

**Transportation Report to
SPC on Transportation and Transit
2019 June 26**

**ISC: UNRESTRICTED
TT2019-0811**

Green Line Q2 2019 Update

EXECUTIVE SUMMARY

The purpose of this report is to update Council on the status of the Green Line LRT project for the period of 2019 Q2. The key focus areas that will be highlighted in this report include a technical update on the single bore tunnel design development plan and a commercial focus area update on budget, schedule and contract strategy.

Given Calgary's current economic situation and based on market feedback, Administration continues to evaluate the projects readiness for procurement, the acceptable risk tolerance and the need to responsibly manage the projects delivery in order to deliver Stage 1 within budget and on schedule. The Q2 quarterly report addresses how Administration has been responding to the identified project risks with the objective of delivering the highest value for Calgarians that meets the commitment of the projects vision.

New and emerging items have also been reflected in this report, as significant work has begun in the Leadership, Governance, and Commercial focus areas of the project. These have been highlighted in the "notable deliverables" section of the report. These items are not scheduled to be completed until Q3, however are noted at this time as it underscores the culture shift that is occurring within the Green Line as we strengthen our relationship with our Executive Steering Committee, project team, partners, and external advisors. A more fulsome report on these initiatives will be provided in the 2019 Q3 Green Line Update Report.

ADMINISTRATION RECOMMENDATION:

That the Standing Policy Committee on Transportation & Transit Committee recommend that Council:

Direct Administration to return with a status Report no later than Q3 2019.

PREVIOUS COUNCIL DIRECTION / POLICY

At the 2019 April 29 Combined Meeting of Council, Report TT2019-0229 (Green Line Public Gardens Report) was approved on as urgent business and the following was adopted:

That Council:

"Direct Administration to report back to the SPC on Transportation and Transit no later than Q4 2019 with a workplan including scope, cost, resources, funding source, engagement and delivery strategy for the Public Gardens Master Planning work and the development of six Public Garden Projects."

At the 2019 April 08 Combined Meeting of Council, Report TT2019-0245 (Green Line Q1 Update) was received for information.

At the 2019 April 08 Combined Meeting of Council, Report AC2019-0353 (Green Line Project Governance Audit) was received for information.

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BACKGROUND

At the 2019 March 20 SPC on Transportation and Transit, Administration presented the cadence and flow of the Green Line quarterly reports to include the following:

- **Project Progress Report Card** is a summary on the status of the five key project focus areas: leadership, governance, commercial, stakeholder and technical areas of the project (Attachment 1).
- **Project Risk Assessment** is a high-level project risk registry with highlighted risks and associated mitigation plans (Attachment 2).
- **Project Expenditures** is the financial activity for the project
- **Project Timeline** is a timeline chart presenting our current state and upcoming milestones for 2019 (Attachment 3).
- **Key Project Focus Area Update** is an update and activity report on one or more of the five key focus areas: leadership, governance, commercial, stakeholder and technical

The 2019 quarterly reports scheduled to be presented to the SPC on Transportation and Transit are as follows:

	2019 Q1 March 20	2019 Q2 June 26	2019 Q3 September 18	2019 Q4 December 18
Status Update	<ul style="list-style-type: none"> • Project Progress Report Card • Risk Registry • Project Timeline 	<ul style="list-style-type: none"> • Project Progress Report Card • Risk Registry • Project Timeline 	<ul style="list-style-type: none"> • Project Progress Report Card • Risk Registry • Project Timeline 	<ul style="list-style-type: none"> • Project Progress Report Card • Risk Registry • Project Timeline
Key Project Focus Area Update	<ul style="list-style-type: none"> • Technical Focus Area Update: Single Bore Design Development Plan • Future Stages Analysis 	<ul style="list-style-type: none"> • Technical Focus Area Update: Preliminary Outcomes from the Single Bore Design Development Plan • Commercial Focus Area Update: Budget and Schedule and Contract Strategy 	<ul style="list-style-type: none"> • Technical Focus Area Update: VE/CR Outcomes • Stakeholder Focus Area Update: Taking Care of our Communities and Businesses 	<ul style="list-style-type: none"> • Combined 2019 Q4 and Green Line Annual Report

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INVESTIGATION: ALTERNATIVES AND ANALYSIS

The 2019 Q2 Green Line LRT Quarterly Progress Report Card (Attachment 1) provides an overview of the key deliverables that have been achieved and those upcoming to be presented in the next progress report.

