

Transportation Report to
Green Line Committee
2020 February 21

ISC: UNRESTRICTED
GC2020-0246

Green Line – Project Readiness Report

EXECUTIVE SUMMARY

This report includes information about the project readiness plan developed jointly by the Green Line project team, the Green Line Technical and Risk Committee (TRC) and external experts supporting the project in response to the conclusions and recommendations of the TRC in their project deliverability review requested by the General Manager of the Green Line Project and by Council on 2019 July 29. The readiness plan is intended to move the Green Line project from its current state of maturity, as reflected in the TRC members' findings, to the state of maturity required for successful delivery of a complex megaproject.

The TRC is comprised of independent, external, professional project advisors possessing expertise in the areas of governance, procurement, commercial matters, stakeholder consultation, design, and tunnel constructability. The TRC analysis confirms that there are critical gaps across various elements and a significant amount of work needs to be done to eliminate the gaps and complete the activities outlined in the readiness plan to ensure project success. However, it is the opinion of both the TRC and the General Manager of the Green Line Project that should the actions outlined in the readiness plan be properly executed in a timely manner and by a team having all the required competencies, this will place The City on a successful path to plan, procure and deliver the Green Line project.

Execution of the activities in the readiness plan is already underway.

ADMINISTRATION RECOMMENDATION:

That the Green Line Committee:

Recommend that Council receive this report for the Corporate Record.

PREVIOUS COUNCIL DIRECTION / POLICY

See attachment.

BACKGROUND

Since 2019 July 29, the members of the TRC have:

- completed the review of the RFQ for Contract #1 requested by Council through its adoption of Recommendation 5 on 2019 July 29;
- provided a verbal report to the Green Line Committee on project governance;
- undertaken extensive reviews and detailed analysis towards fulfilling various other aspects of the mandate included in their terms of reference and as directed by Council;
- completed their project deliverability review;
- assisted Administration in the preparation of the readiness plan; and
- provided advice that has assisted with preventative risk management.

This report outlines the 2020 January 15 conclusions of the TRC's project deliverability review requested by Council through its adoption of Recommendation 4 on 2019 July 29 and includes information about a readiness plan developed jointly by the Green Line project team, the TRC, and external experts supporting the project. The readiness plan has been reviewed by the TRC

Transportation Report to
Green Line Committee
2020 February 21

ISC: UNRESTRICTED
GC2020-0246

Green Line - Project Readiness Report

to confirm that it addresses the TRC conclusions. The actions outlined in the readiness plan are intended to position The City for success in the ongoing planning, procurement and delivery of the Green Line project.

INVESTIGATION: ALTERNATIVES AND ANALYSIS

The TRC's findings have been shared with and accepted by General Manager Thompson, Managing Director Neill and the Green Line project management team. The initiatives identified in the readiness plan are being actioned under General Manager Thompson and Managing Director Neill's leadership.

The Green Line project's Executive Steering Committee (ESC), chaired by the City Manager and comprised of the General Manager and Managing Director of the Green Line Project, the Chief Financial Officer, the City Solicitor and General Counsel, the General Manager of Transportation, the Director of Calgary Transit, and the Director of Supply, has been briefed by Chair Fairbairn and General Manager Thompson on the conclusions of the TRC deliverability review and the actions and initiatives included in the readiness plan to address these conclusions. The ESC is committed to providing the Green Line project with the resources, advice, assistance, and oversight required to ensure project success.

TRC Review Process:

The TRC commenced its deliverability review on 2019 September 26 and concluded its review on 2020 January 15. The TRC's goals were to:

- assess Green Line program management, functional, technical, procurement, and risk elements to determine the deliverability readiness of the program;
- identify critical gaps that impact deliverability; and
- engage the program team to develop a readiness plan.

Steps undertaken to complete the review included:

- a review of key project management documentation;
- interviews and discussions with key project team members;
- development of preliminary TRC findings;
- a series of meetings with the General Manager and Managing Director of the Green Line Project and members of the project's senior leadership team to validate the preliminary findings; and
- presentation of final findings to the Green Line team and to ESC.

