



Green Line Board **Report**

Green Line Board Q4 2021 Progress Report

ISC: UNRESTRICTED



Executive Summary

This is a 4th Quarter Progress Report for the months of October, November and December 2021. With the approval of the Green Line Board, there are no individual monthly reports for these months. However, reporting in 2022 will begin on schedule with timely and regular monthly reporting cadence.

1.1 Project Status Dashboard

	Overall Program	Enabling Works	LRVs	Phase 1	Comments
Health & Safety	●	●	N/A	N/A	<p>There were no safety incidents in Q4 2021.</p> <p>City mandatory vaccination policies (including contractor declaration policy) remain in effect.</p> <p>The Green Line Safety Internal Maintenance Audit was completed receiving a score of 97% by the Alberta Construction Safety Association (ACSA).</p> <p>The City revised the date for return to office from January 3, 2022, to 4 weeks following the date the Province lifts Public Health Order Mandatory Work from Home Measures.</p> <p>The 2022 Business Continuity Plan draft has been updated and is being reviewed.</p>
Environmental	●	●	N/A	●	<p>The draft Climate Lens Resilience Assessment and Greenhouse Gas Mitigation Assessments, required by Infrastructure Canada, are now under internal review.</p> <p>The Envision Sustainable Infrastructure award process draft interim report was submitted for internal review in December 2021.</p>

<p>Stakeholder Relations</p>	●	●	●	●	<p>Announcement of the LRV and Phase 1 DBF project milestones have helped reinforce the message that Green Line is moving forward. Community Associations and Business Improvement Areas in Stage 1 have been updated on revised schedule.</p> <p>As Beltline Downtown Utility Relocation Program construction begins, increased interest in the project by community members is anticipated. Direct outreach is underway to ensure impacted stakeholders are informed.</p>
<p>Schedule</p>	●	●	●	●	<p>The Program schedule milestones were approved by the Board in November.</p> <p>The Beltline Downtown Utility Relocation Project procurement was delayed this period but does not impact the critical path of the Program. Mitigations are actively being developed ensure this project delay does not impact the Program.</p>
<p>Cost</p>	●	●	●	●	<p>The current budget is under pressure due to changes in escalation cost factor, functional design development and schedule updates. Based on input from the Construction Manager and tender values, cost pressures are increasing in the Beltline Downtown Utility Relocation Project. In addition, pressures on underground stations are increasing after discussion with property owners. Options are under investigation to mitigate these pressures.</p>
<p>Quality</p>	●	●	●	●	<p>The Program Quality Policy was approved by the Board and incorporated in the Program Quality Management Plan. The plan was finalized in December.</p>
<p>LEGEND*:</p>	<p>On Plan</p>	<p>At Risk</p>	<p>Off Plan</p>	<p>Not Started</p>	<p>Not Applicable</p> <p>N/A</p>

*Definition of legend for the dashboard in Appendix 1

1.2 Project Highlights

Project	Summary of Status this Period	January 2022
Overall Program	<p>Received Board approval on new project milestone schedule and communicated it with stakeholders.</p> <p>Concluded LRV procurement with announcement of CAF as the supplier of 28 low-floor light rail vehicles.</p> <p>Completed third market sounding for the Phase 1 Project building the LRT from Shepard to Eau Claire.</p>	<p>Preparation of Phase 1 DBF RFQ documents.</p>
Enabling Works	<p>Highfield Blvd. Multi-Use Pathway completed November 2021.</p> <p>CN Highfield Track & Tunnel project completed in December 2021 and final approval and acceptance of rail infrastructure by CN is pending. Chemtron Access and Roadworks are completed.</p> <p>Construction Manager issued East Beltline Civil (Deep Utilities & Roadwork) RFP procurement documents and it closed on December 14, 2021.</p> <p>Construction Manager also completed interviews and the evaluation process of submitted proposals.</p> <p>Initial third-party utility relocations commenced in November/December 2021 in</p>	<p>Complete closeout and documentation of Highfield Blvd Multi-Use Pathway, CN Highfield Track & Tunnel project and Chemtron Access and Roadworks.</p> <p>Construction Manager to submit initial draft Guaranteed Maximum Price (GMP) submission and award Civil contract.</p> <p>Construction coordination and sequencing of third-party utility relocations will continue.</p>

	both East Beltline and the Downtown.	
LRV	The LRV procurement was awarded in November 2021 to CAF (Construcciones y Auxiliar de Ferrocarriles).	Compile key information about the LRVs to share with interested Applicants during the Phase 1 Project Request for Qualifications (RFQ) procurement.
Phase 1	<p>Finalized contract and work plan negotiations with the Owner's Engineer.</p> <p>Developed a performance-based strategy to inform the development of the Technical Performance Requirements (TPR) for the Phase 1 Design-Build-Finance (DBF) from Shepard to Eau Claire.</p> <p>Started pre-procurement planning for the Phase 1 DBF.</p> <p>Completed a third round of market sounding for the Phase 1 DBF.</p> <p>Established the negotiation framework for Station Integration and progressed negotiations with property owners.</p>	Continue with Phase 1 DBF procurement document preparation.

