

Subject: Stage 2 LRT Contingency Funding

File Number: ACS2022-FSD-FIN-0009

Report to Finance and Economic Development Committee on 28 June 2022

and Council 6 July 2022

Submitted on June 17, 2022 by Renée Amilcar, General Manager, Transit Services Department and Wendy Stephanson, Chief Financial Officer/Treasurer, Finance Services Department

Contact Person: Michael Morgan, Director, Rail Construction Program, Transit Services Department

613-580-2424, ext. 52718, michaeljmorgan@ottawa.ca

Ward: Citywide

Objet : Fonds de prévoyance de l'Étape 2 du projet de train léger

Dossier : ACS2022-FSD-FIN-0009

Rapport au Comité des finances et du développement économique

le 28 juin 2022

et au Conseil le 6 juillet 2022

Soumis le 17 juin 2022 par Renée Amilcar, Directrice générale, Services de transport en commun et Wendy Stephanson, Cheffe des finances / Trésorière, Direction générale des services des finances

Personne ressource : Michael Morgan, Directeur, Programme de construction du train léger, Services de transport en commun

613-580-2424, poste 52718, michaeljmorgan@ottawa.ca

Quartier : À l'échelle de la ville

REPORT RECOMMENDATION(S)

That the Finance and Economic Development Committee recommend that Council:

1. Approve \$35 million for the Stage 2 Rail Construction Program utility budget in 2022 to be funded from development charge debt, rate reserves, and transit debt; and
2. Approve \$25 million for the Stage 2 Contingency Budget in 2022 to be funded from development charge debt and transit debt.

RECOMMANDATION(S) DU RAPPORT

Que le Comité des finances et du développement économique recommande au Conseil :

1. d'approuver, en 2022, un budget de 35 millions de dollars au titre des services publics pour l'Étape 2 du Programme de construction du train léger qui sera financé au moyen des redevances d'aménagement, des réserves et de la dette fiscale du transport en commun;
2. d'approuver, en 2022, un montant de 25 millions de dollars pour le budget de contingence de l'Étape 2 qui sera financé au moyen des redevances d'aménagement et de la dette fiscale du transport en commun.

BACKGROUND

In March 2019, City Council approved the Stage 2 Light Rail Transit Project ([ACS2019-TSD-OTP-0001](#)), including a contingency fund of \$152.5 million, reflecting approximately 3.3 per cent of the \$4.6 billion project budget. The intention of a project contingency budget is to provide for unforeseen costs and variations to the project, including cost escalations above early estimates, refinements or changes to the project identified during design and construction, matters dealing with changes to law or regulations, and project claims and/or disputes. As a point of comparison, the Stage 1 contingency budget is currently \$115 million, which is 5.1 per cent of the overall Stage 1 project budget. Allocating the same 5.1 per cent contingency percentage for Stage 2 would result in a contingency budget of \$238 million.

Since 2019, numerous improvements have been made to the Stage 2 Project that have been funded using the contingency fund. The process for approving contingency draws

closely mirrors the process taken in Stage 1, including review and recommendation by an internal Change Control Board (CCB) in the Rail Construction Program and approval by the Contingency Management Committee, which includes the City Manager, Chief Financial Officer/Treasurer, and General Manager, Transit Services.

In some instances where contingency draws constitute a significant change or deviation from the March 2019 Council-approved technical design of the O-Train Confederation Line and Trillium Line extensions ([ACS2019-TSD-OTP-0001](#), Document 5), additional approval is required by the Mayor and the affected Ward Councillor. Equally, where there are significant changes to a specific element of the design that are considered significant from a customer point of view, approvals are also sought from the Mayor and affected Ward Councillor. The following changes have been implemented with this consent:

- Convent Garden and Jeanne d'Arc Stations Connectivity Changes
- Limebank Station Weather Protection Changes
- Leitrim and Bowesville Stations Customer Access Changes

During the course of design and construction, a number of improvements were added to the project scope that were not originally contemplated when establishing the project agreement and specifications. These additions primarily included enhancements to the overall system that were either not originally considered, or that would improve the customer experience, as well as new additional pressures on the utility budget, including works that were not contemplated or known at the outset of the project. This report provides details regarding these new budget requirements and discusses the available options to fund these changes.

