



AGENDA

SPC ON TRANSPORTATION AND TRANSIT

September 18, 2019, 9:30 AM

IN THE COUNCIL CHAMBER

Members

Councillor S. Keating, Chair
Councillor J. Davison, Vice-Chair
Councillor G. Chahal
Councillor S. Chu
Councillor J. Farkas
Councillor J. Magliocca
Councillor E. Woolley
Mayor N. Nenshi, Ex-Officio

1. CALL TO ORDER
2. OPENING REMARKS
3. CONFIRMATION OF AGENDA
4. CONFIRMATION OF MINUTES
 - 4.1 Minutes of the Regular Meeting of the Standing Policy Committee on Transportation and Transit, 2019 June 26
5. CONSENT AGENDA
 - 5.1 DEFERRALS AND PROCEDURAL REQUESTS
 - 5.1.1 Deferral Request Sliding Scale Low Income Transit Pass - Long-Term Funding Options and Motion Arising from 2019-0637, TT2019-1180
Deferral from 2019 September 18 T & T to the 2019 October 23 T & T Meeting.
 - 5.1.2 Status of Outstanding Motions and Directions, TT2019-1182
 - 5.2 BRIEFINGS
None

6. POSTPONED REPORTS
(including related/supplemental reports)

None

7. ITEMS FROM OFFICERS, ADMINISTRATION AND COMMITTEES

7.1 Green Line Q3 2019 Update, TT2019-1073

7.2 Green Line Technical Risk Committee – Q3 2019 Update, TT2019-1076

7.3 Parking Management Zone Change: Britannia, TT2019-0694

8. ITEMS DIRECTLY TO COMMITTEE

8.1 REFERRED REPORTS
None

8.2 NOTICE(S) OF MOTION
None

9. URGENT BUSINESS

10. CONFIDENTIAL ITEMS

10.1 ITEMS FROM OFFICERS, ADMINISTRATION AND COMMITTEES
None

10.2 URGENT BUSINESS

11. ADJOURNMENT

Members of Council may participate remotely, if required.



MINUTES

SPC ON TRANSPORTATION AND TRANSIT

**June 26, 2019, 9:30 AM
IN THE COUNCIL CHAMBER**

PRESENT: Councillor S. Keating, Chair
Councillor J. Davison, Vice-Chair
Councillor G. Chahal
Councillor S. Chu
Councillor J. Farkas
Councillor J. Magliocca
Councillor G-C. Carra
Councillor D. Farrell
Councillor J. Gondek

ALSO PRESENT: City Manager G. Cole
City Solicitor-General Counsel J. Floen
General Manager M. Thompson
Acting City Clerk J. Palaschuk
Acting Legislative Coordinator L. McDougall
Legislative Advisor L. Gibb

1. CALL TO ORDER

Councillor Keating called the Meeting to order at 9:31 a.m.

2. OPENING REMARKS

Councillor Keating provided opening remarks.

3. CONFIRMATION OF AGENDA

Moved by Councillor Farkas

That the Agenda for the 2019 June 26 Regular Meeting of the Standing Policy Committee on Transportation and Transit be confirmed, **as amended, by bringing forward Item 7.4 TT20190811, to be heard at the Call of the Chair.**

MOTION CARRIED

4. CONFIRMATION OF MINUTES

4.1 Minutes of the Regular Meeting of the Standing Policy Committee on Transportation and Transit, 2019 May 22

Moved by Councillor Gondek

That the Minutes of the Regular Meeting of the Standing Policy Committee on Transportation and Transit held on 2019 May 22, be confirmed.

MOTION CARRIED

5. CONSENT AGENDA

Moved by Councillor Magliocca

That the Administration Recommendations contained in the following Reports be adopted in an omnibus motion:

- 5.1 Status of Outstanding Motions, TT2019-0798
- 5.2 Neighbourhood Speed Limits Update Deferral to 2019 October 23, TT2019-0833
- 5.3 The Calgary Goods Movement and Logistics Advisory Group, TT2019-0719

MOTION CARRIED

6. POSTPONED REPORTS

None

7. ITEMS FROM OFFICERS, ADMINISTRATION AND COMMITTEES

7.1 RouteAhead Update, TT2019-0637

A presentation entitled "RouteAhead Update TT2019-0637," dated 2019 June 26, was distributed with respect to Report TT2019-0637.

Speakers:

- 1. Matthew Yeung
- 2. Laird Munro
- 3. Colleen Huston
- 4. Bonnie Pacaud
- 5. Hilary Chapple

Councillor Keating left the Chair at 10:42 a.m. and Councillor Davison assumed the Chair.

Councillor Keating resumed the Chair at 10:45 a.m. and Councillor Davison returned to his regular seat in Committee.

Moved by Councillor Chahal

That with respect to Report TT2019-0637, the following be approved:

That the Standing Policy Committee on Transportation and Transit recommend that Council:

- 1. Direct Administration to use the framework and list of major transit growth projects in Attachment 1 for prioritizing the future stages of growth of the

rapid transit network, and provide an update through the SPC on Transportation & Transit by Q4 2019;

2. Direct Administration to continue advocacy with the Government of Alberta on a long-term funding extension for the Low Income Transit Pass program; and
3. Direct Administration to develop recommendations for a long-term sustainable funding model for the Low Income Transit Pass program, and report back through the SPC on Transportation & Transit by Q3 2019.

MOTION CARRIED

Moved by Councillor Chu

That pursuant to Section 6(1) of the Procedure Bylaw 35M2017, as amended, the Transportation and Transit Committee suspended Section 78(2)(a) to amend the standard lunch recess to occur from 12:00 - 1:30 p.m.

ROLL CALL VOTE:

For: (2): Councillor Chu, and Councillor Magliocca

Against: (8): Councillor Keating, Councillor Davison, Councillor Chahal, Councillor Farkas, Councillor Woolley, Councillor Carra, Councillor Farrell, and Councillor Gondek

MOTION DEFEATED

7.2 Calgary Transit At-Grade LRT Crossing Safety, TT2019-0638

A clerical correction was noted on Attachment 3, by changing the *FOIP* Section from Section 17 (disclosure to personal privacy) to Section 25 (disclosure harmful to economic and other interests of a public body).

Review Date: June 2029

Moved by Councillor Farrell

That with respect to Report TT2019-0638, the following be approved:

That the Standing Policy Committee on Transportation and Transit recommends that Council:

1. Direct Administration to implement an updated public safety education campaign around at-grade LRT crossing safety;
2. Direct Administration to return to the 2020 budget adjustments with a request for an annual dedicated capital funding stream for at-grade crossing safety improvement opportunities; and
3. Direct that Attachment 3 remain confidential pursuant to Section 17 (disclosure harmful to personal privacy) of the *Freedom of Information and Protection of Privacy Act*, and to remain confidential indefinitely.

MOTION CARRIED

7.3 Review of the Calgary Transit Public Safety Citizen Oversight Committee, TT2019-0684

A presentation entitled "Review of the Calgary Transit Public Safety Citizen Oversight Committee" was distributed with respect to Report TT2019-0684.

Moved by Councillor Magliocca

That with respect to Report TT2019-0684, the following be approved:

That the Standing Policy Committee on Transportation and Transit recommends that Council direct Administration to:

1. Increase the number of citizen members on the Calgary Transit Public Safety Citizen Oversight Committee from three to five; and
2. Broaden the mandate of the committee to include:
 - a. Oversight of employer initiated use-of-force investigations;
 - b. Participation in use-of-force reviews undertaken by Calgary Transit's Officer Safety Incident Review Team; and
 - c. Policy formation and educational development related to use-of-force.

MOTION CARRIED

7.4 Green Line Q2 2019 Update, TT2019-0811

Distributions with respect to Report TT2019-0811:

- A presentation entitled "Green Line Update TT2019-8011," dated June 26, 2019; and
- A document entitled "Presentation to City of Calgary Standing Policy Committee on Transportation and Transit Key Submission Points."

Speakers:

1. Jim Gray
2. Barry Lester
3. Brian Felesky
4. Steve Allan

Councillor Keating left the Chair at 11:56 a.m. and Councillor Davison assumed the Chair.

Councillor Keating resumed the Chair at 11:59 a.m. and Councillor Davison returned to his regular seat at Committee.

That pursuant to Section 6(1) of the Procedure Bylaw 35M2017, as amended, the Transportation and Transit Committee suspended Section 78(2)(a), by

general consent, in order to complete questions of clarifications prior to the scheduled recess.

Committee recessed at 12:38 p.m. and reconvened at 1:30 p.m. with Councillor Keating in the Chair.

That pursuant to Section 6(1) of the Procedure Bylaw 35M2017, as amended, the Transportation and Transit Committee suspended Section 78(2)(b), by general consent, in order to complete the item.

Councillor Farkas rose on a Point of Privilege in order to apologize to a Member of Administration.

Councillor Keating left the Chair at 3:44 p.m. and Councillor Davison assumed the Chair.

Councillor Keating resumed the Chair at 4:04 p.m. and Councillor Davison returned to his regular seat at Committee.

Moved by Councillor Woolley

That pursuant to Sections 16 (disclosure harmful to business interests of a third party), 24 (advice from officials), and 25 (disclosure harmful to economic and other interests of a public body) of the *Freedom of Information and Protection of Privacy Act*, Committee now move into Closed Meeting, at 1:33 p.m., in the Council Lounge, in order to consider confidential matters with respect to Report TT2019-0811, Green Line Q2 2019 Update.

MOTION CARRIED

The Transportation and Transit Committee returned into Public Meeting at 2:54 p.m. with Councillor Keating in the Chair.

Moved by Councillor Carra

That Committee rise and report.

MOTION CARRIED

Administration in attendance during the Closed Meeting discussions with respect to Report TT2019-0811:

Clerks: J. Palaschuk and L. Gibb. Advice: M. Thompson, G. Cole, A. Neill, F. MacIntyre and D. Ewing. Observing: D. Morgan and Lori Boychuk.

Moved by Councillor Farkas

That with respect to Report TT2019-0811, the Recommendations be amended by adding a new Recommendation 1, as follows:

"1. Direct Administration to present a written response to the topics discussed today."

Against: Councillor Gondek

MOTION CARRIED

Moved by Councillor Farkas

That the Recommendations contained in Report TT2019-0811 be amended by adding Recommendation 3, as follows:

That the Standing Policy Committee on Transportation & Transit Committee recommend that Council:

3. Requests that Mayor Nenshi convene a Special Meeting of Council to consider recent developments regarding the Green Line, particularly contract strategy, the public submission, and Administration's response.

ROLL CALL VOTE

For: (2): Councillor Davison, and Councillor Farkas

Against: (7): Councillor Keating, Councillor Chahal, Councillor Chu, Councillor Magliocca, Councillor Woolley, Councillor Carra, and Councillor Gondek

MOTION DEFEATED

Moved by Councillor Carra

That with respect to Report TT2019-0811, the following Recommendation 1 be approved, **as amended**:

That the Standing Policy Committee on Transportation & Transit Committee recommend that Council:

1. Direct Administration to present a written response to the topics discussed today.

Against: Councillor Gondek and Councillor Magliocca

MOTION CARRIED

Moved by Councillor Carra

That with respect to Report TT2019-0811, the following Recommendation 2 be approved, **as amended**:

That the Standing Policy Committee on Transportation & Transit Committee recommend that Council:

2. Direct Administration to return with a status Report no later than Q3 2019.

And further, direct that the confidential advice and discussions remain confidential pursuant to Sections 16 (disclosure harmful to business interests of a third party), 24 (advice from officials), and 25 (disclosure harmful to economic and other interests of a public body) of the Freedom of Information and Protection of Privacy Act.

Against: Councillor Magliocca and Councillor Woolley

MOTION CARRIED

8. ITEMS DIRECTLY TO COMMITTEE

8.1 REFERRED REPORTS

None

8.2 NOTICE(S) OF MOTION

None

9. URGENT BUSINESS

None

10. CONFIDENTIAL ITEMS

10.1 ITEMS FROM OFFICERS, ADMINISTRATION AND COMMITTEES

None

10.2 URGENT BUSINESS

None

11. ADJOURNMENT

Moved by Councillor Davison

That this meeting adjourn at 4:24 p.m.

MOTION CARRIED

The following items have been forwarded to the 2019 July 22 Combined Meeting of Council:

CONSENT

- Route Ahead Update, TT2019-0637
- Calgary Transit At-Grade LRT Crossing Safety, TT2019-0638
- Review of the Calgary transit Public Safety citizen Oversight Committee, TT2019-0684
- Green Line Q2 2019 Update, TT2019-0811

The next Regular Meeting of the Standing Policy Committee on Transportation and Transit is scheduled to be held on 2019 July 24.

CONFIRMED BY COMMITTEE ON

CHAIR

ACTING CITY CLERK

BRIEFING

ITEM # 5.1.2

Transportation Briefing to
SPC on Transportation and Transit
2019 September 18

ISC: UNRESTRICTED
TT2019-1182

Status of Outstanding Motions and Directions

PURPOSE OF BRIEFING

This report includes the outstanding motions for the SPC on Transportation and Transit.

SUPPORTING INFORMATION

On 2007 February 06, Personnel and Accountability Committee approved PAC2007-05 Status of Outstanding Motions and Directions, directing Administration to bring forward as an item of business to each SPC a list of tabled and referred motions and reports for each committee; such lists to be reviewed by each Standing Policy Committee to be dealt with on a quarterly basis.

This report and attachment provides a summary of outstanding motions and directions for the SPC on Transportation and Transit as of 2019 September 18.

ATTACHMENT(S)

1. Attachment – Status of Outstanding Motions and Directions as of 2019 September 18

STATUS OF OUTSTANDING MOTIONS AS OF 2019 SEPTEMBER 18

ITEM	ANTICIPATED T&T MEETING DATE	OWNER	PAGE
OUTSTANDING REPORTS	JUN-SEPT 2019	GM TRANS	1
PARKING ZONE MANAGEMENT CHANGES	Q3 2019	TP	2
GREEN LINE Q3 2019 UPDATE	Q3 2019	GL	2
ROUTEAHEAD UPDATE	Q4 2019	CT	2
SPEED LIMIT REDUCTION UPDATE #1	Q4 2019	RDS/TP	2
SLIDING SCALE LOW INCOME TRANSIT PASS FUNDING MODEL UPDATE	Q4 2019	CT	3
PARKING RATIOS SCOPING REPORT	Q4 2019	TP	4
PATHWAY AND BIKEWAY PLAN	Q4 2019	TP	5
MICROMOBILITY PILOT UPDATE	Q4 2019	TP	5
SPEED LIMIT REDUCTION UPDATE #2	Q4 2019	RDS/TP	6
SAFER MOBILITY PLAN ANNUAL REPORT	Q4 2019	RDS	7
COMPLETE STREETS AND RESIDENTIAL STREETS UPDATE	Q4 2019	TP	7
GREEN LINE Q4 2019 UPDATE	Q4 2019	GL	7
GREEN LINE GARDENS UPDATE	Q4 2019	GL	7
CALGARY GOODS MOVEMENT STRATEGY	Q2 2021	TP	7

ITEM	DATE OF REQUEST	SOURCE	SUBJECT	ANTICIPATED MEETING DATE
OUTSTANDING REPORTS	2007 JUNE	COUNCIL	At its meeting of 2007 June 20, the Personnel and Accountability Committee approved the following (PAC2007-05), That Administration, on a quarterly basis, bring forward as an item of business to each Standing Policy Committee a list of tabled and referred motions and reports for each committee; such lists to be reviewed by each Standing Policy Committee to be dealt with on a quarterly basis.	MAR JUN SEP DEC T&T
PARKING ZONE MANAGEMENT CHANGES	2019 SEPT	COUNCIL	New Parking Management Zone being brought to Council as needed using existing Council Policy	Q3 2019 T&T
GREEN LINE Q3 2019 UPDATE	2018	COUNCIL	Quarterly Green Line Progress Report	Q3 2019 T&T
ROUTE AHEAD UPDATE – PRIORITIZATION FRAMEWORK	2018 JUNE	TT2018-0617	That Council: 2. 'RouteAhead Update to prioritize major transit growth projects' to no later than 2019 Q3.	Q3 2019 T&T
SPEED LIMIT REDUCTION UPDATE #1	2016 MAY	TT2016-2050	NOW THEREFORE BE IT RESOLVED that City Council directs City Administration to endorse a reduced unposted speed limit for neighbourhood streets, reporting with an implementation plan, as well as affected roadways map and definitions, through the Standing Policy Committee on Transportation and Transit no later than Q4 2019; AND FURTHER BE IT RESOLVED that City Council directs City Administration to provide a recommendation on whether the reduced	Q4 2019 T&T

			speed limit should be 30 km/h and/or 40 km/h, as well as to what extent Collector classification streets should receive reduced limits, as part of an interim report as well as an engagement plan through the Standing Policy Committee on Transportation and Transit no later than Q2 2019;	
SLIDING SCALE LOW INCOME TRANSIT PASS FUNDING MODEL UPDATE	2019 JULY	COUNCIL	<p>July 22, 2019 Combined meeting of Council--That with respect to Recommendations 1, 2, 3a, 4 and 5 of Report TT2019-0637, the following Motion Arising be adopted: That Council:</p> <ol style="list-style-type: none"> 1. Build upon to the existing direction to Administration on Low Income Transit Pass program (LITP) advocacy by encouraging members of the public and users of the LITP program to share their stories with their provincial representatives; 2. Request that the Mayor and Chairs of Standing Policy Committees on Transportation & Transit and Community and Protective Services write a letter to the Premier and the Ministers responsible to advocate for securing long-term funding for the low-income transit pass in order to support Calgarians struggling during the economic downturn; 3. Direct Administration to report back to Council on 2019 September 30 on the following financial impacts in order to inform potential provincial advocacy: <ol style="list-style-type: none"> a. Eliminating the user fees charged for residents 70 years of age or older for the Senior Regular and the Senior Low Income passes, thereby allowing anyone 70 years of age or older to ride Transit at no charge without the need to produce a pass or fare; 4. Direct Administration to review the LITP enrollment 	Q3 2019 T&T

