



Green Line Board August 2022 Progress Report

ISC: UNRESTRICTED



1 Executive Summary

1.1 August Highlights

To support the next steps in the Green Line LRT Project, Green Line released the Request for Proposal (RFP) for a Delivery Partner on August 4, 2022, following approval from the Green Line Board in July 2022. The Delivery Partner will supplement the Green Line team in support of delivering Phase 1 across a range of project functions, including commercial management, technical support, project controls, and construction management. The Delivery Partner will leverage their technical and commercial expertise in complex megaprojects with an ability to scale resources based on project needs and phasing.

Construction work in Beltline East is ongoing with the primary focus on deep utility relocation in the intersection of Olympic Way and 12 Avenue SE. The intersection is on schedule to reopen in November 2022. Coordination between area partners is ongoing to effectively manage pedestrian and traffic movement through the work area. Planning for ongoing detours between area partners and City departments continues in preparation for the upcoming Calgary Flames season to minimize disruption during games.

The pictures below provide a snapshot of the shoring installation and excavation works in the intersection of Olympic Way and 12 Ave SE to install sanitary trunk siphon and storm trunk crossing.



Third Party Utility (TPU) work in Downtown by ATCO began in August 2022 on 3 Avenue SW between 3 Street and 2 Street SW. Work will substantially increase in additional areas in Downtown in September 2022. Extensive planning and stakeholder engagement to ensure coordination for this upcoming construction and detours was undertaken and will continue through future phases.

With increased construction in the Beltline and Downtown, Green Line continues to support businesses in these areas. Examples of business support initiatives include:

- Short-term loading zones to support drop/off pick up services for customers and businesses.
- Access and wayfinding to help customers travelling to/from businesses impacted by detours.



- Temporary on-street parking zones to provide local parking options and offset the loss of any on-street parking stalls because of construction.
- Business Profiles to showcase the diversity of businesses operating along the Green Line LRT alignment.

These initiatives are being coordinated between Green Line, City and area partners as well as local businesses with the intent to reduce and manage impacts that will come with building Green Line.

Next Month Look Ahead

With the approval and announcement of the two shortlisted proponent teams, Green Line is focused on completing the RFP and Technical Performance Requirements (TPR) documents for the Phase 1 DBF with Development Phase (DBF-DP), which is anticipated to be released in September 2022. These documents represent a significant scope of work that will form part of the RFP when released.

Negotiations for the staging lands in the Beltline and Downtown that are required to support the DBF-DP are progressing and are expected to be completed prior to start of construction.

In parallel to the above noted DBF-DP efforts, the following Beltline Downtown Utility Relocation Project (BDURP) construction activities are continuing in September 2022:

Beltline

- Complete installation of utility casing on 12 Avenue SE between 6 Street and 5 Street SE
- Complete installation of remaining portion of TELUS duct bank and ATCO gas line between 6 Street and 5 Street SE
- Completion of shoring within Olympic Way and 12 Avenue SE intersection and complete installation of Sanitary Trunk works through to the north edge of 12 Avenue SE
- Complete installation of sanitary main work in Stampede Trail between 12 Avenue & 13 Avenue SE for Calgary Municipal Land Corporation (CMLC)
- TELUS to continue duct bank relocation between 1 Street SW to 1 Street SE (Beltline West)

Downtown

- ATCO to complete gas line relocation work on 3 Avenue SW between 3 Street and 2 Street SW
- ATCO to start gas line relocation work on 5 Avenue SW between 3 Street and 2 Street SW
- TELUS to start duct bank installation work on 2 Avenue SW between 3 Street and 2 Street SE
- Complete intersection improvements on 5 Avenue SW to support traffic flow.

Coordinated construction activities and stakeholder outreach will continue to minimize impacts to businesses, pedestrians and traffic in the areas described above.

1.2 Program Status Dashboard

The table below provides the program status dashboard update for August 2022 including the overall program status and a comparison to the previous month.



Functional Area	Overall Program Status	Last Month's Status	Comments
Health & Safety	●	●	<ul style="list-style-type: none"> There were two property damage incidents in August 2022. Green Line has had no Lost Time Incidents (LTI), Medical Aid (MA) or First Aid (FA) incidents in the past year continuing a positive trend.
Environmental	●	●	<ul style="list-style-type: none"> Site specific Limited Environmental Site Assessment (ESA) work is ongoing. Field work at the Mustard Seed site has been completed and final report is expected to be submitted in September 2022.
Stakeholder Relations	●	●	<ul style="list-style-type: none"> Connected with more than 100 businesses and key stakeholders in August 2022 Launched a video series to feature local businesses and community partnerships
Schedule	●	●	<ul style="list-style-type: none"> Phase 1 DBF-DP procurement activities are on schedule. BDURP Beltline East construction and LRV mock-up delivery is on schedule.
Cost	●	●	<ul style="list-style-type: none"> Green Line continues to proactively monitor program costs. Appropriate mitigation measures for various key risks continue to be established, reviewed, and implemented.
Quality	●	●	<ul style="list-style-type: none"> Program Quality Management Plan implementation continued with ongoing review of Phase 1 RFP quality requirements, oversight of Enabling Works quality compliance, and reviews of the BDURP Quality Plan.

