



# Green Line Board **Report**

ISC: Unrestricted

## Green Line Board January 2023 Progress Report

# 1 Executive Summary

## 1.1 January Highlights

An agreement in principle was reached with Harvard Developments to acquire the land for the future underground station at 2 Avenue SW. The agreement in principle was announced on January 19, 2023. Tenants of the current Eau Claire Market were informed at a joint information session with Green Line and Harvard Developments, prior to the public announcement. The Eau Claire Market will remain open until Q2 2024. This is a significant milestone for the project as this station is both the temporary terminus for Phase 1 and serves as the future connection between the north and south legs of Green Line.

The following utility relocation work in the Beltline and Downtown continued during January 2023:

**Beltline:**

- Installation of deep utilities on 12 Avenue, east of 5 Street SE
- Installation of a new manhole at the intersection of 12 Avenue SE and 6 Street SE
- Enmax vault and manhole installation on 5 Street SE between 11 Avenue SE and 12 Avenue SE

**Downtown:**

- Telus duct bank relocation work on 4 Avenue SW between 1 Street and 2 Street SW
- Enmax duct bank relocation works at:
  - 7 Avenue SW between 2 Street and 1 Street SW
  - 1 Street SW between 7 Avenue and 2 Avenue SW
- Enmax vault installations on 5 Avenue SW:
  - east of 2 Street SW
  - west of 2 Street SW
- Telus vault installation on 3 Avenue SW, west of 2 Street SW

Construction activity in Downtown has ramped up during the month of January 2023 and all efforts are being made to minimize construction impacts to the travelling public. This includes added wayfinding for pedestrians, cyclists and transit users. Careful sequencing of construction works helped minimize disruptions and maximize the ability for traffic to flow through the construction zones.

The pictures below provide a snapshot of the ongoing deep and shallow utility installation works.



Looking Southeast at manhole installation work at 12 Avenue & 6 Street SE



Looking North at Enmax duct bank installation along 1 Street SW, North of 7 Ave SW



## Next Month Look Ahead

Beltline Downtown Utility Relocation Program (BDURP) construction will continue in both the Beltline and Downtown for deep and shallow utility work.

Beltline:

- Installation of deep utilities on 12 Avenue, east of 5 Street SE (continues)
- Installation of a new manhole at the intersection of 12 Avenue SE and 6 Street SE (continues)
- Installation of a new sanitary manhole on Olympic Way, north of 12 Avenue SE will begin in February 2023

Shallow utility relocations will continue to ramp up throughout 2023 within Downtown in addition to engineering design works for the remaining shallow utility work. In the Downtown, most critical deep utility relocation works that had conflicts with future third part utility relocations are now complete.

Downtown:

- Enmax duct bank relocation at 7 Avenue SW between 2 Street and 1 Street SW (continues)
- Enmax vault installation at the intersection of 2 Street SW and 5 Avenue SW (continues)

Outside of construction, Green Line team members will be heavily focused on supporting the Phase 1 RFP procurement process. The team will continue to review requests for information and participate in meetings with the two pre-qualified proponent teams.

## 1.2 Program Status Dashboard

The table below provides the program status dashboard update for January 2023, 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"> <li>• There were three safety incidents in January 2023.</li> <li>• Green Line has had no Lost Time Incidents (LTI) or First Aid (FA) incidents between May 2021 and October 2022 with one Medical Aid (MA) incident in November 2022.</li> </ul>
Environmental			<ul style="list-style-type: none"> <li>• As part of the land acquisition process, the site-specific limited Environmental Site Assessments (ESA) are progressing as planned.</li> </ul>
Stakeholder Relations			<ul style="list-style-type: none"> <li>• Connected with more than 129 businesses and key stakeholders in January 2023.</li> <li>• Developed enhanced safety and accessibility graphics, website content, and social media animations in response to increased interest in Green Line design.</li> </ul>
Schedule			<ul style="list-style-type: none"> <li>• Phase 1 DBF-DP RFP activities are on schedule.</li> <li>• BDURP construction key milestones on schedule.</li> </ul>
Cost			<ul style="list-style-type: none"> <li>• Green Line continues to proactively monitor program costs.</li> <li>• Appropriate mitigation measures for key risks continue to be established, reviewed, and implemented.</li> </ul>



Functional Area	Overall Program Status	Last Month's Status	Comments
Quality			<ul style="list-style-type: none"> <li>Program Quality Management Plan implementation continued with ongoing oversight of design quality management, BDURP construction works, and LRV Supply project quality compliance.</li> </ul>

*\*Definition of legend for the dashboard in Appendix 1*

### 1.3 Financial Summary as of January 31, 2023

Category	Committed Cost	Cost to Date	Cost Year to Date
Owner's Cost	\$81,695,768	\$81,216,141	\$1,250,023
Design & Engineering	\$285,025,218	\$269,692,510	\$1,193,275
Construction, Land & Other Assets	\$541,669,849	\$457,073,293	\$1,310,370
Bus Rapid Transit	\$4,643,296	\$4,643,296	\$0
<b>Grand Total</b>	<b>\$913,034,131</b>	<b>\$812,625,240</b>	<b>\$3,753,669</b>

