

Green Line LRT

Green Line Board May 2021 Progress Report

1 Executive Summary

This update covers the period until the end of May 2021, during the month of May the Segment 2 Functional Plan was presented to the City of Calgary Green Line Committee on May 19, 2021. While not included in the timeframe of this report it is significant to note that on July 7, 2021 the Provincial Government publicly announced that the Phase 1 (Shepard to Eau Claire) business case was approved through Treasury Board and had been submitted to the Federal Government for final approval. On July 7, 2021 the Prime Minister of Canada reconfirmed Federal support for the Green Line project and confirmed that the Federal Government has the revised business case for Phase 1 and is reviewing it.

With the Provincial and Federal announcements, the project team will now focus on restructuring the procurement to incorporate the Segment 1 and 2A procurements into a single Phase 1 procurement.

Significant risks still remain with the need to bring on additional senior leadership, to restructure the procurement and to rebuild market trust in the project.

1.1 Project Status Dashboard

	Overall Program	Enabling Works	LRVs	Segment 1	Segment 2	Owner Activities	Comments
Health & Safety			N/A	N/A	N/A		Green Line safety continues to be well managed through COVID-19 pandemic with no associated safety incidents.
Environmental			N/A				Contaminated sites remediation and cleanup for several high risk properties has been identified and work is underway.
Stakeholder Relations			N/A				Overall red due to uncertainty of provincial review impacting how stakeholders view the project.
Schedule							Program is delayed pending the completion of the provincial review. Schedule performance in Enabling

							Works in the southeast of Phase 1 continues to be low. However, this is not yet impacting critical path.
Cost							Current estimate under pressure due to changes in escalation cost factor, functional design development and schedule delays.
Quality					N/A		Advancement of the Owner ISO 9001 Program Quality Management Plan continued with issue of a quality policy for review. To be followed by the program plan and procedures as a subplan to the Program Management Plan.

LEGEND*:	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 – The provincial review concluded, with support to change the phasing of procurement, with the Phase 1 building from Shepard to Eau Claire, Phase 2 building from Eau Claire to 16 Ave, and to prepare the submission of the federal funding business case for provincial review and approval.

On May 25, 2021, PCL Construction was announced as the construction manager for the utility relocation project, that will make way for the main Green Line construction.

LRV procurement is underway and the segment 1 LRT RFP remains paused.

Segment 2 Functional Plan, Future of Centre Street N Plan, Bow River Bridge Plan and Final Engagement Summary were presented to the Board on May 5 and Green Line Committee on May 19, 2021.

Health & Safety – The Project is on plan with safety management system compliance. There is a lag in mandatory training for safety excellence certification due to in-person training risks (pandemic precautions) for first aid and leadership. While the 3rd wave of COVID-19 saw a record number of cases tested and admitted to hospital ICUs in May 2021 there was no negative impact to the Green Line Program. Review of contractor site specific safety plans prior to commencement of field work and maintaining monthly safety inspections and Green Line Joint OH&S inspection and meetings are all on track. The team continues auditing City, Consultant and Contractor compliance to respective Safety Management Systems and performance.

Environmental - The overall Environmental Management program for Green Line segment 1 and segment 2 remains on plan this month with the main focus on segment 1 contaminated sites activities. Segment 2 activities include ongoing environmental discipline work for: contaminated sites, biophysical and fisheries assessments, tree surveys, noise assessments, 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 are expected to be complete in early August.

Stakeholder Relations – The focus for May has been on key stakeholder relationships to share the results of the segment 2 functional planning and planning studies. The project team presented to the Green Line Committee on May 19, 2021 and public feedback was mixed, with some stakeholders continuing to express concern related to aspects of the segment 2 alignment, while others are concerned about the impact of delays. As of May 2021, the uncertainty of the provincial review outcome and corresponding lack of clarity in timelines and schedules for the project continues to impact all project stakeholders.

Schedule - Procurement strategy and contracting is a key driver for the schedule and remains an outstanding item with the province. The team continues to work with the province through their review. Segment 2 Utilities Relocations has been initiated with the onboarding of a Construction Management team. Segment 1 Enabling Works is nearing completion of the current scope of work.

Cost – Current estimate under pressure due to changes in escalation cost factor, functional design development and schedule delays.

