

**Green Line Report to  
Executive Committee  
2023 September 06**

**ISC: UNRESTRICTED  
EC2023-0936**

## **Green Line Board Report Q3 2023**

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### **PURPOSE**

The Green Line LRT project is the largest infrastructure investment in Calgary's history. It has \$5.5 billion in funding commitments from the Government of Canada, Government of Alberta, and The City of Calgary. This quarterly report to the Executive Committee of Council from the Green Line Board is part of the efforts to keep Council and Calgarians informed on the progress and governance of the Green Line LRT Project and demonstrate the ongoing management of the Project by the Board.

### **PREVIOUS COUNCIL DIRECTION**

This quarterly report provides an update by the Green Line Board as required by the Green Line Board Bylaw 21M2020. The Green Line Board also publishes monthly progress reports that are available to members of Council and the public, see Attachment 2 - Green Line Board Progress Report July 2023.

### **RECOMMENDATION(S):**

1. Receive this report for the Corporate Record; and
2. Direct that Attachment 3 remain confidential pursuant to Sections 24 (Advice from officials), 25 (Disclosure harmful to economic and other interests of a public body), and 27 (Privileged information) of the Freedom of Information and Protection of Privacy Act, not to be released.

### **CEO GREEN LINE COMMENTS**

N/A

### **HIGHLIGHTS**

The Development Phase kicked-off in May, following the announcement that Bow Transit Connectors (BTC) had been named our Development Partner. Green Line and BTC are working collaboratively, through an established Development Phase governance model, to advance the Phase 1 design and to negotiate the cost, schedule, and risk allocation. Onboarding requirements and deliverables, as set out in the Development Phase Agreement, are underway with a focus on reaching 30% design by the next progress milestone in January 2024.

Parallel to the procurement activities, the City Auditor undertook and presented the findings of the audit completed on the Green Line Risk Management Process to The City's Audit Committee on July 19, 2023. This audit assessed the design and operating effectiveness of Green Line's risk management process. The Audit Committee report indicated that through their extensive assessment, it was found that Green Line's risk management process "was designed effectively, and based on our sample, was operating as designed".

Major early works construction are underway in the Beltline, Downtown and Ogden. These projects are helping to minimize cost and schedule risks, thereby reducing conflicts during construction of Green Line tracks, stations, tunnels, and bridges.

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Support for the Green Line remains high and has continued to grow since 2021. The City of Calgary Spring Pulse Survey showed that 92% of Calgarians believe the Green Line LRT is important, which grew from 91% in spring 2022 and 89% in spring 2021.

### **DISCUSSION**

#### **Phase 1 Procurement – Development Phase**

At the end of April, Bow Transit Connectors (BTC) was selected as the Development Partner, following the Request for Proposal (RFP) stage. Since launching the Development Phase, Green Line has worked extensively to onboard BTC and establish technical and functional working groups. These working groups allow for collaboration, design progression, negotiation of project costs, risk allocation, and overall schedule before moving forward with signing the Project Agreement. In August, the Green Line team received a progress update from BTC, per the schedule set out in the Development Phase Agreement, on a number of key plans including governance, risk, schedule, cost procurement and design. The Implementation Phase remains on track to begin in 2024.

#### **78 Avenue Project**

In June, Graham Construction was announced as the selected proponent to build the 78 Avenue Project.

During the month of July, Graham Construction prepared for the planned construction start-up date of July 26, 2023. Safety fences, traffic control devices and site offices were established in the first few weeks of July. Approvals were also obtained on various preconstruction plans from both Canadian Pacific Kansas City Rail (CPKC) and the City.

Construction began on July 26, 2023, with stripping and cleaning of a culvert prior to starting the critical construction of embankments for temporary diversion of freight tracks.

#### **Beltline Downtown Utility Relocation Project (BDURP)**

Shallow utility relocation work (third-party telecom, electricity, and gas utilities) continued in the Beltline and Downtown; additional engineering design work is continuing for the remaining shallow utility work. Deep utility relocation works underway in the Beltline include City sanitary, water and stormwater utilities.

To support the annual Calgary Stampede, an aggressive construction schedule was developed and implemented in June to ensure all early works in Beltline East and West were either completed in time or temporarily paused. The planned construction curtailment period from July 2-17, was met with the exception of critical path work on 5 Ave S.W., and crews met stakeholder commitments to return streets and sidewalks to a tidy and clean state. Work resumed immediately following Stampede on 13 projects within the Beltline and Downtown.

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### **Light Rail Vehicle (LRV)**

Green Line signed off on the Light Rail Vehicle (LRV) supplier Construcciones y Auxiliar de Ferrocarriles (CAF)'s Preliminary Design Review milestone on April 28.

