

## Green Line LRT

### Green Line Board July 2021 Progress Report

# 1 Executive Summary

## 1.1 Project Status Dashboard

	Overall Program	Enabling Works	LRVs	Phase 1	Owner Activities	Comments
<b>Health &amp; Safety</b>			N/A	N/A		Green Line safety continues to be well managed as the field projects are close to completion. Return to work plans are moving forward, with continued monitoring of the rising fourth wave COVID-19 numbers which could potentially impact timing. There were no safety incidents for the month of July.
<b>Environmental</b>			N/A			Contaminated sites remediation and cleanup for several high risk properties, specifically in the previously titled Segment 1, has been identified and work is now underway on Schell and Whissell.
<b>Stakeholder Relations</b>			N/A			Uncertainty around overall project timeline as the team works to update the project schedule to align with Board direction for phase 1. Until schedule and project milestones are publicly announced, the uncertainty impacts stakeholder confidence in the project.
<b>Schedule</b>						The Program schedule is undergoing a baseline exercise. The baseline will reset the metrics for measurement of schedule performance. Beltline Downtown Utility relocation project schedule currently under review and mitigations are under development.

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<b>Cost</b>						<p>Program budget has been updated to reflect execution of Phase 1. The current estimate is under pressure due to changes in escalation cost factor, functional design development and schedule delays.</p> <p>The work currently underway is performing well against the updated baseline.</p>
<b>Quality</b>						<p>The Program Quality Management Plan draft version has been updated to align with the revised procurement strategy. It will be issued for review in August.</p> <p>This item will move back on plan when the Quality Management Plan has been updated.</p>

<b>LEGEND*:</b>	On Plan		At Risk		Off Plan		Not Started		Not Applicable	N/A
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\*Definition of legend for the dashboard in Appendix 1

**Overall** – With the conclusion of the provincial review, the Green Line Board announced that the 2020 Council approved alignment would now be constructed through a new phased procurement strategy.

The CEO, Darshpreet Bhatti, has been hired and will start on August 16.

The Government of Alberta approved the business case and submitted to the federal government on June 24, 2021. The Prime Minister reaffirmed the federal government’s support for the Green Line LRT project in Calgary on July 7, 2021.

Organization and planning for the preparation of Phase 1 procurement documents is underway and the LRV procurement remains on track to be awarded Fall 2021.

Planning and design for the relocation of utilities in the Beltline and downtown continues. The 60% design drawings for these relocations are under review. Coordination continues with stakeholders in the Rivers District and negotiations for land acquisition have commenced. Additional enabling works packages are also currently under review.

The Station Integration team is advancing discussions with property owners to integrate station entrances within private development.

**Health & Safety** – The Project is on plan with safety management system compliance.

There was no negative impact to the Green Line Program in July due to the ongoing pandemic. Review of contractor site specific safety plans prior to commencement of field work, monthly safety inspections and Green Line Joint OH&S inspection and meetings are all on track. Auditing of City, Consultant and Contractor compliance to respective Safety Management Systems and performance continues.

Plans are currently moving forward for a volunteer return to the Rocky Mountain Plaza office in July, August and September with a structured return later in October.

**Environmental** - The overall Environmental Management program for Green Line Phase 1 remains on plan this month with the main focus still on contaminated site activities in the southeast. Downtown and Beltline activities include ongoing environmental discipline work for: contaminated sites, Green House Gases/Climate Lens and Resilience, the Envision Sustainability program and other Permits, Licenses and Approvals support work. Final discussions with Alberta Environment regarding Green Line Soil Management Guidelines are well underway and approval should be forthcoming by late August/ early September.

**Stakeholder Relations** – The focus for July has been on ensuring municipal elections candidates are informed of the project status and on pre-construction planning for the Beltline Downtown Utility Relocation project anticipated to begin construction late fall 2021 in parts of Victoria Park, Beltline and downtown. The team continues to reach out to stakeholders, with a focus on building investigations and priority impacted stakeholders, to build the stakeholder database in support of planning for future construction. The Business Insights Panel has shifted to a quarterly meeting schedule and the next meeting in September will focus on business database build out and construction readiness. While the upcoming commencement of the Beltline/Downtown Utility Relocation project shows some progress for the project, and stakeholders have expressed support for this, they continue to ask for more details about the overall project so they have a clearer understanding of what to expect from Green Line as a whole and how all of the work will impact them. Further communication on the schedule for the overall project will be issued when complete, to help frame this work within the context of future milestones.