Quality - The focus for the overall quality program has been ensuring quality requirements are included or considered in all agreements and incorporate the requirements of ISO 9001, the international standard for quality management systems. Advancement of the Owner ISO 9001 Program Quality Management Plan continued in May with issue of a quality policy for review, to be followed by the program quality management plan and procedures as a subplan to the Green Line Program Management Plan. Lessons Learned sessions were facilitated for segment 2 Enabling Works project with input from previous similar projects to inform of potential issues and concerns and develop action plans for continuous improvement. Quality Management support for segment 1 Enabling Works included review of contractor project quality plans prior to commencement of site work. A Green Line Project Quality Plan is under development for segment 2 Construction Manager Utilities Relocation project and the first draft is expected to be issued for review mid August.

1.2 Financial Summary for May 2021

Category	Total Committed Costs	Expenditures Project to Date	Expenditures Project to Date Previous Month	Expenditures for 2021 to Date
Owner's Costs	\$ 58,644,298	\$ 58,542,966	\$ 56,658,490	\$ 6,713,230
Land	\$ 219,179,423	\$ 219,132,182	\$ 219,178,031	\$ 1,370,267
Design & Engineering	\$ 275,639,595	\$ 219,802,890	\$ 217,757,563	\$ 13,546,861
Construction	\$ 233,802,936	\$ 145,614,066	\$ 144,054,046	\$ 3,950,619
TOTAL	\$ 787,266,253	\$ 643,092,103	\$ 637,648,130	\$ 25,580,977

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 to be included after completion of provincial review.

1.4 Risk Management

In May 2021 the project had a high amount of risk and uncertainty as described below. As noted in the opening, following the provincial and federal announcements in July 2021 there has been a significant change in the major risks which will need to be updated for future reports. Below are some of the primary risk items for the program as of the end of May 2021.

- Approval by the provincial and federal governments of the federal funding business case, which will confirm the funding, updates to the funding agreement and the path forward.
- Vacancies within the leadership team; recruitment is underway to fill these positions.
- Competitive pressure in the marketplace in Canada creates limited available capacity for the proponent expertise required. Procurement strategies are under development to address this risk.

- Time delays and anticipated cost escalation result in increased budget pressure. Further refinement of cost estimates and risk understanding is underway to address these risks.
- Continued delays in moving the program forward has eroded stakeholder and market confidence. Green Line is in regular communication with stakeholders and the market to provide updated information as it becomes available.

There is a detailed risk register and risk management strategies that are regularly reviewed and updated by the team. Updates to critical risk mitigations were completed this period with the mitigation owners. Further mitigations will be captured over the coming periods as the provincial review is concluded.

1.5 Project Highlights

Project	Summary of Status May 2021	June 2021 Forecast
Overall Program	Work with the province to address the recommendations brought forward through their project review concluded. Updated cost and risk estimates were presented to Council and the segment 2 Functional Plan was approved by the Board and Green Line Committee.	Work with funding partners to support approval of the federal funding business case and provide a project and procurement update to all stakeholders.
Enabling Works	Four projects within the segment 1 area are on track for completion by July 2021 with project closeout underway where applicable. Supplementary early works in segment 1 have been identified to de-risk main contract and are in the design and resource allocation phase. Onboarded CM with kickoff meetings and review of 30% Design Report including 3D model and sequencing plans.	Develop additional Enabling Work Contracts in segment 1 area, assign resources, begin preparation of tender documents and utility notifications. Public announcement of CM contract. Project schedule and sequencing development.
LRV	The LRV procurement is proceeding as scheduled, with award of a contract planned in the fall of 2021.	Proceed per schedule.
Segment 1	Segment 1 is currently paused as of May 31 to allow The City to work collaboratively with the province to address concerns raised.	Develop an updated procurement strategy.

Segment 2	The segment 2 Functional plan and associated reports were presented to the Green Line Board and Green Line Committee.	Station integration planning to continue.
Owners Activities	Work is underway to recruit for key positions including Chief Executive Officer (CEO), Chief Operating Officer (COO) with Delivery Director and Director of Business Services recruitment being staggered to support selection of CEO/COO.	Recruitment to continue for key positions.

2 Health and Safety

	Overall Program	Enabling Works	LRVs	Segment 1	Segment 2	Owner Activities	Comments
Current Period			N/A	N/A	N/A		Green Line safety continues to be well managed through COVID-19 pandemic with no associated safety incidents.
Last Period			N/A	N/A	N/A		Green Line safety continues to be well managed through COVID-19 pandemic with no associated safety incidents.

LEGEND*:	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 unsafe and deferred due to COVID-19 risks.	Resume first aid and leadership for safety excellence training once COVID-19 risks have been overcome.