			<p>and intake processes to identify opportunities to deliver better service, including but not limited to sale of annual passes rather than monthly; sale of passes at locations throughout the City; potential process improvements based on the Multilingual Communications and Engagement work resulting from Notice of Motion C2018-0504; and</p> <p>5. Direct Administration to begin discussions with Calgary school boards and the Province to determine if a direct payment relationship is possible between the school boards and The City that could eliminate red tape for families and students living 2.4 km or greater from their school who presently purchase passes directly from Calgary Transit and are reimbursed by their school board via the Calgary Transit Pass Rebate program.</p> <p>MOTION CARRIED</p>	
PARKING RATIOS SCOPING REPORT	2018 DEC	CPC2019-0070	<p>Moved by Councillor Woolley Seconded by Councillor Carra</p> <p>That with respect to Report CPC2019-0070, the following motion arising be adopted:</p> <p>That Council direct Administration to undertake a scoping report of parking ratios, particularly on visitor parking ratios and the effects of Transportation Network Companies and Ride-sharing companies, and report back to the SPC on Transportation and Transit no later than Q4 2019.</p>	Q4 2019 T&T

PATHWAY AND BIKEWAY PLAN	2018 FEB	TT2018- 0060	<p>At the 2014 March 10 Council Meeting, Notice of Motion 2014-07, Council adopted the following recommendations:</p> <p>1. Direct Administration to develop a project charter for creating a city-wide network plan (excluding the Centre City), which will address:</p> <p>a) principles for network design and route selection that considers both on and off-street solutions;</p> <p>b) approaches to data, research and analysis related to route and network planning;</p> <p>c) approaches to public engagement; and</p> <p>d) timeline to complete a city-wide network plan.</p> <p>At the 2017 December 18 Council Meeting, Report TT2017-1239, Council adopted the following recommendations:</p> <p>1. Direct administration to return to SPC on Transportation and Transit with the Cycling Strategy Annual Report, Calgary Pathways and Bikeways Plan Update and the Pedestrian Strategy Update no later than Q1 2018</p>	Q4 2019
MICROMOBILITY PILOT UPDATE	2018 JULY	C2018- 0934	<p>Moved by Councillor Woolley, Seconded by Councillor Farrell NOW THEREFORE BE IT RESOLVED, that Council direct administration to initiate a two-year pilot for bike share by September 2018 that will include:</p> <ul style="list-style-type: none"> ◦An intake process for interested operators to participate ◦Data sharing requirements with permitted operators ◦A pilot consisting of up to 10,000 bicycles, scooters or other personal mobility devices ◦A performance-based system for permitted 	Q4 2019 T&T

			<p>operators to gradually increase their fleet size, within set pilot limits</p> <ul style="list-style-type: none"> ◦A permit and fee structure that covers administrative costs to regulate and manage the pilot program ◦Any other permit conditions to be imposed on bike share operators to ensure that the safety and convenience of roadway and sidewalk users is not unduly impacted <p>And report back to Council through Transportation and Transit Committee with an update on the pilot in Q4 2019 and a final report with potential further recommendations no later than Q4 2020.</p> <p>AND FURTHER BE IT RESOLVED that Council direct Administration to review the existing bylaw rules governing mobility devices such as scooters, skateboards, roller skates and personal mobility devices with electric motors and to bring forward any necessary bylaw amendments to facilitate the use of such devices no later than Q1 2019.</p> <p>MOTION CARRIED</p>	
SPEED LIMIT REDUCTION UPDATE #2	2016 DEC	TT2016-0250	<p>APPROVE, Moved by Councillor Woolley, that the Administration Recommendations contained in Report TT2016-0250, be approved, as amended, as follows: That the SPC on Transportation and Transit recommend that Council:2. Refer (Attachment 4) back to the Administration to return to the Committee no later than 2019 November with a report on public consultation, including detailed maps, on the topic of speed reduction on residential roads, to</p>	Q4 2019 T&T

			assess the level of public support or opposition on that action.	
SAFER MOBILITY PLAN ANNUAL REPORT	2018 DEC	TT2018-1315	That the SPC on Transportation and Transit recommends that Council: 1. Receive this report for information; and 2. Direct Administration to report back to the SPC on Transportation and Transit on the Safer Mobility Annual Report by Q4 2019.	Q4 2019 T&T
COMPLETE STREETS AND RESIDENTIAL STREETS UPDATE	2018 JUNE	TT2018-0628	That Council direct Administration to report back to Council no later than Q4 2019 on the effectiveness and implementation of the policies.	Q4 2019 T&T
GREEN LINE Q4 2019 UPDATE	2018	COUNCIL	Quarterly Green Line Progress Report	Q4 2019 T&T
GREEN LINE GARDENS UPDATE	2019 APRIL	TT2019-0429	2. Direct Administration to report back to the SPC on T&T no later than Q4 2019 with a workplan including scope, cost, resources, funding source, engagement and delivery strategy for the Public Gardens Master Planning work and the development of six Public Garden Projects.	Q4 2019 T&T
CALGARY GOODS MOVEMENT STRATEGY	2018 NOV	TT2018-1289	5. Direct Administration to report back with an update on the Goods Movement Strategy implementation to Council through the SPC on Transportation and Transit no later than Q2 2021.	Q2 2021 T&T

**Transportation Report to
SPC on Transportation and Transit
2019 September 18**

**ISC: UNRESTRICTED
TT2019-1073**

Green Line Q3 2019 Update

EXECUTIVE SUMMARY

This report updates Council on the status of the Green Line LRT project for the period of 2019 Q3. The two focus areas that Administration committed to report back on include a technical update on Value Engineering/Constructability Review outcomes and an overview on the Green Line Stakeholder Relations Program.

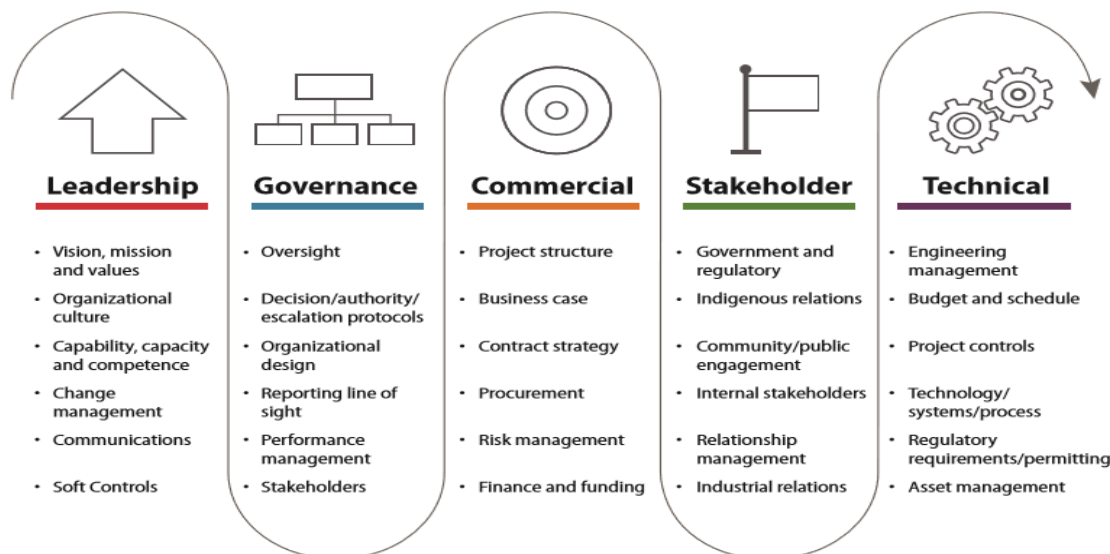
Green Line is vital to the future of Calgary and benefits all Calgarians. The project will enable The City to achieve significant economic, social and environmental benefits. This opportunity comes at a critical time when Calgary is facing challenging economic conditions. To ensure that The City can maximize the benefits of joint funding with the provincial and federal governments, Administration is continuing to evaluate the projects readiness for procurement, the acceptable risk tolerance and the need to responsibly manage the project delivery in order to deliver Stage 1 within budget and on schedule.

The Q3 quarterly report addresses how Administration has been responding to the identified project risks with the objective of fulfilling the project vision and delivering a transit service that improves mobility choices for Calgarians, connecting people and places and enhancing the quality of life in the city.

Successful delivery of Green Line Stage 1 requires the integration of the five focus areas: Leadership, Governance, Commercial, Stakeholder and Technical. The Q3 quarterly report summarizes the progress that the project has made in each of these areas.

This report also presents new and emerging items which are summarized in the “Q4 Look Ahead- Upcoming Key Deliverables”. In addition, an update on the progress Administration has been making on the Notice of Motion that Council approved at the 2019 July 29 Combined Meeting of Council (TT2091-0811) is provided in Attachment 4. In addition, the Technical and Risk Committee has been established and will provide an update on aspects of their work.

Green Line Project Focus Areas:



**Transportation Report to
SPC on Transportation and Transit
2019 September 18**

**ISC: UNRESTRICTED
TT2019-1073**

Green Line Q3 2019 Update

ADMINISTRATION RECOMMENDATION:

That the Standing Policy Committee on Transportation & Transit recommend that Council: Direct Administration to return with a status report no later than Q4 2019.

PREVIOUS COUNCIL DIRECTION / POLICY

At the 2019 April 08 Combined Meeting of Council, Report TT2019-0245 (Green Line Q1 Update) was received for information.

At the 2019 April 08 Combined Meeting of Council, Report AC2019-0353 (Green Line Project Governance Audit) was received for information.

At the 2019 July 29 Combined Meeting of Council, Report TT2019-0811 (Green Line Q2 Update) was received for information, and that the Document Outlining Alternate Recommendations 1 to 11 (Attachment 4), that Council, by general consent, requested that they be voted on separately.

That with respect to Recommendations 2 and 4 through 11 of Report TT2019-0811, the following be adopted:

That Council:

2. Direct Administration not to proceed with construction of the Green Line Light Rail Transit Project – Contract #1 (4th Street SE to Shepard SE) until the alignment review from 16th Ave North to 4th Street SE has been completed and any potential changes have been approved by Council;

4. Direct Administration to have the Green Line Technical Risk Committee carry out an independent peer review of the following

- Overall project budget and scope;
- Sufficiency of funding for the Project;
- Suitability of the proposed technical solution with respect to Contract 2;
- Deliverability of the Project;
- Risk identification, quantification and mitigation process; and
- Suitability and adequacy of the governance and resourcing of the Project;

5. Direct Administration not to release the Request for Qualifications (RFQ) to the market for Contract #1 (4th Street SE to Shepard SE) until the RFQ has been reviewed by the Green Line Technical and Risk Committee;

6. Direct Administration to have the Green Line Technical and Risk Committee report to the SPC on Transportation & Transit Committee as part of the Green Line quarterly updates with respect to their independent peer review over the previous quarter;

7. Direct Administration to work with our funding partners to obtain agreement that any capital cost savings from the Green Line Stage 1 (16 Ave N to 126 Ave SE) project will be applied to the required land assembly, corridor preparation, and design and construction of extensions north and south (outside the Stage 1 project), with sequencing of the extensions to be determined utilizing the RouteAhead Project Prioritization Framework;

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2019 September 18**

**ISC: UNRESTRICTED
TT2019-1073**

Green Line Q3 2019 Update

8. Direct Administration to initiate land assembly on an opportunity basis north of 16 Ave North, for Green Line future stages utilizing the Transportation Future Land Fund or the Revolving Fund for General Land Purchases, as a funding source; and

9. Direct Administration to develop a scoping study to examine opportunities for improvements to interim rapid transit services from North Pointe south along the Centre Street corridor and report back to the SPC on Transportation and Transit by Q1 2020. The scoping study will identify the next steps required to deliver functional planning, preliminary and detailed designs;

10. Continue advocacy efforts with our funding partners to secure funding to complete the full Green Line LRT; and

11. Direct Administration to undertake a review of risks associated with any potential alignment decisions that affect downtown real estate development values, and City Assessment values.

That with respect to Recommendation 1 of Report TT2019-0811, the following be adopted:

That Council:

1. Direct Administration to split the procurement of the Green Line Stage 1 Project into multiple contracts from 16 Avenue North to 126 Avenue Southeast.

That with respect to Recommendation 3 of Report TT2019-0811, the following be adopted:

That Council:

3. Direct Administration to conduct a feasibility review of potentially including the North Pointe to 16th Ave corridor along Centre Street in Stage 1 if the 16th Ave to 4th Street corridor is not resolved by January 2020, to be included only once confirmed with our funding partners;

BACKGROUND

On 2017 June 26, Council approved the vision for the Green Line LRT, which is to deliver:

“a transit service that improves mobility choices for Calgarians, connecting people and places and enhancing the quality of life in the city”.

Administration was subsequently directed to deliver the first stage of the Green Line project.

Green Line Project Goal Statement:

The project team will deliver Stage 1 of Green Line, from 16 Avenue N to 126 Avenue S.E., within a \$4.9 billion capital budget, by 2026, prioritizing safety, quality and cost.

Green Line quarterly update reports present status and progress on key activities, deliverables and major milestones as part of the execution phase, and are based on five key focus areas: leadership, governance, commercial, stakeholder and technical.

Recognising that issues may come up at unpredicted times, coupled with the desire to be responsive and provide timely information, the quarterly report will be adjusted as required to respond to any new, emerging or urgent items.

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SPC on Transportation and Transit
2019 September 18**

**ISC: UNRESTRICTED
TT2019-1073**

Green Line Q3 2019 Update

At the 2019 March 20 SPC on Transportation and Transit, Administration confirmed that the Green Line quarterly reports will include the following:

Project Progress Report Card - summary on the status of the five key project focus areas: leadership, governance, commercial, stakeholder and technical areas of the project (Attachment 1).

Project Risk Assessment - high-level project risk registry with highlighted risks and associated mitigation plans (Attachment 2).

Project Expenditures - financial activity for the project

Project Timeline - timeline chart presenting the current state and upcoming milestones (Attachment 3).

Key Project Focus Area Update - update and activity report on one or more of the five key focus areas.

The 2019 quarterly reports scheduled to be presented to the SPC on Transportation and Transit are as follows:

	Q1 2019 March 20	Q2 2019 June 26	Q3 2019 September 18	Q4 2019 December 18
Status Update	Project Progress Report Card Risk Registry Project Timeline Project Progress Photos	Project Progress Report Card Risk Registry Project Timeline Project Progress Photos	Project Progress Report Card Risk Registry Project Timeline Project Progress Photos	Project Progress Report Card Risk Registry Project Timeline Project Progress Photos
Key Project Focus Area Update	Technical Focus Area Update: Single Bore Design Development Plan Future Stages Analysis	Technical Focus Area Update: Preliminary Outcomes from the Single Bore Design Development Plan Commercial Focus Area: Update: Finance and Funding Strategy and Risk Management Plan	Technical Focus Area Update: VE/CR Outcomes for the Single and Twin Bore Design Stakeholder Pillar Update: Stakeholder Relations Program	Combined 2019 Q4 and Green Line Annual Report

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INVESTIGATION: ALTERNATIVES AND ANALYSIS

The Green Line Project Progress Report Card (Attachment 1) provides an overview of the key deliverables that have been achieved and those upcoming to be presented in the next Q4 progress report.

Some of the notable highlights of deliverables achieved to date are below:

Q3 Notable Highlights- Key Deliverables Achieved:

- ✓ 2019 August Technical and Risk Committee established and Terms of Reference completed
- ✓ 2019 August Technical and Risk Committee, and Fairness monitor reviewed the RFQ, and incorporated changes in advance of it's release, and achieved the RFQ Procurement Process timeline milestone.
- ✓ 2019 August Request for Qualifications released. The RFQ is seeking qualified parties to bid on Segment 1 of the Green Line Stage 1 LRT project which extends from Ramsay to 126th S.E. and includes the Maintenance and Storage Facility (MSF)
- ✓ 2019 August Key Project Documents Completed to Final Draft Status: Project Governance Framework, Project Charter, Project Management Plan, and Risk Management Plan
- ✓ 2019 August Green Line Master Baseline Schedule updated. This schedule captures the most urgent and/or important high-level events and decision points that stand to impact the technical, schedule and/or cost performance of the project.