This design milestone allowed Green Line to review preliminary technical specifications on various elements including rider seat heights, layout of the driver's desk, shape of the trains, wheel size to ensure that it meets Green Line's design and accessibility requirements. The Final Design Review (FDR) milestone is expected to be met by the end of 2023.

### **Safety and Quality management**

Safety remains the key focus as BDURP construction activity continues in the Beltline and Downtown areas, and the 78 Avenue Project begins. Green Line monitors safety compliance by Green Line staff, consultants, and contractors on all construction sites.

From April to July, three incidents occurred resulting in property damage with no injuries. In compliance with established protocols, root cause analyses were completed, and lessons learned were implemented.

Two of the incidents were related to contact with a traffic signal line and a street light cable. In both incidents, as-built information was found to be incorrect and the locate exercise had also not identified the presence of the lines. In general, as-built information related to infrastructure in the Downtown is dated and has proven to be less reliable. Accordingly, Green Line is working with The City Business Units to determine preventive actions for future works.

The third incident was a water line rupture resulting in a short-term interruption of water supply to an adjacent building. No physical contact with the waterline was made but vibration resulting from the nearby piling operation caused damage to the over 80-year-old waterline. The waterline was immediately replaced by the City and Green Line is working with the City Water Services team to proactively identify aged infrastructure and develop appropriate mitigation measures for planned works.

Green Line continues to implement its Program Quality Management Plan with ongoing oversight of design quality management, BDURP construction works, and LRV Supply project quality compliance.

### **EXTERNAL ENGAGEMENT AND COMMUNICATION**

- |                                                                             |                                                                                     |
|-----------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| <input type="checkbox"/> Public engagement was undertaken                   | <input checked="" type="checkbox"/> Dialogue with interested parties was undertaken |
| <input checked="" type="checkbox"/> Public/interested parties were informed | <input type="checkbox"/> Public communication or engagement was not required        |

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Green Line continues to monitor Calgarians opinions of the Green Line project. Twice a year, the City of Calgary conducts a survey of Calgarians to solicit their feedback. Green Line has been participating in the Spring Pulse survey since 2021 to understand Calgarians feelings about the project. The support from Calgarians remains extraordinarily high with continued growth year over year.

- 92% believe the Green Line LRT is important (91% in 2022 and 89% in 2021)
- 92% agree that the Green Line LRT will enable Calgarians to better connect with people, places and services (91% in 2022)
- 91% agree that the Green Line LRT will be an important addition to Calgary's transportation network (90% in 2022)

Ongoing regular and proactive communications to Calgarians and businesses through Green Line newsletters, website, and social media channels and via direct outreach is a high priority for the Green Line team.

For instance, prior to the start of construction on 78 Avenue in Ogden, community stakeholders were advised about the project activities, potential impacts on the neighbourhood and the mitigation measures that will be adopted to minimize the construction impacts. Two community information sessions were held on June 13 and 24. Green Line also presented to over 300 students in Ogden (kindergarten to grade seven), to share information about the upcoming project and how to stay safe during construction.

Green Line's Community & Business Relations team led its monthly construction outlook for Downtown twice in July – once to give a post-Stampede preview on July 5, and another on July 26. A recurring meeting was also added for the Beltline beginning in July, to help set expectations and to inform residents and businesses about the impacts they should expect over the month ahead.

With the intensity of construction activity, Green Line's Business Support Program increased monitoring and communication with impacted businesses and crews to remain focused on maintaining access and business continuity in all impacted areas. Temporary loading zones were installed to support pick up/drop off activities for local businesses along 10 Avenue and 1 Street S.W. The team also liaised across City departments and with the Third-Party Utilities to facilitate the installation of an outdoor patio pre- Stampede and in time to support the business' peak season. There were also six new business profiles shared on Green Line's website and social media channels, with two near Ogden in advance of the 78 Avenue Project beginning in July.

The Green Line Street Team has been busy this summer supporting 10 community events along the Phase 1 alignment. The team connected with attendees to provide updates on the project and answer their questions.

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### **IMPLICATIONS**

#### **Social**

The Green Line LRT will transform accessibility and mobility for Calgarians providing an affordable alternative to the bus and road network. Green Line will contribute to safe and healthy communities. The Green Line LRT will improve mobility choices by providing a high-quality transit service that is fast, frequent, and reliable; enhance connectivity between people and places including connections to communities, employment hubs and key destinations across the city; and provide flexible capacity for a growing region.