*Definition of legend for the dashboard in Appendix 1

1.3 Financial Summary as of end of August 31, 2022

Category	Committed Cost	Cost to Date	Cost Year to Date
Owner's Cost	75,172,376	74,692,749	9,416,663
Design & Engineering	280,259,026	258,253,267	21,802,001
Construction, Land & Other Assets	534,864,055	428,709,672	26,189,542
Bus Rapid Transit	4,499,112	4,499,112	1,205,205
Grand Total	894,794,569	766,154,799	58,613,411

*Details on specific inclusions in Appendix 1.



1.4 Milestone Schedule

As work progresses for Green Line, near term milestones and achievements for the program include:

- August 2022 – Delivery Partner RFP release (complete)
- September 2022 – Phase 1 DBF-DP RFP release (on schedule)
- Q3 2022 – Completion of the LRV mock-up (complete)
- Q4 2022 – Delivery of LRV mock-up to Calgary (on-route)

1.5 Risk Management

Risk is continually monitored by Green Line and below are some of the key risk items for August that continue to be addressed by the team:

- Green Line continues to monitor financial market changes due to the current economic climate.
 - Regular external due diligence is ongoing.
- The market is unwilling to accept certain risks that have been transferred to the private sector in similar projects.
 - Green Line is proceeding with a strategy to utilize a DBF with Development Phase to best allocate, mitigate, and manage risks. This strategy takes into consideration successful market precedents.
 - Utility relocation works that are currently underway provide higher confidence to the prospective applicants in minimizing risks and encourage active participation through the procurement process.
- Utility relocation works in Beltline and Downtown are ongoing in tight working areas, which can potentially impact travelling public and pedestrians.
 - Green Line continues to proactively engage and notify stakeholders of potential construction related impacts (e.g., road closures).

1.6 Stakeholder Relations

Green Line continues to focus on building relationships with stakeholders in the Beltline and Downtown impacted by BDURP. Work with community and business stakeholders is ongoing, including 1:1 discussions with members of the Business Insights Panel. In addition to the construction notices sent to more than 45 stakeholders in Beltline and Downtown, the direct stakeholder outreach for August 2022 is summarized below.

Stakeholder Activity	Quantity
Business outreach*	77
Residential/property outreach*	9
Email/social/311 requests	18
Key stakeholder/partner meetings	28
Information sessions/events	0

* Outreach includes calls, meetings, and on-site visits.

The Green Line Street Team supported and attended 14 events throughout the summer, providing project updates and connecting with community. Green Line also launched a video series in August to feature local businesses and community partnerships along the Phase 1 alignment. To date Green Line has posted seven stories which have generated over 30,000 views across Instagram, Twitter and Facebook and generated significant traffic to the website.



2 Health and Safety

2.1 Overall Program

Green Line continues to provide oversight to ensure safety compliance by Green Line staff, consultants, and contractors at construction sites. Oversight will continue as construction increases in downtown in September 2022.

There were two property damage incidents on Green Line in the month of August 2022 which are described below. Lessons learned from these incidences have also been incorporated into our safety procedures, as applicable.

- On August 1, 2022, during removal of an abandoned concrete duct bank, a storm pipe was moved out of alignment, requiring some pipe repairs.
 - As a result, additional controls were implemented which include the need to reassess work area for hazards prior to starting work and prior to changing tasks; mandatory use of a spotter while operating in congested areas and documentation of hazards and controls on pre-work safety documentation.
- On August 13, 2022, a zoom-boom contacted a street sign knocking it off the overhead traffic signal arm. Prior to the contact, the intersection was closed for construction and the traffic signal was scheduled to be removed resulting in only minor property damage.
 - As a result, a project-wide safety standdown is scheduled in the first week of September 2022. The root cause analysis identified repeat occurrence of not reviewing hazard assessment and lack of spotter presence which led to the incident. Steps were taken to mitigate future incidents.

