City Auditor's Office

Green Line Project Governance Audit

March 15, 2019

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The City Auditor's Office conducted this audit in conformance with the *International Standards for the Professional Practice of Internal Auditing.*

Executive Summary

The Green Line Project (Project) is the City's largest infrastructure investment to date. The first stage of construction on the Green Line will include 20 kilometers of track (estimated cost $4.65 billion) and is expected to be completed by 2026. It will include 14 stations from 16 Ave. N to 126 Ave S.E. and the tunnel under the Bow River and the Downtown core. Given the size and complexity of the Project, effective governance will be a critical component to support achievement of Project objectives. This is the third in a series of Green Line audits undertaken by the City Auditor's Office.

The objective of the audit was to assess the effectiveness of the current governance framework of the Project. The audit focused on governance in operation during Q4 2018, in particular, governance in place to support effective risk and issues management and decision-making. The audit approach examined key transitional governance components in place, and utilized interviews with Green Line managers and the Acting Managing Director of Green Line.

The Green Line Project Charter was completed in February 2017; however, by February 2019 key components of Project governance remained incomplete or were not fully functional to effectively support the achievement of Project objectives. Incomplete Project governance components during Q4 2018 and into Q1 2019 included the Project organizational structure (in draft), and associated roles, responsibilities and accountabilities, a formalized decision-making framework, and a risk management framework.

Green Line Project leaders are working with an external consultant during Q1 and Q2 2019 to design a Project governance framework, which may address the current missing or ineffective components of strong governance. The implementation of an updated Project governance framework must be a Project priority, particularly given the imminent changes ahead as the Project moves towards procurement and construction through 2019 and 2020. The two audit recommendations raised reinforce the urgency to solidify the Project governance framework, specific to accountability, decision-making and risk identification, which in turn will support the successful delivery of this significant Project.

Based on the Acting Managing Director of the Project's response to the recommendations, we plan to conduct a follow-up audit on the effectiveness of the implemented governance structure later in 2019 and report back to Council through Audit Committee on the results.

1.0 Background

The Green Line is Calgary's next light rail transit (LRT) line, and the largest infrastructure investment to date. The Green Line LRT is designed to be both a transit system and a platform for development and City Shaping; it will provide efficient service and connections to destinations throughout Calgary, and areas where people can live affordably with access to amenities, services and sustainable mobility options.

On June 26, 2017, City Council approved the full vision for the Green Line LRT, including the full 46km route from 160 Avenue N to Seton and 28 stations. Construction on the first 20 km is anticipated to begin in 2020, and will extend from 16 Avenue N (Crescent Heights) to 126 Avenue SE (Shepard).

This first stage of construction (estimated cost $4.65 billion) is expected to be complete by 2026. Once the first stage is complete, the line will be expanded incrementally to the north and southeast as additional funds become available.

Given the magnitude of the Green Line Project, governance will be a critical element of project execution and success. The Project Management Body of Knowledge (PMBOK), states[1]: "…project governance is a critical element of any project, especially on complex risky projects. It provides a comprehensive, consistent method of controlling the project and ensuring its success by defining and documenting and communicating reliable, repeatable project practices." It includes a framework for making project decisions; defines roles, responsibilities, and accountability for the success of the project. The City's Corporate Project Management Framework Project Governance Standard defines project governance as "authority levels and accountability at the project level that enables the project to achieve stated goals in alignment with corporate objectives". The Standard states that capital projects shall have a documented governance structure outlined in the project Charter and refined in the project plan. The Standard defines a governance structure as "a defined structure that outlines the relationship between all the individuals/entities involved in the project and describes the project information flow to all individuals/entities".

The Green Line Executive Steering Committee (ESC) is the key body within the Green Line governance structure which is responsible for providing strategic direction and oversight. The Green Line Business Unit is responsible for the delivery of the Green Line Project.

The City Auditor's Office plans to conduct a series of audits on the Green Line over the lifespan of the Project given its proposed complexity and significant capital budget. This is the third in a series of audits on the Project, which was undertaken as part of the City Auditor's Office 2019/2020 Annual Audit Plan.

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[1] A Guide to the Project Management Body of Knowledge, Fifth Edition, Section 2.2.2 Project Governance

2.0 Audit Objectives, Scope and Approach

2.1 Audit Objective
The objective of this audit was to assess the effectiveness of the current governance framework of the Green Line Project.

2.2 Audit Scope
The scope of the audit focused on assessing the effectiveness of the Project governance in operation during Q4 2018. In particular, the audit focused on the ability of the transitional governance in place to support effective risk and issues management and decision-making.

2.3 Audit Approach
As key governance documents were in a state of transition and development at the time of our audit, our approach was to determine the effectiveness of interim governance arrangements through interview with all Green Line managers (nine positions in total), and the Acting Managing Director, and assessment of meeting minutes, reports and presentations which occurred during Q4 2018 as evidence of ongoing project governance.