Milestones

Milestone	Plan	Forecast	Actual	Comment
2 Year Lost Time Accident Free with over 1.5 million hours worked on the Green Line Program.			May 4, 2019 was the last observed Lost Time Accident on the Green Line Program.	Green line personnel, owner engineer, consultants and contractos worked over 1.5 million person hours and 2 years since our last Lost Time Incident.
City of Calgary Summer Re-Opening Response	2021/06/01	2021/06/01	YYYY/MM/DD	City of Calgary Summer Re-Opening Response moving to Stage 1 and Stage 2 in June

Key accomplishments/status

Continued auditing City, Consultant and Contractor compliance to respective Safety Management Systems and performance.

Continued coordinating with Stakeholder Relations and Calgary Police Service (CPS) on securing and protecting abandoned houses along Ogden Street and Centre Street north while waiting for demolition contracts to be awarded.

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 May Safety Focus was on Staying Safe during the 3rd COVID-19 wave. Information was provided with referencing links that provide ways to improve sleep, fitness, mental health and eating habits. A review of protocols to stop the spike of cases being observed in the City in May 2021 such as staying home if you are unwell, wearing masks indoors, washing hands frequently, wiping down workspaces and getting vaccinated.

In addition, the Alberta OH&S May eNewsletter was forwarded and discussed with all Green Line personnel which provided workplace standards, COVID-19 workplace safety & hazard assessment, young worker 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.

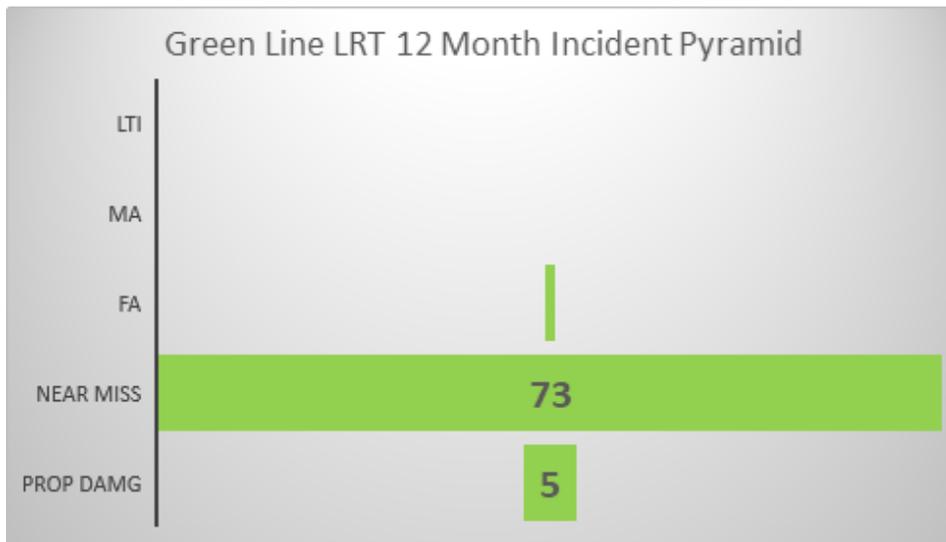


Table 1: Overview of Safety Metrics for the Program

Metric	Current Month	YTD Incidents	Days since Last incident
Lost Time Incident	0	0	760
Medical Aids	0	0	433
First Aids	0	0	223
Property Damage/ Theft Incidents	1	4	18
Near Misses	3	24	0

The property damage incident occurred on May 12th when vandals stole extension cords from site. Two of the near misses were minor non-conformances. The third near miss was a CN foreman violating lock out protocols when accessing the rail spurs at the CN Track n Tunnel site on May 30th. Follow-up action is being taken with CN safety and management to address the issue.

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		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 12 month rolling period May 31, 2020 to May 31, 2021**

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*Definition of legend for the dashboard in Appendix 1

2.2 Enabling Works

Continued safety oversight and rail safety support on CN Track ‘n Tunnel project with the CN Track and Tunnel construction winding down. Emphasized keeping mind on task until all work is completed.

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 with additional on site and in-office protocols to keep COVID-19 out of Green Line work areas. No Enabling Works were stopped due to suspected or actual positive COVID-19 cases.

Approved Ruby Rock Site-Specific Safety Plan (SSSP) for Chemtron Access paving work adjacent to South Hill. Participated in CM Utilities Relocations kickoff meeting with City and PCL staff.

Upcoming deliverables/activities and Major Milestones

Continue safety oversight of CN Track ‘n Tunnel construction and hydro-vac work along segment 2a in downtown area.

Ensure Green Line, Owner’s Engineer, Consultant and Contractor personnel are executing work in accordance with their safety management systems and Alberta OH&S regulations on CN Track ‘n Tunnel project.

Provide safety support for CM contract in preparation for spring work start.