*\*Details on specific inclusions in Appendix 1.*

### 1.4 Milestone Schedule

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

- Q1 2023 – Completion of LRV Preliminary Design Review (PDR) Submissions
- Q1 2023 – Phase 1 DBF-DP Development Phase to begin

### 1.5 Risk Management

Risks are continually monitored by Green Line. Below are some of the key risk items for January 2023 that are being addressed by the team:

- Green Line continues to monitor financial market changes due to the current economic climate.
  - Regular external due diligence is ongoing to identify, evaluate and validate information and assumptions.
- 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

BDURP construction activity resumed following the holidays and because of increased construction activity in major intersections, the day-to-day impacts to Calgarians walking and driving through the area is increasing. There were 21 inquiries to 311 for Green Line during January 2023, primarily related to traffic congestion, which was a noted increase from the average of 12 inquires per month throughout 2022. To provide more information on current construction and mobility impacts to all Calgarians, Green Line provided the construction plan to the Executive Committee of Council and began targeted media outreach to ensure more citizens had easy access to the information. Direct outreach to adjacent businesses and landowners continues to focus on communicating construction status and what to expect during construction in 2023.

Green Line’s Business Insights Panel, which is outlined on the Green Line LRT website, met on January 31, 2023. Panel members provided positive feedback on the initiatives and activities implemented in 2022 and discussed opportunities to incorporate more consumer-focused initiatives (e.g., promotions, activations) in 2023.

In addition to the eight (8) construction notices sent to more than 121 stakeholders in Beltline and Downtown, the direct stakeholder outreach for January 2023 is summarized below.

Stakeholder Activity	Activity (January)
Business outreach*	52
Residential/property outreach*	14
Email/social/311 requests	21
Key stakeholder/partner meetings	63
Information sessions/events	1

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

Website development is ongoing with updates shaped by project needs and analysis of metrics and stakeholder queries. In January, enhancements included a new page on safety and accessibility under “For Riders”, and improved functionality to the secondary navigation. The chart below provides the most viewed pages in January.

### January Website Metrics

Top 10 Pages in January	Unique Page Visits	Number of Page Views	Average Time on Page
Home	12,896	16,150	01:26
Map	8,658	10,390	03:11
Construction	2145	2744	01:07
Green Line Station	1504	2394	03:36
Green Line Planning	1320	1593	00:38
Future Stages	1317	1634	02:11
Eau Claire / Harvard Deal	1172	1259	02:20
Procurement Status	1119	1299	03:53
Construction Impacts	744	946	03:10
For Transit Riders	633	794	00:34
Total	20,433	50,558	



## 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.

In January 2023 three utility lines were damaged as a result of Green Line utility work. These incidents resulted in property damage with no injuries.

1. An old clay sanitary pipe started leaking when exposed during manhole excavation by the Construction Management (CM) Contractor in Beltline East on January 16, 2023. The excavation near the pipe was completed using hand excavation; however, the age and condition of the pipe caused it to leak. Green Line is working with The City’s Water Resources to obtain condition information related to the existing infrastructure in advance of the work, for proactive planning to mitigate similar incidents.
2. TELUS hit an unmarked water line connection pipe in 4 Street SW, east of 2 Street SW on January 16, 2023, as the utility locator did not have all The City of Calgary utility connections information in their databases. To prevent future occurrences, Green Line staff and The City’s Water Resources representatives have developed a cross reference procedure to ensure contractors and utility locators have all lines from all databases identified prior to any work starting.
3. Enmax damaged a water line connection on January 30, 2023, during the piling operation at 5 Avenue SW, west of 2 Street SW. The cast iron water connection pipe was over 60 years old and started leaking due to ground disturbance caused by the piling operation near the pipe. Like the first incident mentioned above, existing infrastructure condition information will be reviewed, where available, in advance of the planned exploratory works. Green Line is also working with the Water Resources team to ensure their staff is available to provide input on the infrastructure condition during the exploratory work and identify any preventive measures required to avoid damage.