Q4 Look Ahead- Upcoming Key Deliverables:

- ✓ Q4 2019 Key Project Documents Implementation
- ✓ Q4 2019 Project Agreement including key commercial terms completed
- ✓ Q4 2019 Request for Qualifications for both Utility Contract Manager and Constructability Advisors released.

For this Q3 2019 report, two key focus area updates are provided:

- Technical Focus Area Update: Value Engineering/Constructability Review Outcomes for the full Green Line Project
- Stakeholder Focus Area Update: Stakeholder Relations Program for the full Green Line Project
- A status update on the 11 recommendations made by Council at its meeting on 2019 July 26 is provided in Attachment 4

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- A status update on the evaluation for the Centre City is provided in Attachment 5.

Following presentation of this report, the newly established Green Line Technical and Risk Committee (TRC) will provide a separate and independent update, with a corresponding independent report and presentation at the 2019 September 18 SPC on Transportation and Transit.

Q3 Key Project Focus Areas Update:

Technical Update - Green Line Value Engineering and Constructability Review Outcomes

Segment 1 (Ramsay to 126 Avenue S.E.)

Under the new Managing Director, Value Engineering sessions for all disciplines have commenced and are scheduled to be completed by the end of September 2019. Value Engineering sessions are focused on optimizing construction costs and schedule, while also ensuring the overall public benefits and urban design features are not impacted. To date, value engineering has been completed for major structures, including bridges, retaining walls, underpasses and elevated guideways. This will also include a value engineering session for the MSF at Shepard. Results of the value engineering exercise will be captured and reflected in the updated overall cost estimate in November 2019 to update the overall project estimate to report back to the Transit and Transportation Committee at the beginning of Q1 2020.

Centre City Route Evaluation (16 Avenue N to Ramsay)

As per council direction from Report TT2019-0811, the Green Line Team is evaluating the route from 16 Avenue North to in order to develop a recommendation for a revised route that can be constructed within budget, and which reduces construction risks, delivers benefits to Calgarians, and achieves the vision of the Green Line LRT project. An update on this work is summarized in Attachment 5, and Administration will be reporting back to Transportation and Transit Committee on the outcome and recommendations of this evaluation in January 2020.

Stakeholder Update - Green Line Stakeholder Relations Program

Green Line is currently developing and implementing a Stakeholder Relations Program to support the overall execution of the project. The mandate of this program is to establish and maintain relationships with stakeholders and help them prepare for and manage the potential impacts of construction and opening day operations of the Green Line LRT.

The Stakeholder Relations Program has been developed with three focus areas: (1) stakeholder relations management, (2) access management and (3) business support management.

Stakeholder Relations Management is focused on fostering and nurturing relationships with stakeholders who may be affected by Green Line construction and opening day operations. This section is responsible for facilitating project outreach and communications with stakeholders, working to help resolve stakeholder issues and concerns, and managing the Green Line's public inquiries process, including responses to 311 service requests.

Access Management is focused on developing and implementing tactics to help manage the potential impact of Green Line construction and opening day operations on individual properties,

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the mobility network and broader communities. This section facilitates planning efforts between private land developers and the Green Line technical team to help coordinate plans and minimize potential conflicts with concurrent construction activities.

Business Support Management is responsible for managing the potential impact of LRT construction on individual businesses and broader business zones. This work includes investigating the feasibility of a financial support program to help offset losses that businesses might incur as a result of Green Line construction, and exploration of opportunities to partner with business organizations to jointly help businesses prepare for and manage the potential impacts of construction.

Over the past year, the Green Line Stakeholder Relations team has been implementing its' mandate to help stakeholders prepare for and manage the potential impact of Green Line LRT construction, with a focus on the current enabling works and utility projects in the communities of Ramsay, Highfield, Ogden, and Beltline. The team has been focused on outreach activities with stakeholders most impacted by construction (e.g. through one-on-one interactions, small group meetings, community public information sessions), implementing construction access management plans, and coordinating construction efforts between the various third-party utility providers who are performing work on behalf of Green Line.

Strategic Alignment

Social, Environmental, Economic (External)

The Green Line project aligns with social, environmental and economic priorities of The City of Calgary. Green Line is vital to the future of Calgary and benefits all Calgarians. Once built, Green Line will provide Calgarians more mobility choices in how they travel around the city and will help the city reduce its greenhouse gas emissions by reducing car traffic on major commuter routes. The 20 km route will connect Calgarians to social and cultural destinations across the city, the urban design and infrastructure planning at key stations will be a catalyst for future transit oriented developments.

The Green Line Project is tasked with achieving The City of Calgary, Federal and Provincial funding partner requirements that include: climate resilience reporting; environmental assessments; First Nations consultation; application of the Envision management system; and the provision of technical environmental requirements and guidelines to satisfy the procurement process. To meet funding partner requirements Green Line will be intentionally procuring goods and services to achieve overarching social, environmental, and economic goals while maximizing value in the purchases.

The City's contribution of the total \$4.9B project cost presents a significant value proposition to achieve economic, social and environmental benefits vital to the future of Calgary. The total investment of \$4.9B will create an estimated 12,000 direct and 8,000 indirect jobs, adding significant value to Calgary's economy. These benefits are already starting to occur with the \$469.3 million already invested to July 31 on the Green Line project.

Calgary is experiencing challenging economic times and Administration is addressing potential projects risks to ensure we are building a project that delivers on the vision within the approved budget and schedule. This will ensure that the project meets the needs of Calgarians, that the procurement process is competitive, and that the projects maximizes the economic and employment opportunities to the city.

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Financial Capacity

Financial Capacity Current and Future Operating Budget:

There is no impact to the operating budget from this report.

Future operating budget impacts includes the following: On 2017 May 15, and 2017 November 27, a preliminary estimate of \$40 million per year was provided to Council on the estimated annual incremental operating and maintenance costs for the Stage 1 project. This estimate will be further refined once the major construction contracts have been awarded and the final project details are known. The operating and maintenance costs are currently not funded and an ongoing funding source will need to be in place prior to the start of operations. This will be reviewed during the current One Calgary cycle with refinements and updates to be finalized in the next business and budget cycle (2023 to 2026).

Current and Future Capital Budget:

Twenty-five million in funding was originally allocated to the Green Line SetWay project in 2014. As the project evolved, \$520 million of capital funding was approved for the Stage 1 project as part of the Action Plan business plan and budget cycle. This represented 10 years of City funding at \$52 million per year from 2015 to 2025. Extension of this funding for 30 years was approved in principle in December 2015 (NM2015-33).

The Project also received funding from the Federal government and the Provincial government for its enabling works projects that are related to preparing the right-of-way for the Stage 1 major construction. Final Stage 1 funding from the Federal and Provincial governments was then secured through the signing of the Ultimate Recipient Agreement in January 2019.

Total funding for the Project's Stage 1 is \$4.903Bln, comprised of;

Federal funding = \$1.642Bln

Provincial funding = \$1.701Bln

Municipal funding = \$1.560 Bln

In addition to the above, In November 2017 (C2017-1123) Council approved \$640 mln for Project financing costs (\$23.7Mln/year of tax room starting in 2018 through 2044). This was subsequently amended January 2019 (PFC2019-0040) to be used for both financing costs and capital costs, in order to have maximum flexibility to manage cash flows most efficiently.

As of July 31, the actual Project spend year-to-date is \$469.3 million.

Risk Assessment

All projects experience risk and to assist in mitigating this risk, Green Line has selected an independent Technical and Risk Committee composed of external industry project advisors in the areas of procurement, commercial strategies, stakeholder management, design, and construction, to support project oversight. This Committee will provide insights from leading practices and advise on key technical considerations and risks helping to ensure the successful delivery of Stage 1.

Administration continue to place high priority on the planning and monitoring of risks within all areas of the project. The Green Line Risk Management Plan is a key document that is currently

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in its final stages of completion. The purpose of this Risk Management Plan is to describe the risk management process that will apply during the implementation of the Green Line LRT. This plan will serve as a guide to all Green Line Team members including the Green Line Executive Steering Committee, the Owner's Engineer and their sub-consultants.

The key objectives of this Risk Management Plan are to encourage the project team to take appropriate measures to:

- Minimize adverse impacts to reputation, project scope, quality, cost, and schedule
- Maximize opportunities to lower cost, shorten schedule and enhance quality
- Minimize management of crisis by proactively identifying, analyzing and mitigating Project risks
- Embed and instill a risk management culture into the Project by making risk management part of the day-to-day Project operations including co-ordination meetings and reporting

Tracking of risks and corresponding mitigation plans are highlighted in the Risk Registry (Attachment 2.)

REASON(S) FOR RECOMMENDATION(S):

ATTACHMENT(S)

1. Attachment 1 – 2019 Q3 Green Line LRT Progress Report Card
2. Attachment 2 – 2019 Q3 Green Line Risk Registry
3. Attachment 3 – 2019 Q3 Green Line LRT Project Timeline
4. Attachment 4 – Status Update on the Document Outlining 11 Alternate Recommendations
5. Attachment 5 – Centre City Route Evaluation



Green Line LRT Quarterly Progress Report Card

Colour Ratings:

Controlled

Needs attention

Requires immediate attention

Five Focus Areas	Q1 2019 (Jan–March)	Q2 2019 (April–June)	Q3 2019 (July–Sept)	Q4 2019 (Oct–Dec)
	Key Deliverables	Key Deliverables	Key Deliverables	Key Deliverables
<div></div> <div>Leadership</div>	<div><input checked="" type="checkbox"/> Interviewed candidates for GL Managing Director position</div> <div><input checked="" type="checkbox"/> Ongoing Change Management program</div>	<div><input checked="" type="checkbox"/> Onboarding of new GL Managing Director</div> <div><input checked="" type="checkbox"/> Ongoing Change Management program</div> <div><input type="checkbox"/> Finalize Project Management Plan</div>	<div><input checked="" type="checkbox"/> Draft the Project Management Plan</div> <div><input checked="" type="checkbox"/> Organizational Chart Finalized through Construction Phase</div> <div><input type="checkbox"/> Conduct a Project Skills Assessment (No longer required)</div> <div><input type="checkbox"/> Develop Staffing Plan and Recruitment Strategy</div>	<div><input type="checkbox"/> Internal and External Communications Plan</div> <div><input type="checkbox"/> Change Management Plan</div> <div><input type="checkbox"/> Implement foundational project plans to kick start shift in organizational culture</div>
<div></div> <div>Governance</div>	<div><input checked="" type="checkbox"/> Completed review of organizational structure and team skills assessment</div> <div><input checked="" type="checkbox"/> Governance review</div> <div><input checked="" type="checkbox"/> Developed an escalation and decision-making framework</div> <div><input checked="" type="checkbox"/> Developed Project Report Card and overall Project Gap Analysis tool</div>	<div><input checked="" type="checkbox"/> Organize Project Team</div> <div><input checked="" type="checkbox"/> Development of project Quarterly Status Report</div> <div><input checked="" type="checkbox"/> Project Governance and Terms of Reference agreed</div>	<div><input checked="" type="checkbox"/> Finalize and implement Project level governance framework (e.g. delegation of authority, escalation protocols)</div> <div><input checked="" type="checkbox"/> Draft Project Charter</div> <div><input checked="" type="checkbox"/> Operationalize Technical and Risk Committee</div> <div><input checked="" type="checkbox"/> Technical and Risk Committee Review RFQ before release to market¹</div> <div><input checked="" type="checkbox"/> Technical and Risk Committee report to SPC on Transportation and Transit (Sept 18) as part of Green Line Quarterly Updates²</div> <div><input type="checkbox"/> Technical and Risk Committee to report on Deliverability of Project for first update and focus on independent review of RFQ, Project Governance and Resourcing Plan³</div>	<div><input type="checkbox"/> Governance Reporting Established</div> <div><input type="checkbox"/> Develop Project Team Performance Expectations for 2020</div>
<div></div> <div>Commercial</div>	<div><input checked="" type="checkbox"/> Finalized agreements between The City and Canadian Pacific</div> <div><input checked="" type="checkbox"/> Ultimate Recipient Agreement signed</div> <div><input checked="" type="checkbox"/> RFQ for LRV released</div> <div><input checked="" type="checkbox"/> Finalized industry notification of Enmax Power Services Corporation</div>	<div><input checked="" type="checkbox"/> Finalize supplemental contracts strategy</div> <div><input checked="" type="checkbox"/> Project risk strategy defined</div> <div><input type="checkbox"/> Finalization of comprehensive Risk Management Plan</div> <div><input type="checkbox"/> Release main contract RFQ</div>	<div><input checked="" type="checkbox"/> Finalization of comprehensive Risk Management Plan</div> <div><input checked="" type="checkbox"/> Evaluation Strategy provided to SLT for both Project Agreements</div> <div><input checked="" type="checkbox"/> Shepard RFQ Released to Market</div> <div><input checked="" type="checkbox"/> LRV RFQ Proponents shortlisted</div> <div><input checked="" type="checkbox"/> Updated Commercial Strategy to reflect split procurement⁴</div> <div><input type="checkbox"/> Develop functional inputs to Project Agreement-include 1st Draft of Commercial Terms</div>	<div><input type="checkbox"/> Request for Proposals for Construction Management contract released to market</div>
<div></div> <div>Stakeholder</div>	<div><input checked="" type="checkbox"/> Community Stakeholder engagement and communication</div> <div><input checked="" type="checkbox"/> Developed draft internal and external Communications Plan</div> <div><input checked="" type="checkbox"/> Design Talks partnership for an International Ideas competition</div> <div><input checked="" type="checkbox"/> Presentation to Calgary Construction Association</div>	<div><input type="checkbox"/> Development of Global Indigenous Plan</div>	<div><input type="checkbox"/> Develop Project Stakeholder Relations Plan</div> <div><input type="checkbox"/> Coordinate Support from Corporate Functions</div> <div><input type="checkbox"/> Development of Global Indigenous Relations Plan</div>	<div><input type="checkbox"/> Implement and operationalize Stakeholder Relations Plan</div>
<div></div> <div>Technical</div>	<div><input checked="" type="checkbox"/> Single-Bore Tunnel Analysis Underway</div> <div><input checked="" type="checkbox"/> Adoption of the Envision Sustainability Management System</div> <div><input checked="" type="checkbox"/> Development of an Integrated Schedule</div> <div><input checked="" type="checkbox"/> Railway Gardens Notice of Motion Explorative Informal Steering Committee Meetings</div> <div><input checked="" type="checkbox"/> TOD Implementation Strategy development</div>	<div><input checked="" type="checkbox"/> Finalize the Single Bore Tunnel Design Analysis</div> <div><input checked="" type="checkbox"/> Finalization of Project Controls strategy</div>	<div><input checked="" type="checkbox"/> Developed a Master Baseline Schedule</div> <div><input type="checkbox"/> Finalize Scope Evaluation</div> <div><input type="checkbox"/> Develop Project Controls Plans and Processes</div> <div><input type="checkbox"/> Develop Project Information and systems strategy</div> <div><input type="checkbox"/> Develop and implement required technical management plans</div>	<div><input type="checkbox"/> Provide update on the feasibility review of including North Pointe to 16th Ave in Stage 1⁵</div> <div><input type="checkbox"/> Develop Project Controls Plans and Processes</div> <div><input type="checkbox"/> Develop and implement required technical Management plans</div>

Key Deliverables in response to the TT2019-0811 Alternate Recommendations

¹ Recommendation #5 Direct Administration not to release the Request for Qualifications (RFQ) to the market for Contract #1 (4 Street SE to Shepard SE) until the RFQ has been reviewed by the Green Line Technical and Risk Committee;

² Recommendation #6 Direct Administration to have the Green Line Technical and Risk Committee report to the SPC on Transportation & Transit Committee as part of the Green Line quarterly updates with respect to their independent reviews over the previous quarter

³ Recommendation #4 Direct Administration to have the Green Line Technical Risk Committee carry out an independent peer review of the following:

I. Overall project budget and scope;
II. Sufficiency of funding for the Project;
III. Suitability of the proposed technical solution with respect to Contract 2;
IV. Deliverability of the Project;

V. Risk identification, quantification and mitigation process; and
Suitability and adequacy of the governance and resourcing of the Project

⁴ Recommendation #1 Direct Administration to split the procurement of the Green Line Stage 1 project into multiple contracts from 16 Avenue North to 126 Avenue Southeast