**Schedule** – The overall baseline schedule is in development with completion expected in the Fall of 2021.

The Southeast enabling works projects are nearing completion for the current scope of work.

**Cost** – The current estimate is under pressure due to changes in escalation cost factor, functional design development and schedule delays. The Green Line team continues to explore opportunities to reduce these pressures.

**Quality** -The Program Quality Management Plan is being updated to align with the revised procurement strategy. A third Lessons Learned session was also facilitated for Enabling Works Beltline Downtown Utility Relocation project as part of program quality management to inform of potential issues, concerns, and develop action plans for continuous improvement.

## 1.2 Financial Summary for July 2021

Category	Total Committed Costs	Expenditures Project to Date	Expenditures Project to Date Previous Month	Expenditures for 2021 to Date
Owner's Costs	\$ 61,732,480	\$ 61,512,574	\$ 60,175,259	\$ 9,655,985
Design & Engineering	\$ 276,173,550	\$ 223,852,634	\$ 222,307,996	\$ 17,062,650
Construction & Land	\$ 457,547,410	\$ 373,025,505	\$ 366,401,909	\$ 13,602,451
<b>TOTAL</b>	<b>\$ 795,453,440</b>	<b>\$ 658,390,712</b>	<b>\$ 648,885,164</b>	<b>\$ 40,321,087</b>

*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.*

*Construction: Includes Enabling Works and Quick Win build costs*

*Committed Costs represent issued PO values only for design & engineering/construction. Land and Owner's costs are incurred to date and include some issued PO values.*

## 1.3 Milestone Schedule

Milestone schedule is under development. Input from market sounding and Green Line consultants is underway to ensure a realistic schedule is set as the baseline.

Near term milestones:

- Fall 2021 - LRV Procurement – Contract Award
- Fall 2021 – Beltline Downtown Utility Relocation project construction – Construction Started
- Fall 2021 – Baseline Schedule – Complete
- Fall 2021 – Control Budget – Complete

## 1.4 Risk Management

Following the provincial and federal announcements this period there has been significant change in the major risks. Below are some of the primary risk items for the program now.

- Vacancies within the leadership team; recruitment is underway to fill these positions. CEO was announced in July and focus will be on COO and outstanding director positions.

- Competitive pressure in the marketplace in Canada creates limited available capacity for the proponent expertise required. Market sounding will be ongoing through the pre-procurement phase to evaluate and mitigate this risk.
- Property acquisition and interface timing. Negotiations underway at downtown and beltline locations. Exploration of alternative options continues for each location.

The risk register and risk management strategies continue to be reviewed and updated by the team.

## 1.5 Project Highlights

Project	Summary of Status this Month	Next Month
Overall Program	Provincial review concluded and federal funding business case submitted to the Government of Canada for final review and approval. Overall Program Plan structure is being finalized.	Project team focused on restructuring the procurement for Phase 1 from Shepard to Eau Claire.
Enabling Works	<p>Phase 1 Enabling Works Projects in southeast are in closeout status. The Highfield Blvd Multi-Use Pathway project will be completed by August 31, 2021. Supplementary early works in Phase 1 are proceeding with design and resource allocation.</p> <p>Downtown 60% Deep Utility Design issued and reviewed by the project team and required City business units. Construction Manager (CM) developing 60% Deep Utility Design schedule update and has started planning for upcoming procurement and RFP for Beltline Civil contractor. Utility Relocation team continuing ongoing coordination with stakeholders and has initiated discussions regarding Third Party Utility (TPU) building modifications.</p>	<p>Finalize development of additional Enabling Works.</p> <p>CM will complete schedule based on 60% Deep Utility Design packages and develop a 3D model for all work areas. CM will plan TPU coordination meetings for August.</p> <p>Owner’s Engineer team is working on updating design to develop 90%/Issued for Tender set of plans.</p>
LRV	Proposals have been received and are currently in the Evaluation Process of the Procurement.	Evaluation process continues.