Near-term Risks and Issues

No.	Detail	Action / Mitigation
1	Rising lumber prices shifting on site theft from copper cables to lumber.	Clean up and demobilization of lumber not in use or anticipated to be needed.

2.3 LRVs

Nothing to report this period.

2.4 Segment 1

Near-term Risks and Issues

No.	Detail	Action / Mitigation
1		

Nothing to report this period.

2.5 Segment 2

Near-term Risks and Issues

No.	Detail	Action / Mitigation
1		

Nothing to report this period.

2.6 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 FA certification for supervisors.	No/limited in office supervision at this time due to COVID-19 protocols; risk is low and mitigation plan is ready once COVID-19 restrictions are lifted.
2	COVID-19 status based on Federal Guidelines and Alberta Health Services Recommendations	City of Calgary Summer Re-Opening Response moving to Stage 1 and Stage 2 in June

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 GL 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 GL 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 GL 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 \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
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

Appendix 2 –Stakeholder Engagement Activities

Summary

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

The Functional Plan was presented to Green Line Committee on May 19, 2021. Public feedback was mixed with some stakeholders continuing to express concern related to aspects of the segment 2 alignment while others are concerned about the impact of delays. Representatives from Remington Development Corporation communicated concerns with the process and analysis to Green Line Committee. Green Line Committee directed Remington Development Corporation to meet with Green Line Planning Committee of the Board for them to be able to communicate their concerns to members of the Green Line Board. Ongoing stakeholder conversations related to parking, business access and traffic calming continued through a site walk in Crescent Heights which included members of the Community Association and the Green Line project team.

While the general public sentiment was positive towards the Green Line LRT project, there was widespread frustration regarding the continuing provincial review and concerns that the project may not continue. Many members of the public expressed through social media, including on promotional posts for Green Line information sessions, that they wanted to see the project built without further engagement or delays. Alternately, comments regarding concerns with project feasibility, costs and details were also noted. Citizens and stakeholders who participated in engagement expressed appreciation for the opportunity to provide feedback and for the Green Line team's commitment to continue conversations with stakeholders as the project advances.

The Business Insights Panel met on May 25 to review the lessons learned to date and discuss potential business support initiatives & applicability. A series of virtual business insights walks were held with panel members in various communities along the alignment. These virtual walks were proposed following changes to provincial restrictions and in-person opportunities which include business owners in the areas will resume once provincial restrictions allow.

Ongoing stakeholder communications continues with businesses currently operating in proximity to Green Line Enabling Works construction in the communities of Ramsay, Highfield, Ogden and South Hill. All 311 service requests have been addressed and closed.

Stakeholder Events / Communications

Event	Purpose	Date/Time	Method	Attendance
Community Association Meeting (Crescent Heights)	To discuss the streetscape, parking, and traffic calming options for Crescent Heights east and west	2021/05/03 21/05/11	In person walk, plus follow-up with Committee Recommendation	Community Association Planning Committee
Direct stakeholder outreach for 27 St/Shephard Road work	Provide project update and timelines	2021/05/14	Phone conversation and email	Alberta Cheese Company Ltd.
Direct stakeholder outreach	To inform of the Green Line Committee date	2021/05/13	Email	Multiple stakeholders (6 BIAs and 30 CAs from 126 AV SE to 160 AV N)
Direct Stakeholder Outreach	To inform and engage operator of disruption to parkade access for exploratory hydrovac work. Follow-up to confirm no concerns.	2021/05/17	Virtual meeting	Brookfield Asset Management
Business Insights Panel Meeting (BIP)	To review lessons learned to date and discuss potential business support initiatives and applicability to Green Line	2021/05/25	Virtual Meeting	BIP members
Business Insights Walks	To virtually “walk” the business area and capture local insights to inform the development of the business support program framework	2021/05/19 to 2021/05/31	Virtual Meeting	Ramsay / Inglewood Lynnwood / Millican Ogden Eau Claire

Event	Purpose	Date/Time	Method	Attendance
				Crescent Heights Victoria Park Beltline Downtown
Direct stakeholder outreach (Stakeholder Database)	To confirm contact information for properties in proximity to Green Line LRT alignment	2021/05/07 to 2021/05/28	Phone/email /in-person door knocking	63 Stakeholders in downtown Calgary, 65 in Beltline

Stakeholder Enquiries / 311 Service Requests

Type	Themes	Quantity
311 Service Requests	<ul style="list-style-type: none"> – Project Timing – Job Opportunities – Property maintenance/ Encampment – Construction site concern 	5 service requests
GL Enquiries/ Comments	<ul style="list-style-type: none"> – Information on Green Line and community integration in segment 1 – Request for information on Construction Impacts – Crescent Heights design 	5 emails