3.0 Results

The Green Line Project Charter was completed in February 2017, however by February 2019 key components of Project governance remained incomplete or were not fully functional to effectively support the achievement of Project objectives. Interviews with Green Line managers, the Acting Managing Director, and review of draft governance documentation identified concerns with roles, responsibilities and associated accountabilities, decision making, and risk identification. During Q1, work commenced with an external consultant (KPMG) to design a formalized Project governance framework. An end date had not been determined for this work at the time of our audit.

Roles, Responsibilities and Accountability

Project roles and responsibilities have undergone multiple changes during 2018. The documented organization structure was in draft during Q4 2018 and into Q1 2019, and the recent turnover[2] in Project Managing Director role has resulted in the City's General Manager of Transportation also acting as Managing Director in the interim. Seven of nine Green Line managers interviewed identified a lack of clarity regarding Project roles and responsibilities, with a resulting impact on accountability and decision-making. Interviews with Green Line managers indicated specific challenges such as an individual hired into one role, but performing another role, and a lack of alignment of accountability and responsibility.

The City's Corporate Project Management Framework Project Governance Standard requires "a defined structure that outlines the relationship between all the individuals/entities involved in the project and describes the project information flow to all individuals/entities" which is not currently in place.

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[2] October 2018

Green Line Project leaders (i.e. Green Line managers and Acting Managing Director) are working with KPMG during Q1 and Q2 2019 to design a formalized Project governance framework. The draft proposal of work included the following activities related to roles, responsibilities and accountabilities:
- developing an organization structure chart,
- defining job descriptions for major roles,
- clarifying key responsibilities and accountability; and
- defining project oversight and decision making.

Decision Making and Reporting

The governing body of the Project is the Executive Steering Committee (ESC). The ESC terms of reference is currently under review to better reflect the role of the Committee (decision-making versus advisory). Clarifying the roles of the committee will ensure it has the appropriate decision-making authority to support achievement of Project objectives and to provide effective oversight.

The City's Corporate Project Management Framework Progress Reporting Guidelines recommend that progress reports should be presented, at a minimum, on a monthly basis. Our interviews confirmed Green Line leaders are developing a monthly dashboard report. Project leaders presented a revised quarterly report format to the SPC on Transportation and Transit on December 6, 2018 (and subsequently to Council on December 17, 2018), to begin at the end of 1st quarter 2019. At the time of the audit, the quarterly report to be presented to the SPC on Transportation and Transit in March 2019 had not been prepared.

Risk Identification and Management

An updated Risk Registry was provided to Council as part of Q4 2018 Project reporting, including risks, risk rating, and mitigation strategy. Risk ownership was not included. During Q1 2019, the Acting Managing Director was working with KPMG to consider further modifications of the Risk Registry.

During Q1 2019, Project risks have been managed via weekly meetings of Green Line managers, and the Acting Managing Director. The meetings utilize a playbook framework focused on critical tasks to be completed within the next 4-6 months to manage current risks and mitigation strategies. Green Line LRT managers update their respective sections in the playbook each week. The Acting Managing Director uses an informal process to risk rank and prioritize different risks presented through the weekly meetings and other Project meetings.

We interviewed all Green Line managers and asked what they viewed as key risks, which resulted in two consistent risks being identified:
- Lack of personnel experience on large/specialized project as a risk (4 of 9 responses); and
- Inadequate governance as a risk (4 of 9 responses).

We confirmed these two risks were documented in the playbook utilized to manage risk during Q1 2019. In addition, aspects of these risks (clarity of terms for the ESC, recruitment of an external consultant to support the formalization of a governance structure, update to the Risk Registry) were documented in Q4 2018 ESC minutes. The Q4 Risk Registry update to Council includes personnel experience as a risk.

While elements of a Project Risk management framework are in place, such as day to day management of short term risks through the utilization of a playbook, the risk identification and prioritizing is occurring on an informal ad-hoc basis rather than systematically. The draft proposal of work from KPMG includes the establishment of a comprehensive risk management plan. Formalizing the risk management process will allow Green Line Project leaders and staff to recognize emerging risks in a timely fashion and utilize risk management more effectively to support the achievement of Project objectives.

The draft proposal of work to be completed by KPMG includes the creation of a change management plan for implementation of the governance framework. The implementation of an updated Project governance framework must be a Project priority, particularly given the imminent Project stages ahead as the Project moves towards procurement and construction through 2019 and 2020. Given the current transitional state of governance and the absence of critical components of an effective governance framework, we recommended (Section 4.1) that the Acting Managing Director of Green Line implement an updated Project governance framework. We also recommended a reassessment of Project risks to identify underlying or previously unknown risks that were not identified during the period of informal risk identification and prioritization, and ensure that these are incorporated into on-going risk management.

Based on the Acting Managing Director of the Project's response to the recommendations, we plan to conduct a follow-up audit on the effectiveness of the implemented governance structure later in 2019, and report back to Council through Audit Committee on the results.