Phase 1	<p>Project documents are being updated to align with the new procurement strategy.</p> <p>The Station Integration Team is working with landowners to advance discussions to integrate station entrances into their developments.</p> <p>Land acquisition negotiations have commenced for required properties in the downtown.</p> <p>The Senior Interface Manager role was filled and this team member is being onboarded.</p>	<p>Preparation and organization for commencing the development of procurement documents for Phase 1 will take place.</p>
Owner's Activities	<p>Work is underway to recruit for key positions including Chief Operating Officer (COO) with Delivery Director and Director of Business Services recruitment being staggered to support selection of COO. The CEO has been hired and will provide input in the hiring of these positions.</p>	<p>Recruitment to continue for key positions.</p>

## 2 Health and Safety

	Overall Program	Enabling Works	LRVs	Phase 1	Owner Activities	Comments
Current Period			N/A	N/A		Green Line safety continues to be well managed even as COVID-19 cases start increasing and return to work plans move forward. There were no safety incidents in July.
Last Period			N/A	N/A		There was one minor first aid incident in June, which was addressed immediately.

<b>LEGEND*:</b>	On Plan		At Risk		Off Plan		Not Started		Not Applicable	N/A
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\*Definition of legend for the dashboard in Appendix 1

## 2.1 Overall Program

### Near-term Risks and Issues

No.	Detail	Action / Mitigation
1	In-person training has been deferred due to COVID-19 risks.	Training companies are resuming in-person first aid and leadership for safety excellence training. Green Line will consider resuming in-person training post September.

### Milestones

Milestone	Plan	Forecast	Actual	Comment
<b>2 Year Lost Time Accident Free with over 1.5 million hours worked on the Green Line Program</b>			May 4, 2019 was the last observed Lost Time Accident on the Green Line Program.	Green Line personnel, Owner Engineer, consultants and contractors have worked over 1.5 million person hours since the last Lost Time Incident
<b>City of Calgary Summer Re-Opening Response</b>	2021/06/01 2021/09/15	2021/09/15	2021/06/01	Volunteer return to office over July and August with scheduled office work potentially planned for September.

### Key accomplishments/status

The team continued auditing City, Consultant and Contractor compliance to their respective Safety Management Systems and performance.

The team also met in July with the Calgary Fire Department Chief Engineer for a follow-up to the Emergency Response Planning workshop held in June for the Construction Tunnel Safety and Interface Plan with City EMS. Meetings will continue with City Business Units to prepare the plan for the end of 2022.

**Safety Culture:** The Green Line’s strong safety culture is reflected in the passion and quality of safety presentations delivered by Green Line personnel each week which is illustrated in the overall safety KPI metrics below.

The July 2021 Safety Focus was on returning to Rock Mountain Plaza office including updated protocols including:

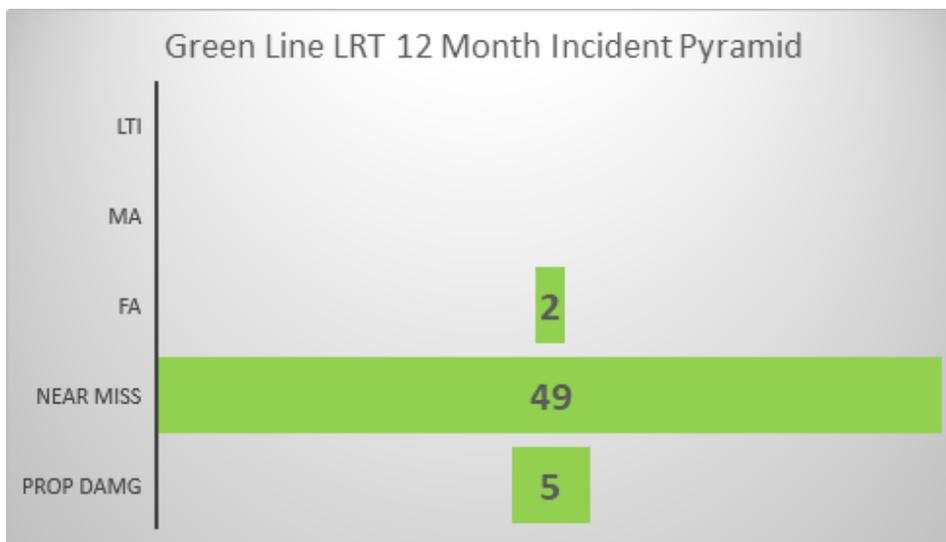
- Staying home if you are unwell
- Wearing masks when entering RMP or moving around any of the floors
- Wearing masks when within 2m of anyone
- Masks may be removed when at your desk or in a meeting room providing 2m spacing when seated
- Maintaining COVID-19 hygiene protocols including regular cleaning of workstations and high touch areas
- Get vaccinated. Most cases being admitted to hospital as the 4<sup>th</sup> wave arrives are people who have not been vaccinated.