TRC Findings:

The TRC defined "successful delivery" as "a program that meets or surpasses the program objectives including safety, budget, schedule, and quality" and concluded that immediate action is required to ensure project success and avoid project failure. The TRC also concluded that execution of the readiness plan "would place the program on a strong trajectory towards success".

It is important to note that the TRC assessed the Green Line project's readiness relative to their view of best practice standards for mega projects. This is a higher standard than The City has historically used to assess lower cost capital projects. Administration will ensure that lessons

Transportation Report to
Green Line Committee
2020 February 21

ISC: UNRESTRICTED
GC2020-0246

Green Line - Project Readiness Report

learned from the TRC review are shared with The City's Corporate Project Management Office for consideration when planning and executing future City capital projects.

The TRC reviewed the following elements of the Green Line program relative to those required for a successful mega project:

- program status;
- governance framework;
- business case;
- program structure;
- scope;
- property acquisitions;
- utilities;
- enabling works;
- program controls;
- technical;
- constructability;
- procurement;
- quality plan;
- reporting;
- readiness;
- risk management; and
- stakeholder plan;

and assigned to each area one of the following "Key Deliverability Scores" to indicate their view of the extent to which each key area was developed:

- aspects fully developed and functioning;
- some aspects partly developed and some still developing; or
- required aspects not developed or not fit for purpose.

The TRC's conclusions and comments as at 2020 January 15 are outlined below. It is important to note that a great deal of additional work has been undertaken by the Green Line project team to advance progress on many of the items that are indicated. This is evidenced by the creation of a readiness plan and the other activities noted in this report.

Key Deliverability Score: Aspects fully developed and functioning:

- Property acquisition for Segment 1: 80% complete; and
- Utilities: Relocations for Segment 1 are 80 to 90% complete.

Key Deliverability Score: Some aspects partly developed and some still developing:

- Program structure: The program has selected a matrix organizational structure that is incomplete and not understood by the team;
- Enabling works: The program needs to strengthen the management of these contracts. The program needs a stronger site presence and a renewed sense of urgency around the management of these contracts;
- Constructability: A constructability review has been conducted on Segment 1 only; and

Transportation Report to
Green Line Committee
2020 February 21

ISC: UNRESTRICTED
GC2020-0246

Green Line - Project Readiness Report

- Risk management: The risk management plan needs to be refined and properly implemented to be used to inform decision making.

Key Deliverability Score: Required aspects not fully developed or not fit for purpose:

- Program status: Not all of the processes, procedures and staffing are currently in place to provide successful delivery of the program;
- Governance framework: The governance framework is ineffective for the delivery of a mega-program;
- Business case: The business case is outdated and incomplete;
- Scope: Segment 1 scope is mostly fixed. Segment 2 scope is under development;
- Property acquisitions: Segment 2 awaits a final scope;
- Utilities: Segment 2 awaits a final scope;
- Program controls: The program controls for a \$4.903 billion program have not been established;
- Technical: There is currently no Council-approved technical solution that meets the approved funding. Project Agreement documents for Segment 1 require extensive development and coordination;
- Procurement: The program is not tracking the progress of the preparation of procurement documentation. Procurement is tracking six to seven months behind schedule;
- Quality Plan: The program has no quality plan;
- Readiness: The program is not using a gated approved management system or readiness reviews and is proceeding in an unregulated manner; and
- Stakeholder Plan: The program has work plans but does not have an overall stakeholder management plan.

Due diligence and risk management: The role of the readiness plan:

The readiness plan was developed to:

- address gaps in program delivery identified by the TRC and required for successful execution over the ongoing alignment planning, procurement and construction stages of the program; and
- support the successful completion of set-up, planning, procurement, and delivery activities required to be ready to go to market, with minimal impacts to the overall schedule.