We would like to thank staff from the Green Line Project for their assistance and support throughout this audit.

4.0 Observations and Recommendations

4.1   Current Governance Framework

The Green Line Project Charter was completed in February 2017, however two years later key Project governance components remain incomplete or are not functioning effectively to support achievement of Project objectives.

Current components of Project governance which we identified through our audit as absent or not functioning effectively include:
- **Accountability** – seven of nine Green Line LRT managers interviewed identified a lack of clarity regarding Project roles and responsibilities, which have impacted Project accountability and supporting communication. The Project organization structure was in draft form during Q1 2019;
- **Decision Making** – the Project's decision-making structure is not defined; for example the role of the ESC (decision making versus advisory) and associated terms of reference have not been finalized;
- **Risk Identification** – a formalized Project risk management framework has not been established, so risk identification and prioritization is occurring on an informal ad-hoc basis rather than systematic basis, primarily through Green Line manager meetings.

Some of the delays in establishing effective governance may be attributed to recent turnover in the Project Managing Director role. Green Line Project leaders are currently working with KPMG to design a project governance framework, which may address the current missing or ineffective components of strong project governance.

The Project Management Body of Knowledge (PMBOK), states "project governance is a critical element of any project." Given the complexity of the Green Line Project, and the length of time transitional Project governance has been in place, and associated challenges with roles, responsibility, accountability, and decision-making, key Project risks that threaten the achievement of Project objectives may not have been identified, communicated, and prioritized. Implementation of the updated project governance framework should be a Project priority, accompanied by a reassessment of Project risk to provide assurance that significant risks are included in on-going Project risk management.

Recommendation 1
The Acting Managing Director of Green Line implement an updated Project governance framework, including defined and communicated roles, responsibilities and accountabilities, accompanying project organization structure, documented decision-making framework, and defined risk and issues management framework that supports achievement of Project objectives.

Management Response

Agreed.

Action Plan	Responsibility
This recommendation is being addressed through three related work streams: 1) **Project organization structure, roles and staffing** Work is presently underway to define the needed organization structure, roles, and staffing to deliver the project's activities for 2019. This involves several steps, as follows: Planning and design For the senior leadership positions: • Revise and/or refine reporting lines, job descriptions, accountabilities, decision-making authorities • Identify the appropriate personnel to staff the senior leadership positions. For the project's functional teams: • Develop a RASCI chart to define roles and responsibilities as it relates to activities requiring cross-functional involvement and decision-making • Develop job descriptions defining the primary functional roles, and match appropriate personnel to the positions. Implementation Phased implementation will occur, starting with senior leadership and cascading to functional teams. 2) **Project governance framework** The project's governance framework is being redeveloped in parallel to the organization design work. This has involved interviews with key, senior corporate stakeholders, undertaken in early Q1 2019. A workshop with the Executive Steering Committee is	Lead: Acting Managing Director, Green Line Support: External consultant (all items); HR Business Partner (item 1); Executive Steering Committee (item 2); Senior Manager, Project Controls, and Corporate risk leaders (item 3) Commitment Date: May 3, 2019

Action Plan	Responsibility
scheduled for late February 2019 to refine the Terms of Reference for the project's governing roles and bodies. The governance framework and supporting Terms of Reference will identify decision-making and risk and issues management authorities at the project and oversight levels, and will be implemented through a systematic process. **3) Risk and issues management** The project is currently undertaking a review of its approach to risk and issues management, including its Risk Register. An integrated risk and issues management framework that supports the needs of the project and that is aligned with City standards, is being developed. This involves several steps, as follows: Risk Register • Assess current Risk Register content and supporting processes, practices, roles • Define end-to-end desired processes, practices and roles to maintain and use the Risk Register for value-added activities, including reporting and decision support. Overall risk management • In consultation with external experts and senior corporate leadership, define and design an overall risk and issues management approach aligned with the needs of the project and City standards. Implementation Phased implementation will occur, starting with end-to-end Risk Register practices, and followed by the overall risk management approach.	

Recommendation 2
Post project governance framework implementation, Acting Managing Director of Green Line lead a reassessment of Project risk to identify underlying or previously unknown risks, and incorporate into on-going risk management.

Management Response

Agreed.

Action Plan	Responsibility
Once the detailed risk and issues management process has been created (described in item 3 in response to Recommendation 1 above), a workshop with the Project's senior leadership team will be undertaken to take stock of all current Project risks and issues. These will be evaluated (scored – probability vs. severity), mitigation plans will be developed, and individual risks will be assigned to owners. Monitoring will continue on a bi-weekly basis through a regular senior leadership risk management meeting, with major risks and issues brought forward to the Project's steering committee for regular update.	Lead: Acting Managing Director, Green Line

Support: External consultant; Senior Manager, Project Controls

Commitment Date: July 12, 2019 |