1.3

Financial Summary for Q4 2021 as of December 31, 2021

Category	Committed Cost	Cost to Date	Cost Year to Date
Owner's Cost	66,466,786	65,921,937	12,837,799
Design and Engineering	279,471,563	236,661,389	30,442,408
Construction, Land & Other Assets	477,182,977	400,775,864	42,573,555
Bus Rapid Transit	2,772,942	2,772,942	2,208,743
Grand Total	825,894,268	706,132,132	88,062,505

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

Design & Engineering: Includes all Owner's Engineer 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.

1.4 Milestone Schedule

The milestone schedule was approved by the Board in November. The next phase of work is focused on three critical paths to mitigate impact for future Phase 1 construction: getting to the award of the DBF contract, relocating downtown utility conflicts, and land acquisition.

Near term milestones and achievements for the project include:

- November 2021 – LRV Procurement – Contract Awarded **(Complete)**
- November 2021 – Baseline Schedule – Complete **(Complete)**
- Winter 2022 – Beltline Downtown Utility Relocation Project – Construction Started



1.5 Risk Management

Below are some of the primary risk items that continue to be addressed by the team:

- Vacancies within the leadership team.
 - Recruitment is underway to fill key vacant positions. The focus has been on onboarding the Chief Operating Officer who started on December 20 and hiring outstanding director positions thereafter (Construction, Technical, and Business Services).
- Competing pressure in the North American marketplace may limit the pool of qualified teams interested in participating in the Phase 1 DBF procurement.
 - Market sounding was undertaken in December and will continue through the pre-procurement phase to continually evaluate and mitigate this risk. Steps are also being taken to improve the Phase 1 DBF procurement process and documents to make the procurement more attractive to the market.
- Property acquisition and interface timing.
 - Negotiations for land acquisition and station integration are underway at Downtown and Beltline locations. Exploration of alternative options to reduce property impacts also continues.

The risk register and risk management strategies continue to be reviewed and updated as required.

2 Health and Safety

	Overall Program	Enabling Works	LRVs	Phase 1	Comments
Current Period			N/A	N/A	There were no safety incidents in October, November or December.

					<p>City vaccination policy, including contractor vaccination declaration requirement remain in effect.</p> <p>The Green Line Safety Internal Maintenance Audit was completed, and the report approved by ACSA.</p> <p>The City revised the date for return to office from January 3, 2022, to 4 weeks following the date the Province lifts Public Health Order Mandatory Work from Home Measures.</p> <p>The 2022 Business Continuity Plan draft has been updated. The revised Business Continuity Plan and attestation letter is due to Chief Susan Henry of the Calgary Emergency Management Agency by January 31, 2022.</p>					
Last Period	●	●	N/A	N/A	<p>There were no safety incidents in September.</p> <p>A spike in the Delta variant of COVID-19 has resulted in the volunteer return to work being postponed from October 20, 2021 to at least January 3, 2022.</p>					
LEGEND*:	On Plan	●	At Risk	●	Off Plan	●	Not Started	●	Not Applicable	N/A

*Definition of legend for the dashboard in Appendix 1

2.1 Overall Program

The team continued providing safety oversight for City, Consultant and Contractor compliance against their respective Safety Management Systems and performance. City employee mandatory full vaccination policy came into effect on November 1, 2021 and contractor full vaccination declaration policy came into effect on December 1, 2021. The City has revised the return to office date from January 3, 2022, to 4 weeks following the date the Province lifts Public Health Order (44-2021) Mandatory Work from Home Measures.

The Green Line 2021 Internal Maintenance Safety Audit kickoff meeting was held on October 8, 2021 followed by safety documentation review and Green Line personnel interviews and then submitted to the ACSA for review and approval. The safety audit review/approval was received from Alberta Construction Safety Association with a score of 97%.

The Q4 Occupational Health & Safety Committee meeting was held on November 17, 2021 with the associated office inspection held on December 1, 2021.



Safety Culture: Green Line staff have been complying with the COVID-19 protocols by working remotely via TEAMS meetings when possible, with a slight increase in staff working from the office. Masks and hand sanitizer supplies have been set out in kitchen areas and photocopy rooms and all staff working in the office are wearing masks in public spaces and complying with social distancing guidelines.

October was Safety Month. The Safety Focus was to make a conscious effort on doing an Act of Safety every day which can be physical like picking up tripping hazards or psychological safety like going through the Mental Health Continuum Model exercise that was shared with Green Line personnel. In addition, the Alberta OH&S October eNewsletter covered the point about increase morning and dusk sun glare when driving and provided a link on how to reduce associated hazards from the reduced visibility and a note on training and competency.

November and December safety focus themes were on “World Mental Health in the Workplace” and “Winter Driving” respectively.

Overall Program Metrics

There were no safety incidents on the Green Line project for the months of October, November and December.