DISCUSSION

Expenditures from the Stage 2 contingency fall within four broad categories. A summary of the types of expenditures is as follows:

1. Stage 1 Lessons Learned / Design Improvements
 - a. Upgrade of switch heaters on Confederation Line to gas switch heaters, including utility expansion work to support the gas connections following Stage 1 lessons learned.
 - b. Community and connectivity enhancements throughout the Stage 2 areas, including significant active transportation upgrades to connections and access at Convent Glen Station and Jeanne d'Arc Station following Stage 1 lessons learned.

- c. Noise walls and noise mitigations, including expansion of scope of noise walls along the OR174 and new noise mitigations on Confederation Line West following Stage 1 lessons learned.
- d. Expansion of the Walkley Yard to eliminate double slip switches (reliability improvement) and to extend the storage lanes to reduce the probability of congestion when trains enter or depart from the yard following Stage 1 lessons learned.

2. Stage 2 Safety, Accessibility, and Regulatory Changes

- a. Update of the requirements for the Richmond Road complete streets design to incorporate revisions to the City of Ottawa Accessibility Design Standard since contract award.
- b. Updates to the P25 radio repeater system equipment design to match the final Confederation Line West tunnel designs and configuration.
- c. Improved guideway fencing and guideway barriers along Highway 417 and the interchanges at critical locations to protect rail infrastructure from snow/ice removal from the adjacent highway.
- d. Regulatory requirements stemming from new regulations, including the new requirement for additional onboard voice and video recorders on the Trillium Line vehicles due to changes in Transport Canada standards.
- e. Additional fire life safety changes and improvements, including improved tunnel control panels, cross-passageway tunnel doors, and other changes required to accommodate design development.

3. Stage 2 Design Changes / Scope Increases

- a. Changes to Moodie Station and Corkstown Road to facilitate a two-way Corkstown Road configuration (rather than a one-way configuration contemplated in the Project Agreement), as well as changes to the Moodie Station layout and bus loop configuration completed as part of design development.
- b. Changes to Trim Road & OR174 intersection to facilitate improved sightlines and additional design safety factors to mitigate the interface between the intersection and the station.
- c. Reinstatement of the Trillium Line multi-use pathway under Highway 417 as part of final scope allocation following the Highway 417 bridge replacement.
- d. Installation of the surplus single wheel lathe from Stage 1 into the Belfast Maintenance and Storage Facility (MSF) to provide additional redundancy

for wheel turning (a new double axle wheel lathe was installed as part of the Stage 2 expansion).

4. Stage 2 Risk Transfer and City Allocations

- a. Expansion of utility scope of works due to additional interfaces, increased complexity of issues, unknown/mislocated utilities, additional protection and due diligence on existing utilities, and other matters related to both City assets and third-party assets.
- b. Various changes to management of traffic, incremental scope increases, claims settlement, and scope clean-up issues.

As a result of the draws made against the Stage 2 contingency, approximately \$132 million of the \$150 million contingency fund budget has been committed to date. Many of the items outlined above reflect improvements to the project that were not contemplated when establishing the contingency fund. In order to protect the City's interests in cases where variation negotiations and final contingency amounts are subject to change, values have been totalized for each of the four key areas:

1. Stage 1 Lessons Learned / Design Improvements: ~\$46 million
2. Stage 2 Safety, Accessibility, and Regulatory Changes: ~24 million
3. Stage 2 Design Changes / Scope Increases: ~\$31 million
4. Stage 2 Risk Transfer and City Allocations: ~\$31 million

Note that the allocation of contingency funding between the two projects to date is approximately 62 per cent for changes to the Confederation Line, 29 per cent for changes to the Trillium Line scope of works, and 9 per cent attributed to utilities and other matters.

In addition to the works described above, the Rail Construction Program is currently forecasting unavoidable costs to be funded by the contingency that exceed the remaining amount of approximately \$18 million. Some of these costs include existing and forecasted cost escalations and scope changes to works in progress, including the Transit Operations Control Centre upgrade and P25 radio system works, land acquisition and utility expansion costs to support gas connections for the switch heater upgrades, cost escalation on materials and labour for noise walls and mitigations, additional station connectivity works, increased staffing costs due to project delays, and exposure to further City risks outlined under the contract.

As a result, and with consideration that the originally contemplated contingency fund was intended to be allocated throughout the entire project lifecycle through to

completion, the remaining amount of approximately \$18 million will be insufficient to deal with expected remaining pressures.

