

PUBLIC TRANSIT INFRASTRUCTURE FUND LIGHT RAIL VEHICLE PURCHASE UPDATE

EXECUTIVE SUMMARY

In 2016 July, Council approved the procurement of new Light Rail Vehicles (LRVs) as one of the candidate projects for the Federal Public Transit Infrastructure Fund (PTIF) Phase 1 submission. This project was a second phase in the replacement program for Calgary Transit's oldest U2 LRVs. The original U2 fleet are operating beyond the vehicle design life of 30 years and are currently the most unreliable vehicles in the transit fleet.

Federal approval of submitted projects was received in 2016 November. The City's application included \$12.5 million in funding to procure new LRVs. This Federal grant, combined with other available funding sources, is sufficient to procure six new LRVs which will form an extension of the current order.

This project is required to be completed by 2019 March in order to meet the spending timelines required by the PTIF program. As such, budget approval is required from Council by 2017 April to allow the procurement process to proceed on this aggressive schedule.

ADMINISTRATION RECOMMENDATION(S)

That the Priorities and Finance Committee recommend that Council approve a \$29.0 million budget appropriation in Calgary Transit's LRV Purchases program 664-07w over 2017-2019 to be financed by the Federal PTIF Phase 1 grant (\$12.5 million), Provincial grants (\$12.5 million) and Reserves (\$4.0 million), for the procurement of six LRVs within the spending timeline requirements of the PTIF Phase 1 program.

PREVIOUS COUNCIL DIRECTION / POLICY

At the 2016 July 25 Regular Meeting of Council, procurement for new LRVs was approved to be included in the candidate project list for the Federal PTIF Phase 1 submission.

Federal approval of submitted projects was received in 2016 November, with \$12.5 million in funding to procure new LRVs. However, other financial processes resulted in the final financial submission not being included in the 2016 November mid-cycle adjustments.

BACKGROUND

The current LRV fleet consists of 78 U2 vehicles. These vehicles have formed the core of the Light Rail Transit (LRT) service since 1981 and the majority of the U2 fleet is now over 35 years old. These vehicles typically have a design life of 30 years. The reliability performance of the U2 fleet is a major inhibitor to continued effective service delivery. Currently, the U2 vehicles are approximately 3 – 4 times less reliable than newer vehicles within the fleet.

Calgary Transit is currently in the process of receiving 63 new S200 LRVs, funded through Provincial GreenTRIP and Municipal Sustainability Initiative grants. These new vehicles, in addition to being more reliable, will provide several additional functions that will provide an improved customer experience. These functions include better passenger environment because of improved heating and air conditioning, improved security with the introduction of on-board security cameras, and improved passenger information through high definition video screens. Additionally, the new vehicles have been specifically designed to improve the accessibility of the

PUBLIC TRANSIT INFRASTRUCTURE FUND LIGHT RAIL VEHICLE PURCHASE UPDATE

CTrain system passengers with mobility and visual impairments. These model S200 LRVs will replace the oldest U2 LRVs in Calgary Transit's fleet.

The Federal PTIF Phase 1 grant approved in 2016 November, combined with other available funding sources, is sufficient to procure six additional new S200 LRVs. However, the PTIF Phase 1 funding has a specific timeline requirement that the project must be completed by 2019 March (original deadline of 2018 March, with an extension available to 2019 March). Current LRV production requires a lead time of 24-26 months. In order for this project to be completed in compliance with the PTIF program spending timeline requirements, the vehicle procurement contract is required to be awarded by the end of 2017 April.

INVESTIGATION: ALTERNATIVES AND ANALYSIS

At the 2011 May 16 Regular Meeting of Council, report LPT2011-044, Light Rail Vehicle Fleet Plan Report, was approved with the recommendation to focus on a replacement strategy for the older LRV fleet instead of a more costly refurbishment program.