The following principles guided the development of the plan:

- Structure: Defining how the program and the definition of key deliverables (including scope, procurement documents and cost/schedule definition) will mature over time;
- Focus: Establishing a sequence and division of work to efficiently allocate resources, prioritize activities, reduce unnecessary change, and eliminate re-work;
- Accountability: Establish transparency and ownership of activities across the Green Line team;

Transportation Report to
Green Line Committee
2020 February 21

ISC: UNRESTRICTED
GC2020-0246

Green Line - Project Readiness Report

- Confidence: Re-establish confidence in the program and the realization of the vision from within the team as well as from within The City organization, Council and other key stakeholders; and
- Discipline: Create discipline across the program, reflected in the actions of every team member, to adhere to the plan and proactively support structure, focus, accountability, and confidence within themselves and their peers.

Many of the TRC's recommendations and the initiatives in the readiness plan are already being implemented. General Manager Thompson recently led three workshops between TRC members, project team members and other expert external advisors to share the TRC members' findings and secure input into the readiness plan that will now guide the work of the Green Line team as they complete the planning phase of the project and move into the procurement and construction phases.

2020 Objectives:

To ensure focus, Green Line project team members have agreed to achieve the following three goals for 2020:

- Governance and staffing:
 - Governance model is finalized, approved by Council and fully operational;
 - Senior leadership positions and required staff requirements are filled by people with the right level of expertise and who excel in the project environment;
 - Clear roles, responsibilities and authorities are defined, documented and embedded into the culture of the team; and
 - Program set-up and systems are in place and all actions identified through TRC reviews have been completed;
- Planning:
 - Segment 2 planning is complete and the class 3 cost and schedule for the complete Stage 1 is within the approved \$4.9 billion funding; and
 - An updated Business case is approved by Council;
- Delivery:
 - RFP for Segment 1 and the LRV's have commenced;
 - Segment 1 enabling works are substantially complete; and
 - Segment 2 construction management utilities contract is issued and underway.

Work Streams:

To execute on the readiness plan, four work streams with the following objectives have been identified and staff or external experts assigned to lead each:

- Governance and Program Set-Up:
 - Establish a governance framework that allows for effective and efficient delivery; and
 - Establish processes, procedures and onboard personnel with the necessary capabilities and experience required to support effective and efficient delivery of the program;

Transportation Report to
Green Line Committee
2020 February 21

ISC: UNRESTRICTED
GC2020-0246

Green Line - Project Readiness Report

- Planning:
 - Establish a viable scope, technical solution and funding arrangement and develop the supporting business case documentation which demonstrates the need/basis for the successful delivery of the Green Line;

- Commercial:
 - Establish the procurement strategy, develop procurement documentation (Request for Quotation, Request for Proposal, Technical Performance Requirements, and Project Agreement) and manage smaller procurements and contract administration processes necessary for successful delivery of the program; and

- Technical and Delivery:
 - Deliver the enabling works program and develop the technical deliverables (including the design, estimating, schedule, and risk deliverables) necessary for successful delivery of the program.

Future quarterly reports updating the Green Line Committee on the status of the project will outline progress of each work stream.

Stage Gates:

A best practice for all major capital projects is the creation of stage gates. Transportation Infrastructure's stage gate standard forms the basis for the Green Line stage gates.

"Stages" are the period of time between gates in which information is collected, activities are completed and deliverables are produced. Stages are designed to progressively reduce uncertainty, provide definition and validate project value.

"Gates" are formal checkpoints at which careful consideration is given as to whether a project should proceed. "Gate reviews" are used to determine this. These are formal reviews of a project or program's current state to determine whether it should proceed and if so, under what conditions.

A project does not proceed unless all requirements to move beyond each gate are fulfilled or ESC has approved proceeding without a required element.

Project Controls:

Fit for purpose systems, processes and reporting tools, such as issues and decision logs, are being established to provide consistent and pertinent information to ESC, General Manager Thompson, Managing Director Neill, the City Manager, and the Green Line team. Ensuring proper project controls are in place is critical to mega project success.

