



## Green Line LRT

### Green Line Program Board March 2021 Progress Report



Green Line Board March 2021 Progress Report

# 1. Executive Summary

## 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 pandemic with associated safety incidents.
Environmental			N/A				Baseline environmental data collection for contaminated sites, biophysical, fisheries, trees, and noise is progressing well.
Stakeholder Relations			N/A				Overall red due to uncertainty of provincial review impacting how stakeholders view the project.
Schedule				N/A	N/A		Program is delayed pending the completion of the provincial review and program schedule will be updated afterward. Enabling works delayed but is not impacting the schedule.
Cost				N/A	N/A		Overall red due to unknown implications of future anticipated cost escalation. Segment 1 & 2 costs are N/A awaiting completion of review. Owner's Activities red due to increased cost of schedule delay.



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<b>Quality</b>							Program quality plan in development with expected issue in April 2021.
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<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** - Work with the province to address the recommendations brought forward through their project review continues to progress. The teams are working collaboratively to address many of the items raised including procurement and contract strategy, cost and risk. Confidential market sounding with 24 builder/designers, tunnel companies and lenders concluded.

The award of the downtown utility relocation Construction Manager procurement is anticipated in April. LRV procurement is underway and the Segment 1 LRT RFP remains paused.

Segment 2 Functional Plan design, planning and engagement continues for the Beltline, Downtown/Eau Claire, Bow River Bridge and Centre Street. The functional plan will be brought to Green Line Committee in May 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. 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. Continue 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 2 activities. Segment 2 activities include specific baseline 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. Discussions regarding contaminated sites Phase 2 assessments and clean up/ remediation work for Segment 1 in advance of construction continue. Final discussions with Alberta Environment regarding Green Line Soil Management Guidelines are underway.

**Stakeholder Relations** – Work with the province to address their review recommendations is progressing well, however ongoing uncertainty continues to impact other project stakeholders. There is both a lack of confidence in the project and lack of clarity in schedules and timelines (when will construction begin, when will my community or business be impacted, when will Green Line be built). Upcoming final inform phase of engagement activities in April will provide an opportunity for broader public communication and to share a project update with Calgarians.



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**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. The ongoing Enabling Works program is delayed in some areas but hasn't affected the overall program schedule. This work is nearing completion in Segment 1.

**Cost** - The Program cost estimate is currently under revision. Segment 1 procurement is currently paused and delay of the program will affect cost. Segment 2 and Owner Activities are undergoing estimate updates. Work is underway to evaluate the cost risks associated with the delayed schedule and the current escalation being experienced due to COVID. Owner's Activities are red due to costs being incurred while the schedule is on hold.

**Quality** - The focus for Quality Management is quality oversight on Segment 1 Enabling Works contracts and ensuring quality requirements are defined in agreements including Segment 2 Enabling Works CM Utilities Relocation. Quality Management is supporting the closeout of Segment 1 Enabling works records for completed packages, review of records requirements and quality performance data. The Green Line Program Quality Management Plan will be issued in April for review in advance of the Program Management Plan. A Green Line Project Quality Plan is under development for Segment 2 CM Utilities Relocation project.

**Financial Summary for March 2021**

Category	Total Committed Costs	Expenditures Project to Date	Expenditures Project to Date Previous Month	Expenditures for 2021 to Date	2021 Spending Plan
Owner's Costs	\$ 55,499,448	\$ 55,340,320	\$ 53,771,089	\$ 3,632,787	TBD
Land	\$ 219,151,714	\$ 219,094,654	\$ 219,066,461	\$ 1,250,359	TBD
Design & Engineering	\$ 277,084,331	\$ 214,834,864	\$ 212,021,542	\$ 8,534,490	TBD
Construction	\$ 172,215,011	\$ 144,606,437	\$ 143,357,839	\$ 2,947,513	TBD
<b>TOTAL</b>	<b>\$ 723,950,504</b>	<b>\$ 633,876,274</b>	<b>\$ 628,216,931</b>	<b>\$ 16,365,149</b>	<b>TBD</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.

Committed Costs present issues PO values only for design & engineering/construction. Land and Owner's costs are incurred to date only.

2021 Green Line Forecast is in progress.



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## Milestone Schedule

Milestone schedule to be included after completion of provincial review.

## Risk Management

Project currently has a high amount of risk and uncertainty and below are some of the primary risk items for the program right now. There is a detailed risk register and risk management strategies that are regularly reviewed and updated by the team.

- Finalization of the provincial review which will confirm the funding, updates to the funding agreement and the path forward.
- Vacancies within the leadership team and 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 confidence. Green Line is in regular communication with stakeholders to provide updated information as it becomes available.

## Project Highlights

Project	Summary of Status this Month	Next Month
Overall Program	Work with the province to address the recommendations brought forward through their project review continues to progress. The review is creating uncertainty which is impacting many aspects of the project.	Work with the province to resolve outstanding items raised during their review.
Enabling Works	<b>Segment 1:</b> Four (4) projects are on track for completion by July 2021 with project closeout underway where applicable. Identified opportunities for some additional early works that can be completed to de-risk main contract.	<b>Segment 1:</b> Finalize next steps for 78 <sup>th</sup> Avenue Overpass construction. Obtain approval and initiate additional early works on Segment 1.