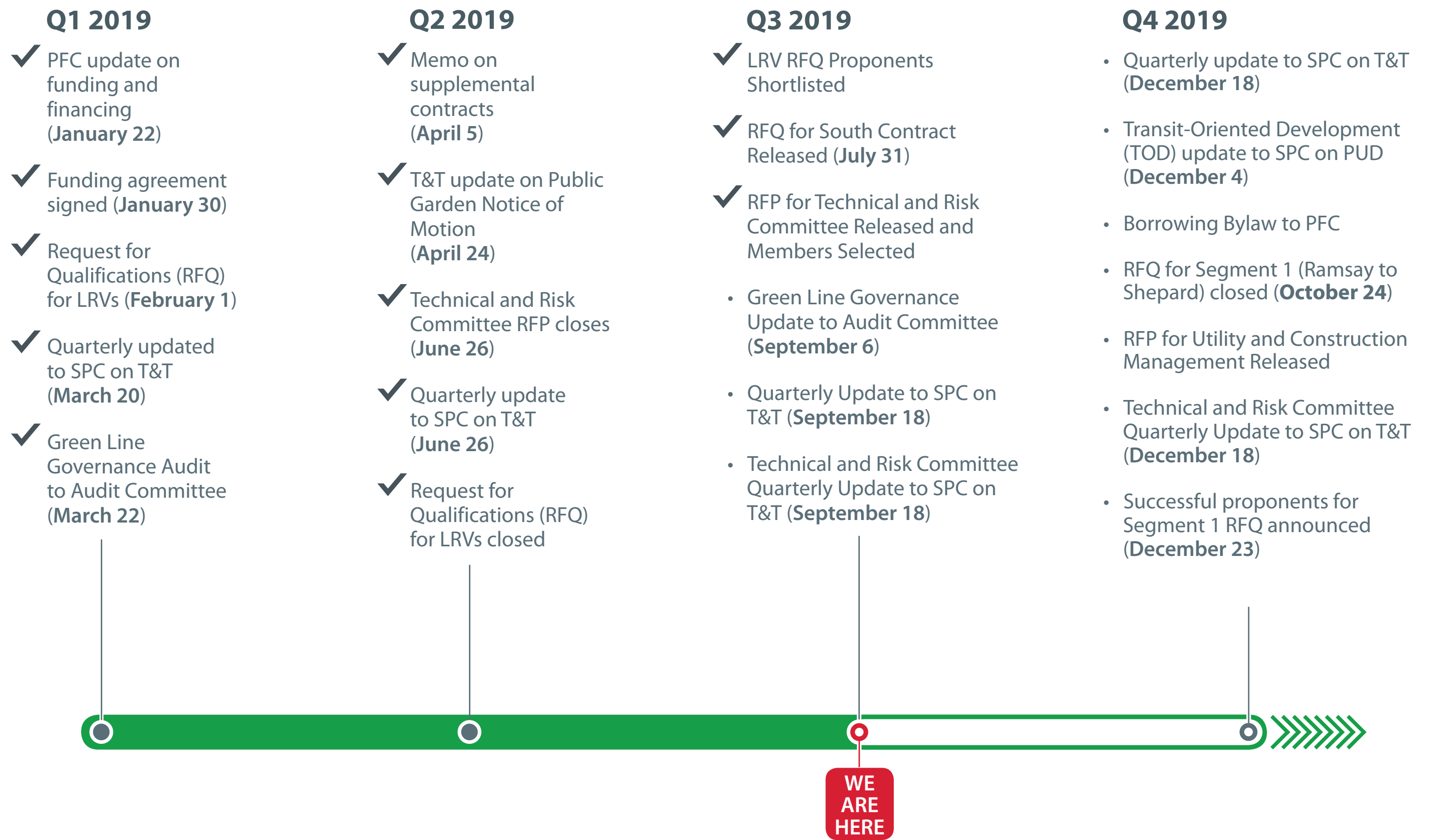
⁵ Recommendation #3 Direct Administration to conduct a feasibility review of potentially including the North Pointe to 16th Ave corridor along Centre Street in Stage 1 if the 16th Ave to 4th Street corridor is not resolved by January 2020 to be included only once confirmed with our funding partners;

Attachment 3 - Risk Registry Q3 2019

Low	Willing to accept and monitor these risks since they have low likelihood of occurrence with minor consequences.
Medium	Recognizes these risks will probably occur and will have moderate consequences. Management will monitor and manage risks by implementing contingency plans to reduce the likelihood and impact of their occurrence.
High	Recognizes these risks are top priorities of critical importance to the organization. Management is spending more effort to manage and monitor these risks by implementing risk mitigation strategies to reduce the likelihood and impact of their occurrence.

Risk Category	#	Potential Risk Identified	Risk Rating 8/27/2019	Mitigation	Risk Rating 6/26/2019
Financial	F2	Final project at risk of be delivered over budget.	Medium	Establish cost estimation, procurement, and cost control protocol to ensure budget is controlled.	Medium
Technical	T3	Geotechnical ground conditions must be investigated using specific methodology based on tunneling methodology.	High	A safety and technical risk assessment will be conducted with contractor and City BU's including experienced GL management, fire department and EMO.	High
	T5	Tunneling under the Bow River and below/through downtown infrastructure has not been performed to this scale ever before in the City of Calgary.	High	Collaborative safety and technical risk assessment with contractor and City BU's including experienced GL management, fire department and EMO.	High
Construction	C1	Significant disruption to traffic, businesses, and communities during construction.	High	Ensure that specifications clearly outline acceptable traffic impacts. Develop Taking Care of Business strategy.	High
Legal	L3	Clarity concerning corporate risk tolerance, including bid response methodology and bid thresholds.	Medium	Proceed with the following steps: 1) Set risk tolerance (P-score) and budget, and design to it 2) Bring closure to the design exercise and be clear about the findings (estimate at set risk tolerance, define budget ceiling, with the set risk tolerance, at what estimate are we willing to go to market, and let the market decide) 3) Define response thresholds to total bid, either under or over budget ceiling. - Set decision making responsibility at appropriate levels within the organization to account for degree of risk (e.g., GL BU, Executive Steering Committee).	Medium
Procurement	P1	Scale of procurement contract minimizes meaningful competition from the construction market.	Medium	Market sounding and industry feedback coupled with procurement analysis to validate scale and risk transfer of specific procurement.	Medium
	P2	Protracted procurement process that frustrates the market and increases cost.	Medium	Maintain consistency with recent procurement timelines and market sensitivities to contract negotiations.	Medium
	P3	Selection of Downtown Tunnel Construction Method causes delay in RFQ/RFP.	Mitigated	Design specific evaluation criteria that sufficiently balances operational costs post construction to augment potential capital cost savings to assist in a balanced evaluation of either option if we go to market as non-decided. Design contractual language that minimizes specified tunneling technology integration with the documents.	Medium
Access/Real Estate	A5	Negotiations unable to move forward in light of the constructability review and tunnel method decision in the Centre City.	High	Working with technical team to finalize design through the tunnel section and confirm property requirements. Developing an acquisition strategy to address the tunnel section and allow transactions to advance as early as possible.	High
Environmental/ Permitting	E1	Risk that CEA project description for the MSF triggers determination of federal EA required.	Mitigated	Early engagement with CEA to understand requirements; Maintain up-to-date information on CEA requirements; Proper planning and execution of permit requirements will help to mitigate schedule delays.	High
	E2	Timelines to receive regulatory approvals through DFO, Transport Canada, Public Lands, and Water Act exceed expected timelines (as outlined in PLA matrix).	Medium	Pre discussions with regulatory bodies. Discussions to be documented and put into data room. Listing of known regulatory requirements in TPR. Participate in City of Calgary corporate capital project priority process with Alberta Environment and Parks (coordinated effort to not overburden regulatory bodies with requests).	Medium
Safety	S1	The magnitude of the project will require a fast pace of construction integrated within several public communities carrying on with their daily routines. This inherently increases public exposure to construction hazards even with safety measures in place.	Medium	GL SMT and supporting resources to collaboratively participate in the development all aspects of safety in each of the respective areas to address stakeholder interaction with planned construction activities; and, participate in construction safety inspections to ensure public is aware of and following safety mitigative measures.	Medium
QA	S2	Pedestrians accessing stations at locations other than pedestrian crosswalks provided.	High	Public awareness with Community Relations group. Prime Contractors fencing and signing sites, as well as, situation awareness for trespassers.	High
	Q1	Insufficient Quality Control and Assurance Program is in place impacting the design and construction of the project.	Low	Develop Quality Control and Assurance Protocol and require all stages of the project to adhere to the Protocol.	Low

Green Line LRT: Project timeline



Alternate Recommendations 1-11	Status Update	Completion Date
1. Direct Administration to split the procurement of the Green Line Stage 1 project into multiple contracts from 16 Avenue North to 126 Avenue Southeast; and	<ul style="list-style-type: none">• The procurement documentation was split into two contracts with the first contract for Segment 1 being from 4th Street SE to 126th Ave Station at Shepard and includes the Maintenance and Storage Facility (Contract #1); and second contract for Segment 2 being from 16th Avenue N to 4th Street SE Station (Contract #2).• Segment 1 Request for Qualifications (RFQ) was subsequently released on August 13, 2019 with an anticipated closing date of October 24th, 2019.	Q3 August
2. Direct Administration not to proceed with construction of the Green Line Light Rail Transit Project – Contract #1 (4th Street SE to Shepard SE) until the alignment review from 16th Ave North to 4 th Street SE has been completed and any potential changes have been approved by council; and	<ul style="list-style-type: none">• The Request for Proposal stage for Segment 1 will not be awarded until late 2020. It is anticipated that the alignment review from 16th Ave North to 4th Street SE will have been completed and approved by Council in early Q1 2020.• Construction of Contract 1 will not occur until the award of the RFP in late 2020 which will occur after Council approval of the alignment review for Segment 2 in early 2020.	Q1 2020
3. Direct Administration to conduct a feasibility review of potentially including the North Pointe to 16 th Ave corridor along Centre Street in Stage 1 if the 16 th Ave to 4 th Street corridor is not resolved by January 2020 to be included only once confirmed with our funding partners; and	<ul style="list-style-type: none">• Administration is currently conducting a feasibility review, as directed	Q1 2020
4. Direct Administration to have the Green Line Technical Risk Committee carry out an independent peer review of the following: I. Overall project budget and scope; II. Sufficiency of funding for the Project;	<ul style="list-style-type: none">• The Technical and Risk Committee (TRC) will present an independent report and presentation to the SPC on Transportation and Transit.	Q3 2019

III. Suitability of the proposed technical solution with respect to Contract 2; IV. Deliverability of the Project; V. Risk identification, quantification and mitigation process; and VI. Suitability and adequacy of the governance and resourcing of the Project; and		
5. Direct Administration not to release the Request for Qualifications (RFQ) to the market for Contract #1 (4 Street SE to Shepard SE) until the RFQ has been reviewed by the Green Line Technical and Risk Committee; and	<ul style="list-style-type: none">• The Green Line Technical and Risk Committee provided a review and recommendations to Administration prior to release of the RFQ for Contract 1.	Q3 2019
6. Direct Administration to have the Green Line Technical and Risk Committee report to the SPC on Transportation & Transit Committee as part of the Green Line quarterly updates with respect to their independent reviews over the previous quarter; and	<ul style="list-style-type: none">• The Green Line Technical and Risk Committee will present to the Transportation and Transit Committee on a Quarterly basis.	Q3 2019 Q4 2019
7. Direct Administration to work with our funding partners to obtain agreement that any capital cost savings from the Green Line Stage 1 (16 Ave N to 126 Ave SE) project will be applied to the required land assembly, corridor preparation, and design and construction of extensions north and south (outside the Stage 1 project), with sequencing of the extensions to be determined utilizing the Route Ahead Project Prioritization Framework; and	<ul style="list-style-type: none">• Letter has been sent to Government of Alberta to initiate this discussion.	Q3 2019
8. Direct Administration to initiate land assembly on an opportunity basis north of 16 Ave North, for Green Line future stages utilizing the Transportation Future Land Fund or the Revolving Fund for General Land Purchases, as a funding source; and	<ul style="list-style-type: none">• Business case to access funds in Program 695 (Revolving Fund for General Land Purchases) is drafted. Administration is coordinating across business units to ensure successful outcome.	

9. Direct Administration to develop a scoping study to examine opportunities for improvements to interim rapid transit services from North Pointe south along the Centre Street corridor and report back to the SPC on Transportation and Transit by Q1 2020. The scoping study will identify the next steps required to deliver functional planning, preliminary and detailed designs; and	<ul style="list-style-type: none">• Administration is reviewing options for interim transit improvements along the Centre Street N/Harvest Hills Blvd corridor. A scoping report, including high-level cost estimates, will be presented to the SPC on T+T in Q1 2020.	Q1 2020
10. Continue advocacy efforts with our funding partners to secure funding to complete the full Green Line LRT.	<ul style="list-style-type: none">• Administration will continue advocacy efforts with the support of Intergovernmental Affairs, the Mayors Office, and the Councillors who’s wards include the future stages.	Q1 2020
11. Direct Administration to undertake a review of risks associated with any potential alignment decisions that affect downtown real estate development values, and City Assessment values.	<ul style="list-style-type: none">• Administration is working to develop scope and retain an independent consultant to complete work.	Q2 2020

Attachment 5 – Centre City Route Evaluation

Overview

The City is committed to building Stage 1 of the Green Line within the approved funding of \$4.9 billion. Administration is currently re-evaluating the route from 16 Avenue N to Ramsay in order to develop a recommendation for a revised route that can be constructed within budget, reduces construction risks, delivers benefits to Calgarians, and achieves the vision of the Green Line LRT project.

Background

In spring 2019, Administration completed a constructability review of the most complex segment of Green Line Stage 1, from 16 Avenue N to Ramsay. The objective of the constructability review was to reduce potential construction risks and refine cost estimates of the four kilometer tunnel and four underground stations planned along this segment.

Through the constructability review, the design of the tunnel and underground stations became more advanced and risks were investigated to a higher certainty. Administration identified that cost estimates were exceeding Green Line's funding of \$4.9 billion by approximately 10%. In addition, the technical risks were pushing the underground stations deeper than originally anticipated, impacting the overall transit rider experience and project vision. Re-evaluating the design of this section of Green Line will ensure that the project remains on budget, manages risks, delivers benefits to Calgarians, and achieves the vision of the Green Line LRT project.

Evaluation Scope

Three zones are currently being evaluated against the existing 2017 Council approved route. Within these zones, Administration is evaluating options for managing costs and construction risks, such as:

- Shortening the length of tunnel and reducing the number of underground stations by changing to a street-level LRT
- Changing construction methods for reducing the depth and minimizing construction risk associated with a tunnel and underground station(s)
- Options for crossing the Bow River, including a bridge
- Shifting the alignment to adjacent streets or avenues

Evaluation Process

While the primary objective of this evaluation is to develop a design solution that can be built within the Green Line budget of \$4.9B, Administration is working to develop an affordable route that considers additional variables such as LRT operations and stakeholder interests.

The route evaluation includes a review of the technical and financial implications of the routes under consideration. The criteria used in this evaluation are:

- Construction cost
- Utility impacts
- Land impacts

- LRT operations
- Additional considerations (stakeholder sentiment, traffic, site access and circulation, urban realm, etc.)

Stakeholder working groups will be established to allow key stakeholders and project team members to gain an understanding of each other’s interests, aspirations and constraints, and to factor stakeholder interests into the design, where possible. The intent is to inform an affordable and well-designed solution that strives to reflect the interests of key stakeholders and communities.

The table below outlines the key activities and timelines for the Centre City route evaluation process.

Activity	Timeline	Technical Design	Stakeholder Outreach & Engagement
Phase 1: Evaluate route options for cost and technical feasibility	Spring – October 2019	-Technical design to establish high-level cost estimates for construction, utilities relocations, and land acquisition -Constructability review to asses construction risks and feasibility - Screening route options against budget and technical feasibility to determine affordable route(s) options	- Outreach and communication with key stakeholders and citizens, to inform about route evaluation -Key stakeholders include community associations, condominium boards, business improvement areas and land developers
Phase 2: Evaluate affordable route options and identify recommended route	September - October 2019	-Evaluate affordable route(s) options against criteria such as mobility, transit operations, property access, etc. -Identify a recommended route that best meets evaluation criteria and delivers benefits to Calgarians and achieves the Green Line vision	-Engage key stakeholders to identify interests on the route options

		Develop understanding of LRT operations, traffic, circulation and property access	
Phase 3: Advance design of recommended route through key stakeholder engagement	October – January 2020	<p>-Preliminary design of recommended route including station locations, portals, underground, and bridge (if applicable)</p> <p>-Planning for urban integration and to consider stakeholder interests</p> <p>-Updating of cost estimate.</p>	<p>-Workshops with key stakeholders to maximize benefits of the recommended route and incorporate stakeholder interests, where possible, in the design (e.g. ways to integrate portal into urban realm, address concerns related to the mobility network and property access)</p> <p>-Citizen outreach to inform on design of recommended route and gather stakeholder sentiment for Council decision</p>
Present recommended route to Standing Policy Committee on Transportation & Transit	January 2020		
Phase 4: Advance Design of Approved Route and initiate planning of broader community integration	January 2020 – March 2021	<p>-Develop reference concept design and technical performance requirements for approved route</p> <p>-Planning & design of broader mobility network (e.g. cycle tracks, roadways)</p>	<p>-Continue engagement with key stakeholders to incorporate interests in the design of urban realm integration</p> <p>-Engagement on planning & design of broader mobility network</p>

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**ISC: UNRESTRICTED
TT2019-1076**

Green Line Technical Risk Committee – Q3 2019 Update

EXECUTIVE SUMMARY

The Technical Risk Committee (“TRC”) was developed to fulfill the Project Sponsor and Executive Steering Committee (“ESC”) desire for an independent committee to support the ESC’s oversight of the Project and provide additional review, as required. It is expected that the TRC will also bring increased focus to risk management on the Project. Key to risk management on the Project will be intentionally identifying, accepting, mitigating, managing, monitoring, transferring, or avoiding risk.