Additional External Expertise with Mega-Project Experience:

To provide further due diligence on costing and to enhance risk management around the project, additional external project advisors with mega-project experience have been secured:

Transportation Report to
Green Line Committee
2020 February 21

ISC: UNRESTRICTED
GC2020-0246

Green Line - Project Readiness Report

- Steer Group: Steer is an international public transit planning and project economics company. They were retained for their transportation planning expertise and for their expertise in writing project business cases;
- Hanscomb Quantity Surveyors: This international company has a 60-year history of providing tools needed to control costs and help ensure project success. Their role is to conduct an independent review of The City's cost estimates for the program;
- SMA Consulting Ltd.: SMA provides risk management advisory services to the project team. They were retained to assist the project team, the ESC and The City's Integrated risk management team with identifying, documenting, managing, mitigating, monitoring, transferring or avoiding risk. SMA's scope of work includes:
 - project controls program setup and implementation support; and
 - risk management, including quantified cost and schedule risk assessments.

Continuing Governance Review:

On 2019 December 17, Chair Fairbairn advised the Green Line Committee that enhancements to project governance are required. Discussions with the City Manager and ESC continue to assess the best governance model for this project. A recommendation regarding the optimal governance structure for the project will be brought to the Green Line Committee for consideration on 2020 April 17.

Stakeholder Engagement, Research and Communication

The TRC consulted with the General Manager and Managing Director of the Green Line project and various internal and external project team members in the preparation of their deliverability review and in the development of the readiness plan. Some members of the TRC facilitated or participated in the three project team workshops held since the deliverability review was finalized. The ESC was briefed on the result of the deliverability review and the purpose and content of the readiness plan.

Strategic Alignment

The TRC's work is consistent with General Manager Thompson's request for assistance from independent external experts and with the Council-approved terms of reference for the TRC.

Social, Environmental, Economic (External)

Financial Capacity

Current and Future Operating Budget:

This report has no impact on the operating budget for the project.

Current and Future Capital Budget:

This report has no impact on the capital budget for the project.

Transportation Report to
Green Line Committee
2020 February 21

ISC: UNRESTRICTED
GC2020-0246

Green Line - Project Readiness Report

Risk Assessment

The TRC was established by Administration to assist in identifying, mitigating, monitoring, transferring, or avoiding risk associated with planning, procuring and delivering the project.

The TRC's deliverability report highlighted significant risks associated with various aspects of the project. The members of the TRC, other external experts supporting the work of the project team and the members of the project team have collaborated to develop the readiness plan to address the findings of the TRC deliverability review. The project team has commenced executing the activities outlined in the plan and are securing the additional internal and external resources required to reduce risk and ensure project success. The TRC members will monitor the progress of implementing the activities and initiatives outlined in the readiness plan.

The TRC's work is continuing in accordance with General Manager Thompson's requests for assistance and Council direction. The TRC will continue to report to Council on a quarterly basis and will report its findings on various Council-directed reviews as soon as those reviews are completed.

The TRC's findings will be of continuing value to the corporation as lessons learned from this review are shared with the Corporate Project Management Office and used to inform planning, design, procurement, and delivery processes on other City capital projects.

REASON(S) FOR RECOMMENDATION(S):

In the Spring of 2019 Administration recognized the need to secure the services of independent, external, professional project advisors possessing governance, procurement, commercial negotiation, stakeholder consultation, design, and tunnel constructability expertise to assist the Green Line project team.

Council and Administration have greatly benefited from the advice of the expert advisors serving as TRC members. The TRC's deliverability review is now complete and this report outlines the TRC members' findings and the readiness plan (developed by the Green Line project team, the TRC and external experts supporting the project) designed to address gaps in the project team's readiness to successfully plan, procure and deliver the project.

It is the opinion of the TRC and the General Manager of the Green Line Project that The City will be on a successful path to plan, procure and deliver the Green Line project if the actions outlined in the readiness plan are properly executed in a timely manner and by a team having all the required competencies. Execution of the activities in the readiness plan is already underway.

ATTACHMENT(S)

1. Attachment 1 – Previous Council Direction