

Financial Analysis

INTRODUCTION

Financial analysis has been completed on the Green Line Stage 1 Program. This attachment has been written to be a stand-alone, full summary of material information included in the financial analysis.

EXECUTIVE SUMMARY

The financial strategy principles approved by Council on 2019 January 28 (Report C2019-0135) for pursuit of the Green Line Stage 1 Program plus the four major capital projects are foundational to the financial analysis of the Green Line Stage 1 capital program. In particular to optimize funding, financing and schedules, in order to deliver these major capital projects, considering, but not limited to the following objectives:

- Minimizing financing costs;
- Maximizing partner funding contributions;
- Maximizing the number of projects that can be completed;
- Minimizing the overall credit rating impact; and
- Sequencing the projects to reduce overall costs.

The financial strategy for delivering on the Stage 1 capital program is based on detailed financial analysis using a series of assumptions, which will evolve over time and are subject to change through various stages of delivering and executing the Program. The assumptions include, but are not limited to the following:

- Estimated cash flow profiles of forecast Program expenditures, which will be updated periodically over the procurement, design and construction phases of the Stage 1 Program as a result of refined design and engineering estimates, final contract pricing, and material change orders arising during construction;
- Overall Program schedule including estimated procurement timelines and individual project schedules for multiple contracts, and key milestones to execute a complex phased multi-party contracting strategy;
- Procurement is not complete for the three major contracts; therefore, cash flows are based on estimates rather than final contract pricing and schedules;
- Receipt of provincial contributions are based on fixed payment schedule that does not align with Program expenditures;
- Confirmation of eligible federal expenditures to be claimed in each fiscal year, including federal approval to front-end load their contribution to offset provincial contributions that have been deferred due to budgetary constraints; and
- Execution of a debt program with exposure to debt market conditions over time, including the level of interest rates and available financing structures.

The impacts of COVID-19 on delivery and financing of the Program are closely monitored by the project team and Finance and will be factored into future assumptions.

FINANCIAL CAPACITY

Capital Cost

The capital cost estimate of \$4,903 million for the Stage 1 LRT Project includes all contingency and escalation costs before consideration of any financing costs. The Stage 1 Project scope includes the design, construction, and implementation of twenty (20) kilometers of LRT track from 16th Avenue North to 126 Avenue SE. The updated recommended Stage 1 alignment anticipated to be approved at the 2020 June 15 Combined Council Meeting will also include BRT enhancements from 144 Avenue North to 6th Avenue SW as part of the Stage 1 Program scope.

The financial analysis utilizes the base Stage 1 LRT Program estimate profiled over the term of construction. Individual cost categories in this estimate are aggregated across major cost categories and contracts.

Contract Payment Mechanisms

These major contracts, including the Segment 1, Segment 2 and LRV contract, have specified payment mechanisms that define how contractors or suppliers will be compensated for the work performed on the Program. Forecasts of these key contract payment mechanisms and other Program expenditures are the basis on which the updated capital budget profile for the Program has been derived. Contract payment mechanisms are customized to allow The City flexibility in structuring the terms of the contracts to ensure payments match the timing of contributions from the funding partners and The City. Table 1 summarizes the capital budget profile for the Green Line Stage 1 Program.

Table 1. Green Line Stage 1 Capital Budget Profile

Description	Spend to 2020	2020	2021	2022	2023	2024	2025	2026	2027	2028	Total
Capital Budget Profile	525	167	355	271	403	796	774	860	718	34	4,903

Refer to Attachment 4 for a summary of the previously approved capital budget and incremental capital budget appropriation request.

Capital Funding

The City's contribution for Stage 1 Program costs will be up to \$1,560 million plus financing costs of up to \$639.9 million, for a total City funding contribution of \$2,200 million. This amount is exclusive of any operations and maintenance costs once revenue service commences or future major rehabilitation and renewals costs for the Program.

The Government of Canada's capital contribution will be up to \$1,641 million, including \$1,530 million under the Ultimate Recipient Agreement (URA) plus enabling works grant funding (under Public Transit Infrastructure Fund (PTIF)) and the Government of Alberta is contributing up to \$1,702 million for the Project, including \$1,530 million under the URA plus prior enabling works grant funding (under PTIF, GreenTRIP or prior grant programs)..

Alberta will fund up to 40% of eligible expenditures of the Stage 1 Program, as per the contribution profile set out in the URA and updated through Alberta Regulation 189/2019 and Canada will fund up to 40% of eligible expenditures for the Stage 1 Program. Not all costs in these major cost categories eligible for funding from the Alberta or Canada; therefore, the financial analysis accounts for ineligible costs that The City would be liable to fund.