The TRC is now in place and has been working with the Project Sponsor (GM of Transportation) and ESC to establish its Terms of Reference. TRC has also conducted a review of the Request for Qualification (RFQ) for Segment #1 of the Project. The TRC and the Project Sponsor have established a review schedule for the next 6 months.

ADMINISTRATION RECOMMENDATION:

That the Standing Policy Committee on Transportation & Transit recommend that Council:
Direct Administration to have the Technical and Risk Committee return with a quarterly update report no later than Q4 2019.

PREVIOUS COUNCIL DIRECTION / POLICY

At the July 29, 2019 Combined Meeting of Council report TT 2019-0811, Green Line Q2 2019 Update, the following Recommendations were adopted; and Recommendations 4, 5 and 6 are of specific relevance to this report:

That Council:

2. Direct Administration not to proceed with construction of the Green Line Light Rail Transit Project – Contract #1 (4th Street SE to Shepard SE) until the alignment review from 16th Ave North to 4th Street SE has been completed and any potential changes have been approved by Council;

4. Direct Administration to have the Green Line Technical Risk Committee carry out an independent peer review of the following

- Overall project budget and scope;
- Sufficiency of funding for the Project;
- Suitability of the proposed technical solution with respect to Contract 2;
- Deliverability of the Project;
- Risk identification, quantification and mitigation process; and
- Suitability and adequacy of the governance and resourcing of the Project;

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Green Line Technical Risk Committee - Q3 2019 Update

5. Direct Administration not to release the Request for Qualifications (RFQ) to the market for Contract #1 (4th Street SE to Shepard SE) until the RFQ has been reviewed by the Green Line Technical and Risk Committee;
6. Direct Administration to have the Green Line Technical and Risk Committee report to the SPC on Transportation & Transit Committee as part of the Green Line quarterly updates with respect to their independent peer review over the previous quarter;
7. Direct Administration to work with our funding partners to obtain agreement that any capital cost savings from the Green Line Stage 1 (16 Ave N to 126 Ave SE) project will be applied to the required land assembly, corridor preparation, and design and construction of extensions north and south (outside the Stage 1 project), with sequencing of the extensions to be determined utilizing the RouteAhead Project Prioritization Framework;
8. Direct Administration to initiate land assembly on an opportunity basis north of 16 Ave North, for Green Line future stages utilizing the Transportation Future Land Fund or the Revolving Fund for General Land Purchases, as a funding source; and
9. Direct Administration to develop a scoping study to examine opportunities for improvements to interim rapid transit services from North Pointe south along the Centre Street corridor and report back to the SPC on Transportation and Transit by Q1 2020. The scoping study will identify the next steps required to deliver functional planning, preliminary and detailed designs;
10. Continue advocacy efforts with our funding partners to secure funding to complete the full Green Line LRT; and
11. Direct Administration to undertake a review of risks associated with any potential alignment decisions that affect downtown real estate development values, and City Assessment values.

That with respect to Recommendation 1 of Report TT2019-0811, the following be adopted:

That Council:

1. Direct Administration to split the procurement of the Green Line Stage 1 Project into multiple contracts from 16 Avenue North to 126 Avenue Southeast.

That with respect to Recommendation 3 of Report TT2019-0811, the following be adopted:

That Council:

3. Direct Administration to conduct a feasibility review of potentially including the North Pointe to 16th Ave corridor along Centre Street in Stage 1 if the 16th Ave to 4th Street corridor is not resolved by January 2020, to be included only once confirmed with our funding partners;

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Green Line Technical Risk Committee - Q3 2019 Update

BACKGROUND

At the July 29, 2019 Council Meeting, council provided specific directions to engage the TRC to conduct an independent technical and commercial peer review as an additional act of due diligence on the Green Line Project (the “Project”). It is expected that the additional due diligence will bring increased focus to risk management on the Project. Key to risk management on the Project will be intentionally identifying, accepting, mitigating, managing, monitoring, transferring, or avoiding risk.

On June 25, 2019 proposals were received in response to Request for Proposals 19-1652 - Technical and Risk Committee: Expert Support. A compliance review of the proposals was conducted and an Evaluation Committee selected 4 independent specialists. Contracts with each of the 4 independent specialists were finalized and the TRC was formalized at an August 1, 2019 TRC meeting. The TRC members are industry project specialists in the areas of procurement, commercial strategies, stakeholder management, design, and tunnel construction.

The TRC members are:

- Don Fairbairn – Chair
- Albert Sweetnam
- Eric Tromposch
- Erich Neugebauer

High level biographies of the TRC members are attached as Attachment 1.

INVESTIGATION: ALTERNATIVES AND ANALYSIS

Terms of Reference

The Terms of Reference (the “ToR”) for the TRC are attached as Attachment 2. The ToR sets out the structure of the TRC, the expected scope and conduct of its work and its relationship with the Project team. The TRC scope of work is comprised of two modules; Module 1 includes the reviews established in the July 29, 2019 direction from Council and Module 2 is comprised of ongoing TRC input and review of risk identification and mitigation strategies.

The TRC, in collaboration with the Project Sponsor will prioritize the timing of the Module 1 reviews in accordance with Council’s direction and develop specific tasks for conducting each of the reviews. The TRC and the Project Sponsor will agree in advance the methodology of each review and may, during the conduct of a review, agree to modify the review methodology. Typically, the TRC will complete sufficient review and due diligence to assess if the Project team’s work has been performed to an appropriate standard of detail, and identify potential issues, inconsistencies, errors and discrepancies and offer constructive observations and recommendations intended to assist the Project team. Report TT 2019-

Green Line Technical Risk Committee - Q3 2019 Update

0811 provides specific directions to engage the TRC to conduct an independent technical and commercial peer review.

TRC reviews will be conducted by independent specialists; whether they be TRC members or other independent specialists engaged by the TRC. The standard of each review may vary; specifically, the reviews will not be fully comprehensive and will not entail in-depth analysis of all assumptions, calculations, extrapolations, and alternative interpretations; rather, reviews may verify or test compliance with common practice and methodologies and confirm the appropriateness of the methodologies and application of the methodologies by the Project team and may include limited in-depth analysis only when necessary to assess the reasonableness of the various conclusions of the Project team.

It is the intention of the TRC to provide observations and recommendations that, in its view, will result in the best outcomes for the Project and the City. Nevertheless, TRC observations and recommendations are not binding and discretion can be exercised by the Project team in adopting TRC recommendations.

The Module 1 reviews, listed below, may be modified from time to time by the Project Sponsor, in consultation with the ESC.

- Suitability and adequacy of the governance structure;
- Deliverability of the Project:
 - Review of key project management documentation;
 - Review of procurement documentation, evaluation and ad-hoc procurement issues;
 - Suitability and adequacy of resourcing and project controls;
 - Stakeholder engagement and communications ;
- Suitability of the proposed technical solution with respect to Segment 1:
 - Alignment and structures
- Suitability of the proposed technical solution with respect to Segment 2:
 - Tunnel constructability;
 - Bridge constructability;
 - Traffic Management and community impacts;
- Risk identification, quantification and mitigation process:
 - Review of the key commercial terms and the proposed risk transfer within the key agreements;
 - Overall risk allocation, marketability and bankability of the Project;
- Overall project budget and scope:
 - Segment One review;
 - Segment Two review;

Green Line Technical Risk Committee - Q3 2019 Update

- Sufficiency of funding for the Project.

Module 2 of the TRC work will focus on preventative risk management. With a focus on risk management, the TRC will be available to assist the Project team with the early identification of issues and project risks and work with the Project team to develop risk mitigation strategies.

For work on both Modules 1 and 2, the members of the TRC must conduct themselves thoughtfully and respect the accountability and authority of the Project team to undertake the work required to deliver the Project. It is critical that the TRC maintain its independence, and in so doing the TRC must also sustain a high level of mutual respect with the Project team and work constructively with the objective of supporting the successful implementation of the Project. The Project team, in return, must remain open to the TRC reviews and input into the risk management process. The TRC, through its independent reviews and recommendations, is supporting the efforts of the Project Sponsor and the ESC to effectively lead and oversee the work of the Project team to deliver the best outcomes for the Project and the City.

RFQ Review

The TRC reviewed the Request for Qualifications-RFQ No. 19-0111 – Design, build and Finance Green Line Segment 1 Light Rail Transit Project. The TRC was asked to focus the review on the submission requirements and the evaluation criteria. The TRC provided comments to the Project team and the Project team incorporated TRC comments into the RFQ. The TRC provided overall conclusions; specifically, the submission requirements and the evaluation criteria:

- are sufficient and there are no overlaps or gaps amongst the criteria;
- the criteria are reasonable and can be applied in a clear and consistent manner;
- the point allocation is appropriate; and
- if properly conducted, the evaluation process is likely to determine the best RFQ submissions.

Schedule of Reviews

The TRC has worked with the Project Sponsor to develop an initial schedule of reviews, as per attachment 3. This initial schedule of reviews will be modified as the TRC develops additional project understanding and the need for additional scopes of work are identified.

Stakeholder Engagement, Research and Communication

The TRC will report verbally and in writing on an as required basis to the Project Sponsor. The TRC will also report to the SPC on Transportation and Transit coincident with the timing of the Green Line quarterly report updates.

Strategic Alignment

The terms of reference of the TRC are aligned with council direction from Report TT 2019-0811.

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Social, Environmental, Economic (External)

Not Applicable

Financial Capacity

Current and Future Operating Budget:

If requested by the TRC, the Project Sponsor may agree to engage additional independent specialists to support the work of the TRC. Each request will be accompanied with a description of the required work, a supporting rationale and expected time and cost associated with the engagement of independent specialists.

Current and Future Capital Budget:

This report has no impact on the current or future capital budget.

Risk Assessment

The establishment of the TRC will assist in the assessing and mitigation risk for The City.

REASON(S) FOR RECOMMENDATION(S):

The Technical Risk Committee is pleased to submit this initial report to the Transportation & Transit Committee.

ATTACHMENT(S)

1. Attachment 1 – Green Line Technical and Risk Committee Member Resumes
2. Attachment 2 – Green Line LRT Project Stage 1 – Terms of Reference – Technical and Risk Committee
3. Attachment 3 – Preliminary Schedule of Reviews

Green Line Technical and Advisory Committee Member Resumes

DONALD C. FAIRBAIRN

1993 Quilchena Crescent
Vancouver, BC
V6M 1E2
(604) 880-9119
don@dcfconsulting.ca

OVERVIEW

Don Fairbairn is an independent management consultant with extensive private, public and non-profit sector leadership experience.

PROFESSIONAL EXPERIENCE

DCF CONSULTING – VANCOUVER, BC

2002-Present

PRESIDENT

Current Activities:

- City of Calgary – (www.calgary.ca) – Chair, Technical and Risk Committee-Green Line LRT project
- Confidential Client – advisor – supporting resolution of contract claims.
- CRD (www.crd.bc.ca) – Board Chair, Capital Regional District Wastewater Project.
- Houle Electric (www.houle.ca) – Board Chair
- Norland Limited (www.norlandlimited.com) – Advisory Board Member
- Board member of two privately-held companies.

Past Activities:

- Transportation Investment Corporation (www.ticorp.ca) – Board Chair, a crown corporation operating a \$3.4 billion highway and developing \$5+ billion of transportation projects (7 year role).
- Columbia Basin Trust (www.cbt.org) – advisor – acquisition of \$1 billion partnership interest in a hydroelectric generating plant.
- PartnershipsBC (www.partnershipsbc.ca) – advisor – procurement due diligence and re-financings of existing P3 concessions.
- AESO (www.aeso.ca) – advisor – acquisition of portfolio of renewable electricity resources.
- Petronas (www.petronas.com.my) – advised on First Nations and commercial matters for a large LNG project.
- Columbia Power Corporation (www.columbiapower.org) – advised CEO on strategic planning, corporate and project development.
- TransLink (www.translink.ca) - advised on commercial matters and resolution of a significant contract dispute.
- AESO (www.aeso.ca) – Procurement advisor for a \$1.5 billion electric transmission project.
- Vancouver Community College (www.vcc.ca) – Chair of Board of Governors.
- Streethome Foundation (www.streethome.org) – Board member and co-founder, focused on reduction and prevention of chronic homelessness. Created innovative funding model and raised \$55 million in land and cash contributions for the development of 1000 units of supportive housing.
- Managed \$350 million bond issue and negotiated partnership interests in a \$1 billion hydroelectric project.
- Advised partnership of First Nations on structuring an ownership interest in a pipeline.

Green Line Technical and Advisory Committee Member Resumes

- Advised CEO and senior executives of an investor-owned energy utility on strategic planning and project development (two year assignment).
- Advised on procurement and financial matters for a \$1 billion highway, a \$3 billion toll highway, port expansions, hospitals and other infrastructure projects.
- Led procurement, funding and concession agreement negotiations for a \$2 billion light rail rapid transit project. Implemented financial controls, reporting, treasury and risk management systems (three year assignment).
- Led over \$1.0 billion of successful acquisitions on behalf of corporate and pension fund investors (two year assignment).
- Led initial development of and raised \$4 million of seed investments in a venture fund focused on delivering both financial and social objectives.

TERASEN INC. – VANCOUVER, BC

1986-2002

A leading Canadian energy company (acquired by Fortis Inc.)

VICE-PRESIDENT – BUSINESS DEVELOPMENT

Responsible for strategy development, mergers and acquisitions.

- Initiated and closed over \$600 million in accretive acquisitions.
- Developed and implemented over \$100 million of utility asset leasing arrangements with municipalities.
- Managed development of a corporate strategy that resulted in five years of growth in shareholder value that exceeded 10% annually.

INLAND PACIFIC ENTERPRISES LTD. (Terasen company)

1993-1997

A group of companies offering infrastructure development and energy management services.

VICE-PRESIDENT

Responsible for operations, business development and investment management.

- Led operations of four companies with over \$40 million annual revenues and 60 employees resulting in 20% EBIT growth over three years.
- Managed business growth and change initiatives.
- Led development activities for numerous successful energy and infrastructure projects.

NW ENERGY LTD. (Terasen venture)

1989-1993

A North American power plant development joint venture.

PRESIDENT

Responsible for all aspects of the business.

- Led development and operations of a \$150 million power project.
- Led joint venture development of power projects in Canada and the United States.

INLAND NATURAL GAS COMPANY LTD. (Terasen predecessor)

1986-1989

A natural gas transmission and distribution company.

DIRECTOR, RATES

Responsible for management of product pricing and customer contracts.

- Managed transition to market pricing for delivery of natural gas and related services.
- Policy witness at numerous national and provincial regulatory hearings.

INPROHEAT INDUSTRIES LTD. – VANCOUVER, BC

1980-1986

A distributor and manufacturer of combustion systems, industrial equipment and commodities.

MARKETING MANAGER

Marketed and sold custom engineered combustion systems, equipment and refractory products.

Green Line Technical and Advisory Committee Member Resumes

EDUCATION

Queen's University - Kingston, Ontario
Bachelor of Applied Science - Chemical Engineering

1974-1979

PROFESSIONAL TRAINING & DEVELOPMENT

- Executive Utility Management Program - Stone & Webster
- Various M&A and Professional Development courses

COMMUNITY CONTRIBUTIONS

- Past Chair – Vancouver Community College
- Past Board Member – Streetohome Foundation
- Past Cabinet Member – United Way
- Past Board Member – Saint Paul's Hospital Foundation

Green Line Technical and Advisory Committee Member Resumes
iCgroup of companies

CURRICULUM VITAE

Erich Neugebauer

CONTACT

M: +43 664 60 169 534
E: e.neugebauer@ic-group.org
www.ic-group.org

POSITION

Leading Expert with iC
consulenten Austria
President of iC interdisciplinary
consultants Canada Ltd.

YEAR OF BIRTH

1963

DISCIPLINE

Geotechnics and Tunneling

EDUCATION

Civil Engineer - Dipl.-Ing. (FH)

LANGUAGES

German
English

SYNOPSIS

Erich is a civil and structural engineer with more than 25 years of experience in design and construction of international underground projects, including techno-commercial project management, design management, lead geotechnical and construction supervision, geotechnical monitoring. He has worked on tunnel and shaft design and construction projects using various construction methods such as New Austrian Tunneling Method (NATM), Tunnel Boring Machines (TBM) and Cut & Cover, both in hard rock and soft ground conditions.

Erich has a strong background in both design and construction works since he worked in his professional career also for contractors.

In addition to having broad design and onsite construction experience he has provided expert reporting and advice on temporary and permanent support measures during construction and design implementation.