Some of the notable deliverables achieved to date and of upcoming deliverables are identified below:

Notable Q2 deliverables achieved:

- ✓ 2019 Q2 – Recruitment of Green Line Managing Director complete and on boarding commencement;
- ✓ 2019 Q2 – Development of Green Line Project Charter (vision, mission and values) in partnership with the Executive Steering Committee, and external consultants Blakes/Hatch/KPMG/
- ✓ 2019 Q2 – Roll-out of project organization structure with defined roles and responsibilities;
- ✓ 2019 Q2 – Project Governance Terms of Reference for the Executive Steering Committee, Senior Management Team Committee and the Technical and Risk Committee drafted;
- ✓ 2019 Q2 – Completed the design and analysis of the Single Bore Tunnel;
- ✓ 2019 Q2 – Evaluated and established the projects risk tolerance;
- ✓ 2019 Q2 – Evaluated the procurement strategy based on market feedback.

Q3 look ahead - upcoming key deliverables:

- ✓ 2019 Q3 – Engage with stakeholders on findings from scope re-evaluation;
- ✓ 2019 Q3 – Finalize and implement key foundational leadership / governance documentation (e.g. Project Charter, Project Management Plan);
- ✓ 2019 Q3 – Monitor and revise the integrated schedule based on design and procurement development;
- ✓ 2019 Q3 – Perform a skills assessment including finding efficiencies and maximizing existing resources and develop a staffing plan and a recruitment strategy to support the Project's organizational design;
- ✓ 2019 Q3 – Operationalize the Technical and Risk Committee;
- ✓ 2019 Q3 – Develop the execution plan and management processes / procedures to support stakeholder engagement and communications;

For this 2019 Q2 report, there are two key focus area updates provided:

- Technical Update on the Single Bore Tunnel Design Development Plan
- Commercial Update on Budget, Schedule, and Contract Strategy

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Key Project Focus Area Update:

Technical Update on the Single Bore Tunnel Design Development Plan

Administration has completed an update of the single bore tunnel design and has optimized the scope of the twin bore tunnel design to be comparable to the single bore. The purpose was to allow for a reasonable comparison between the single bore and twin bore design solutions. This work provided a consistent scope between the two options to provide an operable, reliable and maintainable light rail system that meets ridership, runtime and reliability objectives.

The tunnel was evaluated through constructability, value engineering, optimization of the design, identification and mitigation of risks to ensure optimum value and long-term operations. The Green Line team will be engaging with stakeholders in Q3 to share the results of the scope and evaluation.

Calgary is in a different economic time and Administration is undertaking a rigorous review of all risks, scope, constructability, and the contracting strategy to ensure we are building a project that meets the needs of Calgarians, this means being prudent financial managers and making sure we get the best value out of every dollar spent. Green Line has entered the execution phase of the project The City is evaluating the project to ensure it still meets the expectations of Calgarians today.

While changes to infrastructure may be required, administration will ensure that the Green Line project vision is maintained.

Green Line is selecting a Technical and Risk Committee comprised external industry project specialists in the areas of procurement, commercial strategies, stakeholder management, design, and tunnel construction, to support project oversight. This committee will provide insights from leading practices and advise on key technical considerations and risks.

Commercial Focus Area Update on Cost Estimates, Schedule and Contract Strategy

Significant work continues on evaluating cost estimates and scheduling in parallel with the various technical design options. Administration maintains its due diligence to ensure prudent financial management ensuring the best value to Calgarians while maintaining the vision.

Evaluation of the contract strategy is ongoing. A current scan of the construction market indicates a lack of capacity in the market for large procurement options. Other mega projects across the country have experienced significant challenges indicating that the sizes of the procurement packages impact the attractiveness for bidding and must be considered.

Stakeholder Engagement, Research and Communication

Over the last quarter engagement has been ongoing with businesses and residences impacted by current and anticipated Enabling Works projects. Communication has comprised of electronic formats, mailed letters, face-to-face meetings and facilitated meetings. Additionally, updates

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were made to the online Green Line map to enhance usability and an overall review of the website's functionality was initiated.

Engagement included an open house in Ramsay (over 90 participants) that focused on construction impacts in the community this summer. The event was coordinated with our internal partners, the Inglewood/Ramsay coordination team, Inglewood Sanitary Trunk and 9 Avenue S.E. Bridge Replacement and external partners, Enmax and Canadian Pacific Rail. Residents in the area responded well to comprehensive construction zone maps presented.