Given the Federal PTIF Phase 1 spending timeline requirements, there are two options to be considered:

Procure six new S200 LRVs using Federal PTIF Phase 1 funding

Budget approval for the procurement of six new S200 LRVs by 2017 April will allow for further retirement of older, less reliable U2 vehicles. Upon completion of the current order of 63 S200 LRVs, there will be approximately 46 U2 vehicles remaining in operational service. This additional procurement will reduce the overall U2 fleet to 40 vehicles.

A \$29.0 million budget appropriation in Calgary Transit's LRV Purchases program 664-07w will be required as follows: \$16.1 million in 2017, \$8.1 million in 2018 and \$4.8 million in 2019.

Continue operation with the current U2 fleet

Without budget approval by 2017 April, there is significant risk that PTIF Phase 1 funding timelines will not be met for this procurement and The City's cost to purchase LRVs in the future will be higher.

In this scenario, more U2 LRVs would have to remain in operational service for a longer period. In addition to reliability issues with individual U2 vehicles, continued operation of the U2 fleet will exacerbate reliability issues with the CTrain system as a whole. Unlike bus operations, a breakdown of a train affects not only the passengers on that specific train but also the passengers in trains behind the failed vehicle. U2 vehicles are currently 3-4 times more unreliable than the remainder of the fleet, and so fleet improvements in newer vehicles will be hampered by continued lower performance of the older vehicles.

In addition to reliability challenges, the customer experience on the U2 LRVs is significantly less compared to the newer fleet. Passenger complaints about the passenger environment and accessibility have been the main drivers in the development of the new models.

PUBLIC TRANSIT INFRASTRUCTURE FUND LIGHT RAIL VEHICLE PURCHASE UPDATE

Stakeholder Engagement, Research and Communication

None specific to this purchase.

Strategic Alignment

The procurement of these six replacement LRVs is consistent with the direction outlined in the Calgary Transportation Plan, RouteAhead, and Calgary Transit's Fleet Plan.

Social, Environmental, Economic (External)

This investment contributes directly to social, environmental and economic outcomes. Replacing older LRVs with modern vehicles improves accessibility for people with disabilities. The modern vehicles have barrier-free access at all doors, improved circulation space for people with wheelchairs, walkers, and strollers, and modern technologies for visual and audible announcements.

The new vehicles also make it more attractive to use the CTrain network by improving reliability, safety and security. Improving the attractiveness of transit promotes the use of other alternative modes, including walking and cycling, and reduces Calgarians' reliance on private automobiles. Combined with other investments, this leads to a reduction in urban sprawl and reduced GHG emissions.

A reliable, accessible LRT network is a critical part of addressing long-term growth in travel demand in Calgary's employment centres, particularly in the Centre City and major activity centres outlined in the Municipal Development Plan.

Financial Capacity

Current and Future Operating Budget:

The new vehicles require significantly less time and effort to maintain than the vehicles they will replace. This capital investment will thus mitigate future increases to the Fleet maintenance budget, allowing resources to be used in preventative maintenance and lifecycle refurbishment of other aging vehicles.

Current and Future Capital Budget:

The current estimate for the procurement of six S200 LRVs is \$24 million USD. At current exchange rates, this equates to \$32.2 million CAD.

Federal PTIF and Provincial contributions:	\$25.0 million CAD
Reserves:	\$4.0 million CAD
Funding from existing Fleet procurement budget:	\$3.2 million CAD

Cash Flow

2017: \$16.1 million CAD
2018: \$8.1 million CAD
2019: \$8.0 million CAD (by April 2019)

PUBLIC TRANSIT INFRASTRUCTURE FUND LIGHT RAIL VEHICLE PURCHASE UPDATE

Risk Assessment

The supply of the new vehicles is a low risk as this purchase will be a continuation of an existing design from the current supplier. Renewing the fleet, even in small orders, reduces reliability risk of having service fleet operating beyond their design life.

Delaying City budget approval risks missing PTIF Phase 1 funding timelines for LRV procurement; future purchases without PTIF Phase 1 funding increases costs for Calgarians.

REASON(S) FOR RECOMMENDATION(S):

The timing of this approval is required to allow for the construction and supply of six LRVs within the Federal PTIF Phase 1 timelines.

ATTACHMENT(S)

None