In addition, the Alberta OH&S July eNewsletter was forwarded and discussed with all Green Line personnel which provided ergonomics in the workplace, COVID-19 resources, employer’s vaccination tool kit, working in the heat, wildfire hazards, psychological health & safety and more.

**Overall Program Metrics**

The following chart contains the recorded incidents for the 12-month rolling average.

Note that no Lost Time Incidents (LTI) nor Medical Aid Incidents (MA) have occurred in the past 12 months which is why the TRIFR and LTIFR numbers at the bottom of this section are all zeros.



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Table 1: July Overview of Safety Metrics for the Program

Metric	Current Month	2021 YTD Incidents	Days since Last incident
Lost Time Incident	0	0	821
Medical Aids	0	0	494
First Aids	0	1	50
Near Misses	0	28	11
Property Damage/Theft Incidents	0	4	79

There were no safety incidents on the Green Line project for the month of July.

Table 2: Lost Time Incidents for Reporting Month Details

Date of Injury	Site/Employer	Lost Time Days	Area of Injury	Incident Description
YYYY/MM/DD	N/A			

There have been no lost time incidents nor medical aids year to date on the Green Line program.

Table 3: Green Line Safety Statistics

Performance Indicator		Green Line City Staff	Contractors	Green Line 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 12 month rolling period July 31, 2020 to July 31, 2021**

<b>LEGEND*:</b>	On Plan		At Risk		Off Plan		Not Started		Not Applicable	N/A
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\*Definition of legend for the dashboard in Appendix 1

## 2.2 Enabling Works

The team continued safety oversight and rail safety support on CN Track ‘n’ Tunnel project with emphasis on COVID-19 protocols

Protocols for self-health checks prior to going to the office or out to construction sites combined with temperature checks upon arrival at site have worked well to date. No Enabling Works were stopped due to suspected or actual positive COVID-19 cases in July.

The team also commenced safety oversight of Ruby Rock contractor for Chemtron utility relocates and access paving work adjacent to South Hill station in July.

### Upcoming deliverables/activities and Major Milestones

The team plans to continue safety oversight of CN Track ‘n’ Tunnel construction and Chemtron access paving.

The team will ensure Green Line, Owner’s Engineer, consultant and contractor personnel are executing work in accordance with their safety management systems and Alberta Occupational Health & Safety regulations on all Green Line active work sites.

The team plans to continue developing the Phase 1 Construction Tunnel Rescue Interface and Response Plan with Calgary Fire Department.

The team will continue to provide guidance, oversight and COVID-19 protection resources ramping up to and during the return to office transition.

### Near-term Risks and Issues

No.	Detail	Action / Mitigation
1		

## 2.3 LRVs

Nothing to report this period.

## 2.4 Phase 1

### Near-term Risks and Issues

No.	Detail	Action / Mitigation
1	None	

Nothing to report this period.

## 2.5 Owner Activities

Risks to in-person first aid and Leadership for Safety Excellence training remain due to COVID-19 pandemic. Virtual orientation and safety training ongoing.

### Near-term Risks and Issues

No.	Detail	Action / Mitigation
1	Expired First Aid certification for supervisors.	No/limited in office supervision at this time due to COVID-19 protocols; training will resume when COVID-19 risk is low and personnel return to RMP which is anticipated mid-September.
2	COVID-19 status based on Federal Guidelines and Alberta Health Services Recommendations	Monitor City of Calgary Summer Re-Opening Response numbers based on lifting some COVID-19 restrictions and return to classes and office environments.

## Appendix 1 –Dashboards Legends

	On Plan	At Risk	Off Plan
<b>Health and Safety</b>	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
<b>TRIFR: Total Recordable Injury Frequency Rate (MA +LTI)</b>	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
<b>LTIFR: Lost Time Injury Frequency Rate</b>	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
<b>Environmental</b>	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

<b>Stakeholder Relations</b>	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
<b>Schedule</b>	SPI $\geq$ 1.0 or No change to critical activities/milestones	SPI 0.9-0.99 or Delay of critical milestones by less than 4 weeks	SPI $<$ 0.9 or Critical activities delayed by more than 4 weeks
<b>Cost</b>	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 $<$ 50% retained contingency	CPI $<$ 0.95 or Cost forecast to be $>$ budget + 50 % 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 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

## Appendix 2 –Stakeholder Engagement Activities

### Summary

During the month of July, stakeholder outreach and engagement occurred through general communications, enquiry responses, direct stakeholder outreach and a variety of stakeholder meetings and activities.