The estimated Canada Contribution and Alberta Contribution are further adjusted in the financial analysis to account for the claims submission process, holdbacks and the Government of Alberta administration fee. Table 3 summarizes estimated eligible expenditures and adjusted contribution profiles for each of these funding partners. All outputs are stated in millions of dollars unless otherwise stated.

Table 3. Estimated Canada Contribution and Alberta Contribution

Description	2020	2021	2022	2023	2024	2025	2026	2027	2028	Total
Canada Contribution	-	121	80	81	225	317	253	361	93	1,530
Alberta Contribution	-	-	25	50	291	291	291	291	291	1,530

Cash Flow Waterfall

The financial analysis integrates several financial and commercial components of the Program together into an integrated financial model. The resulting cash flows are the basis to the debt financing program.

DEBT AND DEBT SERVICING IMPACT

The Program will require debt financing due to the timing differences between expenditures and funding. The timing of expenditures is dependent upon, but not limited to the contract payment mechanisms which comprise majority of the spend for the Green Line Stage 1 Program and the contribution profiles each funding partner.

Debt Issuance

The City anticipates executing a long-term debt financing program through a series of debt issuances to ensure total financing costs are minimized over time. The cumulative amount debt issuance is anticipated is approximately \$1,509 million, with the peak amount of outstanding debt anticipated in 2027.

Following receipt of all funding partner contributions in 2028, the debt level is anticipated to step down from the peak and the remaining amount of indebtedness will be repaid over the longer term with City funding. All Program indebtedness needs to be fully repaid by 2044 December 31 to align with the final year of City funding.

Financing Cost

The Green Line Stage 1 program does not include any contingency for financing costs in the base contingency; therefore, The City must structure its debt financing program to ensure the financing

costs remain within the budgeted amount funding. The estimated interest during construction is \$301 million and \$339 million during the operations period.

Operations and Maintenance Costs

Incremental operating and maintenance costs of approximately \$40 million per year (in 2016 dollars) have been estimated for the Program. Approximately half of the incremental operating and maintenance costs are associated with the Green Line LRT and the other half are required for the supporting bus network. Bus operating hours are required with or without the Green Line in the southeast to meet population growth and to ensure coverage and adequate service levels. With approval of the Stage 1 alignment the operating costs will be refined. Operating costs are dependent on a number of factors including: additional operating investments prior to LRT, LRV vehicle characteristics, operating speeds and actual ridership.

Lifecycle Costs

Major rehabilitation and renewal costs refer to all expenditures associated with future lifecycle improvements of the Green Line Stage 1 assets. A rehabilitation and renewal assessment will be made of program assets and could mean one or more major maintenance events or even replacement within the Program's lifecycle. This includes all expenditures associated with capital improvements that will increase the useful life of the infrastructure.

The current estimate for renewal costs is \$296.2 million (in 2016 dollars), which will be expended over a 30-year operations period for the Green Line. Future major rehabilitation and renewal costs do not have an identified funding source. These costs are anticipated to be included in future capital plans.

An updated major rehabilitation and renewal cost forecast will be required to be prepared in advance of the start of operations. Over a long-term operations period, infrastructure rehabilitation, renewal and upgrades will require future capital funding. Related funding sources will need to be identified in future business plans and budget cycles to fund these necessary costs to maintain the LRT system reliability and performance over the longer term, similar to the processes currently in place for the existing LRT systems.

Current and Incremental Capital Budget

As the Project moves toward implementation and contracts are awarded, the Project cost estimate, schedule and payment terms will be updated to reflect the final agreements and the capital budget profile will be adjusted.

Current and Future Operating Budget

The Stage 1 Program operations and maintenance costs are currently not funded as they would reside in a future budget cycle. As a result, a future funding source from property tax dollars will need to be in place prior to the start of operations anticipated no earlier than 2027. Operating budget requirements will be reviewed during the current One Calgary cycle (2019 to 2022) with refinements and updates to be approved in a future business plan and budget cycle to align with the anticipated revenue service date.

FINANCIAL ASSUMPTIONS OVERVIEW

Funding and Financing Cash Flow Assumptions

There are a number of current key financial assumptions that guide The City financial analysis. These assumptions were developed with guidance and close integration with various members of Green Line project team and others providing advisory services in order to understand the Program cost estimate and schedule and develop an advanced understanding of the financial and commercial principles to guide with this due diligence analysis.

Sensitivity Analysis

A sensitivity analysis has been performed relative to the base case City debt financing estimate, to assess the impact of the Canada Contribution equal to 100% of eligible expenditures, up to \$1,560 million which has not been confirmed at the timing of writing, as well as the impact of deviations to the major assumptions in the financial analysis.