#### **Environmental**

The Green Line LRT will allow Calgary's transportation network to move more people, emit fewer greenhouse gasses and use less energy and resources than we do today. Green Line will also contribute to a greener Calgary by improving the urban forest. A key factor in planning the Green Line is adding trees, green elements, and natural spaces. This will enhance the streetscape environment and the experience of transit riders.

#### **Economic**

As the largest infrastructure investment in Calgary's history, the Green Line is contributing to the city's economic recovery and resiliency, generating \$2.2B in long-term city-shaping benefits and more than \$6B in property value uplift by 2040. Constructing Phase 1 will create over 20,000 jobs and our more than \$300 early works construction program has over 100 projects already completed or underway, putting Calgarians to work today.

Bow Transit Connectors (BTC) has already identified some of their local, Calgary-based sub-contractors and will be building out their teams going forward, building on the strength of Calgary's local contractors, trades, and suppliers. Their subcontracting strategy is expected to benefit local construction contracting and equipment sales and services businesses, many of whom will work with us through both the Development and Implementation Phases. Green Line also already invested almost \$300M on its utility relocation work, and the 78 Avenue project in Ogden, that are being performed by local businesses.

#### **Service and Financial Implications**

##### **No anticipated financial impact**

The Green Line Board has a mandate to deliver the Green Line LRT Project in alignment with 2020 Council direction and within the committed funds. The Board continues to work on behalf of Calgarians and all funding partners to balance the costs and risks with the long-term city-shaping benefits.

Spending to date includes the engineering and design of different alignment options, the procurement of 28 new Light Rail vehicles, land acquisition, and early works construction.

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**Financial Summary as of July 31, 2023**

| <b>Category</b>                   | <b>Committed Cost</b> | <b>Cost to Date</b> | <b>Cost Year to Date</b> |
|-----------------------------------|-----------------------|---------------------|--------------------------|
| Owner's Cost                      | 89,832,131            | 89,352,504          | 9,386,387                |
| Design & Engineering              | 301,309,313           | 289,519,663         | 22,386,016               |
| Construction, Land & Other Assets | 715,615,958           | 520,192,066         | 63,063,555               |
| Bus Rapid Transit                 | 5,124,753             | 5,124,753           | 481,457                  |
| <b>Grand Total</b>                | <b>1,111,882,155</b>  | <b>904,188,986</b>  | <b>95,317,415</b>        |

**RISK**

Risk is continually monitored by the Green Line Board, on behalf of Calgarians and all funding partners. The Board relies on the experience and expertise of the Green Line leadership team to make recommendations and invests in ongoing independent due diligence to identify, evaluate, and validate information and assumptions.

In addition, The City Auditor continues to independently audit various aspects of the program. Recently the findings of an audit on Green Lines Risk Management Process were presented to The City's Audit Committee on July 19, 2023. This audit thoroughly assessed the design and operating effectiveness of Green Line's risk management process. The Audit Committee heard that the process audit results indicated that Green Line's risk management process was designed effectively and was operating as designed. Effective risk management is critical as Green Line's work progresses, given that large projects typically encounter risks that impact the delivery within schedule, cost, quality, and safety. Green Line's Risk Management Framework includes processes to identify, analyze, mitigate, and monitor risks through tools such as the risk register, risk breakdown structure and risk software applications.

The key risks and mitigations include:

- Green Line continues to monitor construction and financial market changes. Regular due diligence steps are in place to identify, evaluate and validate information and assumptions.
- Utility relocation works in Beltline and Downtown are ongoing in busy traffic corridors, which has a potential to impact travelling public and pedestrians. Green Line continues to proactively engage and notify stakeholders of potential construction related impacts (e.g., road closures) and work actively with City business units to optimize traffic control, lane closures, and assist with traffic management in Beltline and Downtown overall.
- Construction of 78 Avenue project has started in the community of Ogden. The project has a tight footprint and is located between very active CPKC mainline carrying approximately 28 freight trains a day and adjacent to residential areas. Adequate safety measures are in place to ensure safety of the workers/residents, and to avoid any interruption to the CPKC's operations. Similarly proactive measures are planned to minimize quality of life impacts to the nearby residents.

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**ATTACHMENT(S)**

1. Green Line Board Report Q2 2023 – EC2023-0526
2. Green Line Board Progress Report July 2023
3. CONFIDENTIAL – Green Line Board Quarterly Land Report
4. Presentation – Green Line Board Report Q3 2023

Department Circulation

| General Manager/Director | Department                          | Approve/Consult/Inform |
|--------------------------|-------------------------------------|------------------------|
| Don Fairbairn            | Green Line Board Chair              | Approve                |
| Darshpreet Bhatti        | Chief Executive Officer, Green Line | Approve                |
|                          |                                     |                        |
|                          |                                     |                        |

Author: Jodie Lush