A project update was communicated through the Green Line newsletter on July 7, 2021 announcing the new CEO and reiterating the alignment of funding partners, a redefined procurement strategy and construction beginning in Fall on the multi-year utility relocations in the Beltline/Downtown.

With the approach confirmed for Green Line’s Business Support Program, Business Insights Panel meetings will transition to quarterly, with direct outreach to impacted Community Associations and Business Improvement Areas who are impacted by upcoming or ongoing construction.

While the general public sentiment for Green Line is positive, there is an increasing number of references to Green Line as part of the build-up to the municipal election. Impacted stage 1 stakeholders and communities are looking for an update on construction timelines and expectations for their communities and where community stakeholders are impacted by the change in procurement strategy, efforts are underway to ensure current discussions are well documented and can be resumed when future phases are advanced. Ongoing stakeholder communications continues with impacted businesses and communities currently operating in proximity to Green Line Enabling Works construction in the communities of Ramsay, Highfield and South Hill but these activities are nearing close-out.

All 311 service requests have been addressed and closed.

### Stakeholder Events / Communications

Event	Purpose	Date/Time	Method	Attendance
Direct stakeholder connection	Rivers District project interface coordination	2021/07/01 to 21/07/31	3 virtual meetings, 1 in-person meeting	CMLC
Project Update	Green Line Project Update re: new Green Line CEO announcement	2021/07/07	Green Line Newsletter	All subscribed
Chinatown corporate alignment meeting	Project update and stakeholder feedback shared	2021/07/07	Virtual meeting	Multiple City of Calgary project reps

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Event	Purpose	Date/Time	Method	Attendance
Inglewood-Ramsay corporate alignment meeting	Project update and stakeholder feedback shared	2021/07/13	Virtual meeting	Multiple City of Calgary project reps
Calgary Downtown Association alignment meeting	To develop a plan to get Green Line staff involved in CDA vulnerable persons training	2021/07/06	In-person meeting	CDA Stakeholder Engagement Director, Green Line Community Relations lead
Beltline Neighbourhood Association alignment meeting	To discuss preferences and methods for bringing project updates to BNA and its members	2021/07/09	6 emails, Virtual meeting	BNA board, Green Line Community Relations lead
Utility Relocation building modification direct stakeholder meetings	To set the expectations, scope, and scale for those buildings requiring modifications as part of the project	2021/07/26 – 2021/07/30	Virtual meetings	Representatives for 10 different buildings in downtown Calgary  Contacted a total of 17, still following up, and/or meetings in August
Follow-up to community presentation	To provide additional details for enabling works in the community of Ramsay	2021/07/07	Email	VP of Ramsay Community Association
Direct stakeholder outreach (Inglewood/Ramsay)	To provide details regarding lane closures and parking disruptions	2021/07/12	Email Phone	Seven businesses in Inglewood/Ramsay
Long-term detour discussions	To solicit feedback on an idea put forward by the Beltline Neighbourhood Association regarding two-way conversions on 11/12 Ave	2021/07/21	Email Phone	Ward 8 Office Councillor Evan Woolley

Event	Purpose	Date/Time	Method	Attendance
Direct response to citizen email query	To provide project information for a citizen in Ogden	2021/07/22	Email	Ogden resident

### Stakeholder Inquiries / 311 Service Requests

Type	Themes	Quantity
311 Service Requests	<ul style="list-style-type: none"> <li>– PRGM (general feedback-alignment)</li> <li>– PRGM (procurement process)</li> <li>– PRGM Property Maintenance (trespassing/vandalism)</li> <li>– EW Property damage</li> <li>– Green Line Future Phases (planning-real estate)</li> </ul>	5 service requests
Green Line Inquiries/ Comments	<ul style="list-style-type: none"> <li>– Updated Green Line alignment map to show phase 1</li> <li>– Current LRV design and integration with red and blue LRT lines (type of train)</li> </ul>	2 emails