PROFESSIONAL HISTORY

2018-dato	Employee of iC Consulenten 2T GmbH <ul style="list-style-type: none">Development of iC Canada, acquisition and project management
2013-2018	Employee of Dr. Sauer & Partners GmbH <ul style="list-style-type: none">Eglinton Crosstown LRT Project - Toronto, Canada, 3 metro station caverns, total ca. 1000 m length, NATM, detail design, lead geotechnical and construction supervision, design implementationOttawa Light Rail Project - Ottawa, Canada, 2,5 km running tunnel and 3 metro station caverns, NATM, detail design, lead geotechnical and construction supervision, design implementation
2010 - 2013	Employee of Alpine Bau GmbH <ul style="list-style-type: none">Tapovan-Vishnugad HEPP, Construction of HRT - India, 10 km headrace tunnel, NATM/TBM, overall project management, member of executive committee, lead technical consultancy, recovery of TBM
2008 - 2009	Employee of Atlas Copco Mai GmbH Marketing and product management rock reinforcement products, testing and market roll-out of new series
1993 - 2010	Employee of Geoconsult 2T GmbH <ul style="list-style-type: none">Metro Budapest- Hungary, metro station and running tunnels, tender designKoralmbahn Railway Graz-Klagenfurt - Austria, exploratory and main tunnels, tender and detailed execution design, lead geotechnical site supervision, head of contract management (client)HSR Taipei-Kaoshiung Lots C230/C240/C260- Taiwan, highspeed rail tunnels, coordination of design and team setup, lead geotechnical

Green Line Technical and Advisory Committee Member Resumes

site supervision

- Metro Hong Kong, Tseung Kwan O Extension - SAR China, metro running tunnels, tender design, independent checking engineer
-

Green Line Technical and Advisory Committee Member Resumes

- CERN LHC Lot 5 - Switzerland, large experimental caverns, lead geotechnical site supervision, design implementation
- Bolu Tunnel - Turkey 2x3,100 m, detail design, lead geotechnical site supervision, design implementation
- Tarsus-Adana-Gaziantep Motorway- Turkey, Tunnels P1 to P4, total ca. 2x5000 m, detail design, lead geotechnical site supervision, design implementation

Lead Roles in design, consultancy and construction of various projects

- Semmering Base Tunnel Lot SBT 2.1 - Austria
- MTR South Island Line Admiralty Integrated Station - Hong Kong
- Railway Munich - Verona, Northern Access Line Lot H3-6-Austria
- Jing Ping HEPP Stage II Auxiliary Tunnels - China
- Ningbo-Shengzhou Expressway Contract YJECC 1- China
- Bypass Trieste, Tunnels Cattinara and Carso - Italy
- Hsin Yi Branch Line Taipei - Taiwan

MY PROFESSIONAL HIGHLIGHTS

During my professional career, I got involved into a number of challenging projects from the early design stage until completion of construction including onsite presence, of which some went very well and others facing substantial problems like excessive deformations, collapses, major earthquakes and TBMs buried in fault zones.

Having been involved in middle European projects at the beginning of my career it was definitely another experience to design and especially being involved in tunnel construction works in foreign countries with all their different cultural as well technical and commercial approaches to complete a project.

One of the most challenging ones was the Bolu Tunnel in Turkey, a 2 x 3 lane motorway tunnel, being built in the North Anatolian Fault Zone complex and having an active fault passing the tunnel alignment, a project which I accompanied over a 11 years period. After experiencing excessive deformations and the implementation of both flexible and extremely stiff support system, the project was hit by a major earthquake which led to a partly collapse of the temporary supported tunnel, requiring realignment of the tunnel and implementation of new support systems for both the temporary and the permanent structure in order to stably withstand in long term.

At the time when I have been working for a contractor I could gladly experience also the other side of projects, e.g. meaning the difficulties to organize and execute a complex Hydropower project located in India in the upper Himalayan region with a very difficult and unexperienced client. Apart from frequent contractual difficulties, the encountered grounds differed substantially from the contract documents and thus required much more support efforts than predicted, the TBM got several times stuck in major fault zones and had to be recovered, all without real acknowledgement by the client. The client's design for the conventional sections of the HRT tunnel was totally inadequate and the contractor was forced to shut down tunneling operations several times due to serious safety hazards. An overall resume of having worked over the years for international projects in various countries is that the project set up, regardless if for design or construction works, needs to consider first the local environment, i.e. cultural effects, contract form and clients organisation, available knowledge and resources et cetera, only then project success may be envisioned.

" Do not pion for a project having only your own' s country style in mind. "

Green Line Technical and Advisory Committee Member Resumes

ALBERT SWEETNAM P.ENG.

10 Malabar Place, Toronto, Ontario, Canada, M3B 1A5

Email: albert.sweetnam@gmail.com Cell: (403) 608-0316 LinkedIn: ca.linkedin.com/in/albertsweetnam

EXPERT SUPPORT - STRATEGIC ADVISOR

Transit - Highways - Bridges - Infrastructure - Construction - Oil and Gas - Mining - Nuclear Energy

Expert Support - Strategic Advisor with a record of success leading engineering and construction business units in Canada, West and Southern Africa, India and South America - and managing Mega (multibillion dollar), major (> \$500M), complex national and international multidisciplinary projects in the public and private sector, with multi levels of government and with multi-lateral funding agencies.

Professional Strengths: Leadership, strategic thinking, business cases, commercial strategies, complex contract negotiations, worldwide procurement, management of multidisciplinary design and construction teams, safe, on time and on budget project delivery, complex stakeholder management, working with Local, Regional, Provincial and Federal governments, expert support, financial management, team assembly and integration, driving change, unwavering commitment to health and safety, and the ability to work in unionized and multicultural environments.

Industry Expertise: Mass Transit; Highways and Bridge Construction; Industrial Plants; Oil and Gas, Program - Project and Construction Management; Municipal Roads; Sewer and Water; Airport Development; Nuclear Energy; Mining.

Professional Strengths: Leadership, strategic thinking, complex contract negotiations, management of multidisciplinary design and construction teams, safe, on time and on budget project delivery, working with Local, Regional, Provincial and Federal governments, financial management, team assembly and integration, driving change, unwavering commitment to health and safety, and the ability to work in unionized and multicultural environments.

Industry Expertise: Highways and Bridge Construction; Municipal Roads, Sewer and Water; Mass Transit; Airport Development; Nuclear Energy; Mining; Industrial Plants; Oil and Gas, Program, Project and Construction Management.

**Registered Professional Engineer in British Columbia and Ontario, Canada; B.A. Sc. Civil Engineering, University of Waterloo
Certified Administrative Manager (C.A.M.) Seneca College; Business Administration Certificate, Ryerson University; Nuclear
Reactor Technology Course, Massachusetts Institute of Technology**

VALUE OFFERED

<p>▶ Business Unit Leadership - Managed engineering and construction divisions of SNC-Lavalin, a large international engineering procurement construction firm, in Canada (Ontario and Manitoba), Nigeria, Ghana, South Africa, Madagascar, India, and Guyana.</p> <p>▶ Procurement - Contract Negotiations - Successfully led complex contract negotiations for multibillion dollar projects in many countries.</p> <p>▶ Management of Multibillion Dollar, Complex Multidisciplinary Projects - Many years' experience leading multi-trade contractors and multi-disciplinary engineering teams in the delivery of large-scale, domestic and international projects in EPC and EPCM project environments.</p>	<p>▶ Stakeholder Management - Effective working with municipal, regional, federal and provincial government agencies in permitting, environmental, regulatory and legislative processes. Developed strong governmental and stakeholder relations.</p> <p>▶ Transit/ Highways/ Bridges - Extensive experience in the procurement, design and construction of transit systems, highways and bridges in Canada and internationally. Worked with private and multi-lateral financing agencies in complex project financing in the PPP sector.</p> <p>▶ Expert Support/Strategic Advisor - Acted in the role of Strategic Advisor and provided Expert Support to the World Bank, Ontario, BC and Canadian Governments, multiple international governments and Encana Corporation</p>
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Green Line Technical and Advisory Committee Member Resumes

Program Director (2015 - 2018)

CAPITAL REGIONAL DISTRICT-Victoria, British Columbia, Canada

Program Director (2013 - 2015)

ONTARIO POWER GENERATION, INC. - Toronto, Ontario, Canada

Executive Vice President Nuclear Projects (2009 - 2013)

SNC-LAVALIN - Montreal, Ontario, Canada

Senior Vice President/ Project Director/ General Manager - SNC-Lavalin - (1998 - 2008)

Vice President Major Projects - SNC-Lavalin Construction/ Transportation Groups (1995 -1998)

Vice President - SNC-Lavalin West Africa (1983 -1995)

ENCANA CORPORATION - Calgary, Alberta, Canada

The Encana Corporation is a leading North American energy producer focused on growing its portfolio of diverse resource plays producing natural gas, oil and natural gas liquids.

Program Director Cutbank Ridge Program (2015 - 2018)

The Cutbank Ridge Program includes two 400 million cubic feet per day gas plants - Sunrise and Saturn, and one 200 million cubic feet per day gas plant and water resources hub - Tower, all located in the Montney Region of northeastern British Columbia. These gas plants are the largest gas plants to be built in Canada in the last 30 years and represent a \$2.6B capital investment.

Program Director for the CDN\$2.6B Cutbank Ridge Program:

- Led the team that conducted the negotiations for the \$ 400 million EPCM and the \$600 million Works Contracts
- Management of the Owners' team that manages and provides oversight for the design and construction of the Cutbank Ridge Program
- Program completed \$264MM under budget and the plants were started 1 to 5 months early

CAPITAL REGIONAL DISTRICT-Victoria, British Columbia, Canada

The regional district is made up of 13 municipalities and three electoral (unincorporated) areas and is directly accountable for regional and sub-regional services. The CRD has over 200 service, infrastructure and financing agreements with municipalities and electoral areas to deliver a broad range of services.

Program Director - Greater Victoria's Wastewater Program (2013 - 2015)

Program Director for the \$787 million Greater Victoria's Wastewater Program which includes a 108 million liter a day wastewater treatment plant, a 2.1 km ocean outfall, an 950m tunneled harbor crossing, a resource recovery centre for the recovery of biogas, phosphorous and biosolids and a complete network of pipelines and pumping stations in the region.

- **Directed the CDN\$787m wastewater program:**
 - Established and led teams that conducted the Request for Qualifications (RFQ), Request for Proposals (RFP) and negotiation process.
 - Developed teams and processes for oversight of the design, construction, financing and commissioning of the program

Green Line Technical and Advisory Committee Member Resumes

- Managed the Program's interaction with the Board and the Commission, the interaction with seven mayors, the Provincial government, the Federal government and the interface with the public and the media.
- Chief spokesperson for the Greater Victoria's Wastewater Program and rebranded the Program.

ONTARIO POWER GENERATION, INC. - Toronto, Ontario, Canada

One of the largest power companies in North America, Ontario Power Generation (OPG) produces the power used in most homes, schools, hospitals and businesses in Ontario, and owns and operates 2 nuclear power stations, 5 thermal power stations, 65 hydroelectric power stations on 24 river systems, and 2 wind power turbines.

Executive Vice President Nuclear Projects (2009 - 2013)

Led 1,200 staff and CDN\$50B in projects including the two new multibillion dollar nuclear power plants to be built in Ontario and the refurbishment of four 900MW nuclear units.

Directed the CDN\$18B - \$208 Nuclear New Build project:

- Established and led team that conducted the Request for Proposal (RFP) and negotiation process.
- Negotiated a CDN\$135M reduction in the first phase of this project.
- Developed the strategy and led team that obtained the Environmental Assessment and The License to Prepare the Site approvals in 2012, the first of their kind in Canada in over 25 years.
- Developed teams and processes for oversight of the design, construction, licensing and commissioning of two new nuclear power plants. Managed the interface with 4 levels of government.
- Managed senior level stakeholder relations and developed organizational capability to operate the facility.

Led the CDN\$6B-\$10B Darlington Nuclear Refurbishment Project and Nuclear Project Portfolio:

- Negotiated a CDN\$548M savings in the main EPC contract for this project.
- Managed the overall Nuclear Project Portfolio (CDN\$300M/year) and the Nuclear Inspection and Maintenance organization (555 staff). Managed interface with 4 levels of government.
- Negotiated new contracts with two main contractors for rates that were 50% lower than traditionally paid by OPG resulting in a CDN\$15M/year savings.

Managed OPG's Long-Term Nuclear Waste Disposal/ Decommissioning:

- Managed OPG's 92% interest in the Nuclear Waste Management Organization, tasked with the design and construction of the CDN\$1B Deep Geologic Repository for low and intermediate level waste.
- Provided management oversight to the CDN\$26B Adaptive Phase Management project for fuel waste.
- Directed the decommissioning group tasked with the planning and execution of the safe storage and decommissioning of Ontario's 22 nuclear units. Provided interface with the Board.

Green Line Technical and Advisory Committee Member Resumes

SNC-LAVALIN - Montreal, Ontario, Canada

One of the leading engineering and construction groups in the world, SNC-Lavalin is a major player in the ownership of infrastructure and in the provision of operations and maintenance services. SNC-Lavalin companies provide engineering, procurement, construction, project management and project financing services to a variety of industry sectors including agrifood, pharmaceuticals and biotechnology, hydrocarbons & chemicals, environment, heavy construction, mass transit, mining and metallurgy, power and water management.

Senior Vice President/ Project Director - SNC-Lavalin -Ambatovy Nickel Project, Madagascar (2007 - 2008)

Project Director for the CDN\$4.5B Ambatovy Nickel Project which included Greenfield development of an open pit mine, an ore processing plant, a 220 km pipeline, 146km of access roads, 2 bridges, port development, railway construction, a pressure acid leach plant, nickel and cobalt refineries, tailings facilities, ocean outfall and 7 ancillary plants including lime, air separation, acid, hydrogen and a 120MW coal fired power plant.

Managed the 13,000 project staff and CDN\$2.5B spent to 2008 including all design, procurement and construction aspects of this CDN\$4.5B project.

The project included 145 bidding packages, 2 bridges, 146km of access roads, 120km pipeline, 271 vessels, 15 different materials, 2,040km of electrical cable, 450km of piping, 21 million m³ of earthwork, 15,200 tons of steel, 165,000 m³ of concrete and numerous valves in titanium and exotic alloys.

- Also included in the project were all of the support facilities such as sewage and water plants, 4 construction camps and all of the environmental assessments, permitting and approvals. The project was funded through structured project financing - the largest debt financing ever in the history of mining projects. Managed interface with Canadian, Japanese and Korean Boards and shareholders.
- Achieved a safety milestone of 31 million man hours without a lost time incident.
- Exceeded training and empowerment targets set by the Madagascar government, having trained more than 10,000 persons and developed more than 220 new businesses.
- Managed Board interface for SNC's 5% investment and interface with Madagascar government.

Senior Vice President and General Manager - SNC-Lavalin (2001- 2006)

Directed the environmental, transportation, municipal, waste management, design and construction divisions (150 personnel) operating out of Ontario, Manitoba and 12 countries worldwide. Also managed the design/build infrastructure and international departments, the SNC-Lavalin Construction Group based in Toronto, Ontario, Canada (including execution of direct construction work in the Arctic regions), and management of the SNC-Lavalin office in Winnipeg, Manitoba, Canada (comprising of engineering studies, design and construction management operations).

- Grew revenues from CDN\$30M to CDN\$50M per year with a profit margin that increased from 8% to 22% during this same timeframe.

Senior Vice President/ Project Director - SNC-Lavalin/ Ferrovial (SLF) Joint Venture (1998 - 2001)

Led the SLF Joint Venture, a 120 person JV of SNC-Lavalin and Ferrovial Agroman of Spain . The JV's role was to operate the existing highway and design and construct an additional 45 km of 6/4 lane fully electronic toll freeway for Highway 407 including 51 structures and all environmental approvals in 27 months on a lump sum turnkey basis (CDN\$4.5 billion) .

Green Line Technical and Advisory Committee Member Resumes

- Selected, coordinated and managed 32 subcontractors, 23 sub-consultants, 30 suppliers, 4 supervising agencies, 3 Regional Governments and 5 municipalities.
- At the time this was one of the largest infrastructure projects in Canada and was completed below budget in 2001. The Highway 407 project was completed 4 months ahead of schedule and generated CDN\$47M in construction profits. Managed all interface with the Board, 4 levels of government and the media.
The project also included the largest structured financing in Canada in 1999 at CDN\$4.5B.

Vice President Major Projects - SNC-Lavalin Construction Group (1997 -1998)

Led the bid team for the development of a CDN\$300M new world-class international airport in Durban, South Africa. The project included the revalidation of the traffic forecasts; development of the master plan, business plan, financing plan, architectural and engineering design; sourcing of both local and international financing; and the rezoning, environmental impact statement, firm construction schedule and submission of a lump-sum turnkey price. This project was won after a world-wide competition.

- Led the design and construction team for the financing, design, construction and operation of the 57km Alliston to Collingwood water pipeline. The project was completed 3 months early with a 30% profit margin.

Vice President- SNC-Lavalin Transportation Group (1995 -1997)

Led the teams for a series of large(> CDN\$400M) infrastructure projects including the Karachi mass transit project (business development, bidding process engineering, sourcing of financing, procurement, scheduling and initial site works), the Tren Urbano light rail project (business development and bidding process) in Puerto Rico, and a series of mass transit projects in Turkey.

Vice President - SNC-Lavalin West Africa (1983 -1995)

Managed SNC-Lavalin business interests and operations in Nigeria and Ghana .