Utility Budget

As outlined in the March 2019 report, during the procurement process, the City determined that TransitNEXT and East-West Connectors could not efficiently take on the full scope of risk related to utilities. As a result, the City structured a risk sharing regimen whereby it would hold a portion of risk related to utility relocations and conflicts.

In March 2019, the full utilities budget estimated for the Stage 2 Project was approximately \$68 million and was included in the Council-approved project budget of \$4.6 billion. That budget has been increased to \$75 million with a draw of funding from contingency.

Since 2019, however, a number of issues have led to additional pressures on the utility budget, including works that were not contemplated or known at the outset of the project, including hydro and gas main relocations, special procedures required to protect critical City assets, various permutations of cost sharing agreements on differing assets, increased costing and changes in scope.

The Cash Allowance program is generally set up to require the design-build contractor to enter into a contractual arrangement with the utility companies. This places the contractual onus on the Design-Builder to get the best price for the works and then holds them accountable for the coordination of the works and the impacts on the project schedule. In this arrangement, the City also has the ability to disagree with the costs and can deem that certain works are not applicable to the Cash Allowance program, such as the installation of underground ducting or conduit.

At a high level, an extensive program of utility relocations, new utility protections (where possible), logistical issues for working in/around existing utilities, and new utility connections is required to support the expansion of the Trillium Line and the Confederation Line. The following City departments and third-party utilities are affected by the project:

a) Hydro Ottawa Limited (HOL):

TransitNEXT and East-West Connectors (collectively referred to as Project Co) are responsible to coordinate with HOL for both relocations and station servicing as well as the HOL System expansion. There are a number of major HOL projects where the City can, in some instances, be liable for project impacts caused by utility companies. For example, a substation fire on Hydro Ottawa (HOL) assets precluded a power isolation required for the

Confederation Line Stage 2, which required Project Co to rework its sequencing of work and created additional costs for the City's utility budget. Similarly, decisions by HOL to alter designs to include underground solutions, rather than pole-based solutions, to accommodate localized technical conditions creates additional costs on the City's utility budget. The changes directed by HOL are required to protect the power network and require additional funding by the City. A budget pressure of \$11.5 million has been created in this area.

b) Hydro One Network Inc (HONI):

Significant challenges to the design were faced along the OR174 corridor due to works in or adjacent to the HONI infrastructure and due to HONI's application of additional design requirements and standards onto the City that were not publicly available. Additional costs have been incurred due to requirements for engineered fill around HONI's transmission line, new property requirements, a substation fire which affected the timing and costs of relocation works in Connaught Park and fill restrictions affecting the design of the western approach ramp to the new Woodroffe Pedestrian Bridge. As well, costs to increase the height of an existing HONI transmission tower line on the Limebank extension have been absorbed by the project. A budget pressure of \$3.1 million has been created in this area.

c) Telecoms:

The intercity telecom providers that are located in the existing Trillium Line corridor, Lumen (formerly Century link), Bell 360 and Rogers National have agreements with CP Rail that the City is not a party to. At present, the City is required to pay 100 per cent of the relocation costs for the infrastructure in the Trillium Line corridor. The original utility budget for this was predicated on a "protect in place" strategy, but during design development it became apparent that large portions of the intercity network would have to be relocated. Additionally, these telecom providers are disputing the cost sharing agreements as set out in the Municipal Access Agreements and have been requiring that their costs be covered completely by the City. These costs are in active negotiation between all parties; however, this is unlikely to reach an agreement that would alleviate the entire budget pressure. A budget pressure of \$4.6 million has been created in this area.

d) Enbridge Gas Services:

Gas main relocations were required across the project. In a number of instances, the conflict was on NCC or MTO property, and as such, it is Enbridge's position that the City's Franchise agreement and the applicable

cost sharing does not apply, and the City's share is 100 per cent of the cost. This has significantly impacted the cost of these works. A number of projects have also seen increased cost due to geotechnical issues. Additionally, in response to lesson learned from Stage 1, the City elected to require the Stage 2 Confederation Design-Builder to use gas switch heaters. This has resulted in an additional cost of \$8.2 million for relocations. Whilst staff are optimistic that a fair cost-sharing agreement can be reached with Enbridge for a portion of costs subject to City agreements, we continue to carry budget risks in this area.

e) City of Ottawa Assets:

Several of the City's major backbone infrastructure assets are to be relocated and/or work must be performed within close proximity to the infrastructure. In at least two instances, special procedures were required to protect the integrity of the water network. Additionally, the City identified risks to the duration and timing of the isolation windows that were not otherwise covered by the PA. The timing of a critical Cleary watermain isolation was not stipulated in the PA and required \$3.9 million of additional mitigation measures to protect the water network from disruptions during the winter period.

f) Trans Northern Pipeline

Trans Northern oil pipeline could be protected in place, however, due to the elevation of the track and the soil conditions, a relocation of the pipeline (to increase its depth) and redesign of the guideway drainage was required. A budget pressure of \$3.9 million has been created in this area.

