyond – 5-Year Service Plan & 10-Year Outlook](#)

At its January 27, 2020 meeting, the Board approved the amended 2020-2029 Capital Budget and Plan of \$11.924 billion, which included \$4.23 billion in net new funding made available through the dedicated City Building Fund and one-time Federal Gas Tax. This provided the TTC with an additional funding of \$3.09 billion for subway infrastructure (SOG and Service Improvements), plus \$1.14 billion toward the replacement of existing streetcars and related systems.

Report: [TTC's 2020-2029 Key Capital Investment Priorities: Subway](#)  
Decision: [TTC's 2020-2029 Key Capital Investment Priorities: Subway](#)

At its October 22, 2020 meeting, the Board delegated the authority to the TTC Chief Executive Officer to approve a contract amendment with Bombardier Transportation Canada Inc. for the supply of 13 of the 60 option streetcars at an estimated cost of \$140 million.

Report: [TTC Fleet Procurement Strategy and Plan](#)  
Decision: [TTC Fleet Procurement Strategy and Plan](#)

On May 25, 2021, the Board delegated authority to the TTC Chief Executive Officer to execute any agreements or documents required to exercise the contractual option for the supply of 47 additional streetcars under the current contract with Alstom SA, subject to City Council approval of the amended TTC Capital Budget and Plan per Recommendation 3.

Report: [TTC Streetcar Program – Procurement of 60 Streetcars](#)  
Decision: [TTC Streetcar Program – Procurement of 60 Streetcars](#)

At its December 20, 2023 meeting, the Board approved a 2024 Capital Budget of \$217.762 million, and future years' planned estimates of \$107.265 million for TTC's 2024-2033 Capital Budget and Plan for the 60 option streetcars. The approved plan for the Purchase of the Streetcars now totalled \$325.027 million.

Report: [Staff Recommended 2024 TTC Conventional and Wheel-Trans Operating Budgets and 2024-2033 Capital Budget and Plan](#)  
Decision: [Staff Recommended 2024 TTC Conventional and Wheel-Trans Operating Budgets and 2024-2033 Capital Budget and Plan](#)

At its May 16, 2024 meeting, the Board approved the 2024-2028 5-Year Service and Customer Experience Action Plan, which contains proposed investments to increase streetcar service levels.

Report: [Stakeholder and Public Engagement Report](#)  
Decision: [5-Year Service and Customer Experience Action Plan](#)

## **Issue Background**

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The TTC purchased 204 low-floor light rail vehicles (accessible streetcars) to replace the older Canadian Light Rail Vehicles (CLRVs) and Articulated Light Rail Vehicles (ALRVs), which were at the end of their design life.

Following the arrival of the streetcars between 2014 and 2019, the TTC completed its first 5-Year Service Plan in December 2019. The 2020-2024 5-Year Service Plan & 10-Year Outlook, approved by the Board in December 2019, identified the immediate need to exercise the option and purchase the 60 option streetcars for reliability improvements and to accommodate projected service demands.

In October 2020, the Board delegated authority to the CEO to issue a contract change for the supply of 13 of the 60 option streetcars at an estimated cost of \$140 million, inclusive of all taxes and project delivery costs.

In January 2021, Alstom SA acquired Bombardier Transportation.

In March 2021, the TTC issued a contract change to Alstom SA for the supply of 13 of the 60 option streetcars using funding from the City of Toronto. On May 12, 2021, the Government of Canada and the Province of Ontario each announced a \$180-million contribution to the TTC Streetcar Program, which enabled the purchase of all 60 option streetcars and investment in supporting modifications to the current infrastructure required at the Hillcrest Facility.

In May 2021, the TTC Board delegated authority to the CEO to execute any agreements or documents required to purchase the remaining 47 of the 60 option streetcars. The TTC issued a Contract change for the supply of the remaining 47 of the 60 option streetcars on May 28, 2021. A subsequent contract change would be required to be authorized by the Board to cover the costs associated with the contractual escalation costs for the additional 60 streetcars.

Due to COVID-19 and its impact on the global economy, as well as increased labour and material indices, the projected escalation costs have increased almost threefold from the original estimate.

At its meeting on December 20, 2023, the Board approved a 2024-2033 Capital Budget and Plan of \$1.369 billion and future-years planned estimates of \$11.029 billion for a total of \$12.398 billion. The budget approval included a 2024 Capital Budget of \$217.762 million and future-years planned estimates of \$107.265 million for the 60 option streetcars. The approved project cost for the 60 option streetcars now totals \$325.027 million.

An amendment is required to increase the total contract amount to cover contractual escalation adjustments for the remaining streetcars being delivered in 2024 and 2025.

## **Comments**

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### *60 Option Streetcars Status Overview*

As of July 10, 2024, 21 of the 60 option streetcars have been delivered and 19 of those streetcars are currently in revenue service. The remaining streetcars are on schedule to be delivered until the end of 2025.

The new streetcars are considerably more reliable than the legacy fleet, reducing breakdowns and increasing overall availability to better serve customers. The additional 60 streetcars will operate on the TTC's nine streetcar routes, moving tens of thousands of customers daily. The streetcar network primarily operates in downtown Toronto, but several routes extend east and west of downtown. Much of the streetcar network comprises shared streetcar and mixed-traffic lanes, though portions of the network have dedicated rights-of-way.

The TTC continues to work with Alstom SA on the production and quality of significant components at its Sahagun, Mexico and La Pocatière, Quebec facilities, as well as final

streetcar assembly at its Thunder Bay, Ontario facility. In addition, the TTC and Alstom SA continue to work on streetcar delivery, testing and commissioning to ensure that a safe and reliable streetcar is provided for revenue service. All 60 option streetcars are expected to be delivered by the end of 2025, increasing the total streetcar fleet to 264.

Benefits of the 60 option streetcars include:

- Features and functions to improve the customer environment, including sensitive edge doors, exterior cameras, call points, ramps, and CCTV.
- Moving to new, more reliable, available, and efficient streetcars will reduce operational costs, thus improving the financial sustainability of the organization in the long-term.
- Designed and built for a 30-year life. The design is modern and is proven in-service across the globe and has showcased itself as being, on average, nine times more reliable than the old fleet.
- Dedicated cab area that allows TTC staff to concentrate on their responsibilities without distraction. The new design allows for further GHG emission reduction.

#### *Increase in market indices and escalation projection*

With every contract payment milestone, an escalation amount is also paid based on established indices. Escalation terms and formula are included in the contract. The escalation formula is based on various labour, material, energy, and equipment indices, which are published monthly.

To estimate the additional amount required for escalation price adjustments to cover the remaining contract payment milestones, the following approach was taken:

1. Indices with high volatility (Energy, Iron and Steel, Aluminum, Producer Price Index (PPI), durable manufacturing) were projected based on a five-year moving average of the past history of the index.
2. Indices with lower volatility (Labour, Machinery, and Electrical Equipment) were projected to stay in line with historical growth.

Based on this calculation, escalation projections have increased by \$47,043,759.01, inclusive of HST.

As such, a contract amendment is required to increase the total contract amount to cover the contract payment milestones based on updated estimates for the remaining streetcar deliveries planned for 2024 and 2025.

## **Contact**

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Bem Case, Executive Director – Innovation and Sustainability  
647-393-2385  
bem.case@ttc.ca



## Signature

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Bem Case  
Executive Director – Innovation and Sustainability