Managed more than US\$550M of World Bank funds and US\$600M of government funds for projects in the various sectors in Nigeria from 1991 to 1995. The SNC-Lavalin operations included both EPC and EPCM mandates with 7 offices and 3 operational companies across the region. Projects were in the oil and gas sector and infrastructure sector including dams, sewage, water, boreholes, roads, highways, bridges, buildings, hospitals and waste management.

Grew the Nigeria and Ghana business unit from 5 employees and a loss situation in 1983 to a regional business of 50 expatriates and 1,200 locals generating CDN\$50M of revenue per year with a 35% profit margin in 1995.

- Reporting to the Board managed 2 local companies in Nigeria and one in Ghana including all government and media interfaces
- Subject Matter Expert to The World Bank in the water sector for several appraisal missions during this period.

Project Director - SNC-Lavalin Nigeria (1981-1983)

Delta Steel Township, Warri, Nigeria, West Africa: Project manager for a 23 person team to execute the design, tendering and construction of the infrastructure for 1000 residential units in Warri, Nigeria including all electrical, sewage, water and road infrastructure as well as schools, clinics and administrative buildings(\$3 00M). Project was

Green Line Technical and Advisory Committee Member Resumes

completed 8 months ahead of schedule and generated a 20% profit.

PROFESSIONAL ASSOCIATIONS AND BOARDS

Fellow of Engineers Canada

Fellow of the Canadian Society for Civil Engineering

Gold Seal Project Manager - Canadian Construction Association

Gold Seal Construction Manager - Canadian Construction Association

Board of Directors - Consulting Engineers of Ontario

Board of Directors - Canadian Private Public Partnerships

Board of Directors - Toronto Construction Association

Departmental Audit Committee - Federal Department of Transport

Departmental Audit Committee - Canada Border Services Agency

Disciplinary Committee - Professional Engineers of Ontario

Board of Directors - Community Share Food Bank

EDUCATION

Registered Professional Engineer in British Columbia and Ontario, Canada

Nuclear Reactor Technology Course, Massachusetts Institute of Technology, Boston, USA, 2010

M.B.A. Level Courses, Brunel University, London, UK, 1988

Certified Administrative Managers Program (C.A.M.), Seneca College, Toronto, Ontario, Canada, 1979-1980

Business Administration Certificate, Ryerson University, Toronto, Ontario, Canada, 1978

B.A. Sc. Civil Engineering, University of Waterloo, Ontario, Canada, 1977

Personal: Competitive sailor and avid squash player

Green Line Technical and Advisory Committee Member Resumes

ERIC TROMPOSCH, P.ENG.

Box 685, Bragg Creek, Alberta · (403) 949-2736

Email · eric.tromposch@outlook.com

Eric Tromposch is a structural engineer who has been involved in a wide variety of projects. He has been involved in the planning, design and inspection of buildings, bridges and water retaining structures. The bridge projects have included major river bridges, marine structures and overpasses for both road, Light Rail Transit (LRT) and heavy rail projects. He has also provided these same services to clients for numerous pedestrian bridge structures.

Eric has carried out a management role on both a project and on a corporate basis. He has effectively assembled and led design teams on a variety of projects from concept to project completion. He has conducted internal training sessions on project management and on Stantec's Oracle Enterprise system. He is a former business unit leader responsible for the financial performance of over 100 staff.

EXPERIENCE**AUGUST 1989 TO JUNE 2019****STANTEC CONSULTING LTD**

During Eric's 30 years with Stantec he held a number of positions with the company. Eric carried out a number of these roles concurrently. His roles are summarized as follows:

Vice President, Special Discipline Lead Bridge Design - Responsible for leading and reviewing major bridge projects in the Company.

Vice President, Structural Discipline Lead - Responsible for coordinating Structural Engineering Services throughout Stantec.

Business Unit Managing Leader - Eric was responsible for managing a Business Unit of up to 100 staff for over 13 years.

Project Engineer - Eric has been actively involved in leading bridge and building projects throughout his career.

Structural Design Engineer - Eric started his career with Stantec as a structural design engineer where he developed tender documents and inspected construction.

Major projects that Eric worked on during his career with Stantec are summarized in the Project Experience section below.

FEBRUARY 1986 TO JUNE 1986**BOLTER PARISH TRIMBLE LTD., BRIDGE DESIGN ENGINEER**

Eric was a Bridge Design Engineer and worked on a number of projects. Most notably he carried out substructure design on the Dudley Menzies LRT Bridge in Edmonton and he also produced the design for the piers for the Peace River Bridge at Weberville.

JUNE 1981 TO DECEMBER 1983**DELCAN, ENGINEER IN TRAINING**

Green Line Technical and Advisory Committee Member Resumes

EDUCATION

JUNE 1987

MASTER OF SCIENCE IN CIVIL ENGINEERING, UNIVERSITY OF ALBERTA

JUNE 1981

BACHELOR OF SCIENCE IN CIVIL ENGINEERING, WITH DISTINCTION, UNIVERSITY OF ALBERTA

REGISTRATION

Professional Engineer #M32951, Association of Professional Engineers and Geoscientists of Alberta

ASSOCIATION ACTIVITIES

Member of the Canadian Standards Associations Section 2 Subcommittee of the Canadian Highway Bridge Design Code, CSA S6.

SELECTED PROJECT EXPERIENCE

MEGA AND MAJOR PROJECTS

NEW BRIDGE ACROSS THE ST. LAWRENCE, MONTREAL, QUEBEC (INDEPENDENT ENGINEER)

A new 3300 m long cable stayed bridge across the St. Lawrence River along with approach interchange structures. Bridges can accommodate 6 lanes of roadway traffic and two LRT tracks. The project was delivered on a P3 basis.

Construction Cost: ~\$4 Billion

Role: Senior Bridge Engineer as part of the Independent Engineering Team reviewing contractor generated submission. Also involved in periodic field inspections to review major deficiencies.

NORTHEAST ANTHONY HENDAY PROJECT, EDMONTON, ALBERTA (PRINCIPAL/PROJECT BRIDGE ENGINEER)

This P3 Project included a 14-structure systems interchange including two large flyover structures with lengths of 415 m and 315 m, maximum spans in excess of 90 m, and straddle piers. The site was also situated over an abandoned coal mine which required special foundations for two bridges. Extensive large diameter gas and oil line and rail lines in the vicinity of the interchange resulted in a number of high skew bridges with piers designed to straddle over utility lines.

Construction Cost: \$1.8 Billion

Role: Lead Bridge Engineer for Component 3 - Yellowhead Trail Systems Interchange.

CONFEDERATION BRIDGE, NEW BRUNSWICK AND PRINCE EDWARD ISLAND (DESIGN ENGINEER)

Delivered on a P3 basis this 13km long concrete box girder bridge has forty-four 250m long main spans and twenty-one 93 m long approach spans. It is the longest bridge over ice covered waters.

Construction Cost: \$800 Million

Role: Managed the Durability Subconsultants, coordinated the production of the Durability Manual, produced the material specifications and produced the first draft of the Maintenance Manual. Also carried out site inspections during the initial construction start up.

Green Line Technical and Advisory Committee Member Resumes

SOUTH FRASER PERIMETER ROADWAY-TANNERY OVERPASS, SURREY, BC (PRINCIPAL BRIDGE ENGINEER)

The South Fraser Perimeter Roadway connects the Tsawwassen Ferry Terminal with the Trans-Canada Highway. Tannery overpass consists of a two-span 90m long steel girder bridge with a highly variable width. Structure located in a high seismic zone and over deep layers of organic soil. The project was delivered on a P3 basis.

Construction Cost: \$658 Million (Total Project Cost)

Role: Lead the design of the Tannery Overpass.

SOUTHEAST STONEY TRAIL PROJECT, CALGARY, ALBERTA (PRINCIPAL BRIDGE ENGINEER)

This P3 Project included a multi-structure systems interchange with a total of 14 overpass bridge structures many utilized NU girders. The project also included two 75 m long highly skewed single span steel girder bridges and a four span highly skewed bridge with two straddle bents built over active traffic.

Construction Cost: \$769 Million

Role: Carried out high level reviews of the designs and provided assistance in resolving design issues.

SOUTHEAST ANTHONY HENDAY DRIVE, EDMONTON, ALBERTA (SENIOR BRIDGE ENGINEER)

The Southeast Anthony Henday Drive was the first portion of the Edmonton Ring Road delivered on a P3 basis. It extended from HWY 2 to HWY 14.

Construction Cost: ~\$500 Million

Role: Provided advisory services to the design team during the final stages of the project to resolve outstanding issues.

LRT AND RAIL PROJECTS

DUDLEY MENZIES LRT BRIDGE, EDMONTON, ALBERTA (DESIGN ENGINEER)

A 570m long, pre-cast concrete segmental box girder LRT bridge constructed using the balanced cantilever method.

17TH AVE BUS RAPID TRANSIT, CALGARY, ALBERTA (PRINCIPAL STRUCTURAL ENGINEER)

Provided direction and senior review of the Bow River Bridge, the Deerfoot Trail Bridge and the Western Headworks Canal Bridge during design and construction. All bridges were designed to accept future conversion to LRT.

NORTH CENTRAL LRT CONCEPT STUDY, CALGARY, ALBERTA (PRINCIPAL STRUCTURAL ENGINEER)

High level review of the capacity of the existing Centre Street Bridge to support an LRT vehicle.

MAGNETIC LEVITATION TEST TRACK, EDMONTON, ALBERTA (PRINCIPAL STRUCTURAL ENGINEER)

Conceptual design of an elevated test track for a Magnetic levitation rapid transit vehicle.

SOUTH EAST TRANSITWAY (GREEN LINE) CONCEPT VERIFICATION STUDY, CALGARY, ALBERTA (PRINCIPAL STRUCTURAL ENGINEER)

High level review of the bridge planning issues associated with the 17 bridge structures required for this project and their ultimate conversion from BRT to LRT.

CP WINDERMERE 14.58 BRIDGE FINAL DESIGN AND CONSTRUCTION SERVICES, WASA, BRITISH COLUMBIA (PRINCIPAL AND PROJECT BRIDGE ENGINEER)

This project involved pier and abutment rehabilitation along with the replacement of the superstructure for this 8 span, 184 m long heavy rail bridge. While minimizing the disruption to the active rail line.

Green Line Technical and Advisory Committee Member Resumes

CPR MILK RIVER BRIDGE, MILK RIVER, ALBERTA (PRINCIPAL AND PROJECT BRIDGE ENGINEER)

This two-span steel deck plate girder bridge has a maximum span of 32.6 m and utilized a salvaged span from an abandoned rail line in the vicinity.

PEDESTRIAN BRIDGES

ST. PATRICK'S BRIDGE, CALGARY, ALBERTA (PRINCIPAL BRIDGE ENGINEER)

Provided owners engineering services during the design competition and during final design of this unique three span tied arch bridge.

CROWFOOT LRT STATION PEDESTRIAN BRIDGES, CALGARY, ALBERTA (PRINCIPAL BRIDGE ENGINEER)

Twin 37m long tied arch bridges crossing Crowchild Trail.

SCHOONER DRIVE PEDESTRIAN BRIDGE, CALGARY, ALBERTA (PRINCIPAL BRIDGE ENGINEER)

Twin 80m tied arch structure with outwardly spayed arches crossing Stoney Trail.

PEACE BRIDGE, CALGARY, ALBERTA (PRINCIPAL BRIDGE ENGINEER)

126m long clear span helical tube pedestrian bridge crossing the Bow River designed by Santiago Calatrava .

ROAD BRIDGES

STONEY TRAIL SCENIC ACRES LINK RAMP BRIDGE, CALGARY, ALBERTA (PRINCIPAL ENGINEER)

Lead the bridge planning and the preliminary design of this single span NU girder bridge.

NORTHWEST STONEY TRAIL BOW RIVER BRIDGE TWINNING, CALGARY, ALBERTA (PRINCIPAL ENGINEER)

Lead the bridge planning, the preliminary design, detailed design and the tender document preparation of this five span, 509 m long cast in place segmental concrete bridge.

SOUTH WEST STONEY TRAIL FUNCTIONAL PLAN REVIEW, CALGARY, ALBERTA (PRINCIPAL BRIDGE ENGINEER)

Carried out a review of the existing functional design and developed technical requirements for the P3 RFP.

SOUTH WEST TRANSIT WAY PROJECT, CALGARY, ALBERTA (SENIOR REVIEW ENGINEER)

Carried out reviews of the planning and preliminary engineering for a roadway underpass for a dedicated Bus Rapid Transit line in addition to two pedestrian bridges.

CROWCHILD TRAIL CONNECTOR BRIDGE, CALGARY, ALBERTA (PRINCIPAL BRIDGE ENGINEER)

Two-span, 81.5m long NU girder bridge with both abutments supported by MSE retaining walls.

ALBERTA CHILDREN'S HOSPITAL OVERPASS, CALGARY, ALBERTA (PRINCIPAL BRIDGE ENGINEER)

110m long, three-span bridge with 1.2m deep NU girders and a 42m long central span.

STONEY TRAIL, NOSE CREEK BRIDGES, CALGARY, ALBERTA (PRINCIPAL BRIDGE ENGINEER)

Twin three-span bridges with a total length of 76m.

STONEY TRAIL, CPR CROSSING, CALGARY, ALBERTA (PRINCIPAL BRIDGE ENGINEER)

Green Line Technical and Advisory Committee Member Resumes

Twin three-span steel girder bridges with a total length of 114m. West abutment supported on MSE retaining wall.

GLENMORE TRAIL/ELBOW DRIVE INTERCHANGE, CALGARY, ALBERTA (PRINCIPAL BRIDGE ENGINEER)

Project included a 40m long basket weave bridge with a 75-degree skew along with 13,000 square meters of retaining wall.

STONEY TRAIL, TRANSCANADA HIGHWAY OVERPASS, CALGARY, ALBERTA (PRINCIPAL BRIDGE ENGINEER)

Two span, 108m long precast concrete NU girder bridge.

FISH CREEK - 37 STREET BRIDGE, CALGARY, ALBERTA (PRINCIPAL AND PROJECT BRIDGE ENGINEER)

Five-span, 265m long precast concrete NU girder superstructure.

PEACE RIVER BRIDGE, PEACE RIVER, ALBERTA (DESIGN ENGINEER)

Designed piers for 725m long, steel I girder bridge near Weberville.

CONFEDERATION BRIDGE ONGOING SUPPORT, NEW BRUNSWICK AND PRINCE EDWARD ISLAND (PROJECT ENGINEER)

Evaluation of the bridge to deal with potential maintenance issues including loss of external post-tensioning tendons.

UNIVERSITY DRIVE - CROWCHILD TRAIL SUPERSTRUCTURE REPLACEMENT, CALGARY, ALBERTA (PRINCIPAL BRIDGE ENGINEER)

Three-span, 100m long, steel girder bridges using a steel free deck with FRP reinforcement.

SHAWNESSY - CPR/LRT OVERPASS, CALGARY, ALBERTA (PRINCIPAL AND PROJECT BRIDGE ENGINEER)

Four-span, 60m long, galvanized steel girder bridge supported by a MSE retaining wall.

OTHER PROJECTS

PINE CREEK WASTEWATER TREATMENT PLANT, CALGARY, ALBERTA (STRUCTURAL PROJECT ENGINEER)

100mL/day facility that includes both liquid and solid streams.

BONNYBROOK WASTEWATER TREATMENT PLANT D EXPANSION, CALGARY, ALBERTA (STRUCTURAL PEER REVIEW)

NEW BIOREACTOR, SECONDARY CLARIFIERS AND PUMP HOUSES.

BONNYBROOK WASTEWATER TREATMENT PLANT BAND C UPGRADES, CALGARY, ALBERTA (STRUCTURAL PEER REVIEW)

NEW SECONDARY CLARIFIERS AND PUMP HOUSE MODIFICATIONS

STANTEC CENTRE PARKADE, CALGARY, ALBERTA (STRUCTURAL PRINCIPAL)

385 stalls parking structure.

ROCKYVIEW GENERAL HOSPITAL PARKADE EXPANSION, CALGARY, ALBERTA (STRUCTURAL PRINCIPAL)

62 stall addition.

Green Line Technical and Advisory Committee Member Resumes

FOOTHILLS MEDICAL CENTRE: PARKADE NO. 8 EXPANSION, CALGARY, ALBERTA (STRUCTURAL PRINCIPAL)

338 stall addition.

**Green Line LRT Project
Stage 1**

Terms of Reference

Technical and Risk Committee

September 11, 2019

Purpose

The Technical Risk Committee (“TRC”) was developed to fulfill the Project Sponsor and Executive Steering Committee (“ESC”) desire for an independent committee to support the ESC’s oversight of the Project and provide additional due diligence, as required. At the July 29, 2019 Combined Meeting of Council report TT 2019-0811, Green Line Q2 2019 Update, was approved. Report TT 2019-0811 provides specific directions to engage the TRC to conduct an independent technical and commercial peer review as an additional act of due diligence on the Green Line Project (the “Project”). It is expected that the additional due diligence will bring increased focus to risk management on the Project. Key to risk management on the Project will be intentionally identifying, accepting, mitigating, managing, monitoring, transferring, or avoiding risk.