### Overall Program Metrics

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

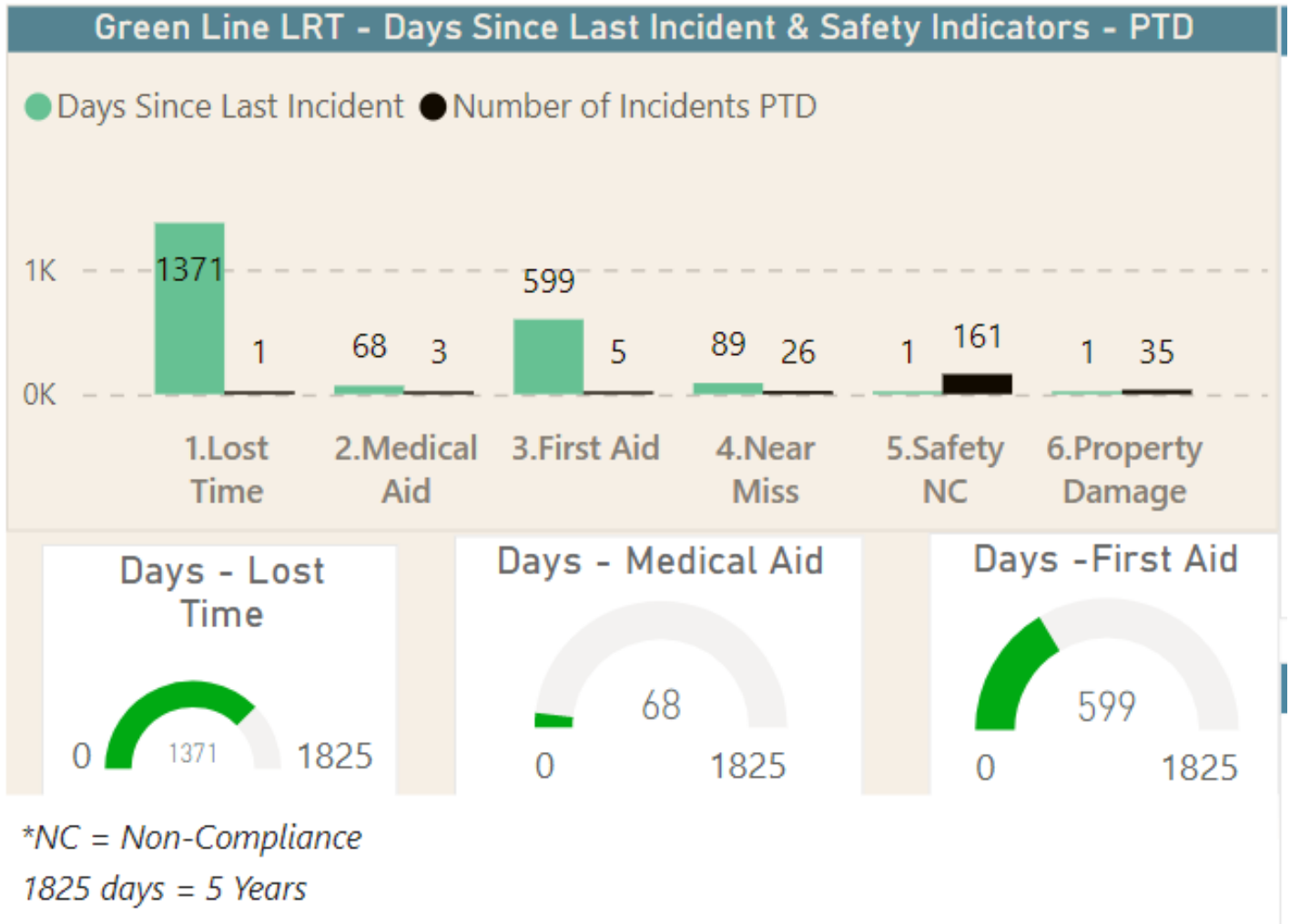
**Table 1: Green Line Safety Incident Frequency Statistics**

Performance Indicator		Green Line & City Staff	Contractors	Green Line, City Staff & Contractors
TRIFR: Total Recordable Injury Frequency Rate	per 200,000 hrs			
<i>*Statistics based on a rolling 12-month period from January 31, 2022, to January 31, 2023</i>				



**Table 2: Overview of Safety Metrics as of January 31, 2023**

The safety metrics are highlighted in the chart below and represent the Program to Date (PTD).



Safety remains a focus for Green Line as BDURP construction activity continues in the Beltline and Downtown areas. Safety Targets include zero Lost Time Incidents (LTI's) for all Green Line related work, compliance with monthly inspections on enabling works, requirement to input all safety records into the Green Line database, maintaining joint Occupational Health & Safety committee representation, and performing safety audits.

**Safety Audit**

Green Line completed the 2022 Certificate of Recognition (COR) external audit in October 2022. The final report is expected in February 2023. A subsequent safety audit action plan will be developed if any findings or opportunities for improvement are identified.

Green Line staff is working with an external consultant to provide a proposal to audit the CM Contractor's Safety Management System, and to provide a strategy for improving safety performance through a collaborative effort of sharing information and lessons learned.



## Appendix 1 – Dashboards & Financial Summary Legends

### Dashboards Legends

<b>Health and Safety</b>	<p>Zero LTIs or</p> <p>Scheduled monthly site inspections completed with &lt; 2 missed or Joint OH&amp;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&amp;S committee meeting or inspection or</p> <p>Green Line COR Internal Maintenance Audit completed with major findings or &lt;90% mandatory training completed</p>	<p>More than one LTI or</p> <p>&gt;5 scheduled site inspections not completed or multiple Joint OH&amp;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>
<b>TRIFR: Total Recordable Injury Frequency Rate</b>	<p>Per 200,000 hrs</p> <p>≤1.33</p>	<p>Per 200,000 hrs</p> <p>&gt;1.33 and ≤2.66</p>	<p>Per 200,000 hrs</p> <p>&gt;2.66</p>
<b>Environmental</b>	<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>
<b>Stakeholder Relations</b>	<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>
<b>Schedule</b>	<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>





<b>Cost</b>	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
<b>Quality</b>	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