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	<b>Segment 2:</b> Design for Downtown Utilities relocations and contract negotiations for CM contract underway.	<b>Segment 2:</b> Utility Relocations CM contract award anticipated in April.
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 to allow The City to work collaboratively with the province to address concerns raised.	Work to complete provincial review.
Segment 2	Completing remaining work on the functional design and updating the functional report. Engagement with stakeholders continued.	Final stakeholder engagement “Inform” sessions will be conducted for the functional plan.
Owners Activities	Work is underway to recruit for key positions including Chief Executive Officer (CEO), Chief Operating Officer (COO), Delivery Director, Technical Director, Director of Business Services and Senior Commercial Manager. Board set-up activities continue in support of all Committees and the Board itself.	Recruitment to continue for key positions.

## 2. Health and Safety

	Overall Program	Enabling Works	LRVs	Segment 1	Segment 2	Owner Activities	Comments
<b>Current Period</b>			N/A	N/A	N/A		Green Line safety continues to be well managed through COVID pandemic with associated safety incidents.
<b>Last Period</b>			N/A	N/A	N/A		On Plan



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<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

### Key accomplishments/status

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

**Culture:** The Green Line safety culture is excellent and continually improving as the safety KPIs show in Overall Safety Metrics below. No Enabling Works were stopped due to suspected or actual positive COVID cases. 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 out of Green Line work areas.

**The March Safety Focus** was on workplace Hazard Assessment & Controls. Hazards may be of physical, ergonomic, chemical, biological and/or psychological in nature. Emphasized to look for hazards, assess the hazards to know and manage the risks.

In addition, the Alberta OH&S March eNewsletter was forwarded and discussed with all Green Line personnel which shared new and updated resources on workplace masking requirements/enforcement, reporting COVID incidents to Alberta OH&S and the personal safety implications around shifting to Daylight Savings Time on March 14.

**Construction:** Safety oversight and rail safety support on CN Track 'n Tunnel project. Safety oversight and mentoring City Engineer in Training (EIT) on Thurber geotechnical drilling on Segment 2 was completed this month.

**Contracts:** Segment 2 - Reviewed CM bidder safety management systems. Participated in development CM contract resourcing and work plan.

### Upcoming deliverables/activities and Major Milestones

**Construction:** Safety oversight of P002 CN Track 'n Tunnel construction and hydrovac work along Segment 2 in downtown area.

**Contracts:** Review Site Specific Safety Plans for South Hill paving work adjacent to Chemtron property. Provide safety review support for CM contract in preparation for spring work start.

### 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: Overview of Safety Metrics for the Program

Metric	Current Month	YTD Incidents	Days since Last incident
Lost Time Incident	0	0	696
Medical Aids	0	0	369
First Aids	0	0	159
Property Damage/ Theft Incidents	1	1	11
Near Misses	4	16	12

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			



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LTIFR: Lost Time Injury Frequency Rate	per 200,000 hrs			
	per 1,000,000 hrs			

*\* Statistics are based on 12 month rolling period March 31, 2020 to March 31, 2021*

<b>LEGEND*:</b>	On Plan		At Risk		Off Plan		Not Started		Not Applicable	N/A
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## 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 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
<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



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<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 $<$ 30% retained contingency	CPI $<$ 0.95 or Cost forecast to be $>$ budget + 30 % 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



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## Appendix 2 –Stakeholder Engagement Activities

### Summary

During the month of March, stakeholder outreach and engagement occurred through general communications, enquiry responses, direct stakeholder outreach and virtual meetings. An in-person walk with the Business Insights Panel was also organized with their input being used to inform the draft objectives of Green Line’s business support program.

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 / Outreach

Event	Purpose	Date/Time	Method	Attendance
Business Insights Walk	To gather local business insights	2021/03/11	Site Walk	BIP members from Ramsay and Inglewood
Meeting with Crescent Heights Community Association (CHCA)	To discuss issues and ideas related to mobility.	2021/03/11	Virtual meeting	CHCA
Women in Development (industry presentation)	Long term vision, future development potential and ways that we can support development industry	2021/03/16	Virtual presentation	Women in Development group
Meeting with CHCA and Crescent Heights Village BIA (CHVBIA)	To present Streetscape Master Plan	2021/03/25	Virtual meeting	CHCA and CHVBIA
Business Insights Panel Meeting	To inform draft objectives for business support program and discuss upcoming business engagement	2021/03/30	Virtual meeting	BIP panel members
Bow River LRT bridge Stakeholder Working Group (SWG)	To share information regarding environmental planning and regulations,	2021/03/03	Virtual meeting	SWG members



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	as well as noise and vibration considerations.			
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**Stakeholder Enquiries / 311 Service Requests**

Type	Themes	Quantity
311 Service Requests	<ul style="list-style-type: none"> <li>– Property impact enquiry</li> <li>– Procurement</li> <li>– Construction timing/future impacts</li> <li>– Planning feedback/enquiry</li> <li>– Property maintenance</li> </ul>	12 service requests
GL Enquiries/ Comments	<ul style="list-style-type: none"> <li>– Crescent Heights (station location, area concerns)</li> <li>– Funding</li> <li>– Procurement</li> <li>– Construction Staging</li> <li>– Transit</li> <li>– Project support</li> </ul>	8 emails