The Green Line Stakeholder Relations team has been implementing its' mandate to help stakeholders prepare for and manage the potential impact of Green Line LRT construction, with a focus on the current enabling works and utility projects in the communities of Ramsay, Highfield, Ogden, and Beltline. The team has been focused on supporting stakeholders most impacted by construction (e.g. one-on-one small interactions, small group meetings, community public information session), implementing construction access management plans and coordinating construction efforts between the various third-party utility providers who are performing work on behalf of Green Line.

Strategic Alignment

Social, Environmental, Economic (External)

The project aligns with social, environmental and economic priorities of The City and the priorities of the provincial and federal governments. Green Line will improve Calgarians' quality of life by providing people with options on how to move, work, live, and play, and allows more affordable access to essential community services and programs.

The Green Line Project is tasked with achieving/meeting City of Calgary, and federal and provincial funding partner requirements that include: climate resilience reporting; environmental assessments; First Nations consultation; application of the Envision management system; and the provision of technical environmental requirements and guidelines to satisfy the procurement process. To meet funding partner requirements Green Line will be intentionally procuring goods and services to achieve overarching social, environmental, and economic goals while maximizing value in the purchases.

Calgary is in a different economic time and we need to do our due diligence to ensure we are building a project that meets the needs of Calgarians, this means being prudent financial managers and making sure we get the best value out of every dollar spent. Stage 1 of the Green Line will stimulate the local economy creating thousands of jobs during and after construction. The City is committed to working with local industry in a competitive procurement process that provides the highest opportunity to create jobs within our talented local workforce

The Green Line is providing stimulus to the economy by contributing \$390 million in spending to date. Construction of Stage 1 of the project will provide 20,000 direct and indirect jobs. Additionally, the land areas around stations in Stage1 of the project are expected to experience

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property value uplift of \$1.92 billion by 2046 as determined by an economic analysis completed in 2016/2017.

Financial Capacity

Current and Future Operating Budget:

There is no impact to the operating budget from this report.

Future operating budget impacts includes the following:

On 2017 May 15, and 2017 November 27, a preliminary estimate was provided to Council on the estimated annual incremental operating and maintenance costs for the Stage 1 project. This \$40 million per year estimate, in 2016 dollars, continues to be supported following the completion of the constructability review and further technical reviews.

This estimate is dependent on several factors and will be further refined once the major construction contract has been awarded and the construction schedule is set. The operating and maintenance costs are currently not funded and an ongoing funding source will need to be in place prior to the start of operations. This will be reviewed during the current One Calgary cycle with refinements and updates to be finalized in the next business and budget cycle (2023 to 2026).

Current and Future Capital Budget:

Twenty-five million in funding was originally allocated to the Green Line SetWay in 2014. As the project evolved, \$520 million of capital funding was approved for the Stage 1 project as part of the Action Plan business plan and budget cycle. This represented 10 years of City funding at \$52 million per year from 2015 to 2025. Extension of this funding for 30 years was approved in principle in December 2015 (NM2015-33).

The Project has also received funding for its enabling works projects that are related to preparing the right-of-way for the Stage 1 major construction. The enabling works budget is \$360.6 million and is provided by separate grants from the two orders of government (Federal Public Transit Infrastructure Fund (PTIF) = \$111 million, provincial 50% PTIF match = \$55.5 million, provincial GreenTRIP = \$92.4 million) with the City's matching portion of \$101.7 million for each grant contributed from the Action Plan allocation above.

Final Stage 1 funding has been secured through the signing of the Ultimate Recipient Agreement in January 2019.

Risk Assessment

All mega projects experience risk and to assist in mitigating this risk, Green Line is selecting a Technical and Risk Committee comprised of external industry project specialists in the areas of procurement, commercial strategies, stakeholder management, design, and construction, to support project oversight. This committee will provide insights from leading practices and advise on key technical considerations and risks.

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In addition, with the support of KPMG, Administration is currently developing a comprehensive Risk Management Plan that will be the basis to establish risk management standards, procedures and daily practices, as well as a “risk aware” culture for the Green Line project.

As part of developing the Risk Management Plan, the existing Green Line Risk Registry (Attachment 2) is being assessed to ensure that it is appropriately structured, populated, managed and used.

REASON(S) FOR RECOMMENDATION(S):

ATTACHMENT(S)

1. Attachment 1 – 2019 Q2 Green Line LRT Quarterly Progress Report Card
2. Attachment 2 – 2019 Q2 Green Line Risk Registry
3. Attachment 3 – 2019 Q2 Green Line LRT Project Timeline