This Terms of Reference (“ToR”) provides a description of the Project, the TRC and outlines the roles and responsibilities of key parties.

Project Description

The Long Term vision for the Green Line is a 46km low floor Light Rail Transit (“LRT”) which spans the Calgary from Northpoint to Seton, connecting communities in the north and southeast with the downtown core and providing key connections to facilities and services. Stage 1 of the Project stretches 20km in length from 16th Ave N to 126 Ave SE and is estimated to carry 60,000 to 65,000 passengers on opening day. The scope of infrastructure in Stage 1 includes 20km of double track, 14 stations, a new light rail vehicle fleet, and a new maintenance and operations facility. Stage 1 of the project is divided into two Segments, Segment 1 stretches from 4th Street SE to 126 Ave SE and Segment 2 stretches from 16th Ave N to 4th Street SE.

Roles and Responsibilities of the TRC

The TRC consists of four independent specialists (Appendix “A”) who have relevant expert experience. The TRC reports to the General Manager, Transportation (hereinafter referenced as the “Project Sponsor”) and supports the Project oversight by the ESC. The TRC will provide updates to the ESC, and TRC members will be available to meet with the ESC to discuss their findings. The Project Sponsor will nominate a TRC member to Chair the TRC.

Each member of the TRC is required on an ongoing basis to disclose all relevant commercial and personal relationships (as may be applicable) and declare any perceived, potential or actual conflicts of interest as described in more detail in the Green Line Conflict of Interest Protocol. The ongoing relationship review is required to ensure that the work of the TRC maintains the fairness of the competitive selection

process. Each member will be required to ensure they comply with security of information protocols established by the Project Sponsor.

The work of the TRC will be divided into two modules. Module 1 will focus on the independent review of specific work elements as initially defined in Report TT 2019-0811. The initial work elements selected for review have been defined jointly by the ESC and the Project Sponsor and include:

- Suitability and adequacy of the governance structure;
- Deliverability of the Project:
 - Review of key project management documentation;
 - Review of procurement documentation, evaluation and ad-hoc procurement issues;
 - Suitability and adequacy of resourcing and project controls;
 - Stakeholder engagement and communications ;
- Suitability of the proposed technical solution with respect to Segment 1:
 - Alignment and structures
- Suitability of the proposed technical solution with respect to Segment 2:
 - Tunnel constructability;
 - Bridge constructability;
 - Traffic Management and community impacts;
- Risk identification, quantification and mitigation process:
 - Review of the key commercial terms and the proposed risk transfer within the key agreements;
 - Overall risk allocation, marketability and bankability of the Project;
- Overall project budget and scope:
 - Segment One review;
 - Segment Two review;
- Sufficiency of funding for the Project.

The foregoing list of review activities may be modified from time to time by the Project Sponsor, in consultation with the ESC.

The TRC, in collaboration with the Project Sponsor will prioritize the timing of the required reviews and develop specific tasks for conducting each of the required reviews, and may, during the conduct of a review, agree to modify the review methodology. Typically, the TRC will complete sufficient review to assess if the Project team's work has

been performed to an appropriate standard of detail, and identify potential issues, inconsistencies, errors and discrepancies and offer constructive observations and recommendations intended to assist the Project team. The standard of each review may vary; specifically, the reviews will not be fully comprehensive and will not entail in-depth analysis of all assumptions, calculations, extrapolations, and alternative interpretations; rather, reviews may verify or test compliance with common practice and methodologies and confirm the appropriateness of the methodologies and application of the methodologies by the Project team and may include limited in-depth analysis only when necessary to assess the reasonableness of the various conclusions and of the Project team.

TRC observations and recommendations are not binding and discretion can be applied in considering the TRC recommendations.

Module 2 of the TRC work will focus on preventative risk management. The TRC will be available to assist the Project team with the early identification of issues and project risks and work with the Project team to develop risk mitigation strategies.

For work on both Modules 1 and 2, the members of the TRC must conduct themselves thoughtfully and respect the accountability and authority of the Project team to undertake the work required to deliver the Project.

The TRC may attend briefings with the Project team and conduct review activities in person with Project team members and Project Subject Matter Experts. It is expected, in order to manage cost and to ensure timely and effective due diligence, that the TRC will not have all of its members present at all meetings and that not all TRC members will participate in each and every review. All TRC meetings will be minuted.

The TRC will be provided with all documentation and reports considered by them to be necessary to conduct their reviews.

If requested by the TRC, the Project Sponsor may agree to engage additional independent specialists to support the work of the TRC. Each request will be accompanied with a description of the required work, a supporting rationale and expected time and cost associated with the work.

TRC Reporting Requirements

The TRC will report its findings either verbally or in writing to the Project Sponsor. The Project Sponsor will ensure that the Project team responds to the observations and recommendations of the TRC and confirm if and how the Project team has incorporated into their work the TRC observations and recommendations. The TRC will develop and present quarterly reports to the Transportation & Transit Sub-Committee. The Chair of the TRC will represent the TRC at the Transportation & Transit Sub-Committee meetings and from time to time, other members of the TRC will attend meetings. The administration of the TRC activities and production of reports and presentation will be supported administratively by the Project Sponsor's office.

Appendix A

Members of the Technical and Risk Committee:

Name
Albert Sweetham
Don Fairbairn - Chair
Eric Tromposch
Erich Neugebauer

Green Line TRC

Preliminary Schedule of Reviews :

TT2019-1076
ATT 3

Review	Preliminary (DRAFT) high level review elements	September					October				November				December					January			
		2nd	9th	16th	23rd	30th	6th	13th	20th	27th	3rd	10th	17th	24th	1st	8th	15th	22nd	29th	5th	12th	19th	26th
Segment 1 RFQ Review	Appropriateness of submission requirements and evaluation criteria																						
Governance Structure	Suitability and adequacy of Project governance structure																						
Project Deliverability	Review Business Case documents																						
	Review of key project management documentation																						
	Review procurement documentation, evaluation, ad-hoc procurement issues																						
	Suitability and adequacy of resourcing and project controls																						
	Stakeholder engagement and communications																						
Segment 1 Technical Review	Suitability of alignment																						
	Suitability of structures design and construction																						
	Assessment of control systems and interfaces																						
	Assessment of traffic management and community Impacts																						
Segment 2 Technical Review	Suitability of tunnel design and construction																						
	Suitability of structures design and construction																						
	Assessment of traffic management and community impacts																						
Project budget	Segment 1 review																						
	Segment 2 review																						
	Contingencies																						
	City financing costs																						
	Operating period cash flows																						
Sufficiency of Funding	Review funding agreements																						
	Review City financing plan																						
	Review operating period cash flows																						
Risk management	Review of the key commercial terms and proposed risk transfer																						
	Overall risk allocation, marketability and bankability of the Project																						

Transportation Report to
SPC on Transportation and Transit
2019 September 18

ISC: UNRESTRICTED
TT2019-0694

Parking Management Zone Change: Britannia

EXECUTIVE SUMMARY

The Calgary Parking Policies (Council Policy TP017) establishes a staged process for introducing parking management strategies. As areas experience parking congestion, hourly restrictions and then pricing areas are established to encourage the efficient use of parking in the area. Administration monitors areas of the city for parking congestion and reports to Council from time to time when policy warrants new pricing areas.

Increasing popularity, new businesses and nearby land redevelopment have increased parking pressure at the commercial node surrounding Elbow Drive and 49 Avenue SW. Studies conducted in 2018 and 2019 show that parking occupancy is significantly over the 80 per cent threshold set in the Council Policy. After analysis and meeting with stakeholders, adding the additional tool of paid parking is proposed as a practical and flexible approach to manage parking in this area.

ADMINISTRATION RECOMMENDATION:

That the SPC on Transportation and Transit recommend that Council:

1. Amend the Council Policy TP017 "Calgary Parking Policies" to add the new Britannia pricing area zone 25 as proposed in attachment 1.
2. Implement the changes in recommendation 1 by the end of December 2019.

PREVIOUS COUNCIL DIRECTION / POLICY

Council Policy TP017 "A Parking Policy Framework for Calgary", now called "Calgary Parking Policies" was approved in 2011. It contains a set of pricing areas where The City may use paid on-street parking as a parking management tool. This set of areas is modified over time as new areas are added or existing ones expanded, using a criteria and method established in the policy. The most recent pricing area change was made in May 2016.

BACKGROUND

Council approved the commercial on-street parking policies as part of "A Parking Policy Framework for Calgary" (Council Policy TP017) at the 2013 May 27 Regular Meeting of Council. This Council Policy has since been renamed "Calgary Parking Policies". The main objectives of these policies are to:

- Promote efficiency
- Set expectations and reduce uncertainty
- Ensure fairness
- Ensure consistency
- Provide predictability
- Provide transparency

Section 5.1.2 of Calgary Parking Policies includes policies guiding the creation of new paid parking areas and charging for parking in new time periods (defined as "parking management periods") in commercial areas. These areas and time periods are updated periodically as different areas of the city experience different parking pressures. This report addresses issues at and adjacent to the Britannia commercial node.

Parking Management Zone Change: Britannia

INVESTIGATION: ALTERNATIVES AND ANALYSIS

Attachment 1 identifies the proposed new pricing area “zone 25”. Occupancy levels were measured by Calgary Parking Authority in ten locations across the proposed area to assess if pricing was warranted. Data was collected on multiple days in 2018 and 2019 covering the morning and afternoon periods of weekdays and Saturdays. The observed data shows that the occupancy levels are over 80 per cent for weekday mornings, weekday afternoons, Saturday mornings and Saturday afternoons.

Occupancy of Parking Spaces in Britannia and Surrounding Streets	
Period	Average Observed Parking Occupancy
Weekday 09:00-12:00	94%
Weekday 12:00-18:00	90%
Saturday 09:00-12:00	87%
Saturday 12:00-18:00	84%

While introducing charging in any time period or area is not popular, the intent of the policy is to make parking space available for those who are seeking to park in these areas at these times.

The result of these changes will be to:

- Encourage people to park in less congested areas, access off-street parking, or come at less congested times.
- Reduce peak congestion, particularly by reducing ‘cruising’ for available on-street parking stalls.
- Encourage people to consider alternate travel options.
- Ensure spaces are available for those who want to come park at these times and are currently unable to find street parking (better turnover for businesses).

The surrounding residential communities of Britannia, Elboya and Windsor Park currently participate in the Residential Parking Permit program which mitigates spillover parking issues in the neighbourhood.

Stakeholder Engagement, Research and Communication

Administration contacted and met with property owners and businesses in the affected area to discuss current parking constraints and possible solutions to the problems they encounter daily. There is consensus that the pricing area as proposed is necessary and warranted. Some business owners are concerned that paid parking will be a deterrent to customers. Administration in partnership with Calgary Parking Authority have worked with interested businesses on possible solutions to these concerns.

Parking Management Zone Change: Britannia

Strategic Alignment

Managing parking pricing through demand directly supports the Calgary Transportation Plan, more specifically 3.9.d: "Technology, time restrictions and pricing should be used for addressing parking demand issues, instead of increasing supply in existing areas of the city."

The solution recommended in this report is a direct application of Council Policy TP017.

Social, Environmental, Economic (External)

Social: A consistent approach to parking policy will ensure fair treatment for all businesses. Parking access should be improved for all users by providing a wider variety of parking options through more varied pricing and pricing periods responsive to demand.

Environmental: The focus on reducing vehicle cruising for parking spaces is anticipated to marginally reduce GHG emissions.

Economic: By encouraging turnover of on-street spaces customers are less likely to avoid the area due to a lack of parking supply, promoting business vitality.

Financial Capacity

Current and Future Operating Budget:

Calgary Parking Authority anticipates an increase in revenue due to the new pricing area. With the introduction of a pricing area, the community may also participate in the Parking Revenue Reinvestment Program, whereby a portion of parking revenue can be used to fund local improvements.

Current and Future Capital Budget:

Capital costs for signage, payment systems and enforcement activities will be accommodated within existing budgets.

Risk Assessment

There is risk that parkers may relocate to an alternate location where parking is available free of charge. This is weighed against the risks of minimal parking turnover during high-demand periods, increased parking congestion resulting from parkers searching for available on-street parking, and increased spillover parking on the surrounding residential communities. Spillover parking is also mitigated through work that landowners are completing independently to optimize their off-street spaces, which makes all parking in the area more efficient.

Transportation Report to
SPC on Transportation and Transit
2019 September 18

ISC: UNRESTRICTED
TT2019-0694

Parking Management Zone Change: Britannia

REASON(S) FOR RECOMMENDATION(S):

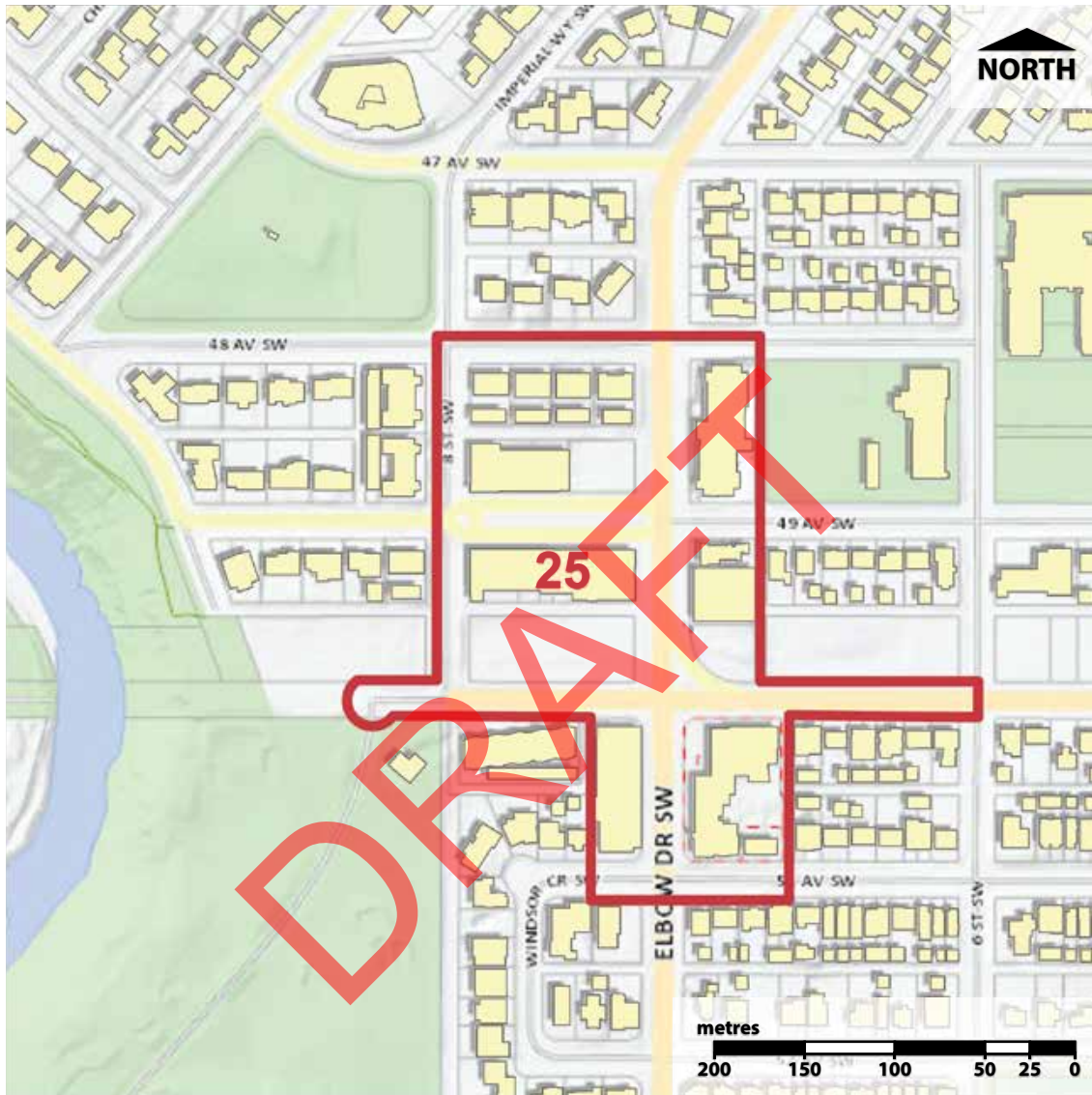
Council Policy TP017 “Calgary Parking Policies” is intended to apply a fair and consistent approach to addressing parking concerns, that aligns to City strategy. The addition of a new pricing area in Britannia will improve efficiency in the street usage and improve long-term business vitality in this area.

If Council chooses to not approve the new pricing area, Administration will not bring forward a recommendation over the next three-year period for this area unless there are substantial changes to parking supply and/or demand, in accordance with policy 9.d.v in section 5.1.2 of the Calgary Parking Policies.

ATTACHMENT(S)

1. Attachment 1 – Zone 25 Britannia (DRAFT)

Zone 25
Britannia



Weekdays	Saturdays	Sundays & Holidays
09:00 – 11:00	09:00 – 18:00	
11:00 – 13:30		
13:30 – 15:30		
15:30 – 18:00		