Overall Program Metrics

The following tables contain the recorded incidents and non-compliance for the Program:

Table 1: Green Line Safety Incident Frequency Statistics

Performance Indicator		Green Line & City Staff	Contractors	Green Line, City Staff & Contractors
TRIFR: Total Recordable Injury Frequency Rate	per 200,000 hrs			

**Statistics based on a rolling 12-month period from August 31, 2021, to August 31, 2022*

Table 2: Overview of Safety Metrics for the 2022 Calendar Year as of August 31, 2022

Metric	August 2022	2022 YTD Incidents	Days since Last incident
Lost Time Incident	0	0	1218
Medical Aids	0	0	890
First Aids	0	0	446
Near Misses	0	2	92
Safety Non-Compliance	3	14	5
Property Damages	2	3	18

**Statistics based on Green Line staff and contractors and do not include work performed by third party contractors*



Safety targets continue to be met and safety will continue to be a focus for Green Line as BDURP construction activity increases in Beltline East and Downtown.

In addition, Green Line provided supporting records for the 2022 Certificate of Recognitions (COR) external audit beginning in September 2022. COR is a mandatory safety requirement for the City to conduct an external audit every three years to maintain COR certification. The audit ensures Green Line compliance with the City's Safety Management System. The external auditor will provide their report before the end of the year and a safety audit action plan will be developed to address any findings.



Appendix 1 – Dashboards & Financial Summary Legends

Dashboards Legends

Health and Safety	<p>Zero LTIs or</p> <p>Scheduled monthly site inspections completed with < 2 missed or Joint OH&S committee meetings and inspections on track or</p> <p>Green Line COR Internal Maintenance Audit completed with minor findings or all mandatory training complete</p>	<p>One LTI or</p> <p>≤5 scheduled site inspection not completed or missed a Joint OH&S committee meeting or inspection or</p> <p>Green Line COR Internal Maintenance Audit completed with major findings or <90% mandatory training completed</p>	<p>More than one LTI or</p> <p>>5 scheduled site inspections not completed or multiple Joint OH&S committee meetings or inspection not completed or</p> <p>Green Line COR Internal Maintenance Audit failed or less than 75% mandatory training complete</p>
TRIFR: Total Recordable Injury Frequency Rate	<p>Per 200,000 hrs</p> <p>≤1.33</p>	<p>Per 200,000 hrs</p> <p>>1.33 and ≤2.66</p>	<p>Per 200,000 hrs</p> <p>>2.66</p>
Environmental	<p>Greenline environmental requirements and permits are progressing and adhere to Municipal/Provincial/Federal Obligations.</p> <p>Quality of life impacts (noise, vibration, dust, light) resulting in minimal complaints from stakeholders or elected officials.</p>	<p>Specific Environmental permits or requirements are in progress; reliance on approving authorities timelines may cause temporary delays. Delays not expected to impact critical path.</p> <p>Quality of life impacts (noise, vibration, dust, light) resulting in moderate complaints from stakeholders or elected officials.</p>	<p>Contract requirements conflict or falling to meet the Municipal/Provincial/Federal obligations. Risk to schedule critical path or budgets.</p> <p>Quality of life impacts (noise, vibration, dust, light) resulting in significant public complaints from stakeholders or elected officials.</p>
Stakeholder Relations	<p>Minimal risk of reputational damage or localized stakeholder issues</p>	<p>Moderate risk of reputational damage or Multiple stakeholder issues that require urgent action</p>	<p>Severe risk of reputational damage or Major risk with funding partners</p>
Schedule	<p>No delay to critical activities or critical milestones</p>	<p>Delay to intermediate milestones by less than two weeks</p>	<p>Delay to critical activities or critical milestones</p>



Cost	Costs forecast within the budget	Costs forecast to be over budget by less than 35% of retained contingency	Cost forecast to be over budget by more than 35 % retained contingency
Quality	Quality requirements adequate/defined or in progress or Audits performed per plan with no/minor findings or NCR identification and resolution are within expectations	Quality requirements not adequate/defined in at least one area or Audits performed per plan with one or more major findings or NCR identification and resolution are not trending downward	Quality requirements not adequate/defined in multiple areas or Audits not performed or performed with many major findings or NCR(s) remain open that impact the safety/security and quality of new infrastructure or would adversely affect the ability to achieve Substantial Completion or MSF Completion

Financial Summary Legend

Owner’s Costs: Include City of Calgary Staff Time, Communications, Software, and General Corporate Overheads and Inter- Business Unit costs.

Design & Engineering: Includes all OE costs as well as general Project Consultants costs.

Construction, Land & Other Assets: Includes Land, Enabling Works, and Quick Win build costs.

Bus Rapid Transit: Includes all costs related to the Bus Rapid Transit work for Green Line.

Committed Costs represent issued PO values only for Design & Engineering and Construction, Land & Other Assets. For Owner’s Costs and Bus Rapid Transit these are primarily costs incurred to date.