Funding Requirement

In order to account for the additional scope and to meet the City's obligations in respect of ongoing utility works, approval for \$35 million to be added to the Rail Construction Program (RCP) utility budget in 2022 is being requested. Additional funding requirements will be assessed again in 2023.

In order to account for additional and significant scope increases and to recognize that additional time remains on the project, approval for \$25 million to be added to the Contingency budget in 2022 is being requested. Additional funding requirements will be assessed again in 2023.

The funding source for the additional \$60 million in funding would come from development charge debt, rate reserves for the Cleary Watermain works, and the remainder from transit debt. Since Stage 2 LRT is a growth-related project, it was

included in the 2019 Development Charges Background Study dated March 15, 2019, and approved by Council in May 2019. The net City cost is eligible for two-thirds funding from development charge revenue. The watermain costs will be funded by Water Reserves and the remainder will be funded by transit debt.

FINANCIAL IMPLICATIONS

The Stage 2 LRT project requires additional funding immediately to support unforeseen project costs that have an overall net benefit to the City's transit system, as well as new unplanned utility costs that are essential to complete the construction. If approved, the RCP utility budget will be increased by \$35 million, and the Stage 2 LRT Contingency budget will be increased by \$25 million. To be funded as shown in Table 1 below:

Table 1 – Stage 2 LRT Contingency Funding (in millions \$)

Funding Source	RCP Utility IO# 910750	Stage 2 LRT Contingency IO# 910751
Water Reserves (Cleary Watermain)	3.9	
Development Charge Debt	20.8	16.8
Transit Debt	10.3	8.2
Total	\$35.0	\$25.0

LEGAL IMPLICATIONS

There are no legal impediments to approving the recommendations in this report.

COMMENTS BY THE WARD COUNCILLOR(S)

This is a Citywide report.

ADVISORY COMMITTEE(S) COMMENTS

Not applicable.

CONSULTATION

Not applicable.

ACCESSIBILITY IMPACTS

Access to public transit is essential to the inclusion of people with disabilities in our city (see the City of Ottawa Equity and Inclusion Lens Handbook, Snapshot, People Living with Disabilities).

ASSET MANAGEMENT IMPLICATIONS

The information documented in this report are consistent with the City's [Comprehensive Asset Management \(CAM\) Program](#) objectives. The implementation of the Comprehensive Asset Management program enables the City to effectively manage existing and new infrastructure to maximize benefits, reduce risk, and provide safe and reliable levels of service to community users. This is done in a socially, culturally, environmentally, and economically conscious manner.

CLIMATE IMPLICATIONS

In order to achieve Council's GHG reduction targets, Energy Evolution calls for transit expansion to yield cumulative GHG emissions reductions of 427kt CO₂e from 2022 to 2031. If projects are not implemented or implemented more gradually than Energy Evolution modelled over this time period, there will be a gap between what Energy Evolution modelled and the GHG reduction targets established by the City's Climate Change Master Plan.

Stage 2 projects will need to be designed and operated to be resilient to future climate conditions, including addressing the risks identified in the Climate Vulnerability and Risk Assessment.

INDIGENOUS GENDER AND EQUITY IMPLICATIONS

Access to affordable public transit is essential to the inclusion of equity deserving groups and individuals in our city.

RISK MANAGEMENT IMPLICATIONS

The request for additional funding is necessary to complete the utility works, project changes and improvements outlined in the report. There is a significant risk to the City's ability to complete the Stage 2 Project should funding not be secured.

RURAL IMPLICATIONS

There are no rural implications associated with this report.

TERM OF COUNCIL PRIORITIES

This report supports the following Term of Council Priorities:

- FS1 – Demonstrate sound financial management
- FS2 – Align strategic priorities to Council’s financial targets
- TM5 – Ensure reliable, safe, accessible and affordable transit services.

DISPOSITION

Upon approval of this report, Finance Services will process the necessary budget adjustments for the Stage 2 LRT Contingency and Rail Construction Program Utility projects.