The following chart contains the recorded incidents for the rolling 12-month period as of December 31, 2021:

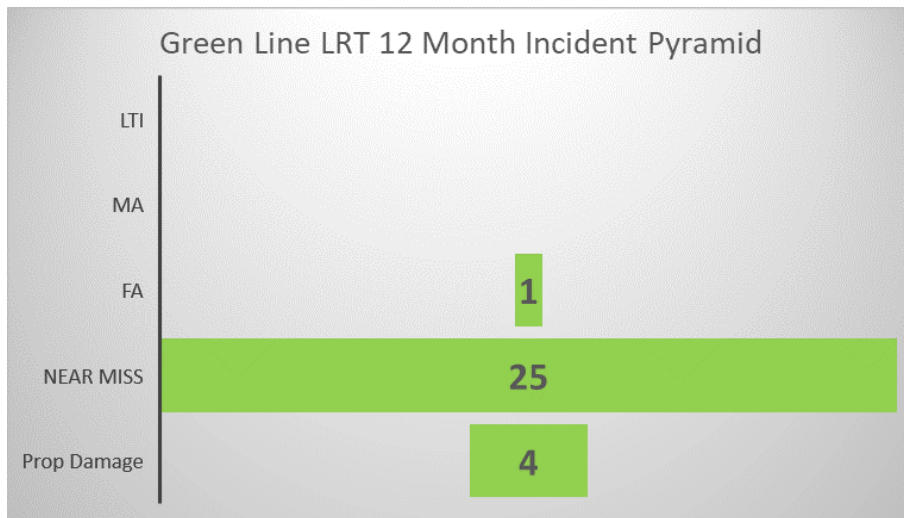


Table 1: Green Line Safety Incident Frequency Statistics

Performance Indicator		GL City Staff	Contractors	GL City Staff & Contractors
TRIFR: Total Recordable Injury Frequency Rate (MA +LTI)	per 200,000 hrs	●	●	●
	per 1,000,000 hrs	●	●	●
LTIFR: Lost Time Injury Frequency Rate	per 200,000 hrs	●	●	●
	per 1,000,000 hrs	●	●	●

*** Statistics are based on rolling 12 month period from December 31, 2020 to December 31, 2021**



Table 2: Overview of Q4 Safety Metrics for the 2021 Calendar Year as of December 31.

Metric	Q4	2021 YTD Incidents	Days since Last incident
Lost Time Incident	0	0	974
Medical Aids	0	0	647
First Aids	0	1	203
Near Misses	1	30	66
Property Damage/Theft Incidents	0	4	232

The near miss noted above was that Green Line and consultant personnel were not wearing their masks while standing within 2 metres of each other while preparing for a downtown building inspection on October 26, 2021.

2.2 Enabling Works

The team continued to provide oversight to ensure safety compliance by Green Line consultant and contractor personnel at various project sites as well as to observe any public activity issues.

No Enabling Works were stopped due to suspected or actual positive COVID-19 cases in Q4.



Appendix 1 –Dashboards Legends

	On Plan	At Risk	Off Plan
Health and Safety	Zero LTIs or Scheduled monthly site inspections completed with < 2 missed or Joint OH&S committee meetings and inspections on track or Green Line COR Internal Maintenance Audit completed with minor findings or all mandatory training complete	One LTI or ≤5 scheduled site inspection not completed or missed a Joint OH&S committee meeting or inspection or Green Line COR Internal Maintenance Audit completed with major findings or <90% mandatory training not completed	More than one LTI or >5 scheduled site inspections not completed or multiple Joint OH&S committee meetings or inspection not completed or Green Line COR Internal Maintenance Audit failed or less than 75% mandatory training complete
TRIFR: Total Recordable Injury Frequency Rate (MA +LTI)	Per 200,000 hrs <0.12 Per 1,000,000 hrs <0.60	Per 200,000 hrs ≥0.12 Per 1,000,000 hrs ≥0.60	Per 200,000 hrs >0.30 Per 1,000,000 hrs <1.50
LTIFR: Lost Time Injury Frequency Rate	Per 200,000 hrs <0.00 Per 1,000,000 hrs <0.00	Per 200,000 hrs ≥0.00 Per 1,000,000 hrs ≥0.00	Per 200,000 hrs >0.13 Per 1,000,000 hrs <0.65
Environmental	Overall environmental requirements are progressing as defined and work plans and budgets are being accurately managed	Specific environmental management subjects are being addressed and progressing; reliance on other project disciplines, information and inputs to complete the work may cause temporary delays	Failing to meet contractually required environmental obligations causing delays and complications for the Contractor and/or Owner
Stakeholder Relations	Minimal risk of reputational damage or Localized stakeholder issues	Moderate risk of reputational damage or Multiple stakeholder issues that require urgent action	Severe risk of reputational damage or Major risk with funding partners
Schedule	SPI ≥ 1.0 or	SPI 0.9-0.99 or	SPI <0.9 or



	No change to critical activities/milestones	Delay of critical milestones by less than 4 weeks	Critical activities delayed by more than 4 weeks
Cost	CPI \geq 1.0 or Costs forecast within the Budget excluding retained contingency	CPI 0.95-0.99 or Costs forecast to be over Budget and <30% retained contingency	CPI < 0.95 or Cost forecast to be > Budget + 30 % 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 with 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 Significant non-conformance with contract terms